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

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CHIEF PLANNING OFFICER

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DEPUTY CHIEF PLANNING OFFICER

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August 14, 1991

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

Dear Mr. Choy:

Acceptance Notice for the Proposed
Smith-Maunakea Housing Project
Final Environmental Impact Statement (Final EIS)

We are notifying you of our acceptance of the Final EIS for the proposed Smith-Maunakea Housing Project, as satisfactory fulfillment of the requirements of Chapter 343, Hawaii Revised Statutes.

Pursuant to Section 11-200-23 (c), Chapter 200, Title 11 ("Environmental Impact Statement Rules") of the Administrative Rules, this acceptance notice should be published in the August 23, 1991, OEQC Bulletin.

We have attached our Acceptance Report for the Smith-Maunakea Housing Project Final EIS. Should you have any questions, please contact Tim Hata at 527-6070.

Sincerely,

Benjamin B. Lee
Chief Planning Officer

BBL:js

Attachment

cc: Michael N. Scarfone, Department of Housing and Community Development

ACCEPTANCE REPORT: SMITH-MAUNAKEA HOUSING FINAL ENVIRONMENTAL IMPACT STATEMENT DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT, CITY AND COUNTY OF HONOLULU
TAX MAP KEY:1-7-2:3,4, and 5
TOTAL ACREAGE: 1.03 ACRES (44,677 square feet)

A. BACKGROUND

The City and County of Honolulu, Department of Housing and Community Development is proposing an apartment and commercial mixed-use development, consisting of studio, one- and two-bedroom apartments, commercial ground floor space and parking.

The project site is 44,677 square feet and is bounded by Smith Street, North Nimitz Highway, Maunakea Street, and King Street in the Chinatown District. The project site is presently occupied by a three-level municipal parking structure, with 260 spaces; a two-story eating and drinking establishment on the ground floor; and other commercial uses on the second floor.

The proposed project will consist of a 250-foot tower containing 234 rental apartment units, 13,910 square feet of commercial ground floor space and 425 parking spaces in the basement. An adjacent parking structure on the project site is also planned.

Of the 234 apartments, 216 will be one- and two-bedroom units ranging in size from 560 to 800 square feet. The remaining 18 apartments will be studio units ranging from 300 to 420 square feet. The studios will be located on the third level along Smith and Maunakea Streets and will be separated from the other units by a landscaped buffer. Approximately 60% of the apartments (140 units) will be made affordable to families earning less than 120% of the median income. Approximately 70 units will be for families earning less than 80% of the median income. The proposed project will also give preference to elderly households for these affordable units.

The 13,910 square feet of commercial space will be located on the ground level, fronting Smith, Maunakea, and King Streets.

The estimated cost of the project is approximately $55 million.

B. PROCEDURE

1. An EIS Preparation Notice for the proposed project was published in the September 8, 1990, OEQC Bulletin. This bulletin was distributed to Federal, State, and County agencies, private organizations and individuals.

2. The 30-day consultation period expired on October 8, 1990. Twenty-eight (28) consultation letters were received during this period. The DHCD responded to substantive comments and included the appropriate information in the Final EIS.

3. Notice of the Draft EIS was published in the April 23, 1991, OEQC Bulletin. The 45-day public review period expired on June 7, 1991. Of the total 25 comment letters received, 2 were received after the public review period deadline. All substantive comments were responded to by the DHCD, and both comments and responses have been included in the Final EIS.

4. Notice of the Final EIS was published in the August 8, 1991, OEQC Bulletin.

C. EIS CONTENT

The Final EIS complies with the content requirements set forth in Section 11-200-18 of the Environmental Impact Statement Rules.

D. RESPONSES TO COMMENTS

DHCD responded to significant environmental comments that were raised during the public review and consultation process. These comments and responses are contained in Chapter IX (Consulted Parties, Comment and Response Letters), and revisions were appropriately made throughout the text of the Final EIS.

E. UNRESOLVED ISSUES

We concur with the unresolved issues on page 8 of the Final EIS which indicate:

1. Because highly sensitive subsurface areas are likely to be found in the project area, further archaeological work will be necessary (surveying, testing, probing, data recovery, etc.).

2. Although the project's design features and details are still being reviewed and refined, the basic components of the plan are not expected to change significantly.

F. DETERMINATION

The Department of General Planning of the City and County of Honolulu has determined this Final EIS to be <u>ACCEPTABLE</u> under the procedures established in Chapter 343 of the Hawaii Revised Statutes.

APPROVED BY ______________________
BENJAMIN B. LEE
Chief Planning Officer

BBL:js

1992- Oahu - FEIS -
Smith - Maunakea Housing

Final
Environmental Impact Statement

Smith-Maunakea Housing

CITY AND COUNTY OF HONOLULU
STATE OF HAWAII

July 1991

Smith-Maunakea Housing

Final Environmental Impact Statement

Responsible Official:

Gail Kaito
for Michael N. Scarfone, Director
Department of Housing & Community Development
City and County of Honolulu

7/29/91
Date

Prepared For:
City and County of Honolulu
Department of Housing and Community Development

Prepared By:
William E. Wanket, Inc.
Pacific Tower, Suite 660
1001 Bishop Street
Honolulu, Hawaii 96813

July 1991

SMITH - MAUNAKEA HOUSING
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SMITH - MAUNAKEA HOUSING
ENVIRONMENTAL IMPACT STATEMENT

SUMMARY

DEVELOPMENT PROFILE

Project Title	Smith Maunakea Housing
Proposing Agency	City and County of Honolulu, Department of Housing and Community Development
Accepting Authority	City and County of Honolulu, Department of General Planning
Tax Map Key	1-7-2: parcels 3, 4, and 5
Land Area	44,677 square feet
Location	The site is located in the Chinatown Special District, Honolulu, Hawaii with street frontages along Smith Street, Maunakea Street and Nimitz Highway.
Land Owner	City and County of Honolulu
State Land Use District	Urban
DP Land Use Map	Commercial
DP Public Facilities Map	Government Building/Modification (GB/M). Also, improvements within Nimitz Highway rights-of-way
Zoning	Central Business Mixed Use District (BMX-4).
Special District	Chinatown Special District (Makai Precinct).
Existing Use	Three (3) level municipal parking structure, and a two-story commercial structure.
Surrounding Uses/Structures	Various retail, office and financial establishments, including buildings of historic significance, are in the immediate area.
Flood Zone	Firm Zone X

NEED FOR EIS

Pursuant to Chapter 200, Title 11, Administrative Rules, Subchapter 5(b), the proposed project is subject to Chapter 343, Hawaii Revised Statutes, since City and County lands and funds are involved. The City and County of Honolulu, Department of Housing and Community Development (DHCD) has determined that an Environmental Impact Statement is required for the project.

An Environmental Impact Statement Preparation Notice (EISPN) was published in the Office of Environmental Quality Control's Bulletin on September 8, 1990. Copies of the EISPN were sent to various consulting parties. *Chapter 9* of this document lists the parties receiving a copy of the EISPN, as well as those who submitted comments. Response letters were sent to all commenting parties.

The Draft Environmental Impact Statement (DEIS) was prepared and submitted to OEQC in April 1991. Notice of the DEIS was published in the OEQC's Bulletin of April 23, 1991. Twenty-five (25) letters were received commenting on the DEIS. Response letters were sent to all commenting parties. The comment and response letters can be found in *Chapter IX* of this document.

Twenty-Five (25) copies of this Final Environmental Impact Statement (FEIS) were filed with OEQC in July 1991, pursuant to Section §11-200-20 of the Environmental Impact Statement Rules.

PURPOSE OF EIS

The purpose of this Environmental Impact Statement is to:

(1) Describe the proposed action;

(2) Disclose the probable environmental effects of the proposed action;

(3) Describe measures proposed to minimize adverse effects; and

(4) Discuss alternatives to the proposed action.

OVERVIEW

The Honolulu City Council appropriated a total of $54.6 million in the 1990, 1991 and 1992 Capital Improvements Program (Ordinance 89-75, 90-53 and 91-32) for the planning, engineering and construction of the Smith-Maunakea Housing Project. The project is a mixed-use development comprised of an apartment tower, two-story structure containing commercial floor space in the ground floor and studio apartments at the second floor, a five-story parking garage, and two-level basement parking area. The project does not involve federal funds.

The project site encompasses 1.03 acres, or 44,677 square feet. The site is located in the central business district of downtown Honolulu. The site is bounded by Smith Street on the Diamond Head side, Maunakea Street on the Ewa side, and North Nimitz Highway is makai of the site. On the mauka side of the site are three privately-owned commercial buildings.

The site in its present condition is underutilized. The site is currently occupied by a three-story parking garage containing 260 stalls, and by a two-story commercial building containing a restaurant on the ground floor and other commercial uses on the second floor.

Parcels immediately adjacent to the project site, on the King Street frontage, contain low-rise structures with a restaurant, gift shop, produce market, and Liberty Bank at the ground level, with office spaces above.

Uses in the vicinity of the project site are varied. On the street level are banks and small financial institutions, antique and collectible shops, small ethnic restaurants and trade stores, and small markets. Above the ground floor in nearby buildings are numerous small entrepreneurial enterprises and service-oriented businesses. In the immediate areas around the project site are several buildings of historic significance.

The site is designated commercial on the City's Development Plan Land Use Map for the Primary Urban Center. In the development plan Special Provisions for the PUC, the site is in the Chinatown District sub-area of the Downtown Special Area that calls for mixed use development with emphasis on historic preservation, architectural character and adaptive re-use, and the strengthening of the retail and commercial function.

The zoning for the site is BMX-4, Central Business Mixed Use District, which provides the highest land use intensity for commerce, business and housing. The site also lies in the Makai Precinct of the Chinatown Special District where special standards and procedures are established to govern developments. In appropriate sections of this document, the project's consistency with these controls and procedures are discussed.

The plans and details presented in this EIS have not been finalized and are subject to change as the project advances through the design development stage. In some instances, the data presented in the appendices are slightly different in detail than the information provided in this document, e.g. studies were based on an initial unit count of 238, which was later changed to 234 units. These adjustments are reflective of further design considerations, which are not expected to affect the findings of the respective studies, nor are they expected to create impacts not otherwise addressed in this document.

BENEFICIAL IMPACTS

Needed rental units will be provided in a location near employment, shopping, medical and public facilities. An underutilized area will be revitalized by expanding business and employment opportunities and by enhancing the visual appearance. Goals and objectives of the Honolulu General Plan and Primary Urban Center Development Plan will be met, and the historic significance and importance of the Chinatown District will be maintained and strengthened.

POTENTIAL ADVERSE IMPACTS

Following is a summary of the potential impacts and mitigation measures related to the redevelopment of the site.

Archaeology

Land development may result in destruction of archaeological resources.

An archaeological Research Study was conducted by Bishop Museum's Applied Research group (1990). Findings indicate that the site has prehistoric implications as well as early contact and early historical importance, and may contain burial remains and other archaeological resources. Further archaeological testing and the preparation of a site inventory [finalized mitigation plan] will be required prior to site excavation. If significant sites are determined to be present, a mitigation plan will be prepared for the review and approval of the State Historic Preservation Division. All phases of demolition, surface removal and excavation will be closely monitored by an archaeologist. Also, appropriate security measures during construction will be implemented to safeguard against vandalism and / or destruction of archaeological resources from unauthorized entry. A summary of the study is presented in Chapter II Section F. The full report can be found in *Appendix A*.

Air Quality

The redevelopment will result in impacts to existing air quality.

There will be short-term, temporary impacts on air quality during the construction stage, and some post-construction long-term direct and indirect air quality impacts that could result from the project and use of the proposed facilities. Compliance with Federal and State regulations governing air quality will help to mitigate air quality impacts. Barry Neal and Associates has conducted an Air Quality Study (1991) for the project, and the results, including appropriate mitigative measures, are summarized in Chapter II Section J. The full report can be found in *Appendix B.*

Traffic

Increased vehicular traffic will be generated by the project.

Pacific Planning and Engineering, Inc. conducted a Traffic Impact Assessment (1990), and found that the project, when completed in 1993, is not expected to significantly impact traffic conditions in the area. Intersection analyses were conducted on the segments of Nimitz Highway and King Street, and five critical intersections (King and Smith, King and Nuuanu, Nimitz and Smith, Nimitz and Nuuanu, and Smith and the project access). The results indicated that delays at intersections will increase slightly and average travel speeds will decrease slightly. A summary of the study's findings is presented in Chapter IV, Section A. The full report is found in *Appendix F.*

Noise and Vibration

Noise levels in the area will increase, especially during construction. Units near Nimitz Highway will be exposed to higher noise levels.

A Noise Impact Assessment was performed by Darby and Associates (1990). Results of this study indicated that construction noise could cause some short-term annoyance to occupants of neighboring properties, especially if pile driving is used, and some of the project units along Nimitz Highway will be exposed to future Ldn's of 65 dBA or higher. A summary of the report's findings, including appropriate mitigative measures, are discussed in Chapter II, Section I. The entire report can be found in *Appendix C.*

Historic Buildings

Damage could occur to nearby historic buildings during construction

The potential adverse impacts to adjacent historic buildings are related to damages that could occur through demolition and construction activities on the site. A Historic Building Impact Assessment has been prepared by Architects Hawaii, Inc. (1991) that addresses this potential problem and identifies appropriate mitigative measures to protect such buildings. A summary of the report findings are presented in Chapter II, Section G. The full report can be found in *Appendix G*.

Construction

Clearing and construction work will result in temporary, short-term impacts to surrounding uses and activities, including dust, traffic disruption, and loss of public parking spaces.

Short-term inconveniences to surrounding businesses and visitors to the area will occur during the construction of the project. Government controls relating to dust, demolition, and noise will help mitigate the impacts associated with these activities. Coordination with the Police Department and the City Department of Transportation Services will be maintained to ensure that appropriate public safety and traffic control measures are employed. In some instances, businesses now using the site as service entrances will have to look for alternate access routes. Interim parking plans and parking alternatives will be explored to help offset the temporary loss of 260 parking spaces from the site.

Visual

The development project will change the existing appearance of the site and surrounding environment.

The site is presently underdeveloped, and there are no pedestrian or visual amenities associated with the parcel. The proposed project will eliminate one low-rise commercial structure and a parking garage within the fringe of the Chinatown District. It will be replaced with a high-rise apartment tower, a multi-level parking garage, and a low-rise commercial structure along Maunakea and Smith Streets. Architectural screening of the rooftop mechanical equipment will exceed the basic height limits for the district. The facade of the two story portion of the project is designed to emulate the facade of the existing J.H.

Schnack Building, which is considered one of the most significant structures in Chinatown. Other features are incorporated into the design to enhance the visual appearance and pedestrian experience in the area. A View Assessment of the project was prepared by Michael S. Chu (1990). A summary of the assessment is contained in Chapter II, Section H. The entire assessment report can be found in *Appendix J*.

Socioeconomic

The project will increase population, business and employment opportunities, and demand for services in the area.

A Social Impact Assessment for the project was conducted by Earthplan (1990). Findings indicate that the project will have minor impact on the overall population of the area, but will affect demographics somewhat by the addition of low and moderate income renters and elderly residents, thereby helping to meet the housing needs of these people. New employment opportunities, both short-term, construction-related, and long-term jobs related to the increase in commercial space will be created. Other probable impacts include an increase in walk-in trade for businesses located within the area; a potential increase in competition with established businesses in the area; and greater demands on public services. A summary of the findings are discussed in appropriate sections of this document. The full report can be found in *Appendix E*.

Infrastructure

The project will result in increased demands on existing utility systems.

Water and wastewater systems will require up-grading to serve the project. The drainage system along Smith Street was found to be adequate. Power and communication systems appear adequate. All necessary improvements will be in accordance with City and County standards. Further discussion on the utility systems can be found in Chapter IV.

ALTERNATIVES CONSIDERED

In Chapter VI, three alternatives to the proposed project are discussed. The first (no action) alternative assumed that the land would remain in its present status. The second alternative considered developing the project at another location. The third alternative explored possible variations in development concepts for the property. A review of these alternatives concluded that the proposed plan represents the best use of the site, given the housing priorities of the City and County of Honolulu.

UNRESOLVED ISSUES

Archaeological Recovery Plan

Based on a historical background and document search undertaken by the Applied Research Group of the Bishop Museum, highly sensitive subsurface areas are likely to be found within the project site. Further archaeological work will be necessary (surveying, testing, probing, data recovery, etc.). Prior to development, a complete data recovery plan will be formulated and submitted for review and approval by the Historic Section of the State Department of Land and Natural Resources, if significant archaeological or historic sites are located at the project site.

Final Design Plans

Plans at this time are conceptual. The basic components of the plan are not expected to change significantly. Design features and details, however, are still in the process of review and refinement. These refinements are not expected to create impacts not otherwise addressed in this EIS.

COMPATIBILITY WITH LAND USE PLANS AND POLICIES

A discussion of the relationship of the proposed plan to State and County land use plans and policies is presented in Chapter V. The proposed plan was found to be consistent with the relevant public goals, objective, policies, plans and controls of the State of Hawaii and the City and County of Honolulu

NECESSARY PERMITS AND APPROVALS

A number of major permits and approvals must be obtained before development of the project can begin. Major permits and approvals include:

AUTHORITY	PERMIT/APPROVAL REQUIRED
FEDERAL	
Federal Aviation Administration	Air navigation clearance
STATE	
Department of Land and Natural Resources	Historic review and archaeological recovery plan
Department of Health	Demolition/construction related permits
Department of Transportation	Work within highway rights-of-way
CITY AND COUNTY	
Department of Land Utilization	Special District Permit. Waivers from the provisions of the Land Use Ordinance.
Department of Public Works	Ordinance 2412 Grading, drainage, and wastewater permits
Building Department	Demolition and building permits. Certificate of Occupancy
Department of Parks and Recreation	Compliance with provisions of the Park Dedication Ordinance
Board of Water Supply	Water system requirements.
OTHER	
Utility Companies	Utility service requirements

CHAPTER I.

Project Description

I. PROJECT DESCRIPTION

This Chapter describes the site and its location, and the scope, design, development schedule and estimated cost of the project. The impacts associated with the project and mitigative measures being proposed are presented in later Chapters of this document.

A. Site Location

The site lies in the Primary Urban Center Development Plan area and in the Chinatown District of downtown Honolulu. In the Chinatown District, the site is located in the Makai Precinct. *Figure 1* shows the location of the site.

B. Site Description

The project site consists of three separate TMK parcels totaling 44,677 square feet:

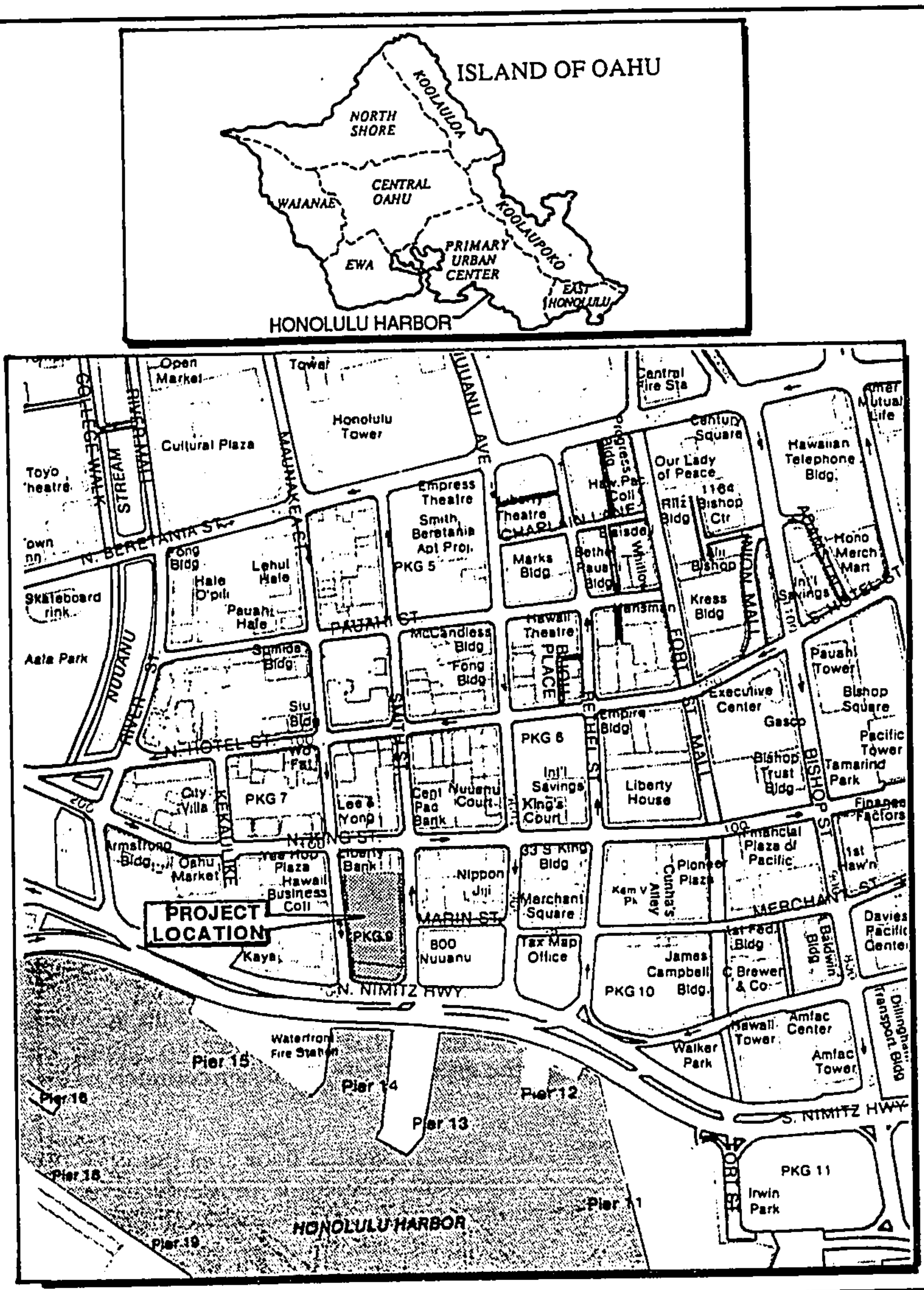
TMK	SIZE	OWNERSHIP	EXISTING USE
1-7-02:3	5,793 SF	City and County of Honolulu	Business/Commercial
1-7-02:4	16,939 SF	City and County of Honolulu	Parking Garage
1-7-02:5	21,945 SF	City and County of Honolulu	Parking Garage

The parking garage is a three level concrete structure with 260 parking stalls. The two story commercial structure has an eating and drinking establishment on the ground floor and other commercial uses on the second floor.

The Site is zoned BMX-4 and has a permitted floor area ratio (FAR) of 4.0. With the existing development, the site is presently developed substantially below the permitted FAR, and is considered under-utilized.

C. Development Program

The development program calls for the demolition of the existing public garage and the commercial structure along Nimitz Highway,



SMITH /MAUNAKEA HOUSING
Regional and Project Location Maps

FIGURE 1

consolidating the three parcels and constructing a mixed use development on the site.

The mixed-use facility will consist of rental apartment units, commercial floor space, and a parking complex which will include replacing the 260 parking spaces in the existing parking garage and providing resident parking.

The residential component of the project will provide 234 rental units. Below is a breakdown of the unit sizes and types.

TABLE 1
Unit Types

TYPE	DESCRIPTION	QUANTITY	FLOOR AREA (sf)	LANAIS (sf)	TOTAL (sf)
A, AR	2BR/1B	27 each	714	32	746
B	2BR/1B	27 each	709	32	741
C	2BR/1B	27 each	697	32	729
D	1BR/1B	27 each	613	42	655
E	1BR/1B	27 each	622	42	664
F, FR	1BR/1B	27 each	654	42	696
G	Studios	18 each	Varies 280-440	72-160	Varies 350-600

Note: Units A, C & F are without lanais from 2nd thru 5th floors.

As shown in the Table above, there will be 108 2-bedroom units ranging in sizes from 729 to 746 square feet; 108 1-bedroom units ranging in sizes from 655 to 696 square feet; and 18 studio units ranging in sizes from 350 to 600 square feet. Sixty percent of the units will be made affordable to families earning less than 120 percent of median income. Approximately 70 units will be targeted for families earning less than 80 percent of the median income. Elderly households will be given preference for these affordable units.

Approximately 13,910 square feet of commercial ground floor space is planned. No determination has been made at this time as to the specific commercial activities planned for the spaces. Below is a breakdown of the commercial spaces.

TABLE 2
COMMERCIAL SPACES

LOCATION	AREA (SF)
Space A	6,040
Space B	1,792
Space C	1,268
Space D	247
Space E	526
Space F	4,037
TOTAL	13,910

The parking complex will consist of a multi-level parking structure. A total of 425 stalls will be provided. The parking total includes 260 replacement stalls for public parking and 165 stalls for resident parking. Because the site is in an improvement district for public off-street parking, no additional stalls are needed for the commercial spaces.

Shown in *Table 3* below is a summary of the floor area of the proposed development.

TABLE 3
FLOOR AREA SUMMARY (sf)

Tower Apartments	190,790 sf
Studio Apartment	12,048 sf
Commercial Spaces	13,910 sf
Miscellaneous Circulation	1,364 sf
Service Areas	1,475 sf
Mechanical Spaces	7,000 sf
Elevator Machine Room	400 sf
Spaces under eaves or overhang	4,133 sf
Total Area (LUO)	**231,120 sf**

D. Development Concept

The preliminary plans for the project include an apartment tower, a two-story structure containing commercial spaces on the ground floor and studio apartments on the second floor, and a multi-level parking garage. The preliminary plans and elevations are illustrated in *Figures 2* through *9*.

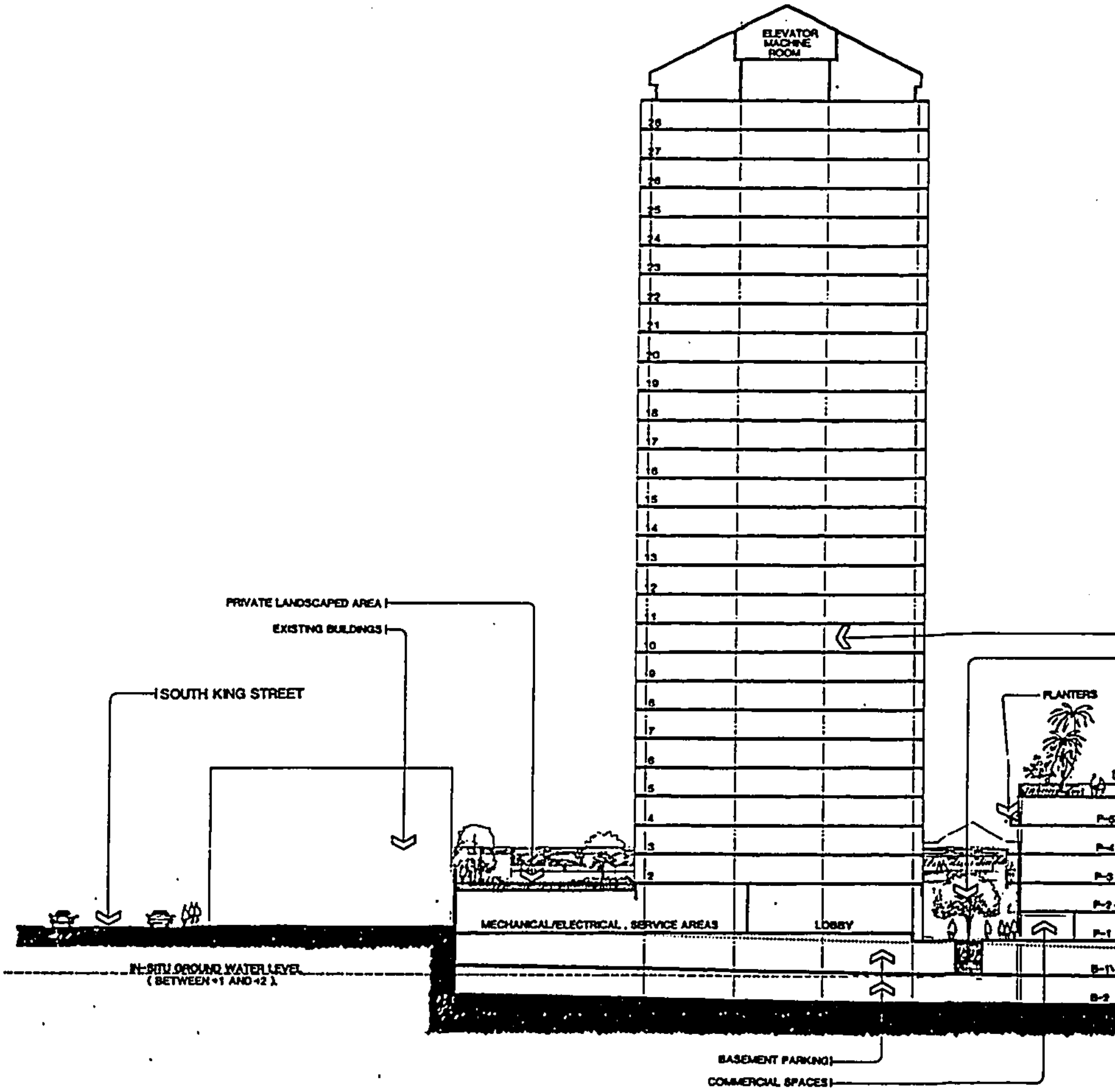
The building section is illustrated on *Figure 2*. The ground floor plan, 2nd floor plan, typical floor plan of the tower, and the basement parking layout are presented on *Figures 3, 4* and *5*. *Figures 6, 7* and *8* provide views of the project development from Smith Street, Maunakea Street, Nimitz Highway and King Street. Elevations of the arcade towards Smith Street, King Street, and Nimitz Highway are illustrated on *Figure 9*.

The apartment tower is located on the mauka portion of the site and the multi-level parking garage will cover most of the site. At the mauka portions of the site, the garage will be submerged two levels below grade and will serve as the foundation for the tower. The parking garage at the makai portion of the site will also be submerged two levels below grade with an additional five levels above grade. On the roof of the garage, a landscaped recreational area of approximately 4,300 square feet will be provided.

A ground-level arcade will separate the tower from the five levels of parking at Nimitz Highway. The arcade will be opened to the sky and aligned with Marin Street, and will contain limited commercial space, interior landscaping and entry lobby facilities for the tower. The arcade feature will provide a pedestrian route through the site and connect Marin Street with Maunakea Street.

The street facade will include storefront treatments at the ground level (emulating the facade of the existing J.H. Schnack Building), balconies, spandrel walls, windows and entry details. Metal awnings will be used extensively in the project to relate the development to the prevailing character of the district. Another feature that will be introduced is the articulated stair tower, which was designed to echo the character of Aloha Tower and the more recent Maunakea Market Place. To reflect a consistent architectural theme, the stair towers and the apartment tower will be capped with metal hip roofs.

Along Nimitz Highway, the frontage will be extensively landscaped and will contain earth mounds, palms and other shrubbery designed to screen the facade of the garage. In addition, a vertical water feature



BUILDING SECTION
SCALE: 1/16" : 1'-0"

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SMITH/MAUNAKEA
HOUSING

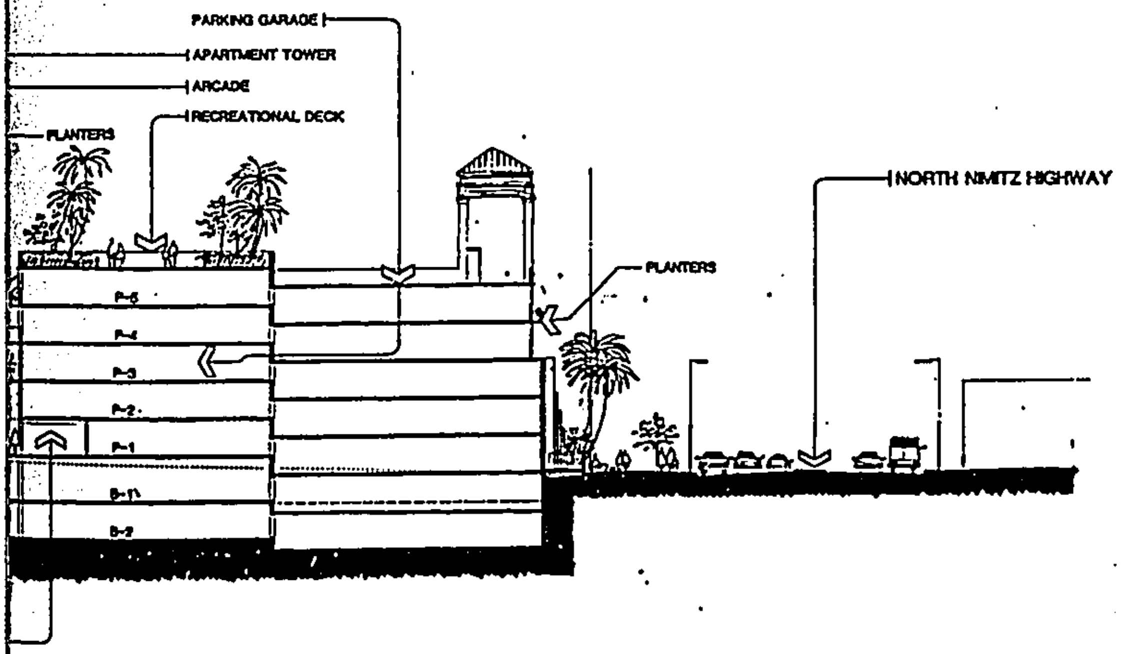


FIGURE 2

Revision

Designed by

Drawn by

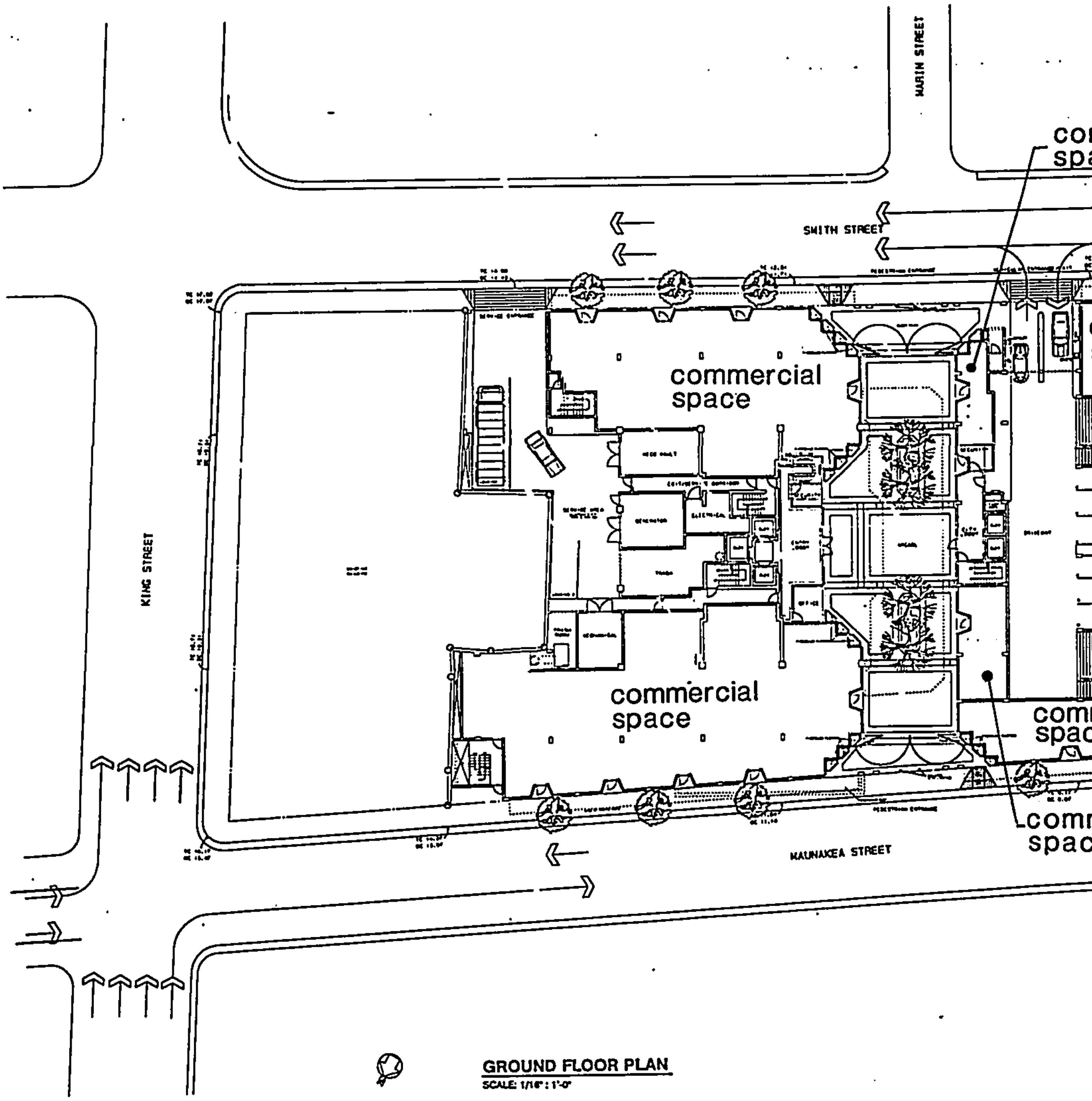
Project No.

Date

Drawing No.

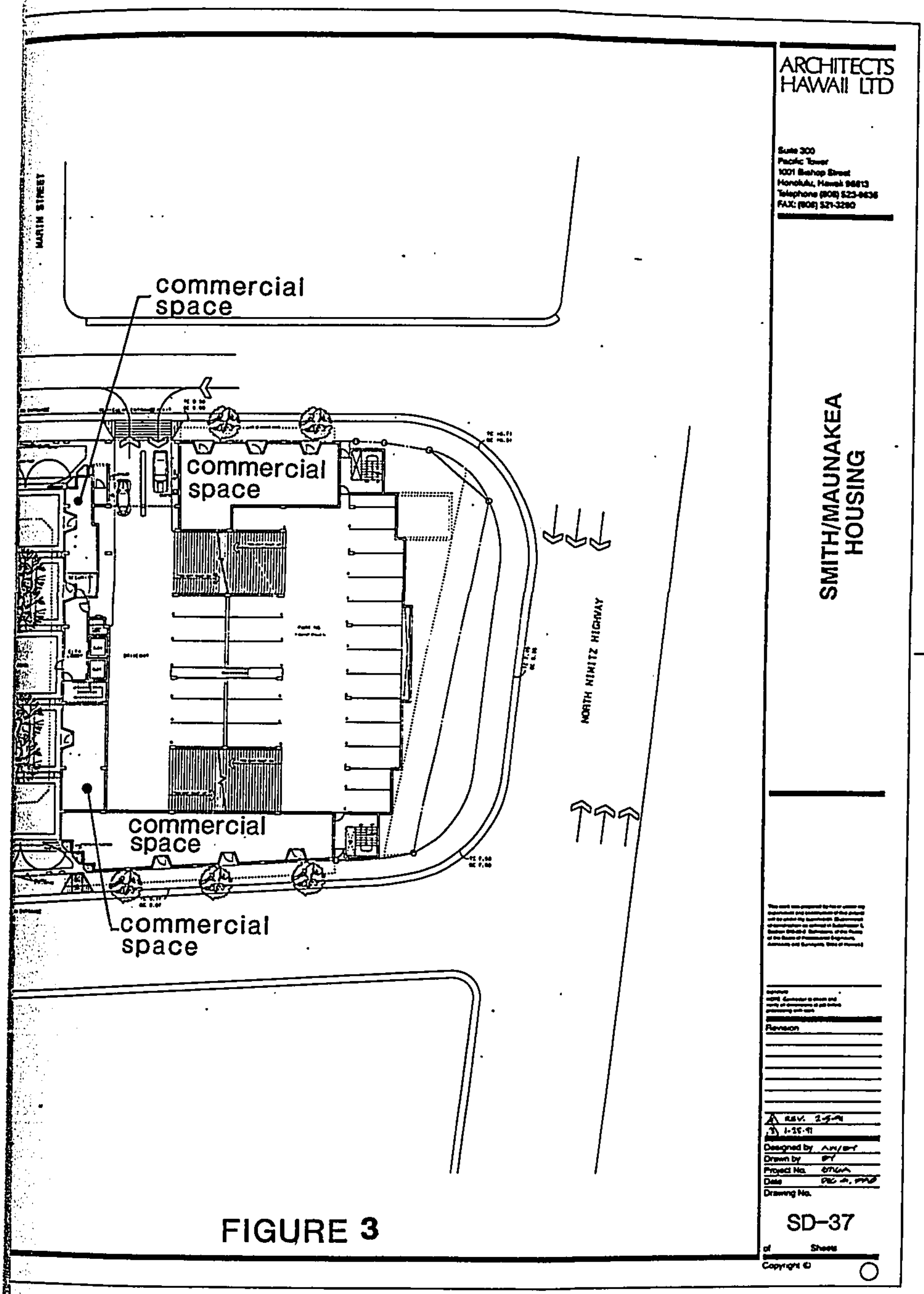
SD-30

of Sheets



GROUND FLOOR PLAN
SCALE: 1/16" : 1'-0"

NOTES:
1. Approximate number of piles: 800
2. Approximate length of piles: 110 feet



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FAX: (808) 521-3260
MARIN STREET
commercial space
commercial space
commercial space
commercial space
NORTH NIMITZ HIGHWAY
SMITH/MAUNAKEA HOUSING
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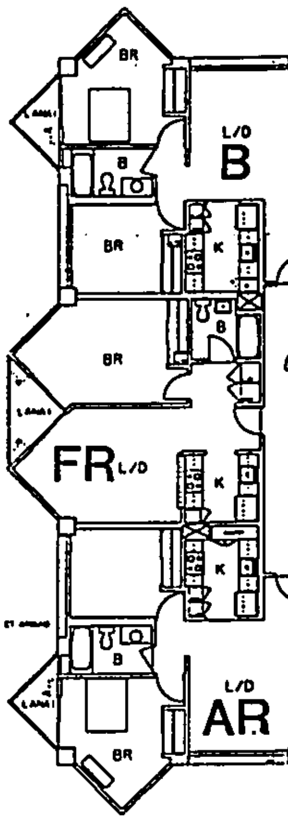
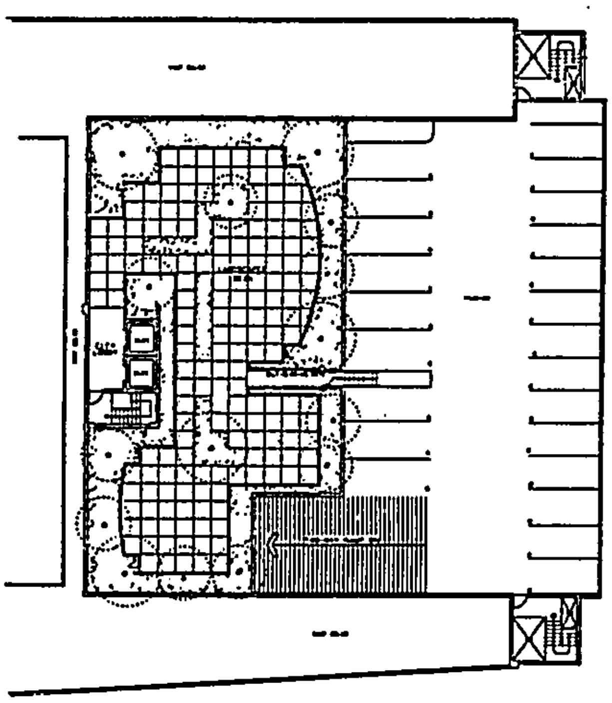
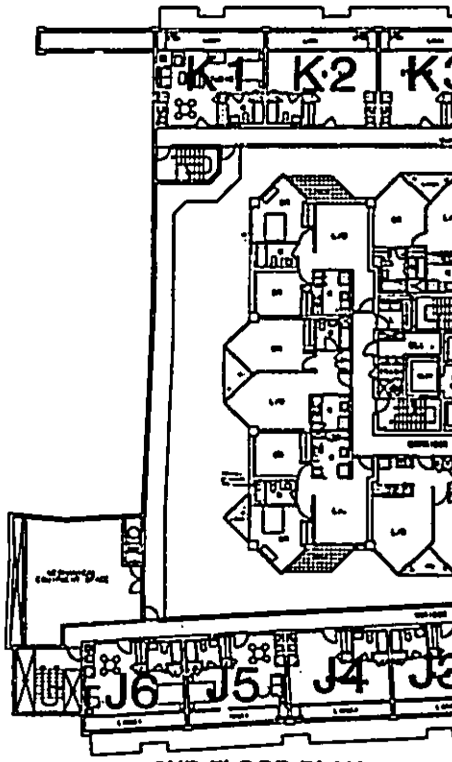
FIGURE 3



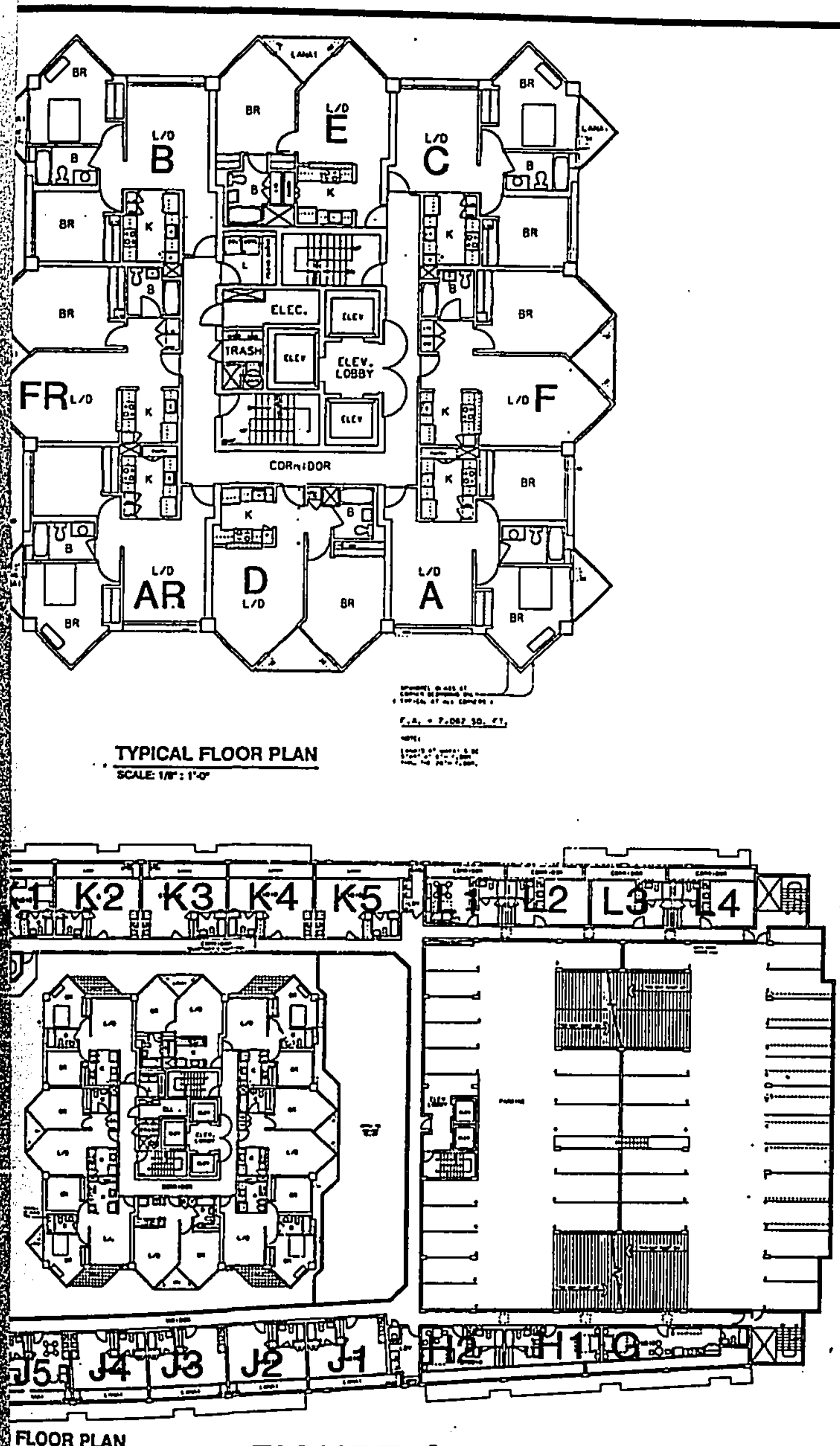
TYPICAL
SCALE: 1/8" : 1'-



RECREATIONAL DECK/
PARKING LEVEL 5.5 PLAN
SCALE: 1/16" : 1'-0"



2ND FLOOR PLAN
SCALE: 1/16" : 1'-0"



TYPICAL FLOOR PLAN
SCALE: 1/8" : 1'-0"

FLOOR PLAN
1/16" : 1'-0"

FIGURE 4

ARCHITECTS
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SMITH/MAUNAKEA
HOUSING

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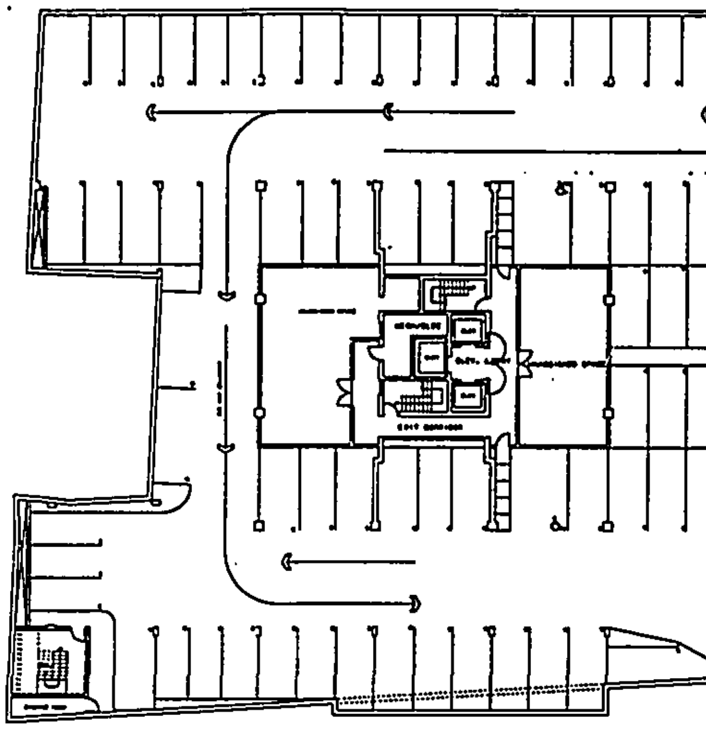
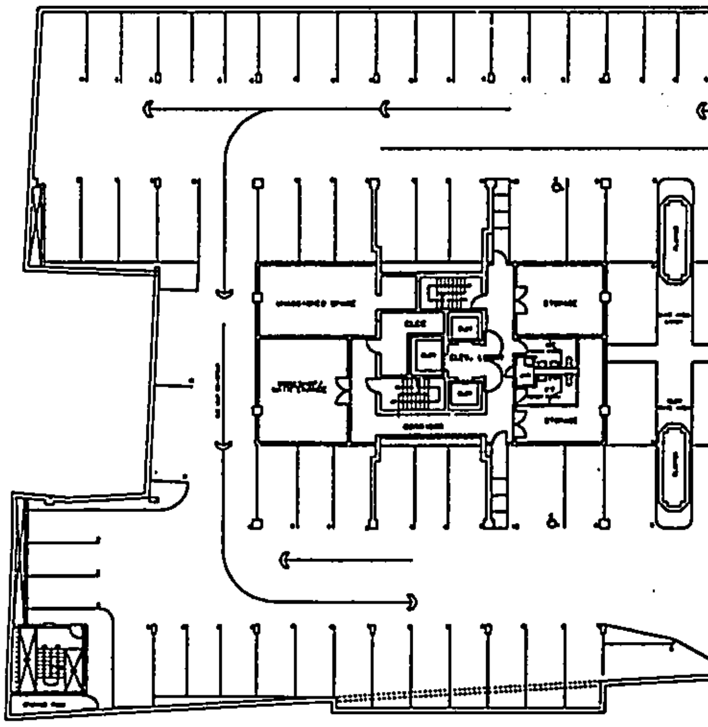


BASEMENT PLAN (B-2)
SCALE: 1/16" : 1'-0"



BASEMENT PLAN (B-1)
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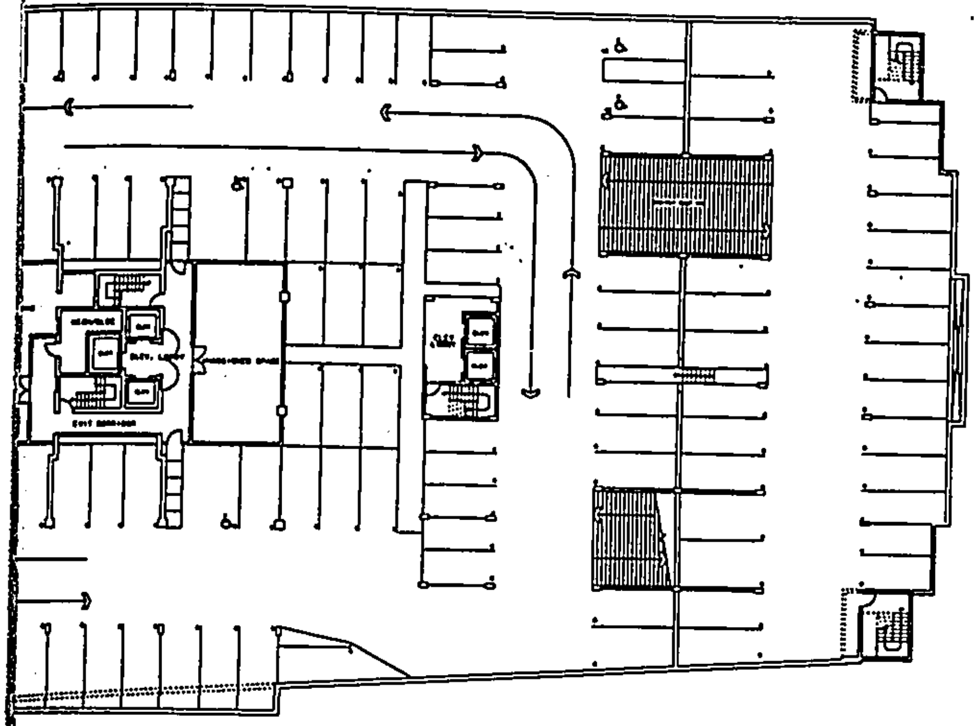

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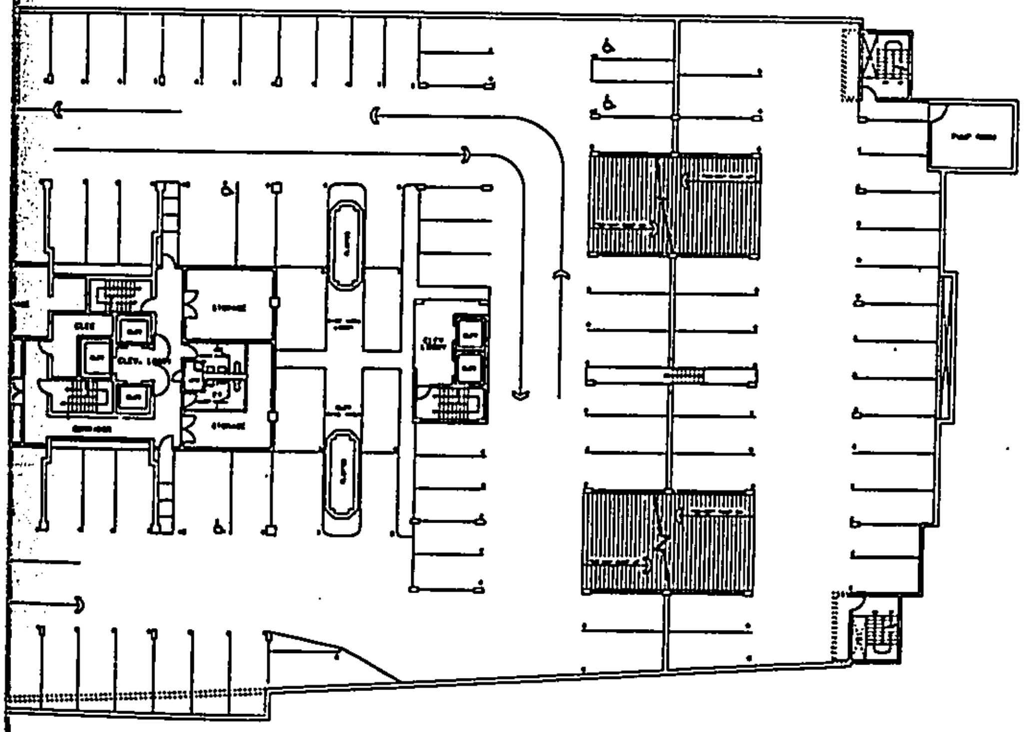

N (B-1)

FIGURE 5

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HOUSING

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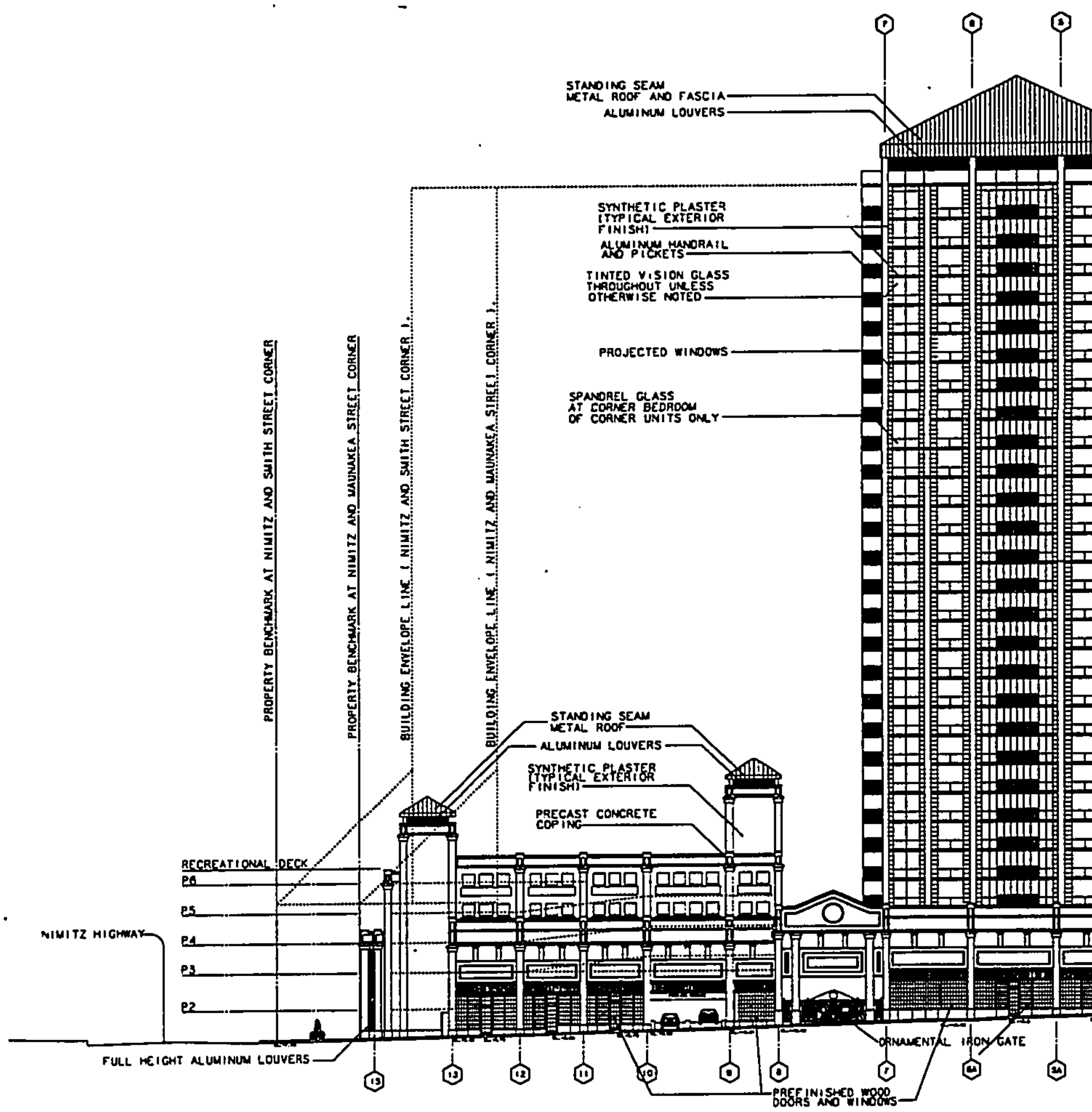

SMITH STREET ELEVATION

SCALE: 1/16"=1-0"

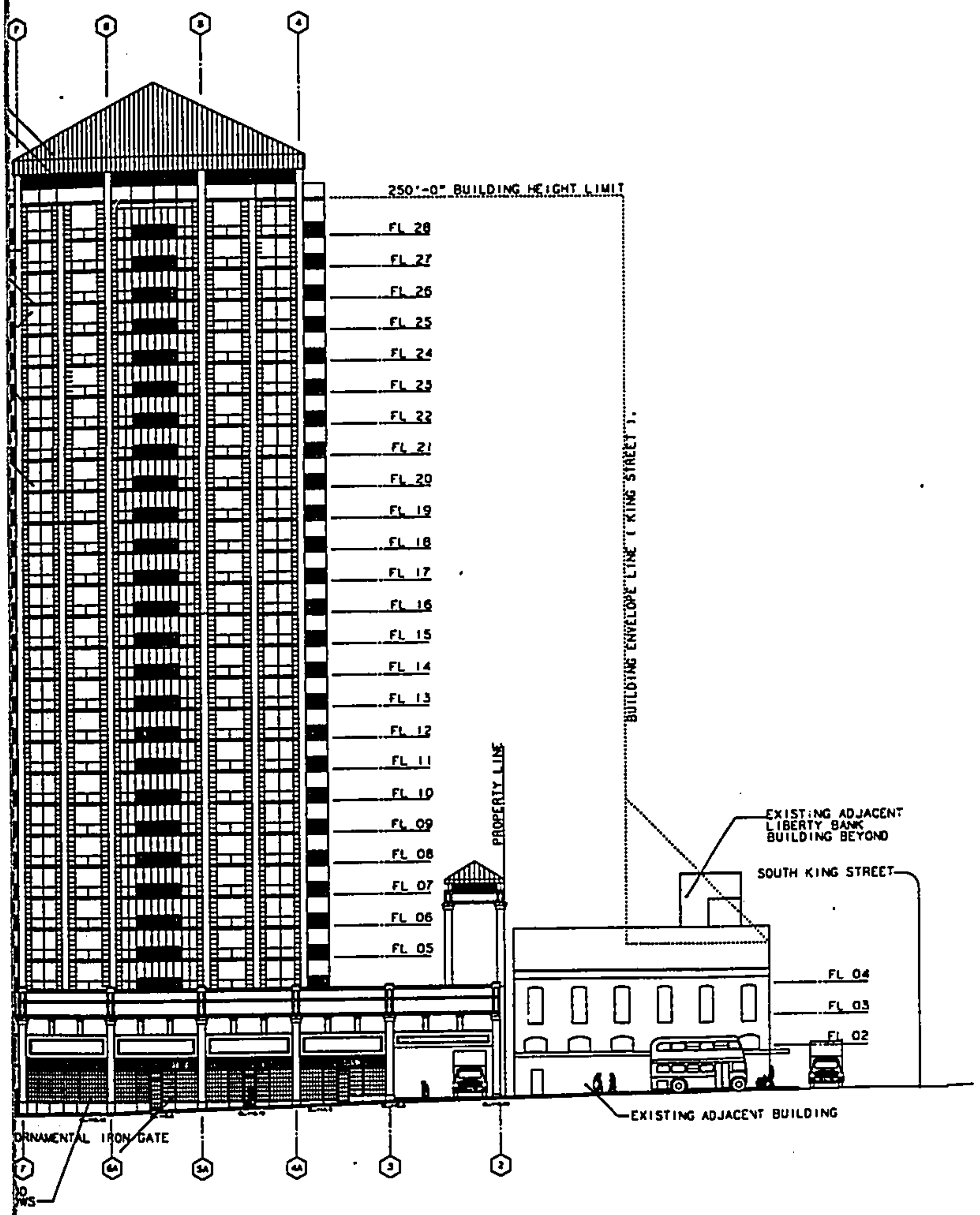

FIGURE 6

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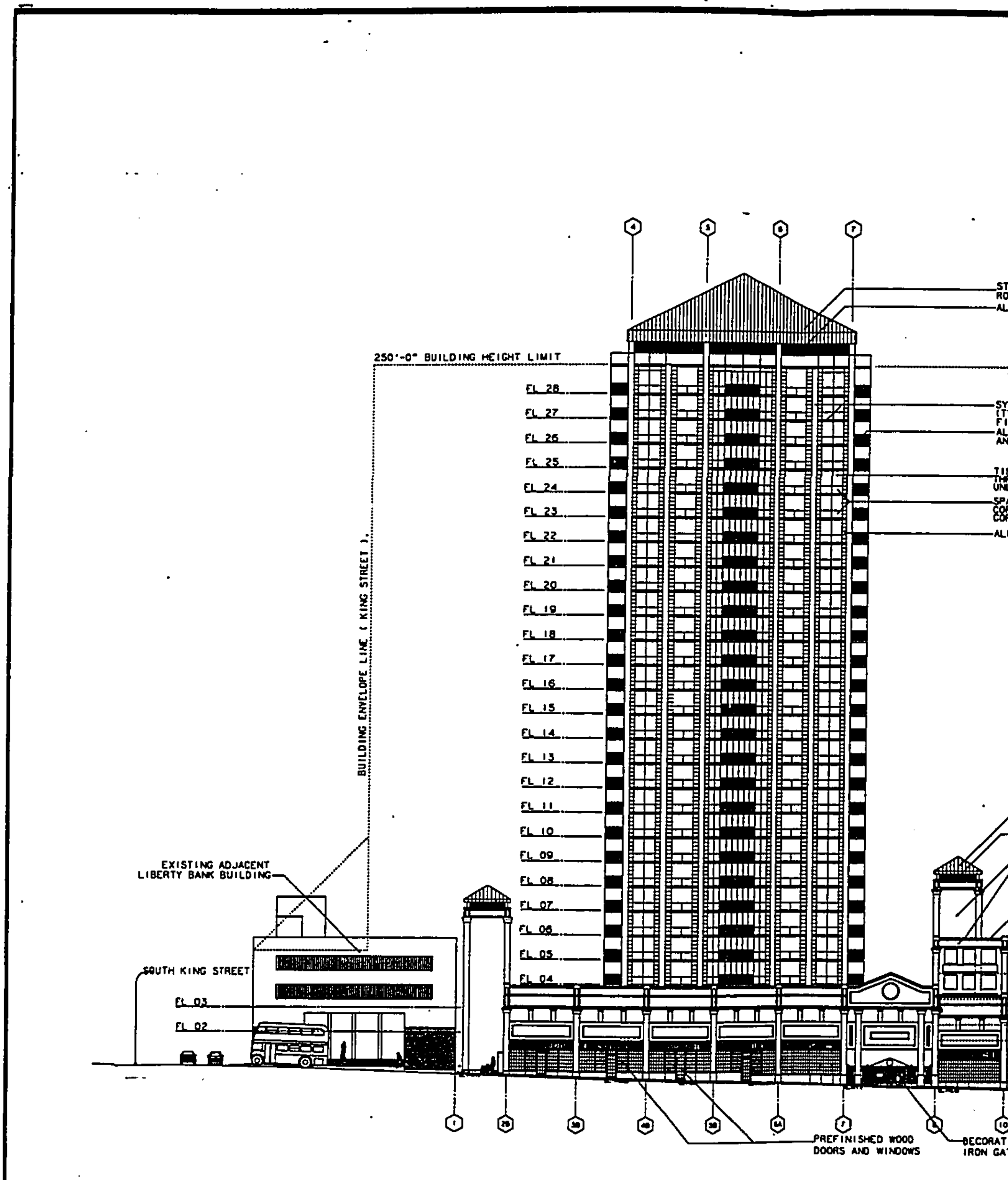

MAUNAKEA STREET ELEVATION
SCALE: 1/16"=1-0"

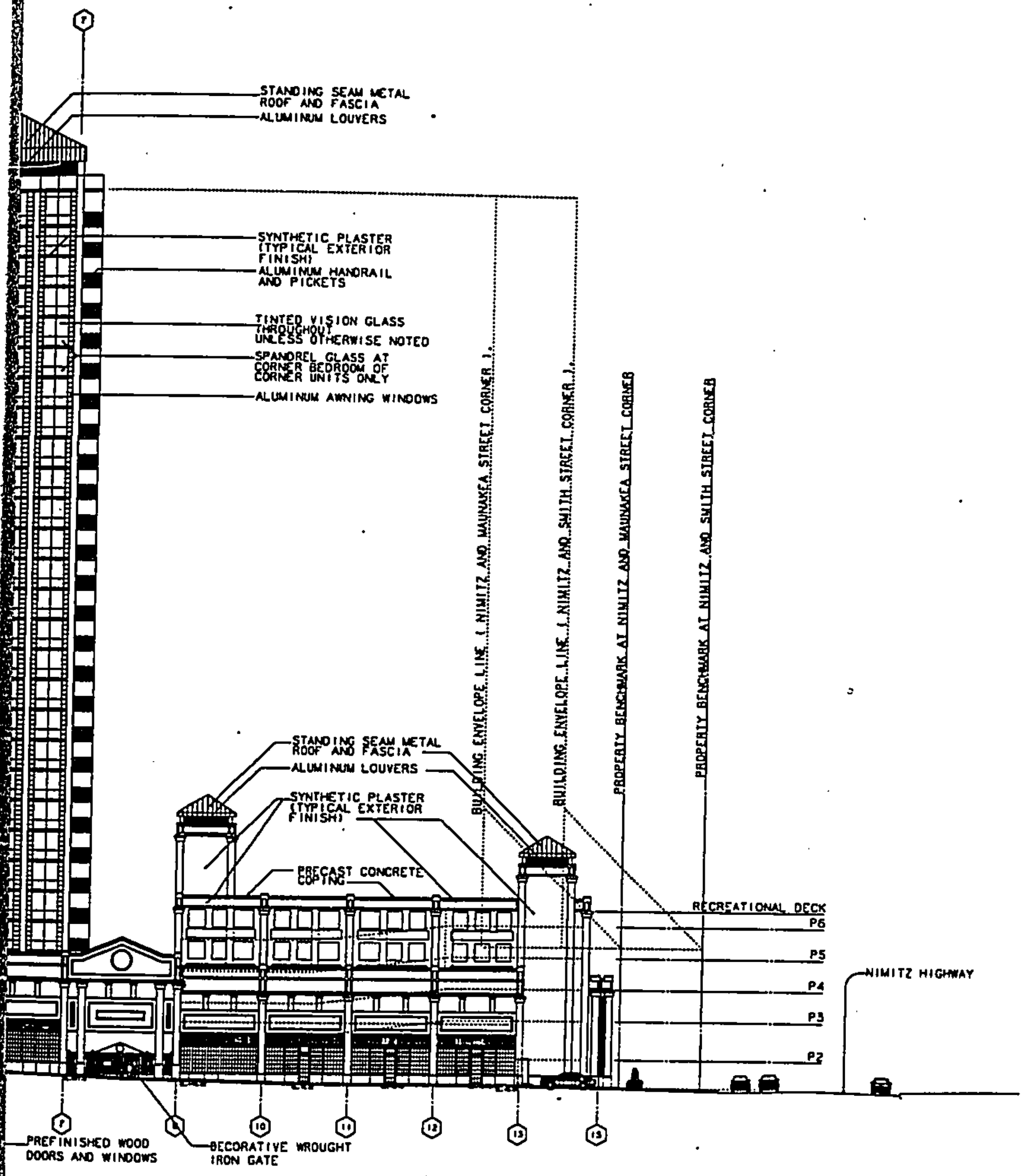

FIGURE 7

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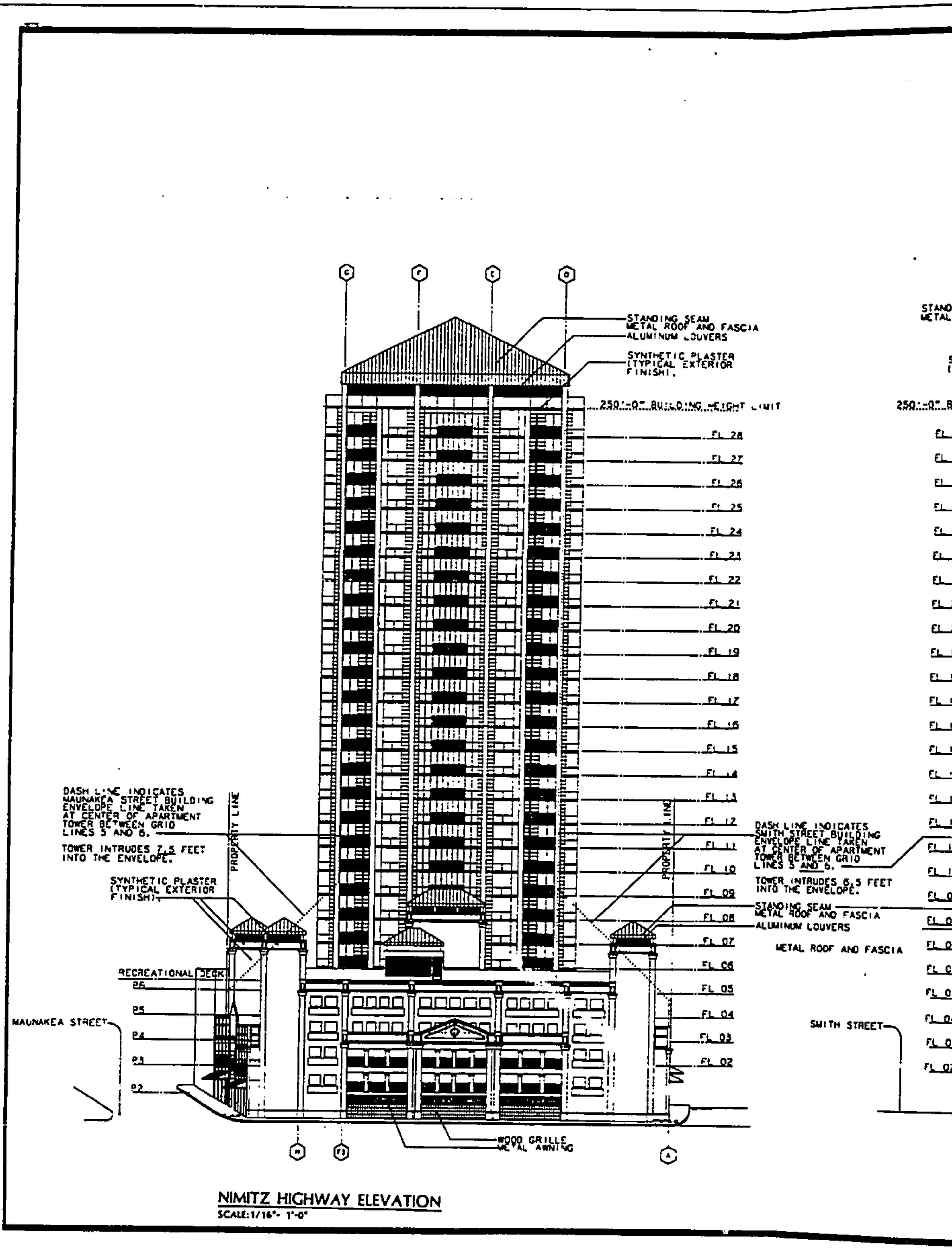
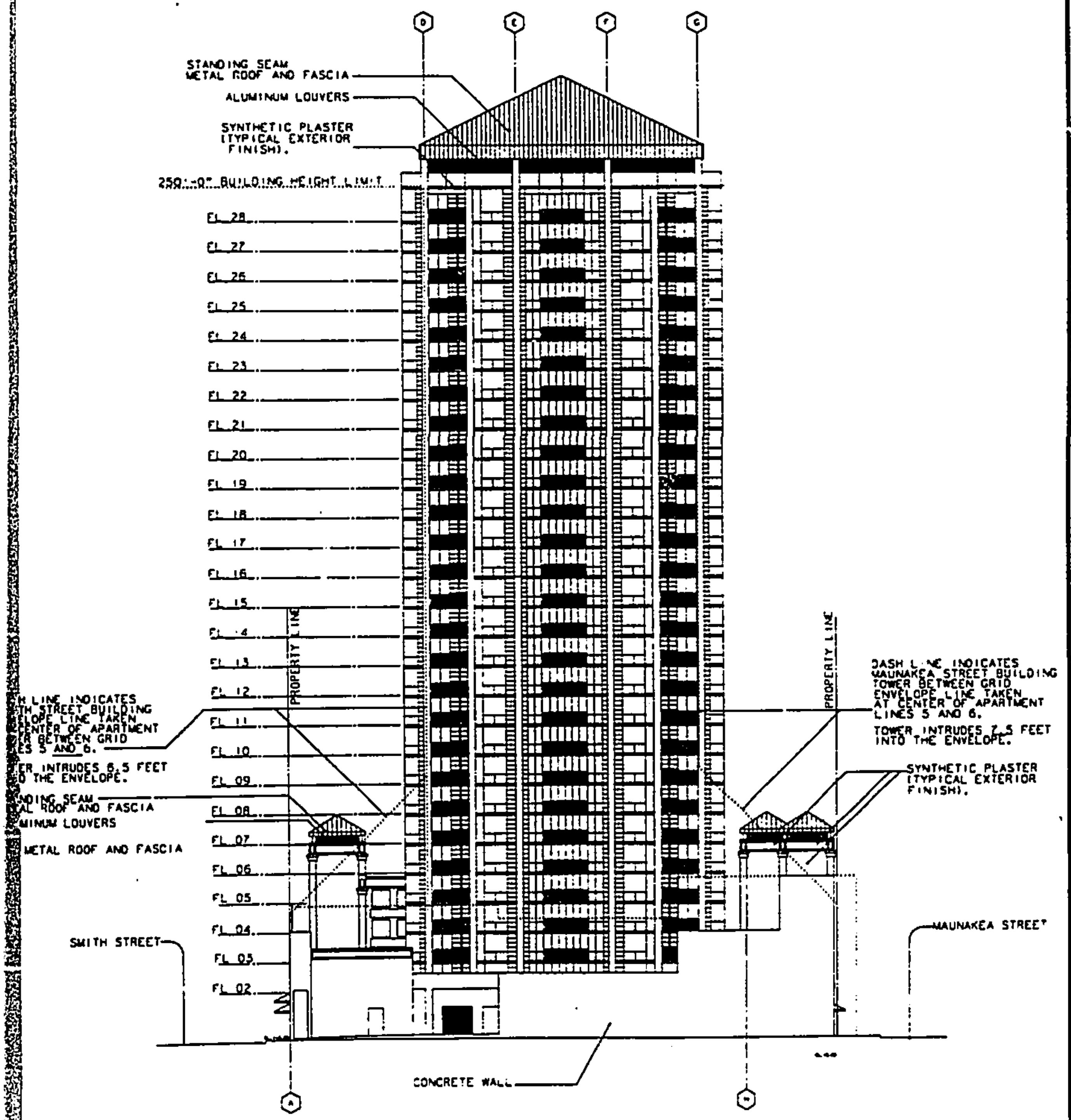


NIMITZ HIGHWAY ELEVATION

SCALE: 1/16" - 1'-0"



KING STREET ELEVATION **FIGURE 8**
SCALE:1/16"-1'-0"

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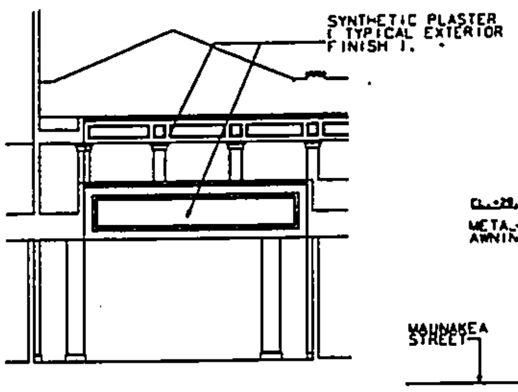
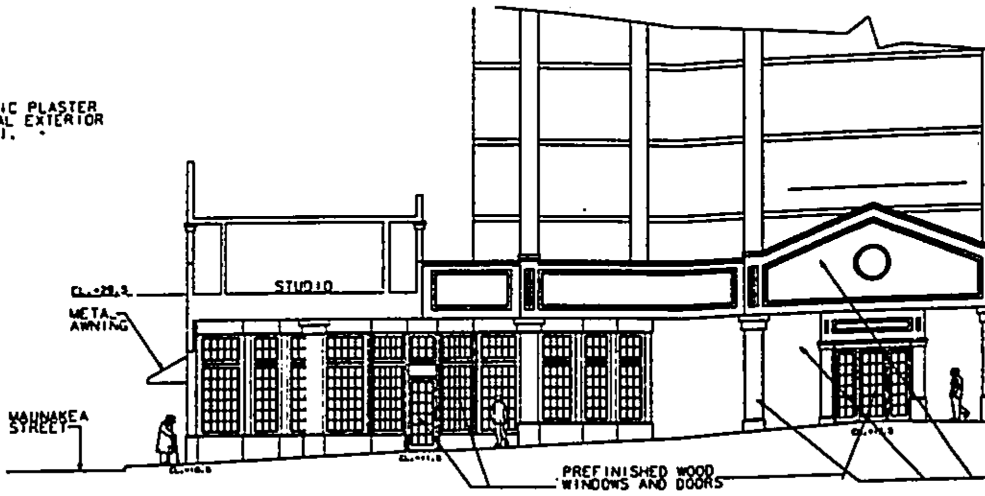
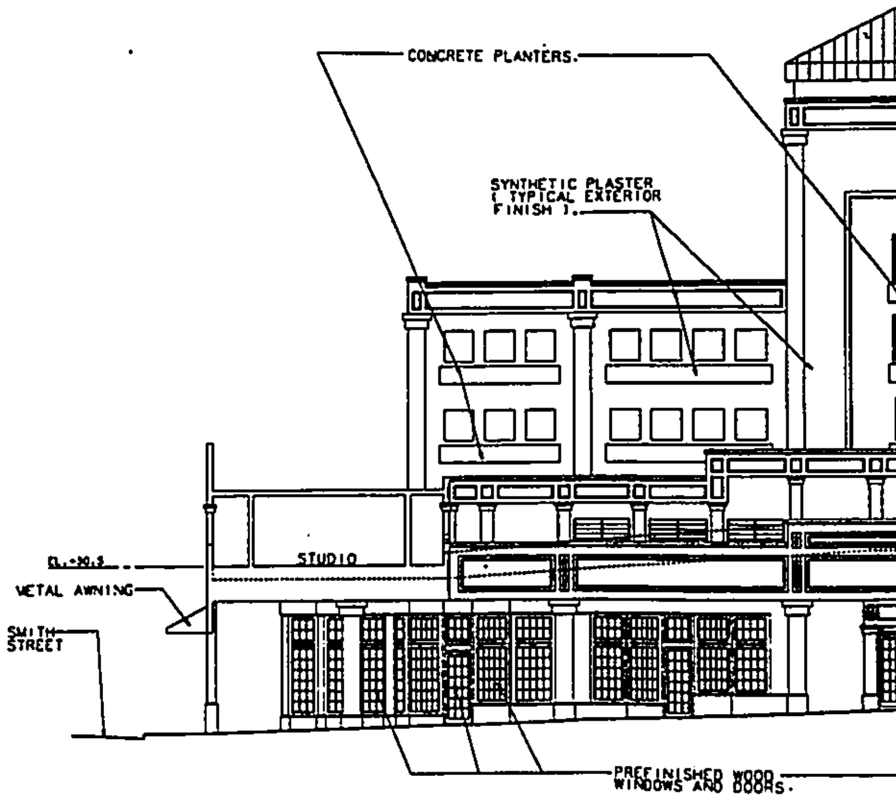


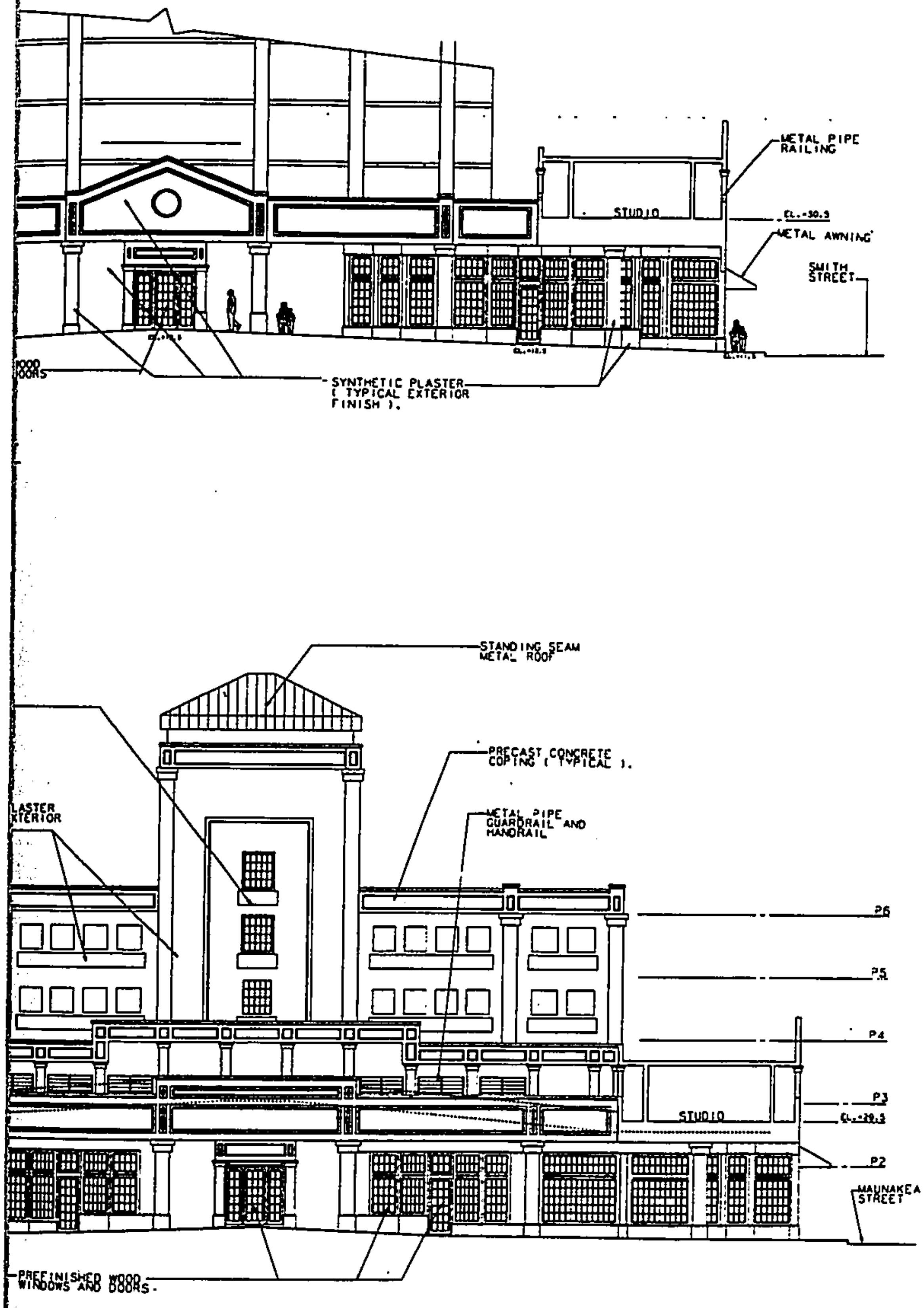
ARCADE ELEVATION TOWARDS SMITH STREET
(ARCADE ELEVATION TOWARDS MAUNAKEA STREET SIMILAR)
Scale: 1/8" = 1' - 0"



ARCADE ELEVATION TOWARDS KING STREET
Scale: 1/8" = 1'- 0"



ARCADE ELEVATION TOWARDS NIMITZ HIGHWAY
Scale: 1/8" = 1' - 0"



MITZ HIGHWAY

FIGURE 9

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along the face of the garage may be added to enhance the visual quality of the Nimitz Highway environment.

E. Development Standards

The project is subject to the provisions of the Land Use Ordinance, including the provisions of the Chinatown Special District. Shown in the Table below is a summary comparison of how the project either complies or is in non-compliance with these provisions.

TABLE 4
DESIGN STANDARDS
(Based on the Land Use Ordinance and Chinatown Special District Provisions)

Provision	Standard/Requirement	Project
Permitted Uses	Mixed use development allowed. Encourages ground floor commercial and parking along Nimitz Highway.	Residential-commercial mixed uses. Ground-level commercial. Parking along Nimitz Highway
Floor Area	Basic FAR 4.0/Maximum 7.5	FAR 5.17
Parking	234 parking spaces	165 parking spaces provided
Height Limit	250-feet	250-feet, plus 32-ft, 3" for roof enclosing mechanical equipment.
Height Setback	Additional setback for buildings over 40-feet in height.	Portions of project in non-compliance.
Yards	10-foot minimum along Nimitz Highway.	10-foot yard along Nimitz Highway.
Open Space/Landscaping	Roof gardens encouraged / Street trees along Nimitz Highway.	Roof garden. Street trees along Nimitz Highway.
Design Guidelines	Requires special street facade treatment.	Special facade treatment.

As indicated in the table above, waivers from height and parking requirements will be necessary (see *Chapter V.* for more discussion).

The development is also subject to compliance with the City and County Park Dedication Ordinance 4621, which requires 110 sf of park area per unit. For the project, the requirement is 25,740 sf. The present design does not meet this requirement, however, efforts are continuing to achieve compliance (see *Chapter V.* for more discussion).

Regarding federal laws pertaining to persons with disabilities, the project will comply as follows:

1. Units will be constructed in accordance with federal fair housing laws to ensure accessibility for persons with disabilities.
2. The project will be designed to allow a disabled person to freely travel to all facilities open to the general public.
3. Parking stalls solely for persons with disabilities will be provided and designed in accordance with Section 4 of the Uniform Federal Accessibility Standards.

Also, in accordance with Hawaii Revised Statues 103-50, the plans and specifications for the project will be forwarded to the Commission for Persons with Disabilities, Facility Access Unit.

F. Development Schedule

A construction start is scheduled for January 1992, with a target completion date of December 1993, and full occupancy scheduled for early 1994.

G. Development Estimated Costs

Development costs are estimated at approximately $55 million. Part or all of the development premium received by the City from developers of the Harbor Court project will be used to subsidize project costs.

CHAPTER II.

Physical Environment Assessment

II. PHYSICAL ENVIRONMENT ASSESSMENT

This chapter focuses on the physical characteristics of the existing environment of the project site, identifies the probable impacts on the physical environment associated with the proposed development and where appropriate, presents mitigative measures to offset any adverse conditions on the environment.

In reviewing this Chapter, the reader is encouraged to refer to the following appendices which have been the major source for much of the information that follows:

APPENDIX	REPORTS	PREPARER
A.	Historic Literature and Documents Search	Applied Research Group, Bishop Museum
B.	Air Quality Study	B.D. Neal & Associates
C.	Noise Impact Assessment	Darby & Associates, Ltd.
G.	Historic Building Impact Assessment	Architects Hawaii, Ltd.
H.	Preliminary Geotechnical Engineering Exploration	Geolabs - Hawaii
J.	View Assessment	Michael S. Chu

A. Topography

There is a grade difference of approximately seven feet between Nimitz Highway and the property boundary on the mauka side. The site contains no unique physical characteristics or topographic constraints. It has been developed with urban uses for some time and is ideally situated for the uses now proposed.

Impacts and Mitigative Measures

No significant adverse impacts are anticipated as a result of the topography of the project site, and no mitigative measures are required.

B. Soils

In general, soils in this area are identified as Ewa silty clay loam, moderately shallow, 0 to 2 percent slopes (EmA). According to the United States Department of Agriculture Soil Conservation Service (Soil Survey issued August 1972), runoff is very slow and the erosion hazard is no more than slight.

A report titled, *Preliminary Geotechnical Engineering Exploration, Smith/Maunakea Housing, Honolulu, Oahu, Hawaii*, was prepared by Geolabs-Hawaii, and is included as *Appendix H.*

The purpose of the report was to obtain an overview of the subsurface soil conditions on the project site and to present preliminary recommendations pertinent to the proposed basement excavation, shoring, retaining walls, dewatering, and foundation design of the project.

The preliminary borings generally indicated competent coralline limestone near the ground surface extending down to between elevation 0 and -10.0 feet Mean Sea Level (MSL). The subsoils then grade to medium dense coral detritus and alluvial deposits. Densely-packed basalt boulders and cobbles with silty sand were encountered from approximately elevation -100 feet MSL to about elevation -145 feet MSL in Boring No. 3. A basalt formation was encountered in Boring No. 2 at about elevation -120 feet MSL. (See *Figure 10* for boring locations and *Appendix H.* for Boring Logs, *Plates A-1.1* through *A-4.4.*)

Impacts and Mitigative Measures

Basement excavation ranging from 12 to 18 feet deep adjacent to the surrounding streets and buildings is anticipated. A properly-designed and installed support system such as soldier piles and lagging with tiebacks or rakers could be utilized to provide excavation support to greatly reduce the potential damage to the surrounding buildings, streets, and utility lines. Underpinning of the adjacent structures may be required. (Refer to *Section G.* for a discussion of potential impacts on Historic Resources.)

It is anticipated that the project site may be cut down to approximately elevation 3.0 feet MSL during initial grading to facilitate pile driving operations. At this level, machinery and equipment for pile driving may operate above the groundwater level.

Pile foundations consisting of 16 1/2-inch octagonal prestressed concrete piles, with an allowable bearing capacity of 100 tons may be

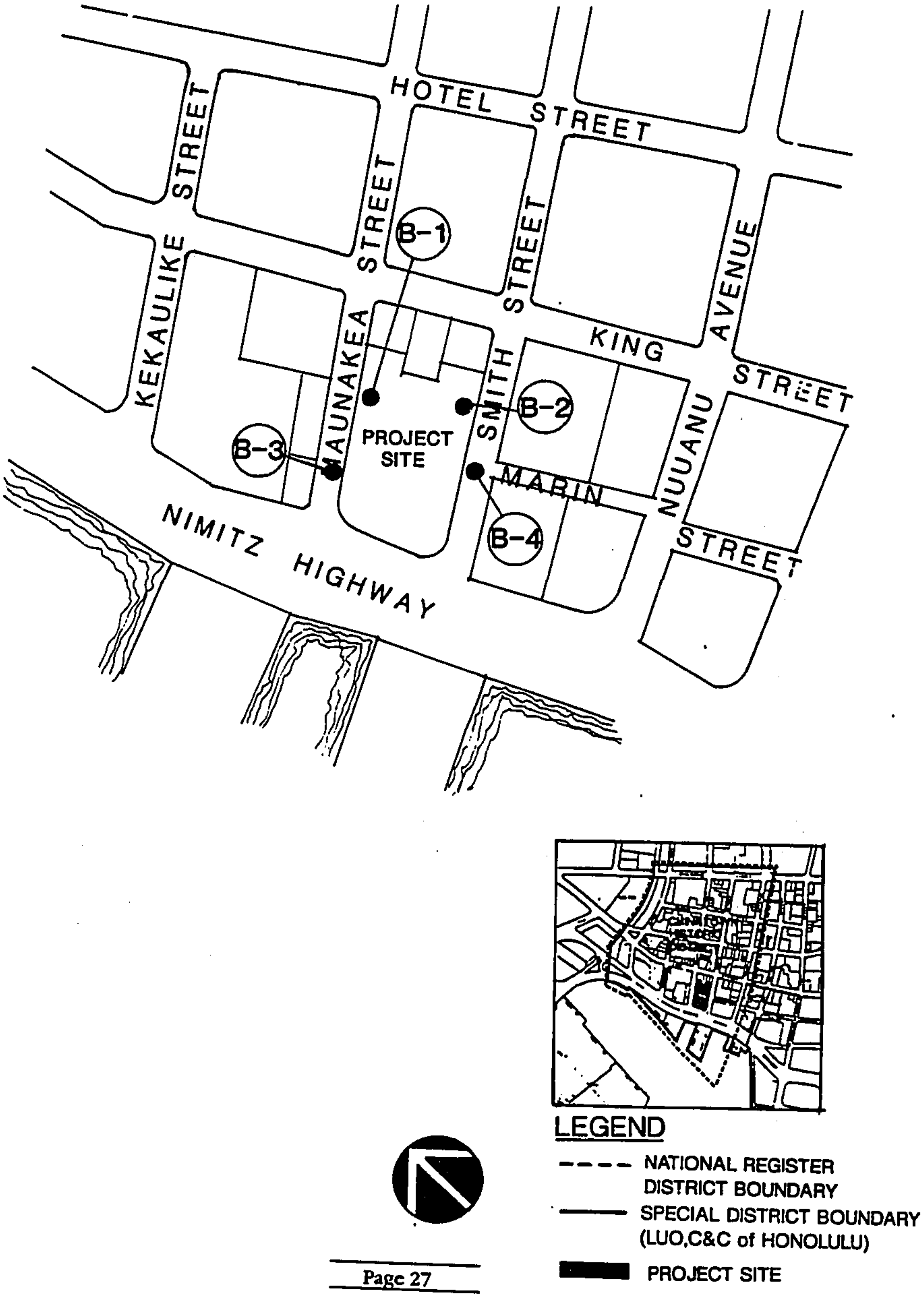


FIGURE 10 LOCATION OF BORINGS

used to support the proposed high-rise tower and parking structure. Based on the results of preliminary borings, it is estimated that pile lengths on the order of 110 feet below elevation 3.0 feet MSL may be required.

Detailed and special design recommendations are found in *Appendix H.*, which will be followed in the development of the project. In addition, mitigative measures to minimize adverse impacts on historic buildings near the project site during construction, with specific regard to soil conditions and excavation and dewatering, are described in *Section G.*, of this Chapter.

C. Natural Hazards

Tsunami Hazard

According to the Civil Defense "Tsunami Inundation Maps", the project site is not located within the vulnerable inundation area. The inundation zone includes the area which is makai of Ala Moana Boulevard/Nimitz Highway (Hawaiian Telephone Company, 1990).

Flood Hazard

The parcels are located with the Federal Flood Insurance Rate Map (FIRM) Zone X, designating an area determined to be outside the 500-year flood plain. The project area is not subject to the Land Use Ordinance (LUO) Flood Hazard District regulations.

Earthquake Hazard

All of the Island of Oahu is rated as seismic Zone 1, according to standards established in the 1985 Uniform Building Code. There are four zones (1 through 4) in this range, with Zone 1 as the rating given to areas least prone and Zone 4 as the most prone to earthquake hazards. It has been proposed to redesignate Oahu as Zone 2a. This proposal has been in the Uniform Building Code, and was officially implemented in October 1990. The project will be designed to structural standards established for buildings in Zone 2a areas.

Impacts and Mitigative Measures

The development is not expected to encounter significant risks due to tsunami, flooding or earthquake hazards. No mitigative measures are required.

D. Hydrology/Drainage

There are no surface water bodies within the project site. The closest water features are Nuuanu Stream and Honolulu Harbor. Beneath the Island of Oahu, however, are significant groundwater resources. An extensive basal aquifer containing large supplies of fresh water underlies all of southern Oahu. The coastal caprock retards the seaward flow of groundwater and results in a higher water table in comparison with more permeable water-bearing lava flows closer to the Koolau Range.

Impacts and Mitigation Measures

During the short-term construction period, storm runoff may carry increased amounts of sediment into the storm drain system as a result of erosion from newly exposed land. This runoff could potentially impact the water quality of near shore waters in the area. Adherence to the requirements of Chapter 23, Grading, Soil Erosion and Sediment Control of the revised Ordinances of Honolulu, 1978 as amended, should adequately mitigate this impact.

Once construction is completed, there would be no significant increase in storm runoff from the newly developed site. New landscaping would aid in preventing soil erosion and sediment runoff, while enhancing the aesthetic qualities of the complex.

E. Flora and Fauna

Char & Associates, Botanical/Environmental Consultants, examined the project site and determined that a flora survey was not needed, since it is in a highly urbanized and disturbed area. No sensitive native plant communities or threatened and endangered plant species exist on the site, nor are any Exceptional Trees (City Ordinance No. 78-91 and 81-32) affected.

Since the project site has been developed with urban uses for some time, fauna observed on the site are those common to other urbanized areas, such as rats and mice. During the demolition and clearing phases of construction, proper vector control procedures, as specified by the Department of Health, will be followed.

Impacts and Mitigative Measures

There are no significant flora or fauna on the project site and no mitigative measures are required.

F. Archaeological

A Historical Literature and Documents Search for the proposed redevelopment project was conducted by the Applied Research Group, Bishop Museum, and is included in its entirety as *Appendix A*.

Sources consulted to reconstruct a chronology of the project area land use, impacts and activities included government land, tax documents, and survey maps. Additional information was abstracted from published biographies, archived photographs, newspaper articles, and Honolulu City directories. A maze of property leases, bills of sale, deeds, and partial deeds exist after 1850, but only those adding specific research information are cited in *Appendix A*.

Two centuries of intensive land use are recorded in association with the proposed project site and are described in detail within .. This history covers the following time periods: 1807-1845 (Don Francisco de Paula Marin and John Coffin Jones); 1847-1897 (Marin and Jones Estate Divisions); and 1900-Current.

It should be noted that prehistoric activities on the proposed project site, not indicated by post-contact historic documents, remain to be interpreted from the archaeological record.

Intense post-contact period activities associated with King Kamehameha I's sandalwood shipping and trade throughout the Pacific are of record through government documents, journals, publications and preserved communications. Early post-contact period structures on the site area included thatched houses, a coral stone house, and the first wooden frame structure in Honolulu. Associated with the early historic activities are interments, coral walls, wooden fences, a horse corral, horticulture, and the manufacture of spirits and tiles.

Two fire events impacted the site area: the first fire in 1860 destroying sugar and flour manufacturing buildings, small businesses and residences; the second fire in 1990 demolishing Chinese buildings. Other impacts were street improvements and extensions. Installation of water service/sewerage pipes, tanks for gas service stations, and foundations for existing structures are presumed to have previously impacted the project site.

Impacts and Mitigative Measures

The historical background of the proposed site has pre-historic implications as well as early contact and early historical importance. Historical documents and records indicate highly-sensitive areas within the proposed project site. For example, the burial vault of Don Francisco de Paula Marin, the burial of his daughter, and possibly his other children are recorded in previously published records. Whether their remains are intact, or have been removed, damaged, or destroyed over the years is unknown at this time. Subsurface testing will be necessary to determine the existence or non-existence of the burials, as well as the extent of sub-surface archaeological features.

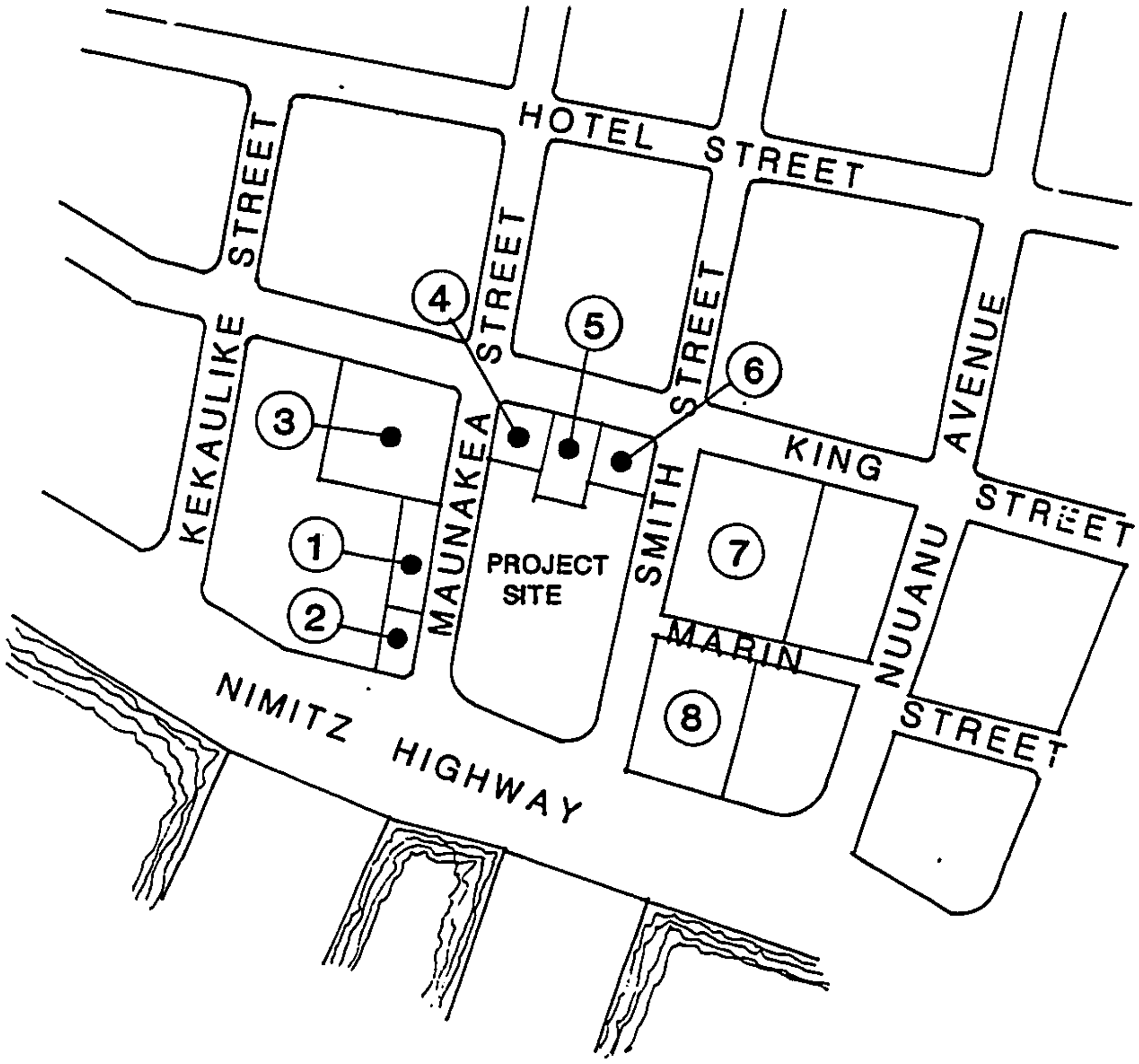
Initial subsurface testing will begin following demolition of the existing structures and removal of the pavement. Four areas of the site will be initially tested (NE corner fronting Maunakea Street; SE corner fronting Smith Street; and two areas along the makai portion of the site). The data collected will be analyzed. If significant sites are determined to be present, a data recovery plan will be prepared, which will be submitted to the Department of Land and Natural Resources, Historic Sites Division for review and approval. If a final mitigation plan is required, no excavation of the site will take place until the plan has been approved.

All phases of demolition, surface removal and excavation will be monitored by an archaeologist to minimize potential impacts to archaeological features. Subsurface material such as foundation piers and water pipe systems will be left in situ pending appropriate review and testing by the archaeologist. Furthermore, the entire site, as appropriate, will be enclosed with high fencing, and secured to deter the destruction of irretrievable archaeological data from unauthorized artifact collectors.

G. Historic Resources

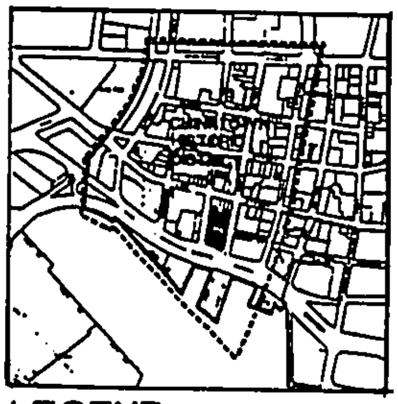
In the immediate areas around the project site there are several historic buildings which may be impacted by the development. Following is a summary of the Historic Building Impact Assessment prepared by Architects Hawaii, Ltd. (1991). The full report can be found in *Appendix G.*

The assessment report identifies several of the following buildings as historic, although none are listed in the National Register of Historic Places. Their locations are shown on *Figure 11*. *Appendix G* contains a detailed description of each. The significance of each are presented on the next following page.



BUILDING LEGEND:

1. J.H. Schnack Building	-1915
2. M. Kawahara Buiulding	- 1911
3. Yee Hop Plaza Building	- 1964
4. Liberty Bank Buuilding	- 1951
5. Goodwill Industries Building	- 1895
6. Building name unknown	- 1900
7. Hawaii National Bank Bldg.	- 1989
8. Bankoh Annex Building	- 1915



LEGEND

- - - - NATIONAL REGISTER DISTRICT BOUNDARY
——— SPECIAL DISTRICT BOUNDARY (LUO,C&C of HONOLULU)
PROJECT SITE

FIGURE 11 SURROUNDING BUILDINGS

BUILDING	SIGNIFICANCE
1. J. H. SCHNACK BUILDING 1915	The building's historical and preservation values are considered very high though the structure itself is substandard. This condition does not diminish the importance of this building in the Chinatown historic district. It is one of the most significant and beautiful structures in the district.
2. M. KAWAHARA BUILDING 1911	Under the Chinatown Historic Preservation Plan (CHPP), the building has a very high preservation and visual values and its facade relates well to the adjoining Schnack Building in scale and material use.
3. YEE HOP PLAZA BUILDING 1964	Under the CHPP, it has a medium architectural value. Its facade grouping is considered negative and has no preservation value.
4. LIBERTY BANK BUILDING 1951	The owners of this building have no plans in the future to demolish this building. Under the CHPP, this building has very high historical and visual value. It represents one of the earlier buildings in Chinatown in the modern style.
5. GOODWILL INDUSTRIES BUILDING 1895	Under the CHPP, the building has a medium preservation value. The facade of the building is isolated, i.e., it does not relate to any of the buildings adjacent to it, either in scale or materials

6. **BUILDING** **(69 North King Street)** 1900	The building's remarkable simple exterior recall some of the simplicity of design generated during the latter part of the Italian Renaissance. Under the CHPP, this building has a very high historical, visual and preservation values.
7. **HAWAII NATIONAL BANK BUILDING** 1989	This building being new was not included in the CHPP building analysis.
8. **BANKOH ANNEX BUILDING** 1915	With its honest simplicity, the building over the years has become a landmark. Under the CHPP building survey, this structure has a very high preservation, historical as well as visual values.

Impacts and Mitigative Measures

Two types of potential impacts on existing historic buildings were identified: (1) design impacts, and (2) impacts that may occur during construction.

Design Impacts

With regard to design impacts, the facade of the 2-story portion of the project was designed purposely to emulate the facade of the existing J.H. Schnack Building, which is considered one of the most historically significant structures in Chinatown. The parking garage facade will be treated the same way as reflected on the conceptual elevations along Nimitz Highway.

The apartment tower is the only part of the project that is somewhat different in character from the historic district. To mitigate its lost linkage to the district, the facade is provided with shadow casting elements like eyebrows, recesses, and lanais.

A design feature used extensively in the project is the continuous metal awning, an element present in almost all the buildings of similar scale in Chinatown. Its use on all three sides of the exterior of the building is intended to effectively relate the project to the prevailing character of the district in general and its immediate surroundings in particular. Another feature introduced in this project are the articulated stair towers designed to echo the character of some of the older (Aloha Tower) and recent projects (Maunakea Market Place). The capping of the stair towers with metal hip roofs gave the designers the opportunity to relate the apartment tower to the over-all scheme by capping the apartment tower with the same roof style and material.

In summary, no long-term adverse design impacts on historic buildings are anticipated, since features have been incorporated within the project design to ensure compatibility with existing buildings and governmental historic preservation policies.

Construction Impacts

Construction related activities, particularly during demolition, excavation, and foundation work, could result in damages to buildings in the area, especially to those buildings located on the lots adjacent to the mauka boundary of the site.

The elements likely to cause damages are excessive vibrations due to pile driving and ground settlement problems caused by excavation and the dewatering process. Dust may also be a potential problem causing damage to building materials.

Some of the mitigative measures that will be followed include:

- Strict monitoring of possible ground settlement before, during and after construction will be implemented. A geotechnical engineer will be retained to ensure all safety precautionary measures are strictly enforced.

- The dewatering process will be closely monitored. To have better control of dewatering, site excavation will be cut alternately to the finish floor level prior to pile driving with continuous dewatering operation.

- An excavation support system, including necessary shoring and bracing, will be designed, incorporated into construction documents, and closely monitored.

- Impact drivers will not be recommended. Instead, pre-drilling at least at the upper hard surface will be employed.

- Existing conditions prior to construction will be documented for purposes of establishing a base for assessing any damages to buildings. Dust related damages will be mitigated by appropriate cleaning methods to ensure protection of the building materials.

> All requirements of the State Department of Health, Department of Occupational Safety and Health, and the City and County of Honolulu rules and regulations involving construction equipment and methods will be met.

H. Visual Resources

A View Assessment was prepared by Michael S. Chu, Land Architect (1990). The purpose of the assessment was to evaluate the proposed project with regards to potential impacts on existing visual/scenic resources, open space resources and other important urban design characteristics of the area. The assessment was based on inspections of the site and its surrounding environment, a review of previous Chinatown studies and State and City and County policies, and a review of architectural plans as prepared by Architects Hawaii, Ltd. Following is a summary of the findings, with the full report included as *Appendix J*.

The project site is located in the Chinatown District, Makai Precinct. In this Precinct, several older low rise structures, as well as a scattering of newer or remodeled buildings can be found. Most of the architectural significance associated with Chinatown lies outside the Makai Precinct, however several buildings in the immediate area of the project site are considered architecturally significant. In the preceding section of this document, these buildings are identified and their significance discussed.

Unlike the Historic Core Precinct, the historic resources found in the surrounding area occur in relative isolation, and do not contribute significantly towards establishing a visual theme within the Makai Precinct. Instead, the visual quality and character of the Makai Precinct is pedestrian oriented, where the quality of the streetscape is of prime importance (signage, storefronts, awnings, pedestrian pathways, landscape planting, etc.).

In contrast, there are no pedestrian or visual amenities associated with the existing development on the site proposed for redevelopment. Except for the sidewalk areas within the street rights-of-way, no open space or landscaping is provided at ground level. There are no noteworthy mauka views from the site or adjacent streets. A narrow view corridor exist along the Maunakea Street right-of-way that extends back into the Chinatown District and diminishes near Hotel Street (see *Figure 13*, Photo G). Other visual resources of the area include:

- View of Honolulu Harbor: The Makai Precinct parallels Nimitz Highway and unobstructed views of the harbor can be seen from all points along its makai edge.

- Nimitz Highway: The roadway view from Nimitz Highway near piers 16-18 approaching Chinatown (see *Figure 12*, Photo C) is a recognized visual/urban design resource. This lateral view captures Honolulu Harbor in juxtaposition to the building masses of Chinatown and the downtown areas and is a prime urban waterfront scene.

- Off-Site Views: The distant mauka view from Sand Island Park towards the Chinatown/downtown skyline (see *Figure 12*, Photo A)

Impacts and Mitigative Measures

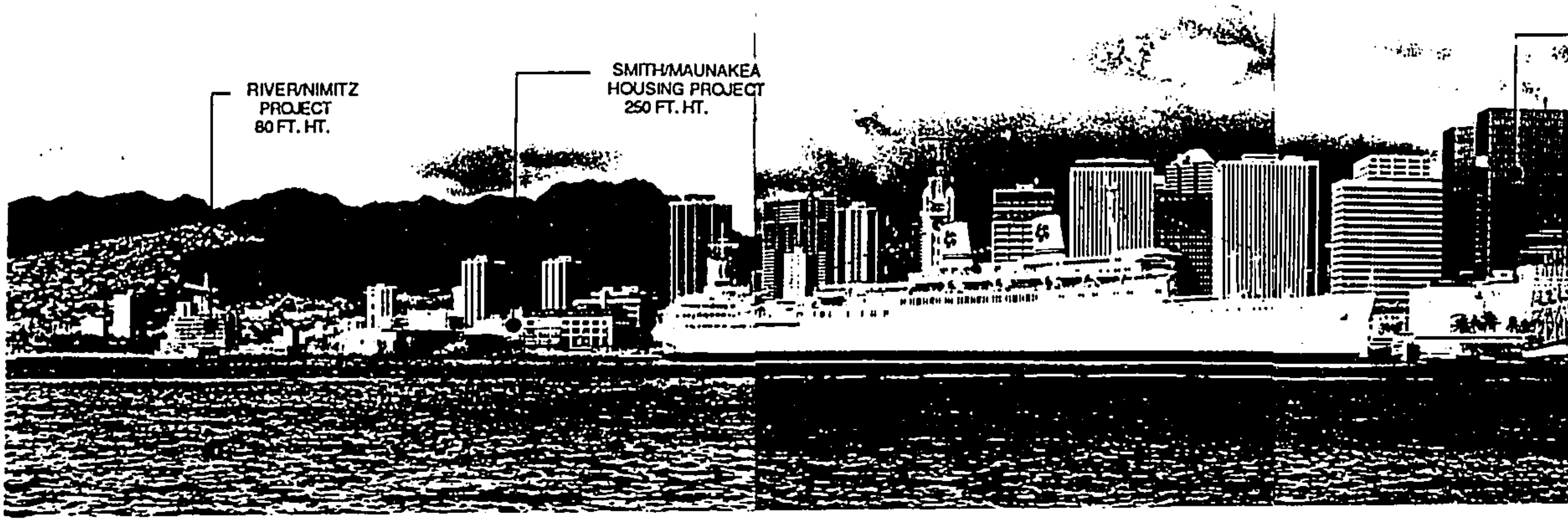
Normal short-term impacts to the visual environment of the area will occur during the construction phase of the project. These impacts have been identified and discussed in other parts of this document.

Impacts on the visual environment associated with the redevelopment of the site, and the mitigative measures being proposed include:

- Replacing the lowrise development on the site with a highrise development.

City and County controls for development in the Makai Precinct allow for highrise developments. Retention of the lowrise character of Chinatown will be preserved by the 40-foot height limit established for the Historic Core Precinct. Design features have been incorporated into the plan to ensure that the development will be compatible with the character of the area and with the existing structures of historic and architectural significance. For example, substantial articulation along the streetscape facade is proposed to include storefront treatments at the ground level, balconies, spandrel walls, windows, entry details, towers, etc. (see *Figures 6* through *9*). The delineation of these features are reflective and sympathetic to urban design characteristics that are presently found in Chinatown (e.g. continuous facade treatment and pedestrian scale) and along the Honolulu waterfront (e.g. Mediterranean style reminiscent of the Aloha Tower).

- Visual impacts will affect surrounding highrise office buildings in the financial district of Honolulu. Private panoramic views overlooking Chinatown and the Honolulu Harbor may be partially obscured as a result of the proposed development.



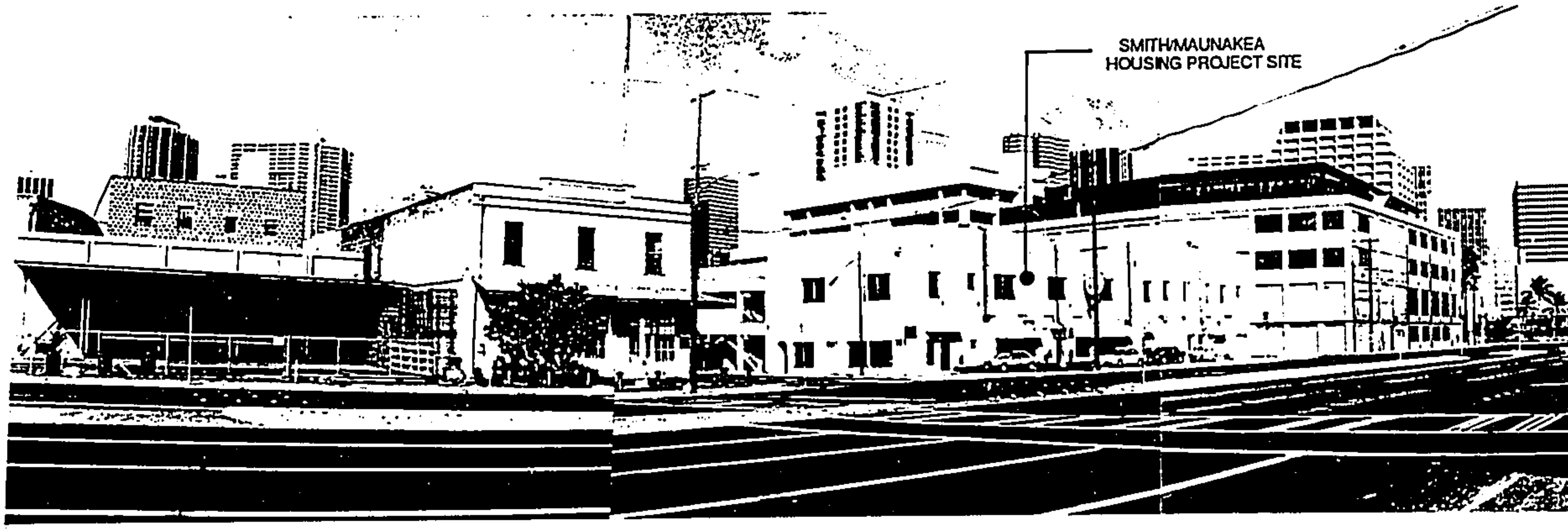


PHOTO C

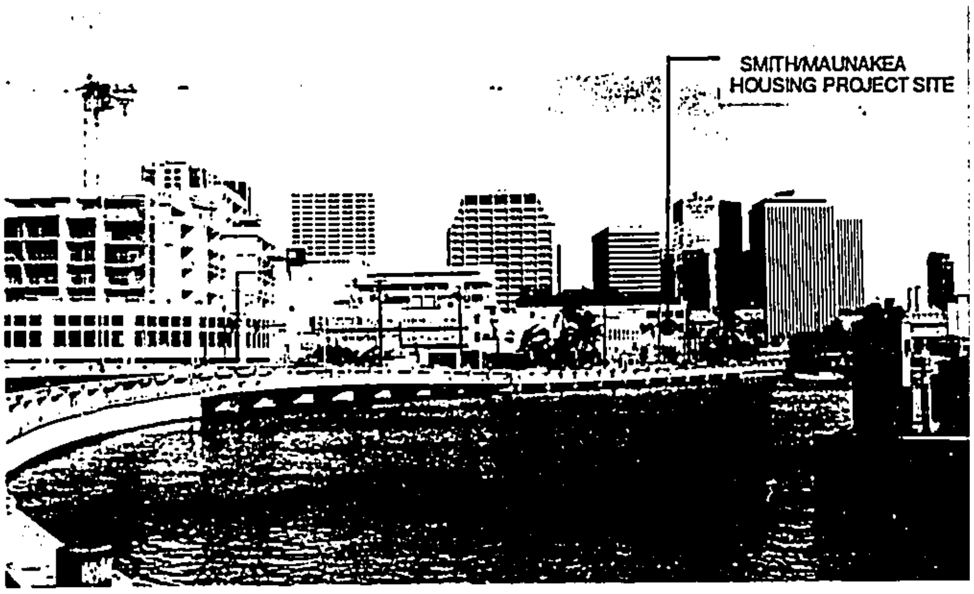


Photo A: Distant mauka view from Sand Islan
skyline fronting Honolulu Harbor. Building height
are 350 ft. (Grosvenor) and descend to 80 ft. at th
project (under construction)

Photo B: View of project site from Nimitz Highv

Photo C: Lateral view along Honolulu Harbor fr

PHOTO A

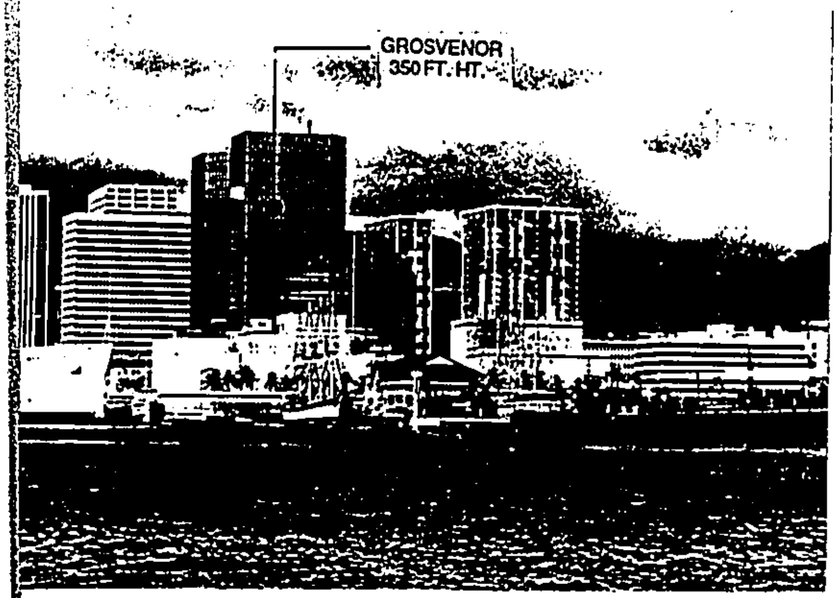


PHOTO B

uka view from Sand Island Park showing overall
ı Harbor. Building heights in the downtown area
and descend to 80 ft. at the River/Nimitz Housing
ion)

ect site from Nimitz Highway.

along Honolulu Harbor from Nimitz Highway.

FIGURE **12** Site Photos

PHOTO D

Photo D: Present streetscape conditions at project site fronting Nimitz Highway.

Photo E: View of project site at King and Smith Street. Lowrise buildings along King Street to remain with development occurring behind.

Photo F: View of project site from King and Maunakea Street. Lowrise buildings along King Street to remain with development occurring behind.

Photo G: Makai view corridor along Maunakea Street as seen near King Street crossing.

Photo H: Makai view corridor along Maunakea Street as seen near Hotel Street crossing.

Photo I: No makai views available at Smith Street.

Photo J: No mauka views available at Smith Street.

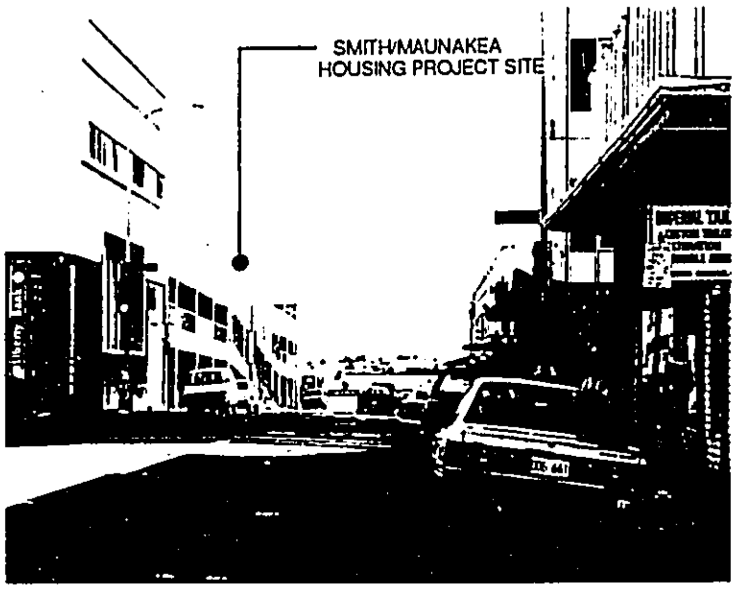


PHOTO G

PHOTO H

PHOTO E

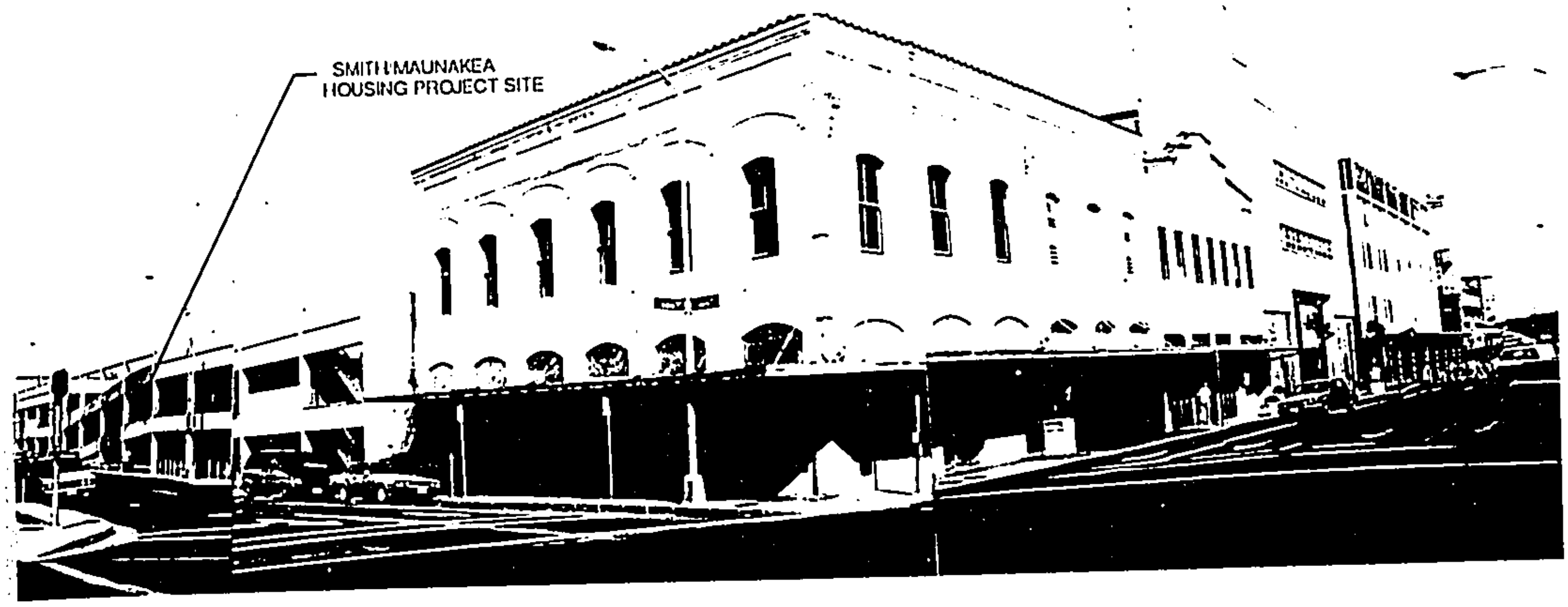


PHOTO F

PHOTO I

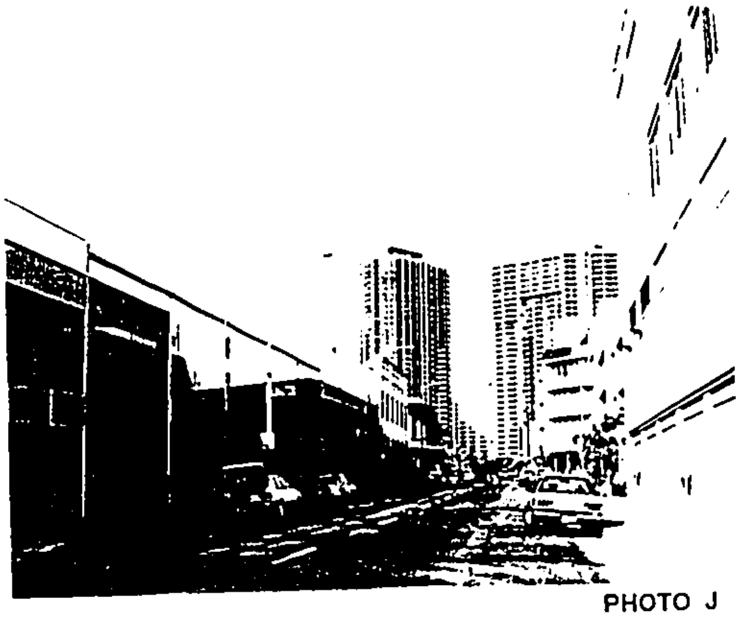


PHOTO J

FIGURE**13** Site Photos

While the construction of the tower may encroach into existing views from adjacent highrise structures, such views are not considered to be within the public domain. The design of a slender tower located towards the middle of the site will minimize encroachment/impact into these view corridors.

> ➢ Certain portions of the project development encroaches the allowable building envelope (height limits and setback requirements). The impact of these encroachments may affect the visual/ urban design qualities in the area.

The peaked roof on the main tower exceeds the building height of the district by 32 feet, 3 inches, however it contains no floor area and is used to screen mechanical equipment located on the roof. Other encroachments include a 6 to 7 foot projection of the tower facade (at Maunakea and Smith Street) into the required setback and a height setback encroachment (parking garage structure) along Nimitz Highway.

The height and setback encroachments do not occur at the ground level and it is likely that such encroachments will not be noticeable by the pedestrian or from the immediate street environment. Visual awareness of some of the encroachments, especially the peaked roof, may be experienced from a distance, however, existing view corridors are not expected to be adversely impacted. The peaked roof is used to screen rooftop mechanical equipment; is reflective of the architectural theme at the ground level; and is visually preferable to a flat roof form.

I. Noise Impacts

A Noise Impact Assessment was prepared by Darby and Associates (1990). The assessment included an analysis of the existing acoustical environment at and near the project site, as well as a determination of estimated noise exposure levels. The findings of the assessment are discussed below. The entire report is included as *Appendix C.*

Ambient noise measurements were taken at and near the project site on the afternoon of August 16, 1990 at five locations (see ***Figure 14***). The five locations are described below:

A. In front of the "Honolulu Art Gallery" premises, at the corner of Maunakea Street and Nimitz Highway, about 20 ft. from the Nimitz curb.

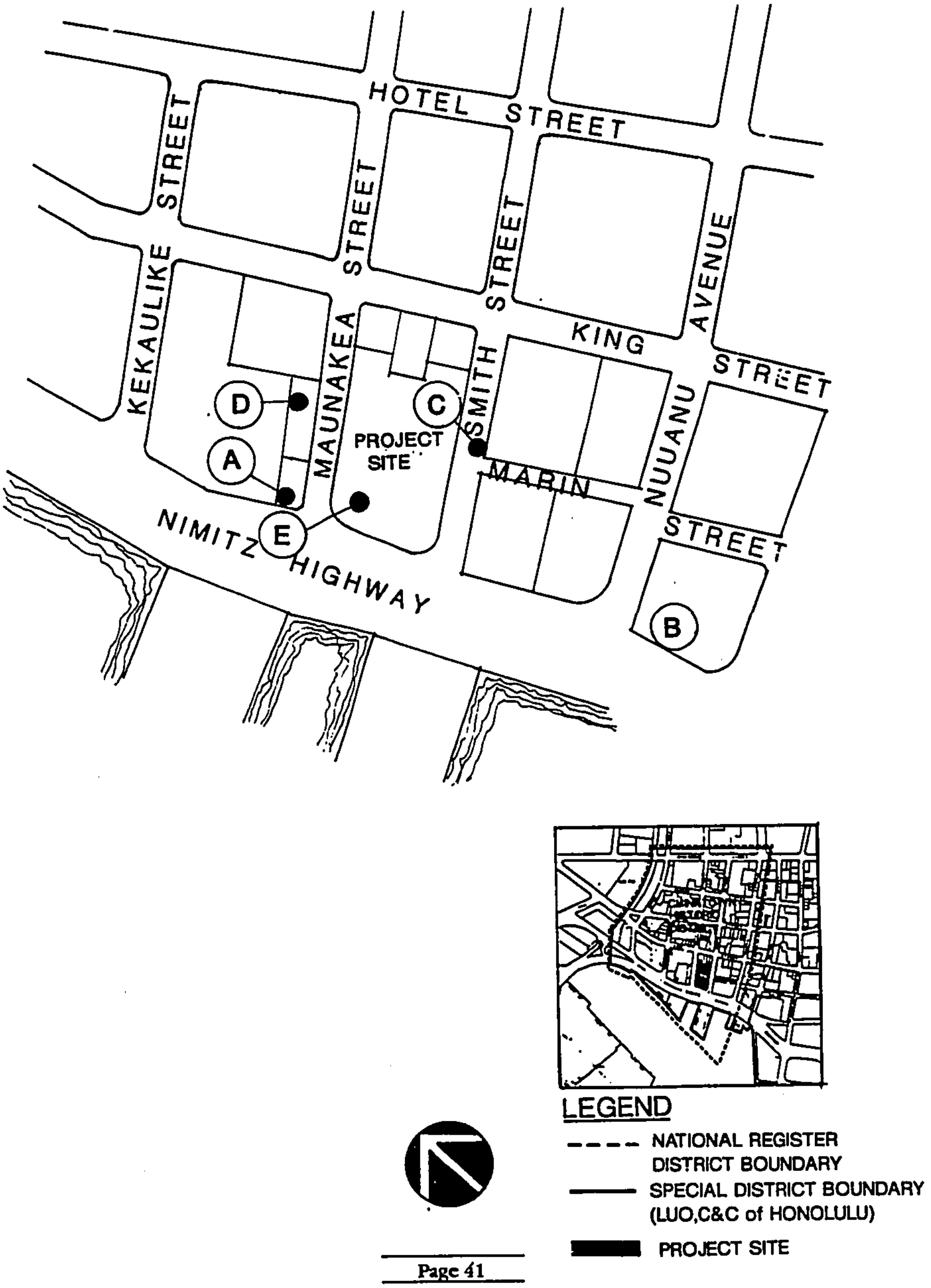


FIGURE 14 NOISE MEASUREMENT LOCATIONS

B. At the surface car parking lot, between Nuuanu Avenue and Bethel Street, about 40 ft. from the Nimitz curb.

C. Next to the Smith Street exit of the Hawaii National Bank building's parking garage, 10 ft. from the Smith Street curb and 25 ft. from Street.

D. At the entrances to the commercial premises at 934 and 942 Maunakea Street, about 12 ft. from the Maunakea Street curb.

E. On the project site, at the Ewa/makai corner of the upper level of the existing municipal parking structure, about 75 ft. from Nimitz Highway.

Additional measurements were made on the upper level of the existing municipal parking structure (near location E) over a 1-hour period on August 19, 1990 to assess the noise from aircraft operations associated with the Honolulu International Airport (HIA). Also, a 24-hour noise measurement, starting at 2 p.m. on October 3, 1990, was performed on the roof of the Hawaii National Bank Building, just opposite the site. This was done to provide some indication of the noise levels that could occur in relation to the proposed apartment tower.

Weather conditions during the measurements were generally clear, with temperatures of around 90° and tradewinds at 10 to 20 mph.

The noise measurement results at the five locations are presented in *Table 5*. The noise level is expressed in terms of dBA and the measurements are in terms of the Equivalent Continuous Noise Level (Leg), the minimum noise level (Lmin), the levels exceeded for 90%, 50%, 10% and 1% of the time (L90, L50, L10 and L1 respectively), and the maximum noise level (Lmax). These statistical levels are commonly-used descriptors of environmental noise; for example, the L1 level describes the near-maximum noise, while L90 is a good measure of the background noise levels. A more complete description of the acoustical terminology used here can be found in *Appendix C.*

Table 6 presents a summary of the single-event aircraft noise levels measured near location E. The hourly statistical noise levels measured on the roof of the Hawaii National Bank Building over a 24-hour period can be found in *Appendix C, Figure 2*).

In summary,the measurement results confirm that the project site is in a relatively noisy environment, with existing background (L90) noise levels at or near the site of typically 60 to 65 dBA during the daytime. The main noise source was traffic on Nimitz Highway and other city streets. At times, aircraft noise was also quite noticeable at certain locations.

TABLE 5

NOISE DATA RECORDED AT FIVE LOCATIONS AT AND NEAR THE SITE OF THE PROPOSED SMITH/MAUNAKEA HOUSING DEVELOPMENT ON THURSDAY AUGUST 16, 1990

		Measured Noise Levels - dBA							
Loca -tion	Time	Leq	Lmin	L90	L50	L10	L1	Lmax	Dominant Noise Sources
A	1:29 - 1:39 pm	75	61	67	74	78	83	85	Traffic on Nimitz
B	1:58 - 2:08 pm	68	61	63	67	71	75	77	Traffic on Nimitz, welding equipment on Pier 13
C	2:19 - 2:29 pm	65	60	62	64	67	73	77	Traffic on Nimitz aircraft, traffic on Smith Street, conversation from pedestrians
D	2:41 - 2:51 pm	65	58	60	63	69	73	76	Traffic on Maunakea Street, traffic on Nimitz
E	3:03 - 3:13 pm	68	62	64	68	70	73	75	Traffic on Nimitz, aircraft movements

TABLE 6
SUMMARY OF SINGLE EVENT NOISE LEVELS RECORDED ON THE UPPER LEVEL OF THE EXISTING PARKING GARAGE AT THE SMITH/MAUNAKEA PROJECT SITE ON SUNDAY, AUGUST 19, 1990

Time	Aircraft Type	Maximum Noise Level (Lmax) - dBA
1:32 pm	DC-10	<60
1:34	L-1011	<60
1:37	B-747	62
1:43	B-737	70
1:53	DC-8	<60
1:54	DC-10	<60
1:58	B-737	<60
1:59	B-747	68
2:00	DC-9	68
2:02	B-737	60
2:05	DC-10	61
2:10	B-737	<60
2:11	DC-9	<60
2:15	DC-9	73
2:16	DC-9	71
2:19	B-747	64
2:20	DC-10	<60
2:22	DC-10	<60
2:24	B-737	<60
2:26	DC-9	63
2:28	B-737	64

Impacts and Mitigative Measures

The potential noise impacts associated with the redevelopment of the site are discussed below:

Traffic Generated Noise

Based on data from the Traffic Assessment analysis performed by Pacific Planning and Engineering, Inc. (*Appendix C*, Figures 4-7 and 9-10), increases in noise levels due to future traffic conditions were estimated. The results are presented in *Table 7*.

TABLE 7
PREDICTED FUTURE (1993) TRAFFIC NOISE LEVELS
AT SELECTED LOCATIONS

Condition	LOCATION		
	Nimitz Between Smith & Maunakea	**King** Between Smith & Maunakea	**Smith** Between Nimitz & King
A.M. Peak with Project	75.7	68.9	53.0
A.M. Peak without Project	75.6	68.9	51.8
Increase in A.M. Peak due to Project-Generated Traffic	+0.1	<+0.1	+1.2
P.M. Peak with Project	73.9	66.1	55.9
P.M. Peak without Project	73.9	66.1	55.3
Increase in P.M. Peak due to Project-Generated Traffic	<+0.1	<+0.1	+0.6

Note: Noise levels are Equivalent Continuous Noise Levels in dBA, at arbitrary 100 ft reference distance.

The findings indicate:

- Additional traffic on Nimitz Highway and other City streets, generated by the proposed development, will not by itself cause any significant environmental noise impact. The project generated traffic will cause noise level increases of 1.2 dBA or less.

- Future traffic conditions (1993), considering other projects planned for the area, however will increase noise exposure levels at the proposed development by 1 to 2 dBA above those existing. The worst affected apartments will be the lower level studios which could be exposed to estimated future Ldn (day-night average sound levels) of up to 70 dBA. The mid to upper-level tower apartments having direct line-of-site to Nimitz Highway and King Street are also expected to be exposed to future Ldn's of 65 dBA or higher. Sites exposed to Ldn's in the range of 65 to 75 dBA are considered normally unacceptable for residential by the U.S. Department of Housing and Community Development.

A separate analysis was preformed for impacts relating to aircraft noise. The findings indicated that the proposed development will be subjected to an estimated 1992 aircraft noise exposure level of approximately Ldn 58 (in compliance with the State Department of Transportation's Ldn 60 residential area limit).

Mitigation measures that will be incorporated into the project includes the use of well-sealed awning type windows and providing electrical outlets for window air conditioners. The implementation of these measures will allow interior noise level to comply with HUD's requirement.

Project Operation Noise

Noise sources which could have an impact on noise levels include the mechanical and electrical equipment associated with the proposed development such as air conditioning equipment, garage exhaust fans, transformers, etc. Appropriate noise control measures will be incorporated into the design to reduce noise to acceptable levels at the property lines and within the development itself in compliance with appropriate Department of Health (DOH) and Land Use Ordinance (LUO) requirements. Some of the control measures include:

- Sound attenuators on building and garage exhaust fans.
- Inlet and discharge silencers on cooling towers.
- Acoustical louvers or silencers at mechanical and electrical equipment room air intake and discharge openings.
- Appropriate selection of vibration isolation mounts; mechanical and electrical equipment room wall, floor and ceiling construction; acoustical linings; etc.
- Locating service areas (loading docks and trash pickup points) away from noise sensitive areas.

Construction Noise

Development of the project site will involve demolition, excavation and construction activities. The various construction phases of the project may generate significant amounts of noise; the actual amounts are dependent upon the methods employed during each stage of the process. Typical construction equipment noise ranges in dBA are shown in *Figure 9* of *Appendix C.*

Pile drivers will be the loudest equipment used during construction and will probably cause some short-term annoyance to occupants of nearby buildings. The risk of damage from the vibrations associated with such activity, and the mitigative measures proposed to reduce this risk has been discussed in a previous section of this document.

In cases where the construction noise is expected to exceed DOH's limits, a permit must be obtained from the agency. Required conditions of the permit include:

- "No permit shall allow construction activities creating excessive noise...before 7:00 am and after 6:00 pm of the same day."
- "No permit shall allow construction activities which emit noise in excess of ninety-five dB(A)...except between 9:00 am and 5:30 pm of the same day."
- "No permit shall allow construction activities which exceed the allowable noise levels on Sundays and on...[certain] holidays. Activities exceeding ninety-five dB(A) shall [also] be prohibited on Saturdays."

In addition to complying with community Noise Permit requirement, traffic noise from heavy vehicles traveling to and from the construction site will comply with the provisions of Title 11, Administrative Rules, Chapter 42, Vehicular Noise Control for Oahu.

J. Air Quality

An Air Quality Study for the project was performed by B. D. Neal and Associates (1990). The study examined the present air quality in the area and assessed the potential short-term and long-term direct and indirect air quality impacts that could result from the redevelopment and subsequent use of the proposed facilities. The study also recommended appropriate mitigative measures where possible and appropriate. Excerpts from the study are presented in the discussion that follows. The full study is included in *Appendix B.*

Ambient Air Quality Standards

Ambient concentrations of air pollution are regulated by both national and state ambient quality standards (AAQS). National AAQS are specified in Section 40, Part 50 of the Code of Federal Regulations (CFR), while State of Hawaii AAQS are defined in Chapter 11-59 of the Hawaii Administrative Rules. *Table 8* summarizes both the national and the state AAQS.

As indicated in the table, AAQS have been established for six air pollutants. These regulated air pollutants include: particulate matter, sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone and lead. National AAQS are stated in terms of primary and secondary standards. National primary standards are designed to protect the public health with an "adequate margin of safety". National secondary standards, on the other hand, define levels of air quality necessary to protect the public welfare from "any known or anticipated adverse effects of a pollutant". Secondary public welfare impacts may include such effects as decreased visibility, diminished comfort levels, or other potential injury to the natural or man-made environment, e.g., soiling of materials, damage to vegetation or other economic damage. In contrast to the national AAQS, Hawaii State AAQS are given in terms of a single standard that is designed "to protect public health and welfare and to prevent the significant deterioration of air quality".

TABLE 8
SUMMARY OF STATE OF HAWAII AND NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Units	Averaging Time	Maximum Allowable Concentration		
			National Primary	National Secondary	State of Hawaii
Suspended Particulate Matter	µg/m³	Annual 24 Hours	- - - -	- - - -	60[a] 150[b]
Particulate Matter[c]	µg/m³	Annual 24 Hours	50 150[b]	50 150[b]	- - - -
Sulfur Dioxide	µg/m³	Annual 24 Hours 3 Hours	80 365[b] - -	- - - - 1,300[b]	80 365b 1,300[b]
Nitrogen Dioxide	µg/m³	Annual	100	100	70
Carbon Monoxide	mg/m³	8 Hours 1 Hour	10[b] 40[b]	- - - -	5[b] 10[b]
Ozone	µg/m³	1 Hour	235[b]	235[b]	100[b]
Lead	µg/m³	Calendar Quarter	1.5	1.5	1.5

a - Geometric mean
b - Not to be exceeded more than once per year
c - Particles less than or equal to 10 micron erodynemic dismeter

Regional and Local Climatology

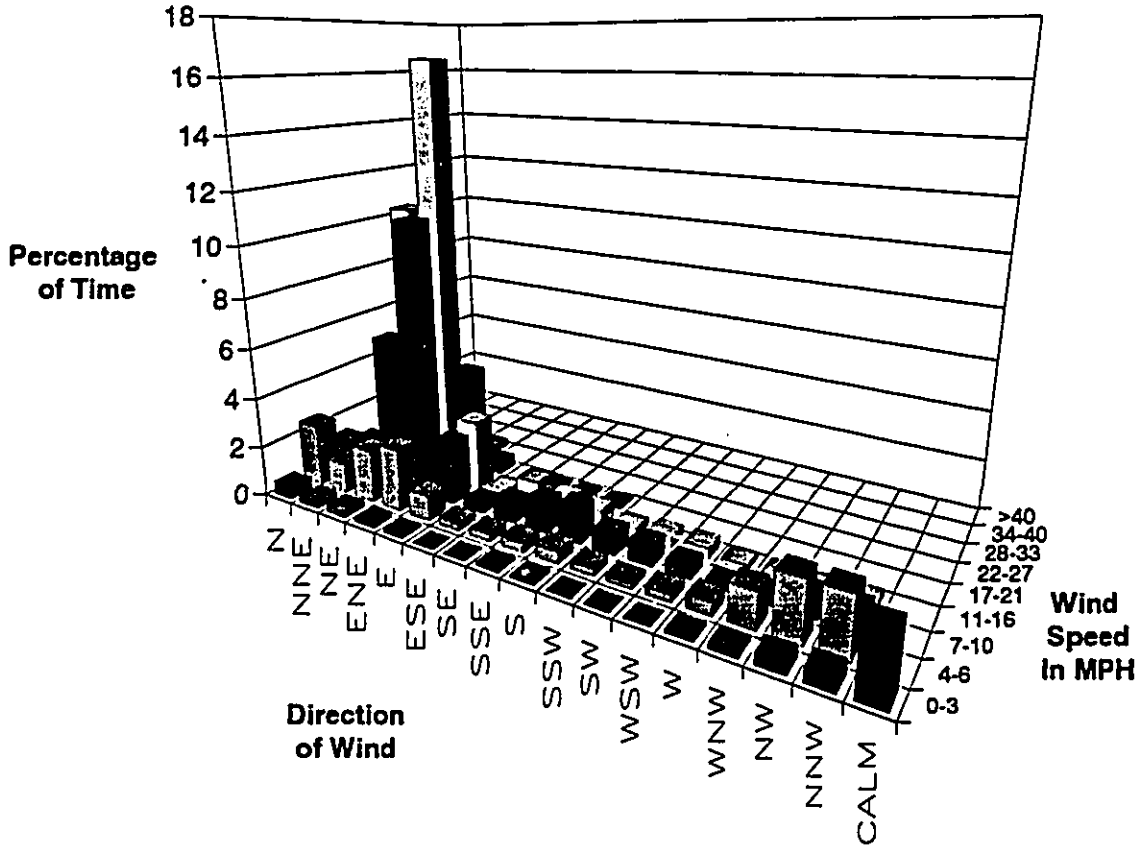
Regional and local climatology significantly affect the air quality of a given location. Wind, temperature, atmospheric turbulence, mixing height and rainfall all influence air quality. Although the climate of Hawaii is relatively moderate throughout most of the state and most of the year, significant differences in these parameters may occur from one location to another. Most differences in regional and local climates within the state are caused by the mountainous topography.

Downtown Honolulu, the site of the proposed project, is located in a coastal area leeward of the Koolau Mountains. Although large urban areas may create their own microclimates to some extent, long-term weather data available from the Honolulu International Airport, located about 4 miles to the northwest, is at least semi-representative of the project site (see *Table 9*). Surface winds in downtown Honolulu are similar to those recorded at the airport but are undoubtedly deviated and channeled at some locations by the many highrise buildings.

Air pollution emissions from motor vehicles, the formation of photochemical smog and smoke plume rise all depend in part on air temperature. Colder temperatures tend to result in higher emissions of contaminants from automobiles but lower concentrations of photochemical smog and ground-level concentrations of air pollution from elevated plumes. At the airport, average annual daily minimum and maximum temperatures are 70°F and 84°F, respectively. Temperatures in the downtown area may be slightly higher compared to the airport due to urban effects.

Average annual rainfall in the downtown area amounts to about 24 inches with summer months being the driest. Monthly rainfall may vary from as little as a trace to more than 20 inches.

TABLE 9
Annual Wind Frequency for Honolulu International Airport (In Percentages)



(Graphic interpretation of Climatography of the United States No. 90 (1965-1974), Airport Climatological Summary, Honolulu International Airport, Honolulu, Hawaii, U.S. Department of Commerce, National Climatic Center, Asheville, NC, August 1978)

Turbulence will cause air pollutants to be dispersed. Turbulence is measured and described in stability classes one to six, with class 1 as the most turbulent and class 6 the least. Stability class 4 is generally the highest stability class that occurs in downtown Honolulu.

Mixing height is defined as the height above the surface through which relatively vigorous vertical mixing occurs. Low mixing heights can result in high ground-level air pollution concentrations because contaminants emitted from or near the surface can become trapped within the mixing layer. In Hawaii, minimum mixing heights tend to be high because of mechanical mixing caused by the trade winds and because of the temperature moderating effect of the surrounding ocean. Low mixing heights may sometimes occur. In downtown Honolulu low mixing heights will tend to be inhibited by urban effects but may occur on occasion.

Existing Air Quality

The present air quality in the project area is mostly affected by air pollutants from vehicular, industrial and/or natural sources, and perhaps to a lesser and occasional extent from distant agricultural sources.

The State Department of Health operates a network of air quality monitoring stations at various locations on Oahu. *Table 4* of *Appendix C* shows an annual summary of air quality measurements that were made nearest to the project site for each of the regulated air pollutants for the period 1985 through 1989. Based on these measurements, it appears likely that the State of Hawaii AAQS for particulate, sulfur dioxide, nitrogen dioxide and lead are currently being met at the project site. The ozone AAQS has not been exceeded during the past four years at the San Island monitoring station. Carbon monoxide readings from urban Honolulu indicate that the state AAQS for carbon monoxide may be exceeded at a rate of one to three times per year in traffic congested areas.

Impacts and Mitigative Measures

Short-Term

The major short-term air quality impact will be the potential emission of significant quantities of fugitive dust during demolition and project construction. Uncontrolled fugitive dust emissions from construction activities are estimated to amount to about 1.2 tons per acre per month. During construction phases, emissions from engine exhausts (primarily consisting of carbon monoxide and nitrogen oxides) will also occur both from on-site construction equipment and from vehicles used by construction workers and trucks traveling to and from the project.

An effective dust control plan will be implemented to ensure compliance with State regulations. Fugitive dust emissions can be controlled to a large extent by watering of active work areas, use of wind screens, preventing trucks from tracking dirt onto paved roads, and by covering of open-bodied trucks. Paving and landscaping early in the construction schedule will also reduce dust emissions. Exhaust emissions can be mitigated by moving construction equipment and workers to and from the project site during off-peak traffic hours.

Roadway Traffic

By serving as an attraction for increased motor vehicle traffic on nearby roadways, the proposed project is considered to be an indirect air pollution source. To evaluate the potential long-term indirect air quality impact of increased roadway traffic associated with the project, computerized emission and atmospheric dispersion models were used to estimate ambient carbon monoxide concentrations along roadways leading to and from the project. Three scenarios were selected for the carbon monoxide modeling study: year 1990 with present conditions, year 1993 without the project, and year 1993 assuming the project is built and completed. For the study, four key intersections identified in the traffic study (*Appendix F*) were also selected for the air quality analysis. The intersections are Smith Street at King Street, Nuuanu Avenue at King Street, Smith Street at Nimitz Highway, and Nuuanu Avenue at Nimitz Highway.

Table 10 summarizes the results of the modeling study in the form of the estimated worst-case l-hour morning and afternoon ambient carbon monoxide concentrations. The results shown can be compared directly to the state and the national AAQS. The findings indicate:

- The 1990 estimated worst-case 1-hour carbon monoxide concentration was measured at 23.1 mg/m3 This occurs during the morning peak hour near the intersection of Nuuanu Avenue and King Street. Worst-case 1-hour values at other locations were generally in the 15 to 20 mg/m^3 range.
- In the year 1993 without the project, a worst-case l-hour concentration of 21.4 mg/m3 was predicted to occur during the afternoon peak hour near the intersection of Nuuanu Avenue and Nimitz Highway. Concentrations near this level also can be expected to occur in the vicinity of Nuuanu Avenue and King Street during the morning.
- Predicted 1-hour worst-case concentrations for the 1993 with the project ranged from 10.5 mg/m3 during the morning at Smith Street and Nimitz Highway to 22.7 mg/m3 during the afternoon at Nuuanu and Nimitz Highway. Compared to the without project scenario, predicted worst-case concentrations were generally only a few percent higher.

TABLE 10
Estimated Worst-Case 1-Hour Carbon Monoxide Concentrations Along Roadways Near Smith-Maunakea Housing Project
(milligrams per cubic meter)

Roadway Intersection	Year / Scenario					
	1990 / Present		1993 / Without Project		1993 / With Project	
	AM	PM	AM	PM	AM	PM
Smith/King	11.5	16.6	11.2	14.6	12.4	14.8
Nuuanu/King	23.1	20.2	20.7	17.6	20.9	19.1
Smith/Nimitz	11.0	20.6	10.5	20.0	10.5	21.7
Nuuanu/Nimitz	15.4	19.8	15.0	21.4	15.6	22.7

Hawaii State AAQS: 10
National AAQS: 40

In summary, all estimated worst-case 1-hour carbon monoxide levels for all scenarios are within the national AAQS of 40 mg/m3. It appears likely, however, that existing and future concentrations may exceed the State of Hawaii 1-hour AAQS of 10 mg/m3 on occasion at several locations in the area.

Worst-case 8-hour carbon monoxide concentrations were also estimated. The results of these estimates are shown in *Table 11*. Comparing the predicted values for the existing 1990 case to the AAQS, it appears that both the state and the national 8-hour standard may be exceeded at several locations in the area. In 1993 with or without the project, worst-case concentrations will likely continue to exceed the state and the national 8-hour AAQS.

Options available to mitigate traffic-related air pollution are to improve roadways, reduce traffic or reduce individual vehicular emissions. The project traffic study indicates that roadway improvements are unnecessary. Aside from improving roadways, air pollution impacts from vehicular emissions can be mitigated by reducing traffic through the use of mass transit and car pooling and/or by adjusting local school and business hours to begin and end during off peak times. Efficiency of motor vehicle engines and/or emission control equipment will continue, which will, in the long term, help to improve air quality conditions in the area.

TABLE 11
Estimated Worst-Case 8-Hour Carbon Monoxide Concentrations Along Roadways Near Smith-Maunakea Housing Project
(Milligrams Per Cubic Meter)

Roadway Intersection	Year / Scenario 1990 / Present	1993 / Without Project	1993 / With Project
Smith/King	8.3	7.3	7.4
Nuuanu/King	11.6	10.4	10.4
Smith/Nimitz	10.3	10.0	10.8
Nuuanu/Nimitz	9.9	10.7	11.4

Hawaii State AAQS: 5
National AAQS: 10

Parking Facilities

The existing 3-level parking structure has a capacity of 260 stalls. The proposed development provides for the replacement of the 260 stalls while adding an additional 165 parking spaces for residents of the proposed project.

TABLE 12
Estimated Worst-Case 15-Minute Carbon Monoxide Concentrations Within Smith-Maunakea Housing Project Underground Parking Facilities

Parking Level	Number of Parking Stalls	Approximate Floor Space (sq.ft.)	Ventilation Rate (cfm)[a]	Worst-Case Concentration [b,c] (mg/m³)
Basement-1	121	42,240	63,360	237
Basement-2	123	42,240	63,360	241

[a] - Based on 1.50 cubic feet per minute per square foot of floor space.

[b] - Includes background concentration of 1 mg/m^3 and assumes ambient temperature of 59 degrees F.

[c] - Assumes 1/4 capacity of parking level operating throughout 15-minute period and average emissions of 14 grams per minute per vehicle (100% in cold-start mode during year 1993).

[d] - Threshold Limit Value/Short-Term Exposure Limit for carbon monoxide: 440 mg/m^3.

In 1993 when the project is expected to be completed, motor vehicles will emit a maximum of about 14 grams per minute each of carbon monoxide while idling or operating at low speeds in the parking garage in the cold-start mode. Shown in *Table 12* are the estimated worst-case 15-minute average concentrations that will occur in the underground parking garage assuming that 1.5 cubic feet per minute (cfm) of outdoor air per square foot of space is provided. As indicated in *Table 12*, worst-case concentrations are estimated not to exceed about 241 mg/m3. In future years (beyond 1993) concentrations are likely to decrease as more and more older model vehicles are replaced with new models with greater efficiency ratings.

Carbon monoxide concentrations within the underground parking facilities will be controlled by mechanical ventilation equipment. Under worst case conditions, concentrations within the underground parking garage will be maintained well within safety guidelines by supplying 1.5 cubic feet per minute of outdoor air per square foot of floor space on each basement level.

Above ground parking facilities will rely on natural ventilation to control carbon monoxide levels within and adjacent to the parking structure. Architectural screening will be used to provide both an aesthetically pleasing appearance and adequate natural air flow. In compliance with the Department of Health design guidelines, more than half the wall area will be open along at least 40 percent of the perimeter of each parking level. Sufficient entry/exit capacity will also be provided to further reduce the potential for air pollution.

Electrical

The project will cause indirect emissions from power generating facilities. The annual electrical demand of the project when fully developed is not expected to exceed about 4 million kilowatt-hours. Given in *Table 13* are estimates of the indirect air pollution emissions that would result from the project electrical demand assuming all power is provided by burning more fuel oil at Oahu's power plants.

Table 13
Estimated Indirect Air Pollution Emissions From Smith-Maunakea Housing Project Electrical Demand[a]

Air Pollutant	Emission Rate (tons/year)
Particulate	<1
Sulfur Dioxide	11
Carbon Monoxide	<1
Volatile Organics	<1
Nitrogen Oxides	3

[a] - Based on U.S. EPA emission factors for industrial boilers [4]. Assumes electrical demand of 4 million kw-hrs per year and low sulfur oil used to generate power.

Indirect emission from electrical demand will be reduced by utilizing solar energy design features to the maximum extent possible.

Solid Waste Disposal

Solid waste generated by the project is expected to amount to less than 2 tons of refuse per day. Most of the refuse will be hauled away in two to three truckloads (by private sources) per week and either landfilled or burned at another location, most likely the H-Power facility at Campbell Industrial Park in Ewa. The H-Power garbage-to-energy facility is fitted with fabric filters to control air pollution.

CHAPTER III.

Socio-Economic Assessment

III. SOCIO-ECONOMIC ASSESSMENT

This Chapter addresses the impact of the project on the social community environment and its responsiveness to the existing demand for residential rental properties in the City and County of Honolulu. Where appropriate, mitigative measures are proposed. In reviewing this Chapter, the public is encouraged to refer to the following reports in the Appendices listed below, which have been the major source for much of the information that follows:

APPENDIX	REPORTS	PREPARER
D.	Market and Mix Assessment	John Zapotocky
E.	Social Impact Assessment	Earthplan

A. Market/Mix Assessment

A Market and Mix Assessment was prepared for the proposed project by John Zapotocky, Consultant (1990). The purpose of the assessment was to determine the responsiveness of the proposed project to the existing demand for residential rental properties in the City and County of Honolulu.

The methodology used included interviews and discussions with government officials from the Department of Housing and Community Development, the Governor's Office on Aging, the State Housing Finance and Development Corporation, and others responsible for government programs. A review of current information regarding demand for rental units, including census data, and other studies developed to determine the demand for rental units on Oahu was also made. The information obtained was then synthesized and compared with the proposed unit mix of the Smith Maunakea project. Following is a summary of the assessment's findings. The full report can be found in *Appendix D.*

Need For Additional Housing

The primary sources of information used in determining the existing demand for rental housing were the following two recent government studies:

- ⇨ *Draft: State Housing Functional Plan, Technical Reference Document (1987).* This report was prepared at the direction of the State Housing Functional Plan Advisory Committee. The report is a comprehensive overview of the State's housing situation.

⇨ *Rental Housing Study for the Island of Oahu (1989)*. This report was prepared by KPMG Peat Marwick for the Department of Housing and Community Development. The report is a comprehensive review of the rental housing market for the Island of Oahu and contains projections of rental housing demand broken down by income categories through the year 2008.

Other sources that were helpful in determining existing housing demands included:

⇨ General Housing Characteristics Annual Housing Survey, 1983 for the City and County of Honolulu (1983). The statistics developed in the 1983 Annual Housing Survey showed there was a substantial amount of doubling up in Honolulu housing units.

⇨ Comprehensive Master Plan for the Elderly: Update 1988 by the Executive Office on Aging. This report called for the Executive Office on Aging to advocate for the development of affordable housing for older adults in collaboration with State, County and the private sector.

⇨ Hawaii Housing Authority Composite Report (July 1988 through June 1989. According to the report, the number of applications for public housing or rental subsidies or assistance processed statewide in fiscal year 1989 was 8,128. The number of placements, on the other hand , was 1,817, leaving 6,303 applicants unserved, most of which are assumed to be from Oahu.

⇨ A Review of the Level of Demand for similar housing projects in the general area undertaken by the Department of Housing and Community Development. This review clearly showed that the number of applicants for the affordable units far exceeded the number of affordable units being provided.

A review of the above referenced sources show that there is a strong demand for housing throughout the City and County of Honolulu for all types of housing, particularly the affordable for-sale and rental housing. Furthermore, based on the response to previous and current city rental projects within the downtown area, there is a strong demand for additional affordable rental projects in the downtown area.

Impacts and Mitigative Measures

The Smith-Maunakea project consists of 234 residential units, of which 60 percent will be targeted to families earning less than 120 percent of the median income. Approximately 70 units will be for families earning less than 80 percent of the median income. Elderly households will be given preference for the affordable units. A range of unit sizes and types, including studio,one-bedroom and two-bedroom units will be provided.

The project responds to the general market demand for rental housing, as well as the affordable demand and the demand for elderly units. The mix of units is well suited to the range of household sizes and income levels which make up the bulk of the current and projected future demand.

The project will have a positive impact on affordable housing and no mitigative measures were found necessary.

B. Social Assessment

Earthplan (1990) conducted a Social Impact Assessment for the project which provided a profile of the existing community with respect to population, family and labor force characteristics. The assessment also identifies issues of concern to the community and the potential social impacts associated with the proposed project. Following are excerpts from the assessment. The full report is contained in *Appendix E.*

Profile of the Existing Community

The Smith-Maunakea Redevelopment project site is within the boundaries of the Downtown Neighborhood Board No. 13. The study area for this report encompasses neighborhoods easily accessible to the project, and includes (1) the Downtown sub-area made up of Census Tracts 40 and 42; and (2) the Chinatown sub-area, made up of Census Tracts 51 and 52. (See *Figure 15*)

Employment

In 1985, an estimated 42,584 people worked in the study area; most of them live outside the study area. *Appendix E, Figure 2* shows that 30

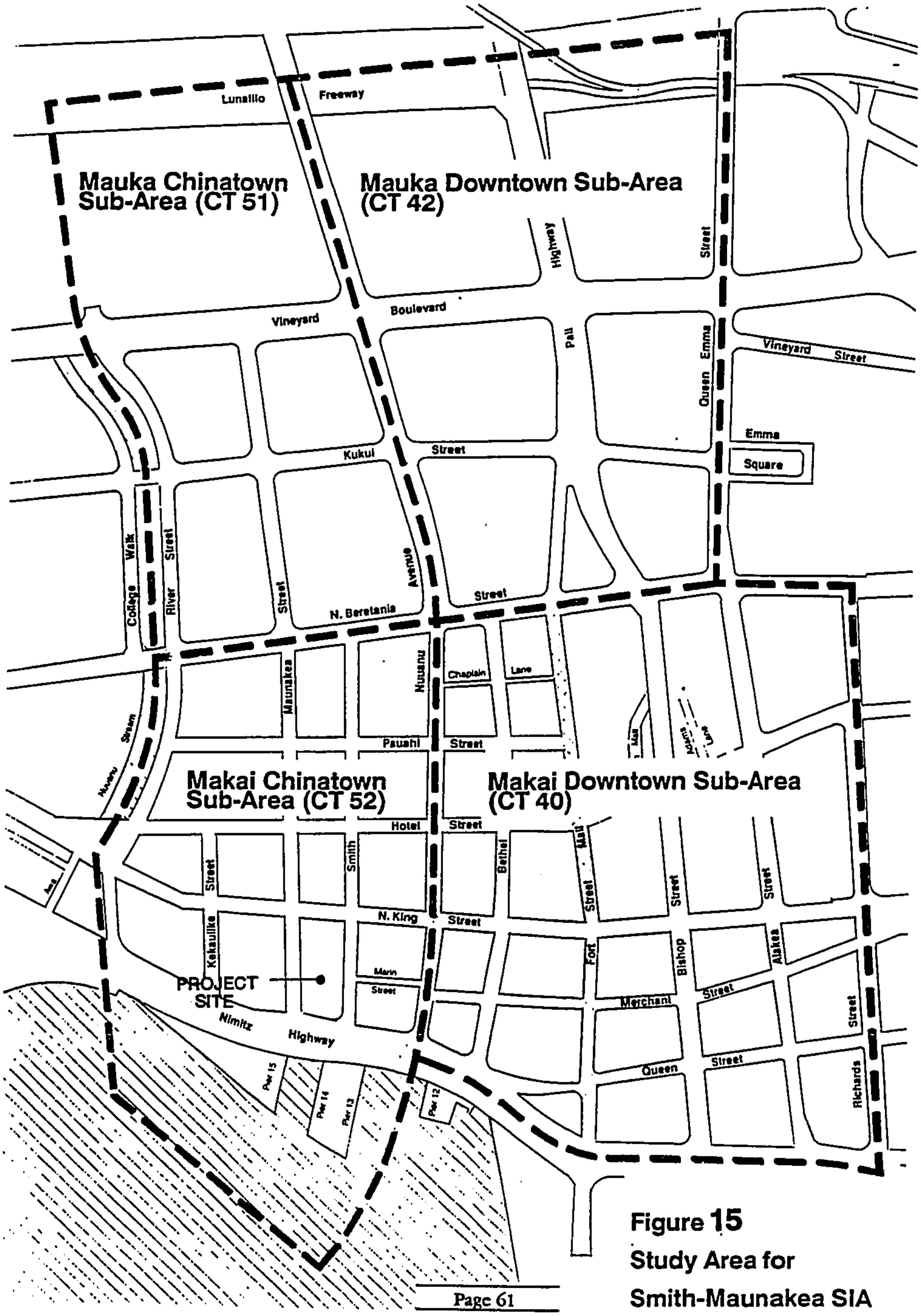


Figure 15
Study Area for Smith-Maunakea SIA

percent of the total jobs were service-related, followed by 28 percent in jobs related to finance, insurance, and real estate.

Appendix E, Figure 3 shows the distribution of jobs relative to Chinatown and Downtown. In 1985, Chinatown contained 4,653 jobs, which were evenly distributed throughout the region. The largest category of jobs was retail, at 28 percent, followed by service at 25 percent. As expected, most of the jobs were found in the Central Business District (CBD), which is Census Tract 40, where almost 38,000 people worked. In contrast to the strong retail showing in Chinatown, Downtown's strongest categories were service and finance, insurance, and real estate.

Population and Housing

Over the past thirty years, the study area net population grew from 4,666 persons in 1960 to 9,049 persons in 1989.

The rate of population growth in the City and County of Honolulu has been steadily decreasing over recent decades. In contrast, the study area population has been fluctuating due to redevelopment efforts. As shown in *Appendix E, Table 1*, the study area population decreased by approximately 5.4 percent a year in the 1960s. During the 1970s, the study area grew at a significant rate of 8.3 percent a year. With new residential projects, the study area population continues to grow at rates higher than the rest of the island. Between 1980 and 1985, the study area grew an average of four percent each year. The growth rate increased to 5.9 percent between 1985 and 1989.

The project site is in the makai portion of Chinatown, or Census Tract 52. This area had modest population increases in the 1960s, followed by a decline in the 1970s. As new multi-family housing projects were constructed in the 1980s, growth has been accelerating. In the first half of this decade, the average annual growth rate was 5.5 percent. Between 1985 and 1989, the area grew at a significant rate of 27 percent a year.

In the portion of Chinatown mauka of Beretania Street (Census Tract 51), revitalization and urbanization efforts caused the virtual elimination of the residential population in the 1960s and major increases in the 1970s. In the first half of the 1980s, this area was still experiencing major growth, at approximately 8.1 percent a year.

In the Downtown Sub-Area, residential growth occurred in the 1970s, with projects such as the Executive Centre, Harbor Square and Kukui Plaza.

Appendix E, Figure 4 shows that the proportion of Chinatown and Downtown residents varied with respect to the two sub-areas. In 1960 Chinatown's population was over twice the size of the Downtown population. By 1970, the two areas were almost even, and, by 1980 there were more people living in Downtown. In 1985, Chinatown's population rose sufficiently to almost equal that of Downtown, and by 1989, there was once again more people living in Chinatown.

Appendix E, Table 2 provides 1980 Census housing stock information for Oahu and the study area. Study area residential units are virtually all in multiple-unit buildings. The units are small, in comparison to the City and County norm, and mostly occupied by renters. On the Downtown side of the study area most units were in condominiums. In most of the study area, 1980 rents were below the City and County average. This is in part because of the relatively high density of government-subsidized housing in Chinatown.

By 1989, the study area contained 4,831 residential units, as shown in *Appendix E, Table 3*. Virtually all of these units continue to be multi-family units. Compared to an islandwide 1989 household size of 3.04 persons, the study area had an average household size of 1.84 persons, as is to be expected because of the predominance of multi-family units. Makai Chinatown had the smallest household size of 1.65 persons.

<u>Other Population Characteristics</u>

The 1980 census shows that the people of the study area were relatively older when compared to the islandwide population. In much of the study area, a large part of the 1980 population lived in non-family households. Throughout the study area, the average number of persons per family was below the City and County average. In all tracts, the majority of the 1980 population was not Hawaii-born, though the population of different tracts vary in background. *Appendix E, Tables 4* and *5* provides further information about such statistics.

The Downtown sub-area and the Chinatown sub-area communities differed in several respects. In the Downtown sub-area, the population was relatively well educated and affluent. Median family incomes in the makai portion of Downtown were well above the Oahu average in 1980, while mauka incomes were close to the average.

In both tracts, few families had incomes below the poverty line. Most families in the Downtown sub-area did not have children in the household in 1980. Caucasians formed the largest ethnic group in this area. While many residents were Hawaii-born, a high percentage were from other states. The proportion of the population who had lived in the same house five years previously was low, mostly because of the then new residential units.

In the Chinatown sub-area, most residents were far less affluent in 1980. The proportion of both family and non-family households below the poverty line in Census Tracts 51 and 52 was well above the Oahu averages. Also, many residents had relatively less schooling.

Labor Force Characteristics

The 1980 Census showed residents in the Downtown side of the study area were likely to have relatively high-status and well paid occupations. Laborers and service workers were numerous on the Chinatown side. Labor force participation was high among Downtown sub-area residents, while many more adults were not in the labor force on the Chinatown side. Unemployment was relatively high in Chinatown. Although residents of the study area live near Honolulu's financial and government center they had to spend about as much time getting to work as did other Oahu residents in 1980.

Characteristics of Existing City Projects in Makai Chinatown

The makai portion of Chinatown contains five City residential projects - Hale Pauahi, River Pauahi, Pauahi Hale, Pauahi Kupuna Hale and Winston Hale. Hale Pauahi is the largest of these (396 units) and contains rentals priced for low and moderate incomes, as well as for market range. This project contains 396 units, including one-, two- and three-bedroom units. People of various ages and ethnic backgrounds live in Hale Pauahi. Some of the problems arise from the diversity in ages; elderly residents often complain about the noise or behavior of the younger adults and children.

The River Pauahi Apartments and Pauahi Hale contain 49 apartments and 78 rooms, respectively. Both tend to house elderly residents. Pauahi Hale contains group bathrooms and kitchens on each floor. Residents of Winston Hale, with 94 studio units, tend to be more diverse in age and racial extraction. Pauahi Kupuna Hale contains 48 units designed for elderly residents.

Major Changes Without Smith-Maunakea

As shown in Table 7, Appendix E, the 727 residential units currently under construction will bring the total housing count to 5,558 by early next year. This will increase the near future population in the study area to almost 10,400 persons, independent of Smith-Maunakea. The study area long-range population is projected to reach 15,150 persons, if all current proposals (not including Smith-Maunakea) are implemented.

The types and locations of residential development proposed for the study area indicate that the demographic differences between Downtown and Chinatown residents will continue both in the short- and long-term time frame. As the City increases rental units in Chinatown, there will be more renters of the low and moderate income category, as well as more elderly people. People who can afford market rents will also live in Chinatown and, except for the Harbor Court development at the former site of the Kaahumanu municipal parking structure, the Honolulu Park Place mauka of Beretania Street, and planned sales at Foster Gardens Estates, no private home-ownership is expected in Chinatown.

With the completion of current construction projects, the demographics of the future population of the Downtown sub-area will likely change to reflect a high owner occupancy, younger population, higher incomes, increased ethnic diversity, and higher education levels.

Chinatown is expected to undergo low-rise commercial redevelopment, mixed with high-density residential uses. It is anticipated that, as Chinatown accommodates more residents, and as the area's physical characteristics and infrastructure improve, private landowners in the area will redevelop their properties or rehabilitate existing structures.

The pressure for Downtown office development is expected to continue. By upgrading currently underdeveloped lands, these projects are expected to change the urban landscape and intensify human activity in the area.

As more people live in the area, the demand and need for public services and facilities, especially recreational facilities, will continue. In the short-term, as the City continues to develop sites containing public parking garages, there will be shortage of public parking spaces. These shortages are expected to be temporary, since the new structures will contain replacement stalls. In the interim, however, some businesses may suffer because of potential decreases in clientele.

Community Concerns

Two sources of information were used to determine community concerns. First, the minutes of the Neighborhood Board meetings from January 1988 through October 1990 were examined. Second, Earthplan conducted interviews with people who (1) live, conduct business or own land near the project site; or (2) have a regional interest in the Project. These interviews were held to supplement information from printed sources of material regarding community needs and values, and, more importantly, to identify community issues and concerns relative to the proposed Project.

Thirty-eight people were interviewed during this study and the list is presented in *Appendix E, Table 8.* Most of those interviewed lived, conducted business or owned land near the project site or in the Downtown area.

Four general areas of concern were expressed:

⇨ Policy Implication - Informants questioned the City's role as developer. Some felt that the City should not be involved in development at all; others felt that only City participation in affordable housing development is acceptable. Those concerned about the commercial component of Smith-Maunakea did not like the City competing with the private landowners and shopkeepers. Also at issue is the City's ability to build up to 250 feet, whereas those right across the street had stricter height limitations. Further, some people felt that the City has a responsibility to retain the low-rise configuration of the area. As part of Chinatown, the project site is in the National Register of Historic Places, and people wanted assurances that the City would comply with decisions of the Council of Historic Places on the project.

⇨ Implications For The Chinatown Region - Almost all of those interviewed provided some perspective on how they thought the project would affect Chinatown. Parking was a frequent issue. People feared that the cumulative impact of temporary parking stall losses would hurt Chinatown businesses.

For most, the housing component was viewed favorably because the type of housing proposed was consistent with existing Chinatown residences. Other people felt that this consistency was negative, because they did not want "more of the same." It was often felt that the project is inconsistent with making Chinatown into a stable community because it will not accommodate large families. Many felt that the sheer increase in population was good for business, although the lack of resident-oriented facilities worried them.

The project's inconsistency with Chinatown's low-rise environment was often raised, and this was related to issues concerning height and views.

⇨ The Project's Effect On Nearby Uses - In general, nearby business operators appreciated the long term effects of the project, such as bringing more people to the area, but were extremely concerned about the disruptions caused by construction. There were also apprehensions about (1) larger businesses leasing the commercial space and competing with the existing small businesses and (2) a proliferation of small produce shops. Businesses abutting of the project site were concerned about the project's effect on their loading activities.

⇨ On-Site Considerations - Strong security measures was viewed as a necessity. People questioned the use of the proposed recreational deck, and urged that such facilities not be considered as park substitutes.

Appendix E, pages 42-44 describe in detail the above concerns.

Impacts and Mitigative Measures

Appendix E, pages 45-56 describes in detail the impacts associated with the Smith-Maunakea Housing project and includes, where appropriate, suggested mitigative measures. Below is a summary of the major findings.

Resident Population Impacts

The project is proposing 234 units ranging from studio to two-bedroom units. In 1989, the average household size for the study area was 1.84 persons. Based on this household size the project is estimated to house a population of 431 persons. The added population is well within the City General Plan population guidelines for the Primary Urban Center, which call for between 450,775 to 497,751 persons by the year 2010 (based on the State's Series M-K population projections).

Since the project meets the population guidelines of the General Plan, no mitigative measures are necessary.

Impact on Existing Uses

The project site is in the vicinity of a wide array of financial institutions, retail shops, restaurants and markets. The project site is "behind" or makai of three low-rise buildings which front King Street. At ground level, activities are dependent on walk-in traffic and include a restaurant and lounge, a produce market, a wholesale and retail outlet and a bank. The upper levels of these buildings are occupied mostly by professionals, such as accountants and tax consultants.

Mauka of King Street, between Smith and Maunakea Streets, are businesses which would face the Smith-Maunakea project. They include financial institutions, jewelry stores, a small shopping mall with jewelry and antique stalls, and a clothing store. Second-floor businesses are service-oriented, such as hairdressing shops and accounting services.

Facing the project site at street level on the Maunakea Street side (between Nimitz Highway and King Street) are two art galleries, a jewelry shop, three antique shops, one wholesale and retail outlet, a wholesale meat company, a market, and a bank. In one building, the second floor is a rooming house with 18 boarders who share a kitchen and bathroom. Businesses above street level are typically service-oriented, including realty firms, financial services, travel agencies, a business college, security services, advertising firms, and consumer services.

On the Smith Street side of the project site is a bank and a credit card headquarters for another bank.

The addition of the Smith-Maunakea project to the area is expected to have the following impacts on these facilities:

<u>Temporary Shortage In Parking Spaces</u>

Public parking is a major issue for study area residents and business operators. The City garages appeal to those who seek lower parking rates, or who visit establishments in different locations. Although many of the privately-owned parking structures offer public parking, their rates are higher or they require validation by on-site businesses. In Chinatown, the public parking areas are near Chinatown shops and markets; they allow patrons to park for low rates and circulate comfortably within a few blocks.

The Smith-Maunakea parking garage is valuable in this aspect. It is near markets, shops, banks and business services. Many of the nearby business operators interviewed indicated that their patrons often park at this garage. The garage operator indicates that this lot is always filled during the weekdays.

The temporary loss of 260 parking spaces will be a major concern for employees, clients and visitors to the area, especially considering that other parking lots are either undergoing construction or planned for future construction.

Although a final mitigating plan has not been developed, consideration is being given to reconfiguring some of the existing lots to gain additional spaces, as well as the use of valet parking. Also, consideration will be given to placing a priority completing the project's parking structure so that the period during which parking will be unavailable on-site will be shortened. Staggering of construction schedules will also be employed to lessen the number of loss at any one time.

According to the City's inventory of available public parking stalls in the area, current projections indicate that the inventory of 2,249 stalls will decrease at most approximately 108 to 343 stalls at various times during the period of January 1992 through 1993. Thereafter, the parking inventory is projected to increase to a final inventory of approximately 2,689 stalls upon completion of all redevelopment projects on or about April 1994.

In the long term, alternatives to the automobile, such as diverse public transportation systems, will ultimately decrease dependency on public parking garages.

<u>Increased Walk-In Business</u>

A number of the nearby businesses depend on walk-in customers. These include markets and food shops, restaurants and gift shops. The project will bring over 400 people into the area, and therefore increase business for those who depend on walk-ins. Some of the more specialized shops, such as antique shops and art galleries may not experience an increase in business because of the disparity between the cost of goods and residents' incomes. Also the additional population generated by the proposed project could increase the potential clientele for nearby professional and personal services and financial institutions.

The increase in walk-in business and increased potential clientele for services and financial institutions are considered positive impacts, and no mitigation is recommended.

<u>Possible Changes In Access To Adjacent Shops</u>

The rear entrances for two establishments mauka of the project site are contiguous with the project site. Loading activities currently use the garage and the back doors; activities will be disrupted both during construction and when the new complex is completed, unless special provisions are made. These businesses are conducting such activities without City permission nor is there any compensation involved. The King Street frontages for these businesses have no loading zones.

Regarding the use of the project site for loading activities, the City has been exploring alternatives with nearby businesses. These businesses may need to seek alternate access routes when redevelopment occurs.

Increased Business Competition

The project will contain about 13,413 square feet of commercial floor space. The new businesses may compete with existing establishments if they are similar in nature.

One of the purposes for redevelopment is to stimulate and improve existing businesses. At this time, no determination has been made as to the specific type of businesses that may lease the commercial spaces. Efforts, however, will be directed towards encouraging a diversity of businesses.

Impact On Regional Character

The type of project proposed for Smith-Maunakea is consistent with other City-initiated projects in the study area. Basically these projects contain (1) a substantial portion of the units for people with low and moderate incomes; (2) provisions for the elderly; (3) relatively small units; and (4) commercial space for lease. Chinatown's existing residential makeup is the result of this type of development. The effect of adding similar developments, such as the proposed project, on the regional character of the area are as follows:

Increased Number Of Affordable Units

Housing is Islandwide issue and the proposed project will address housing need by increasing the supply of affordable rentals. At Hale Pauahi the waiting list for affordable units is estimated at two years, whereas the market units have a one-year waiting list. When applications for Chinatown Gateway were submitted, there were an average of 13 applications per affordable unit; for each market unit, there were only 0.8 applications per unit.

Economic Disparity Between Downtown And Chinatown

As the City increases rental units in the Chinatown area, there will be more renters of the low and moderate income category, as well as more elderly people. Meanwhile, the Downtown demographics are expected to change to reflect a higher owner occupancy rate, younger population, higher incomes, increased ethnic diversity, and higher education levels.

Potential For Internal Diversity And Integration

Unlike many of the Chinatown residential projects-containing mostly elderly people, Hale Pauahi houses a wide variety of people in terms of income, ethnic background, family structure and age. Although the proposed units will be smaller than those in Hale Pauahi, the Smith-Maunakea could have a comparable profile if similar marketing and management techniques are employed.

No mitigative measures are required.

Increased Demand For Public Services And Facilities

As more people live in the area, the demand and need for public services and facilities, especially for recreation, will continue. The project's impact on public services and facilities are discussed in Chapter IV of this document. No mitigation was required

CHAPTER IV.

Public Services And Facilities Assessment

IV. PUBLIC SERVICES AND FACILITIES ASSESSMENT

This Chapter describes the public services and facilities in the area; their adequacies with respect to serving the needs of the proposed development; the need for improvement; and the necessary mitigative measures to ameliorate or reduce any adverse impacts

in reviewing this Chapter, please refer to the following Appendices, which have been the major source of much of the information that follows:

APPENDIX	REPORT	PREPARER
E.	Social Impact Assessment Report	Earthplan
F.	Traffic Impact Assessment Report	Pacific Planning & Engineering, Inc.
I.	Civil Engineering Report	Richard M. Sato & Associates

A. Transportation / Traffic

Pacific Planning and Engineering, Inc. conducted a traffic impact study to identity and assess future traffic impacts caused by the proposed development. Manual traffic counts were taken on September 12 and 13, 1990 for the weekday morning and afternoon peak period. The study identifies and evaluates the probable impacts of traffic generated by the proposed development in the year 1993, when the project is expected to be completed and fully occupied.

Nimitz Highway, King Street, and several critical intersections were analyzed to determine the relative impact of the proposed project on the local roadway system. The intersections studied were:

- ⇨ North King Street and Smith Street
- ⇨ North King Street and Nuuanu Avenue
- ⇨ North Nimitz Highway and Smith Street
- ⇨ North Nimitz Highway and Nuuanu Avenue
- ⇨ Smith Street and the Project Driveway

Traffic was forecasted at these intersections by:

⇨ increasing through traffic on Nimitz Highway using its historical growth rate, and

⇨ adding traffic generated by other planned / committed developments in the area that would impact the study intersections, including:

- Pan Pacific Plaza / First Interstate Tower
- Alii Place
- Chinatown Gateway Plaza
- River-Nimitz Housing
- Honolulu Park Place Condominium
- 1100 Alakea Plaza
- Harbor Court
- Kekaulike-Maunakea Housing
- Airport Industrial Park Associates Warehouse/Office

An inventory of existing conditions was also conducted to better understand the traffic impact of the proposed project. This review included the land uses in the area, roadway facilities, and existing traffic conditions.

Existing Roadway Facilities

The roadway network in the area is a complex system of one-way streets. *Figure 16* shows the roadway network in the downtown area. Nimitz Highway is the main arterial carrying through traffic. King Street is primarily a downtown street providing access to local business.

Nimitz Highway is a State Highway with 10 to 11 foot lanes in the project vicinity. Access to Nimitz is generally limited to minor street intersections. The posted speed on this highway is 35 miles per hour (mph).

King Street is a City and County road with 10 foot wide lanes in the vicinity of the project. There are bus stops along the makai side of the

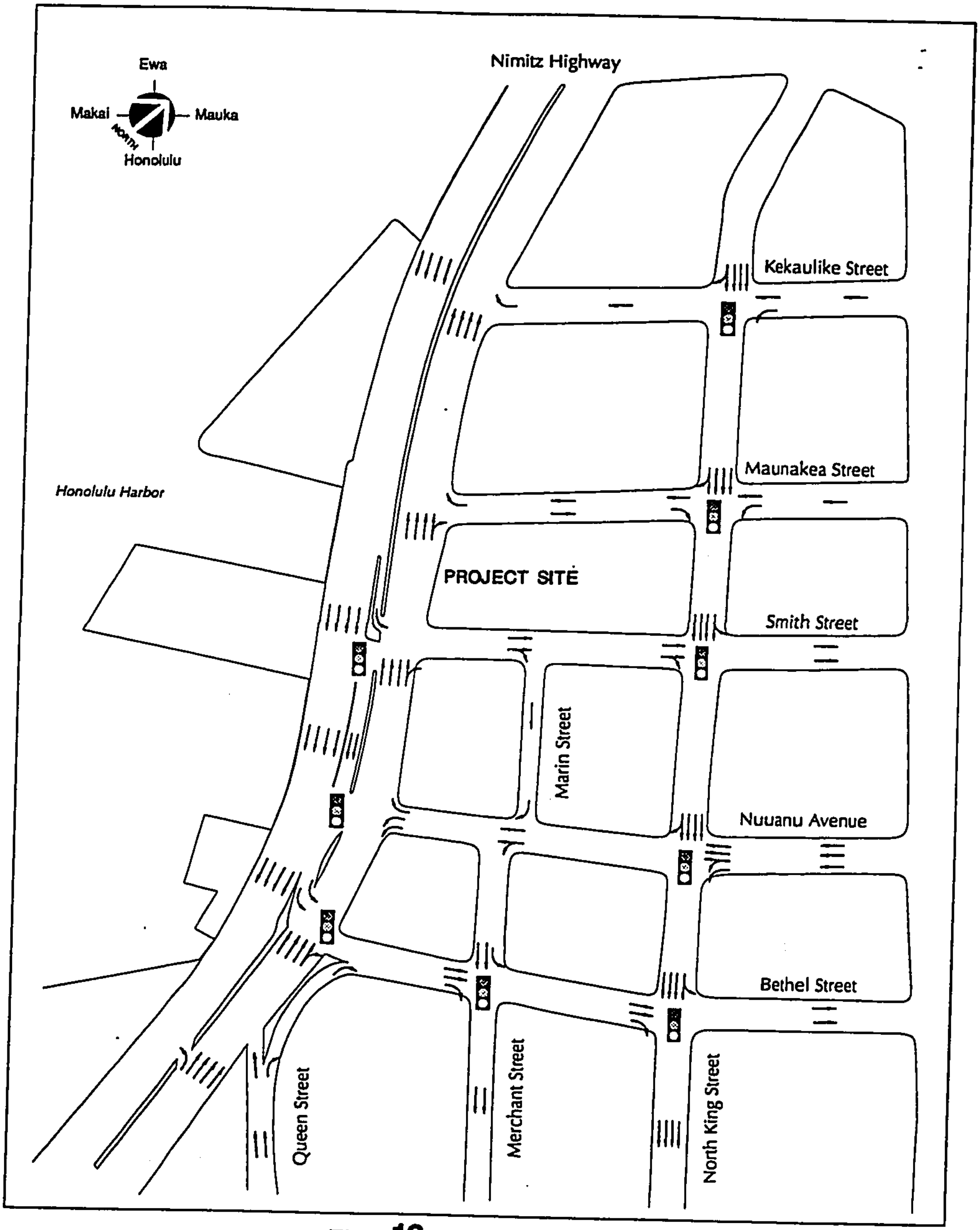


Figure 16 Roadway Network

street. In this area, no on-street parking is allowed. The posted speed on this street is 25 mph.

Nuuanu and Smith Streets are one-way streets in the project vicinity. Their land widths vary from 8 to 10 foot lanes and on-street parking is allowed in certain areas. The speed limit on these streets is 25 mph.

Maunakea Street is a City and County road that is a two-way street within the project site. It is a one-way street running in the makai direction between Beretania Street and North King Street. Within the project site, Maunakea Street has 10 foot wide lanes running in each direction along with 8 foot wide shoulders on each side that is used for on-street parking or as a loading zone.

Figure 16 illustrates the intersections that are signalized.

Impacts and Mitigative Measures

The traffic impact results were measured in terms of the level-of-service (LOS). The concept of LOS is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and / or passengers. LOS is divided into six categories ranging from LOS A (best) to LOS F (worst). A detailed definition of LOS is given in *Appendix F*.

Nimitz Highway, King Street and the study intersections were analyzed using methods found in the Highway Capacity Manual.

Segments of Nimitz Highway and King Street were analyzed using methods for analyzing urban arterials. This method uses average travel speed (including delays at signals, etc.) to measure traffic operational conditions. Slower speeds indicate poor level-of-service (LOS)

The existing signalized intersections were analyzed using Operational Analysis and observed field measurements. Operational analysis uses the average delay per vehicle to measure traffic operational conditions. High delays per vehicle indicate poor LOS. Field measurements were taken to determine average delay in seconds per vehicle.

The projected access was analyzed using unsignalized intersection analysis. The method is based on the estimated number of vehicle turning movements which could proceed through a conflicting traffic stream. The LOS is determined by the amount of vehicle reserve capacity available for a particular turning movement. The lower amount of reserve capacity indicates a poorer level of service.

Below is a summary of the impact analysis for existing, 1993 forecast without the project, and 1993 forecast with the project traffic conditions.

Arterial Streets (See *Table 14*)

⇨ King Street (Between Nuuanu Street and Maunakea Street)

- Presently, King Street is operating at LOS D or E.
- By 1993 without project, King Street will continue to operate at LOS E or better. The analysis indicates that average running speed will decrease.
- By 1993 with project, the LOS for King Street will continue to operate at LOS E or better. The analysis indicates that average running speed will decrease slightly.

⇨ Nimitz Highway (Between Fort Street Mall and River Street)

- Presently, Nimitz Highway is generally operating at LOS C and LOS F, in the eastbound and westbound directions, respectively.
- By 1993 without project, Nimitz Highway will continue to operate at the same LOS as existing. The analysis indicates that average speed will decrease slightly.
- By 1993 with project, Nimitz Highway will continue to operate at the same LOS as existing. The analysis indicates that average speed will decrease slightly.

Study Intersections (See *Tables 15* and *16*)

⇨ Intersection of King Street and Smith Street

- Presently, this intersection is operating overall at LOS B or better
- By 1993 without project, the intersection will continue to operate at LOS B or better. The average delays per vehicle will increase slightly.
- By 1993 with project, the LOS for this intersection will continue to operate at LOS B. The average delays per vehicle will increase slightly.

⇨ Intersection of King Street & Nuuanu Avenue

- ➡ Presently, this intersection is operating overall at LOS B
- ➡ By 1993 without project, the intersection LOS will drop from LOS B to LOS C. Delays per vehicle will increase slightly.
- ➡ By 1993 with project, the intersection will continue to operate at LOS C or better. Delays per vehicle will increase slightly.

⇨ Intersection of Nimitz Highway & Smith Street

- ➡ Presently, this intersection is operating overall at LOS B. The eastbound left turn from Nimitz Highway into Smith Street is operating with long delays, LOS E (42 to 55 seconds average delay per vehicle).
- ➡ By 1993 without project, the intersection LOS will drop to LOS C overall. The eastbound left turn from Nimitz Highway into Smith Street will continue to operate with long delays, LOS E (47 to 49 seconds).
- ➡ By 1993 with project, the intersection LOS will continue to operate at LOS C. The eastbound left turn from Nimitz Highway into Smith Street will continue to operate with long delays, LOS E (51 to 59 seconds).

⇨ Intersection of North Nimitz Highway & Nuuanu Avenue

- ➡ Presently, this intersection is operating overall at LOS B.
- ➡ By 1993 without project, the intersection LOS will drop to LOS C.
- ➡ By 1993 with project, the intersection LOS will drop to LOS D.

⇨ Intersection of Smith Street & Project Access Road

- ➡ By 1993 with project, vehicles exiting the project access will experience little delays (LOS B or better)

The above analysis generally indicates that presently, King Street and Nimitz Highway operate at LOS E or F. Even without the project there will be increased delays along King Street, Nimitz Highway and at the studied intersections. With the project, delays at intersections will increase slightly and average travel speeds will decrease slightly. The level-of-service for the Intersection of Nimitz and Nuuanu will drop from LOS C to LOS D. It is likely that the peak periods along Nimitz Highway and King Street will lengthen as the LOS at the study intersections deteriorates with increases in traffic resulting primarily from other projects scheduled for completion by 1993. The analysis concluded that the proposed project will have a slight impact on traffic conditions, and no mitigative measures were found necessary for the project.

TABLE 14
Arterial Analysis of King Street and Nimitz Highway

	1990		1992 WITHOUT PROJECT		1992 WITH PROJECT	
Road Segment	AM	PM	AM	PM	AM	PM
KING STREET (Between Maunakea & Nuuanu Street)						
Eastbound	E	D	E	D	E	D
NIMITZ HIGHWAY (Between Maunakea & Fort Street)						
Eastbound	C	C	C	C	C	C
West Bound	E	F	E	F	E	F

Table 15
Existing Signalized Intersections - Operational Analysis

Intersection	1990 AM	1990 PM	1992 WITHOUT PROJECT AM	1992 WITHOUT PROJECT PM	1992 WITH PROJECT AM	1992 WITH PROJECT PM
KING & SMITH						
Eastbound (King)	A	A	A	A	A	A
Northbound (Smith)	B	C	B	C	B	C
Overall Intersection LOS	A	B	A	B	B	B
KING & NUUANU						
Eastbound (King)	B	B	B	B	B	B
Southbound (Nuuanu)	C	B	C	B	D	B
Overall Intersection LOS	B	B	C	B	C	B
NIMITZ & SMITH						
Westbound (Nimitz)	A	B	A	B	A	C
Eastbound Left-Turn (Nimitz)	E	E	E	E	E	E
Overall Intersection LOS	B	B	B	C	B	C
NIMITZ & NUUANU						
Westbound (Nimitz)	B	C	B	E	B	F
Eastbound (Nimitz)	A	A	B	B	B	B
Southbound (Nuuanu)	D	D	D	D	D	D
Overall Intersection LOS	B	B	B	C	B	D

TABLE 16
Unsignalized Intersection Analysis

	1992 WITH PROJECT	
	AM	PM
Smith Street & Project Access Road Right Turn Exiting Project	A	B

B. Water

The existing water system consists of 12-inch and 8-inch mains along Nimitz Highway, a 12-inch main along Maunakea Street, a 12-inch main along King Street, and an 8-inch main along Smith Street (see *Figure 17*).

Impacts and Mitigative Measures

The projected water demand for the proposed development was determined by using the criteria in the Water System Standards, Volume I (1985) of the Board of Water Supply, as summarized below.

Estimated Water Demand

Residential Tower	71,400 gallons per day
Commercial Space	1,940 gallons per day

Fire Flow Requirements:

Flow	3,000 gallons per day
Duration	2 hours

Based on these projected water demands, the Board of Water Supply (BWS) has confirmed that the current water system serving the area is inadequate to serve the proposed development. A new 12-inch water main on Smith Street, approximately 450 linear feet, will be required by the BWS. All improvements will be designed and constructed to meet BWS's standards and requirements.

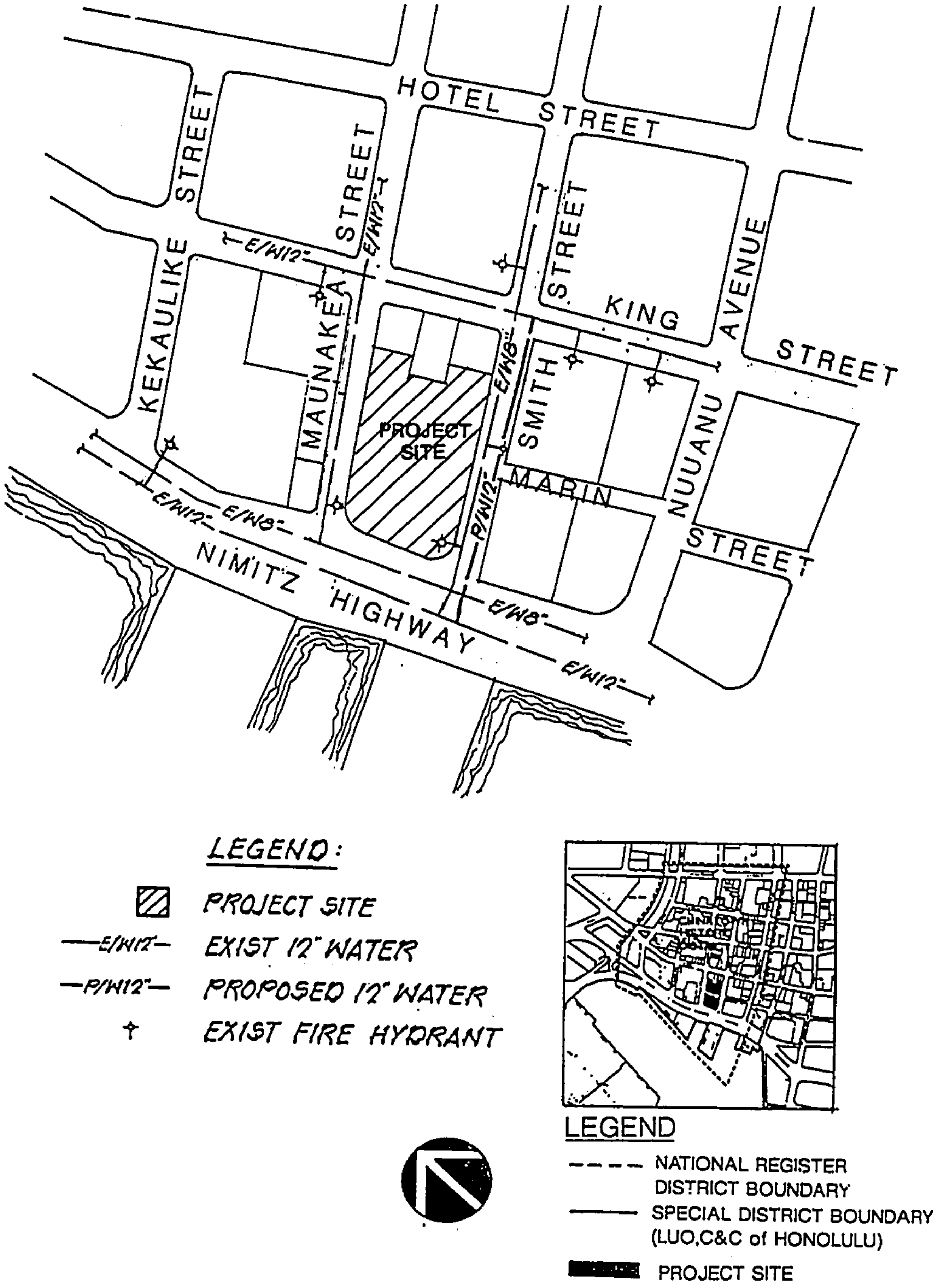


FIGURE 17 WATER DISTRIBUTION SYSTEM

C. Wastewater

The existing municipal sewer system serving the project area consists of an 8-inch sewer line along King Street, an 8-inch sewer line along Maunakea Street, a 28-inch sewer line along Nimitz Highway, and a 6-inch sewer line along Smith Street (see *Figure 18*).

Impacts and Mitigative Measures

The estimated wastewater flows were determined using the criteria in the Design Standards of the Division of Wastewater Management, Volume I (February 1984) and are summarized below.

Estimated Wastewater Flow (Average Daily)

Residential Tower	53,300 gallons per day
Commercial Space	8,900 gallons per day
Total	**62,200 gallons per day**

The City Department of Public Works, Division of Wastewater Management has determined that the existing 28-inch sewer main along Nimitz Highway is inadequate to serve this estimated wastewater flow. The Division has indicated that the reconstruction of the Nimitz Highway sewer is tentatively scheduled for fiscal year 1993. Efforts will continue to ensure that the timing and completion of the sewer project and the proposed development are coordinated.

D. Solid Waste And Disposal

It is estimated that project will result in less than 2 tons of solid waste per day.

Impacts and Mitigative Measures

It is anticipated that solid waste disposal will be accomplished by a private firm, and either landfilled or disposed of at the H-Power Plant at Campbell Industrial Park in Ewa.

E. Drainage

The existing drainage system consists of an 18-inch drain line along King Street, an 18-inch drain line along Maunakea Street, and two 24-inch drain lines across Nimitz Highway and to the harbor. The exist

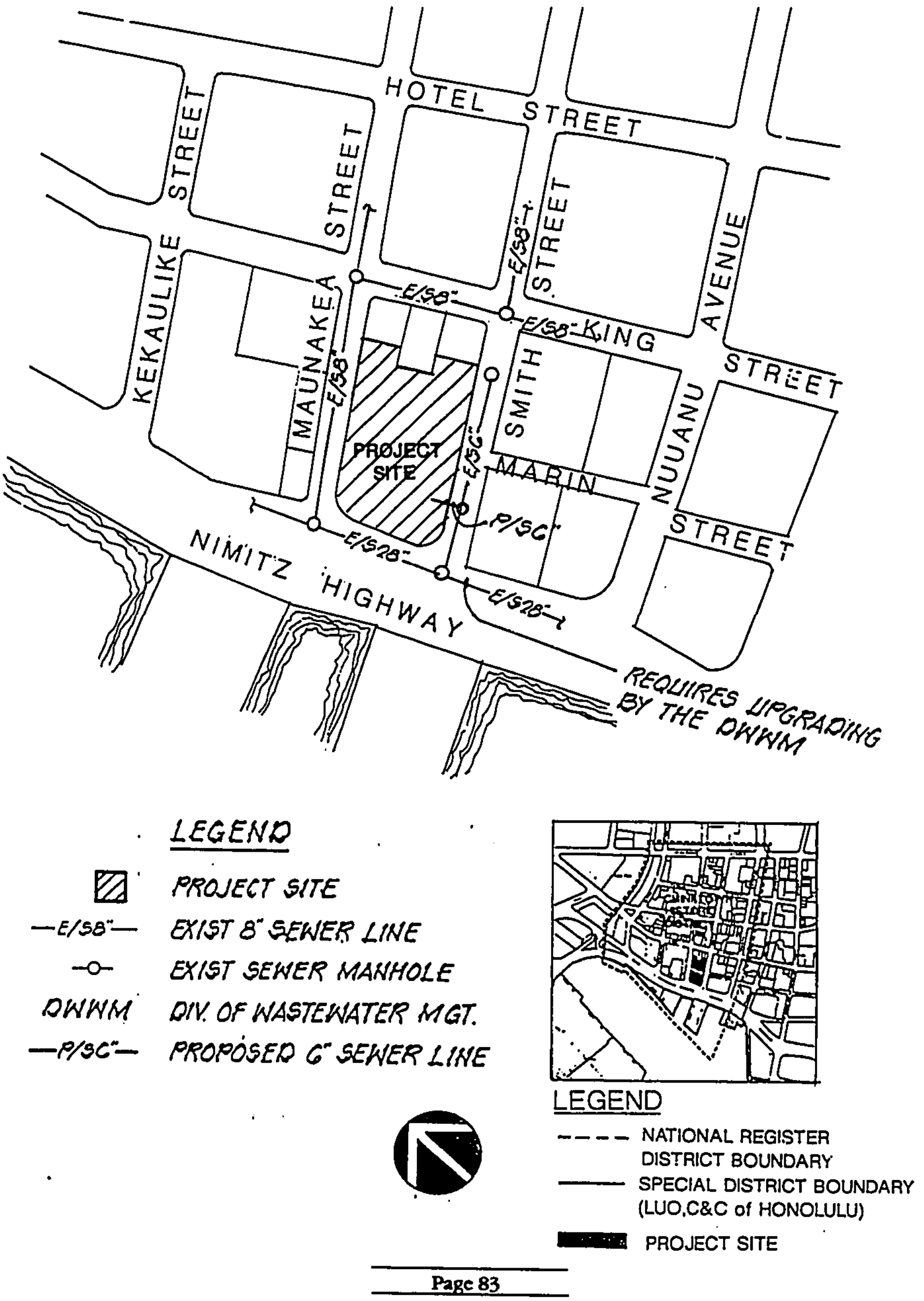


FIGURE 18 SANITARY SEWER SYSTEM

ing catch basins are at the corners of Smith and Nimitz, Maunakea and Nimitz, and Maunakea and King (see *Figure 19*).

Impacts and Mitigative Measures

The estimated storm water runoff was determined using the criteria in the Storm Drainage Standards of the Department of Public Works (May 1988). The estimated surface runoff for the entire project site is 5.2 cubic feet per second.

According to the Department of Public Works, the drainage system along Maunakea Street was found to be overtaxed. Therefore, the drainage system from the project will be connected to the existing Smith Street system, which is adequate to accommodate the development.

F. Power And Communications

Existing utility services are available and adequate to serve the needs of the proposed project. Gasco, Inc. maintains an underground gas utility system in the project vicinity, which serves customers interconnected with the utility network in the Chinatown area.

Impacts and Mitigative Measures

No adverse impacts are anticipated and no mitigative measures are required. Coordination will be maintained during the construction phase to minimize any potential conflicts with the existing Gasco, Inc. system and for the protection of existing electrical power lines within the project area.

G. Police Protection

The nearest police facility is the Downtown Substation at the corner of Nuuanu Avenue and Hotel Street. At any given time, a total of six to eight officers patrol the general area in Cushman vehicles, automobiles and on foot. The project site is in Beat 41 of District 1 of the Honolulu Police Department. Furthermore, the main police headquarters will be relocation to new facilities at Beretania and Alapai Streets and will be closer to the project site.

Impacts and Mitigative Measures

No adverse impacts are expected. No mitigative measures are required.

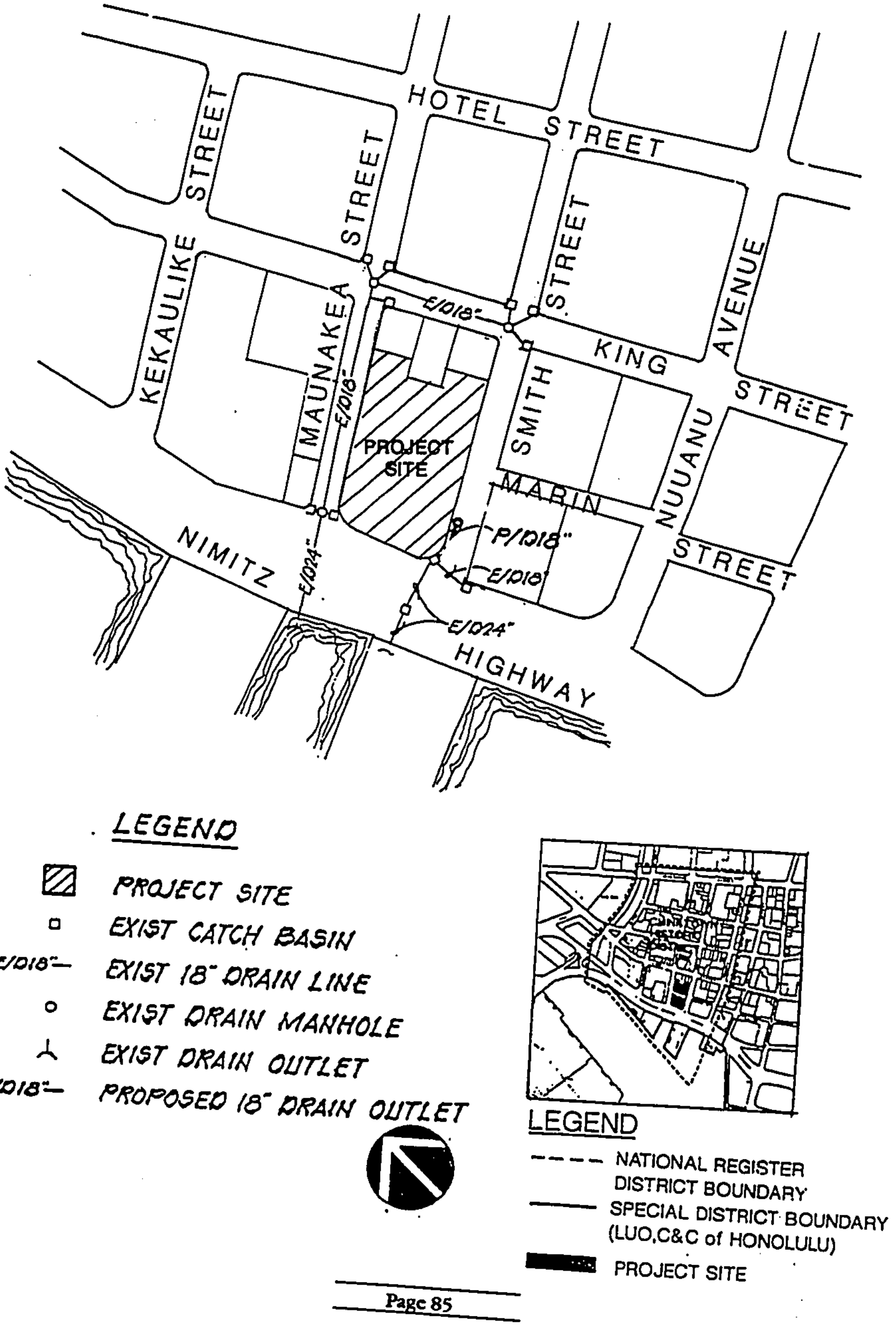


FIGURE 19 STORM DRAINAGE SYSTEM

H. Fire Protection

The project site would be served by the Central Fire Station, which is an engine company located at 104 S. Beretania Street. In addition to the Central Fire Station, the Kakaako and Kuakini Fire Stations, both of which are engine and ladder companies, respond to an initial fire alarm in the Downtown area. Backup can be provided by the Kalihi Kai and other fire stations in the perimeter of the area.

Impacts and Mitigative Measures

No adverse impacts are expected. No mitigative measures are required.

I. Education Facilities

Kaiulani Elementary School, Central Intermediate School and McKinley High School serve the student population within the area.

Impacts and Mitigative Measures

According to the Department of Education, the proposed project will result in projected enrollment increases as follows: Kailulani Elementary, 20-25; Central Intermediate, 8-12; and McKinley High, 12-15. While both Central Intermediate and McKinley High should be able to accommodate the increase in enrollment, funding for an additional classroom at Kaiulani Elementary will be required.

J. Recreation

Recreational facilities within reasonable walking distances of the project site include Pauahi Community Service Facility (two-story, multipurpose recreation center, no outside play area); Aala Park (6.7-acre park, includes homeless shelter); and the Beretania Community park (5.3 acres). Other parks further away include Kamalii Park (.68 acres); Queen Emma Square (.56 acres); and Kamamalu Playground (5.3 acres). A number of urban or mini parks, including the Fort Street Mall Mini Park, the Wilcox Park, and the Chinatown Gateway Plaza exist nearby.

Based on community interviews and an examination of Neighborhood Board minutes and Downtown Improvement Association newsletters, there was support for more parks to serve the existing residential population to the general area.

Impacts and Mitigative Measures

The proposed project will result in increased demands on the existing park facilities in the area. Amenities are included in the project to help offset this impact, such as recreation deck above the garage and landscaped areas at ground levels. Discussions with the Parks Department are ongoing on ways to increase recreational amenities, including compliance with the Park Dedication Ordinance requirements. With regards to the latter, however, exemption pursuant to Chapter 201E, Hawaii Revised Statutes, from the requirement may be necessary. Off-site, the City is planning to increase resident-oriented park space by redeveloping the Smith-Beretania parking lot into a park, child care and underground parking facility.

K. Medical And Emergency Facilities

There are a number of existing health care or related facilities within a 2-mile distance from project site. These include Queens Hospital, Straub Clinic, Kuakini Hospital, St. Francis Hospital, and the Honolulu Central Fire Station. These facilities provide a full range of services, including 24-hour emergency service. With the existing circulation system, each of these facilities is only ten minutes of driving time from the project site.

Impacts and Mitigative Measures

No adverse impacts are anticipated, and no mitigative measures are required.

CHAPTER V.

Relationship To Land Use Plans, Policies And Controls

V. RELATIONSHIP TO LAND USE PLANS, POLICIES AND CONTROLS

The following is a discussion of the project's relationship to the State of Hawaii's and City and County of Honolulu's plans, goals, objectives and policies.

A. State

Hawaii State Plan

The Hawaii State Plan, Chapter 226, HRS (as amended) serves as a guide for the growth and development of the State and specifies goals, objectives, policies, and priorities in the areas of population, economy, growth, preservation of physical environment, socio-cultural advancement (housing) and facility systems maintenance and development. The overall theme of the Plan is identified as:

- ⇨ Individual and family self-sufficiency
- ⇨ Social and economic mobility
- ⇨ Community or social well-being

The following describes the relationship of the proposed project with the overall objectives of the State Plan as amended.

SEC. 226-6 Objectives and policies for the economy-in general.

(a)(1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawaii's people.

(b) (6) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.

The project will create short-term and long-term employment opportunities. Construction jobs will be created in the short-term, and in the long-term employment will be generated by the establishment of ground-level commercial activities.

SEC. 226-12 Objectives and Policies for the physical environment-scenic, natural beauty, and historic resources.

(a) *Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawaii's scenic assets, natural beauty, and multi-cultural/historic resources.*

(b)(1) *Promote the preservation and restoration of significant natural and historic resources.*

(b)(5) *Encourage the design of developments and activities that complement the natural beauty of the islands.*

Although none of the buildings in the immediate vicinity of the project site are registered in the National Register of Historic Places, the structures are considered historic to the area. *Appendix G* identifies J.H. Schnack Building, the M. Kawahara Building, the Yee Hop Plaza Building, the Liberty Bank building, the Goodwill Industries Building, the Hawaii National Building, the Bankoh Annex Building, and another building (69 North King Street) as being in the immediate area of the project site. Potential impacts and mitigative measures to protect the buildings during the project's construction phase are summarized in Chapter II, Section G.

Design features are incorporated into the development to reflect the existing character of the Chinatown District. The new structure will complement the older buildings in the area by emulating the facades, roof styles and materials of nearby structures. At the ground level, the streetscape will be designed to continue the importance of the existing pedestrian environment.

In addition, it has been suggested that the area may contain archaeological resources. Coordination with the Department of Land and Natural Resources and archaeological monitoring during all phases of surface material removal and demolition will be conducted.

SEC. 226-18 Objectives and policies for facility systems–energy/telecommunications.

(c)(3) *Promote prudent use of power and fuel supplies through conservation measures including education and energy-efficient practices and technologies.*

The Applicant is committed to the efficient use of energy resources through conservation measures. The project is expected to consume approximately 340,000 kwh per month. Energy conservation methods that will be included as part of the proposed development are presented under State Functional Plans, Energy.

SEC. 226-19 Objectives and policies for socio-cultural advancement–housing.

> (a)(1) *Greater opportunities for Hawaii's people to secure reasonably priced, safe, sanitary, livable homes located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals.*
>
> (a)(2) *The orderly development of residential areas sensitive to community needs and other land uses.*

The project will result in an addition to the affordable housing inventory and will also address the growing needs of the elderly for conveniently-located, reasonably-priced shelter. The site is ideally situated for the type of uses proposed and will be designed to provide an attractive living environment for a variety of household sizes and types.

State Functional Plans

The Hawaii State Plan directs appropriate State agencies to prepare functional plans for their respective areas of jurisdiction. The plans set forth statewide guidelines, policies, and priorities within certain areas of activities and serve as the primary implementing vehicles of the Hawaii State Plan. Following is a discussion of the functional plans applicable to the project.

<u>State Housing Functional Plan</u>

The State Housing Function Plan is maintained by the State Housing Finance and Development Corporation, an agency administratively attached to the State Department of Budget and Finance. Focus of the plan is the orderly development of housing and increased opportunities for the State of Hawaii's people to secure adequate and affordable housing

The proposed project supports State objectives to increase the rental vacancy rate by providing needed rental units in a location near employment, shopping, medical and public facilities.

State Historic Preservation Functional Plan

The State Historic Preservation Functional Plan is prepared and maintained by the State Department of Land and Natural Resources (DLNR). Also, the DLNR implements Chapter 6E of the Hawaii Revised Statutes that establishes a State historic preservation review process. Procedures for development include projects review, coordination of preservation and salvaging programs with the State Historic Sites Office, preserving sites considered of historical value, and preparing an archaeological survey. An archaeological survey of the project area has been conducted and is presented in Chapter II, Section F and *Appendix A*. In addition, a historic building impact assessment has been prepared and is summarized in Chapter II, Section G. and *Appendix G*.

State Health Functional Plan

The State Health Plan (1989) focuses on public health programs under the jurisdiction of the State Department of Health. There are a number of health care or related facilities within a 2-mile distance from the project site. The facilities provide a full range of services including 24-hour emergency care. With the existing circulation system, each of these facilities is only ten minutes of driving time from the project site.

Environmental matters of the State Health Plan have been addressed in the section of this EIS relating to noise impacts, air quality, and the adequacy of public services and facilities. Where adverse impacts have been identified, appropriate mitigative measures have been proposed.

State Energy Functional Plan

The State Energy Function Plan is prepared and maintained by the Energy Division of the State Department of Business, Economic Development and Tourism. The purpose of the plan is to implement objectives of the State Plan and further define the provisions of dependable, efficient and economic statewide energy systems.

The proposed project has an estimated electrical energy consumption of 340,000 kwh per month, or 4,080,000 per year. Energy conservation measures which will be provided as part of the proposed development include the following:

1. Light sources to be used primarily are fluorescent and H.I.D. (High Pressure Sodium and Metal Halides). T-8 lamps will be used in place of standard fluorescent lamps and compact fluorescent lamps will be used in place of incandescent lamps, with the exception of low-voltage accent lighting at

water features, etc. A 13-watt compact fluorescent replaces at 50-watt incandescent with the same light output at a savings of 42 watts/lamp.

2. Ballasts for all fluorescent lamps will be electronic energy-saving types, or premium high power factor types for applications where electronic energy-saving types are not manufactured. The combination of electronic energy saving ballasts (EESB's) and T-8 lamps use 43 percent less energy than standard energy-saving ballasts and lamps for the same light output.

3. Reflectors for light mixtures are specular and contribute to overall fixture efficiency, enabling use of lower wattages and fewer mixtures to achieve desired lighting levels.

4. Secondary power factor correction is provided to bring the building power factor to 90 percent or greater.

5. All units and commercial spaces will be individually metered to give incentive for energy conservation.

State Land Use District

The project site and surrounding area is designated in the Urban District. The project uses are permitted within the Urban District.

State Environmental Policy

The project is subject to compliance with Chapter 343, HRS. A determination has been made that an Environmental Impact Statement is required. This document has been prepared pursuant to this determination.

B. City And County Of Honolulu General Plan And Development Plan

General Plan

Housing

The project housing/commercial complex will conform with the General Plan in the following specific areas.

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

Policy 3: Encourage innovative residential development which will result in lower costs, added convenience and privacy, and the more efficient use of streets and utilities.

Policy 12: Encourage the production and maintenance of affordable rental housing.

Policy 13: Encourage the provision of affordable housing designed for the elderly and the handicapped.

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

Policy 3: Encourage residential development near employment centers.

<u>Population</u>

Objective C, Policy 1: Facilitate the full development of the primary urban center.

<u>Physical Development and Urban Design</u>

Objective B, Policy 3: Encourage the establishment of mixed-use districts with appropriate design and development controls to insure an attractive living environment and compatibility with surrounding land uses.

Objective D, Policy 6: Provide special design standards and controls that will allow more compact development and intensive use of lands in the primary urban center.

Development Plan

Development Plans are relatively detailed guidelines for the physical development of the Island. They serve as the intermediate means of implementing the objectives and policies of the General Plan. The project site is located in the Primary Urban Center Development Plan (PUC).

PUC Land Use and Public Facilities Maps

The project site is designated as Commercial on the Land Use Map and Government Building/Modification (GB/M) on the Public Facilities Map (see *Figures 20* and *21*). The proposed development is consistent with these designations.

DP Common Provisions

The proposed project will implement Section 32-1.4 policies and objectives for Mixed Use Areas of the Development Plan Common Provisions by providing and encouraging:

1. Mutually supportive combinations of residential and commercial uses that optimize the use of both land in urban centers existing support facilities and services.

2. Walking and bicycling activities, especially walking to and from jobs, thus reducing automobile dependency and demands upon the transportation system.

3. Development designs and land use arrangements that save energy.

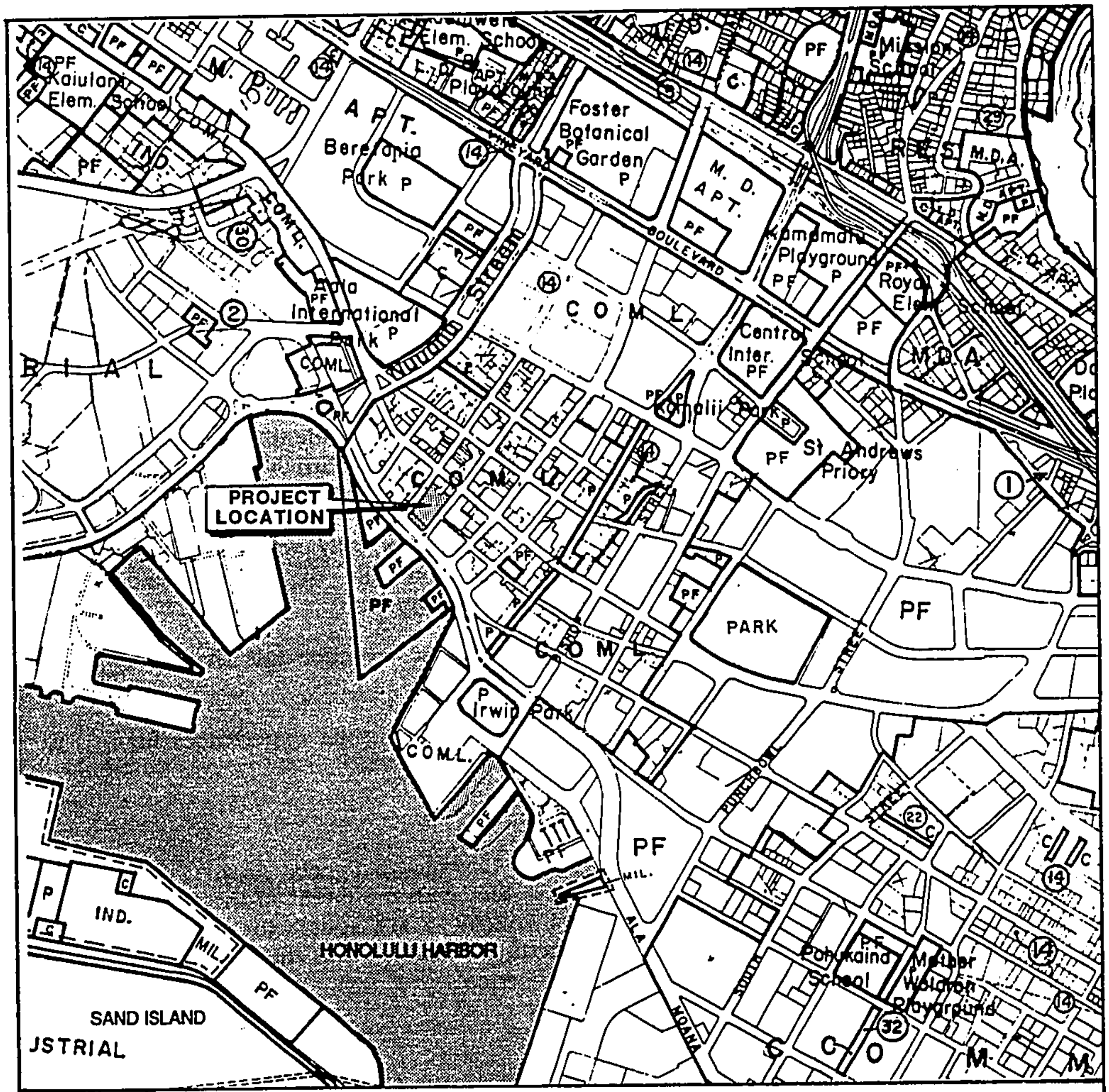
4. Greater opportunities for variety in urban experiences for pedestrians and greater social interaction.

PUC Special Provisions

The project site is included in the Downtown Special Area, Chinatown District. The project is consistent with the intent of the Chinatown Special Provisions (Section 32-2(b)(1)(D) that calls for emphasis on historic preservation, architectural character, and the strengthening of the retail and commercial function.

C. Land Use Ordinance (LUO)

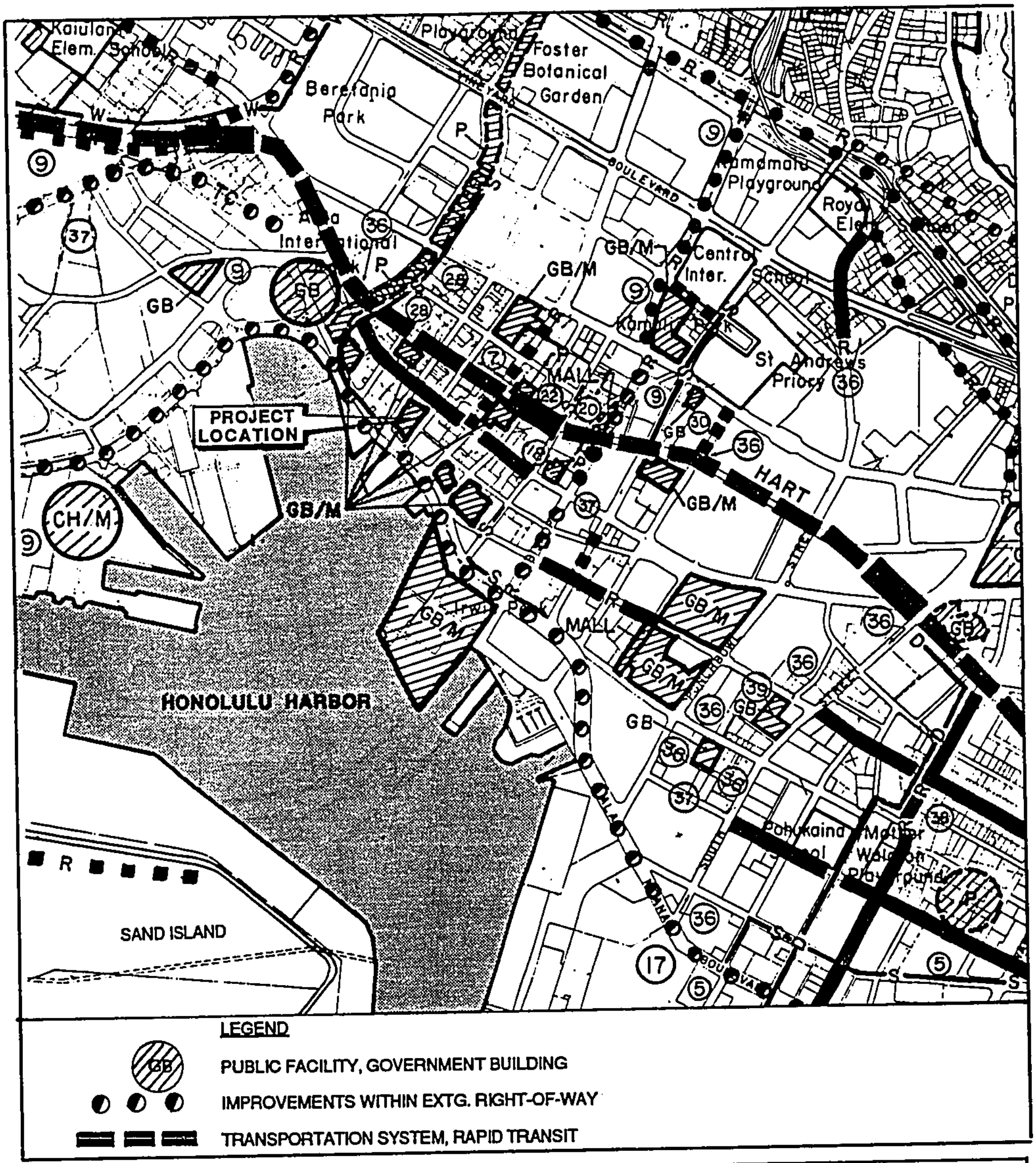
The purpose of the Land Use Ordinance (LUO) is to regulate land use in a manner that will encourage orderly development in accordance with adopted land use policies, including the Oahu General Plan and Development Plans, and to promote and protect the public health, safety and welfare. The project site is located in the BMX-4 Central Business Mixed Use zoning district (see *Figure 22*). The intent of the BMX-4 district is to set apart that portion of Honolulu which forms the City's center for financial, office and governmental activities and housing. It provides the highest land use intensity for commerce,



NORTH

SMITH /MAUNAKEA HOUSING
Primary Urban Center Land Use Map

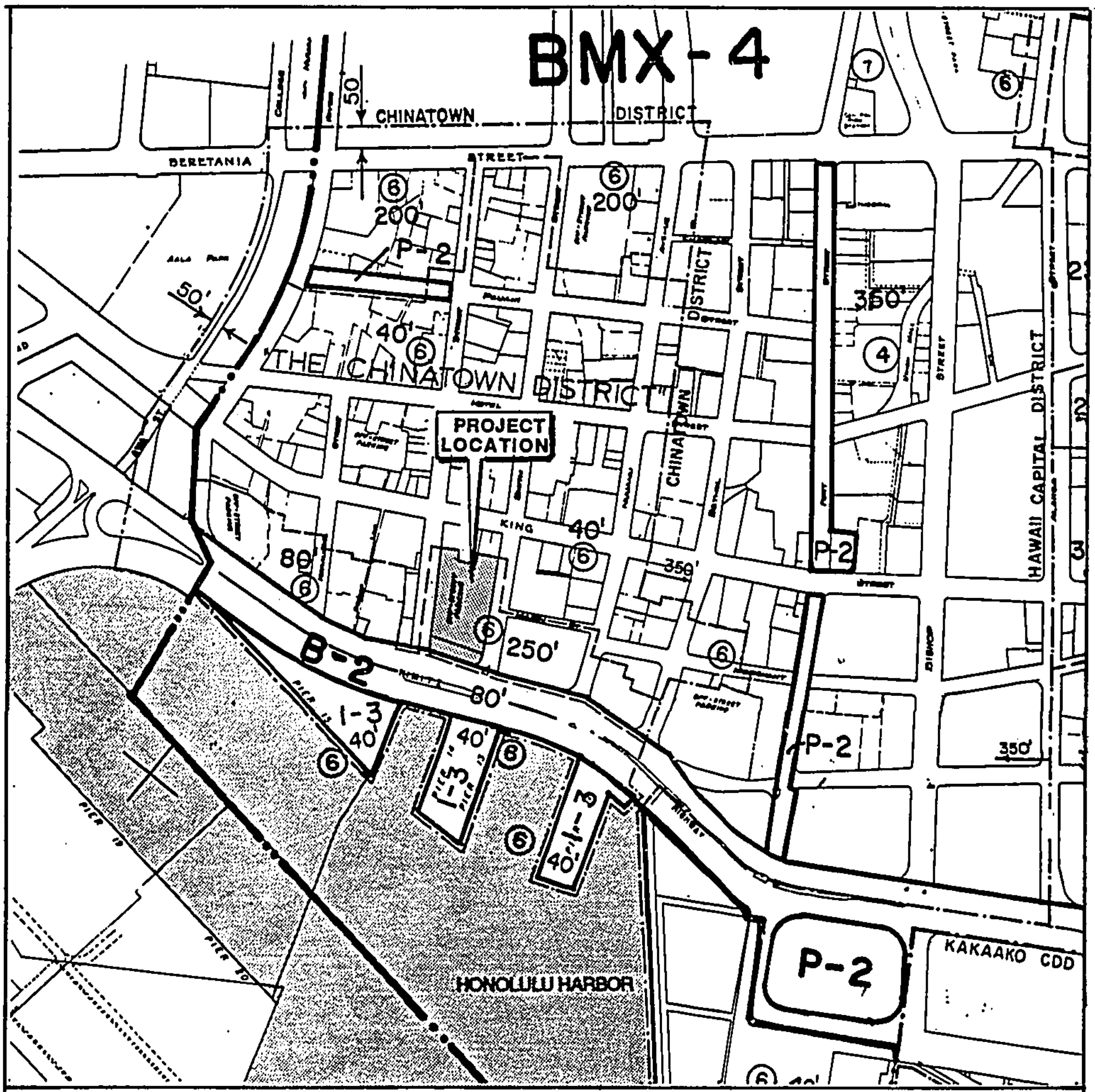
FIGURE 20



NORTH

SMITH /MAUNAKEA HOUSING
Primary Urban Center Public Facilities Map

FIGURE 21



NORTH

SMITH/MAUNAKEA HOUSING
Zoning

FIGURE 22

business and housing. The proposed development is a permitted use in the BMX-4 District.

Special Districts

The Land Use Ordinance also establishes and regulates Special Districts within the City and County of Honolulu. The purpose of a Special District is to provide means by which development in certain areas in the community in need of restoration, preservation, redevelopment or rejuvenation may be guided to protect and/or enhance their physical and visual aspects for the benefit of the community as a whole.

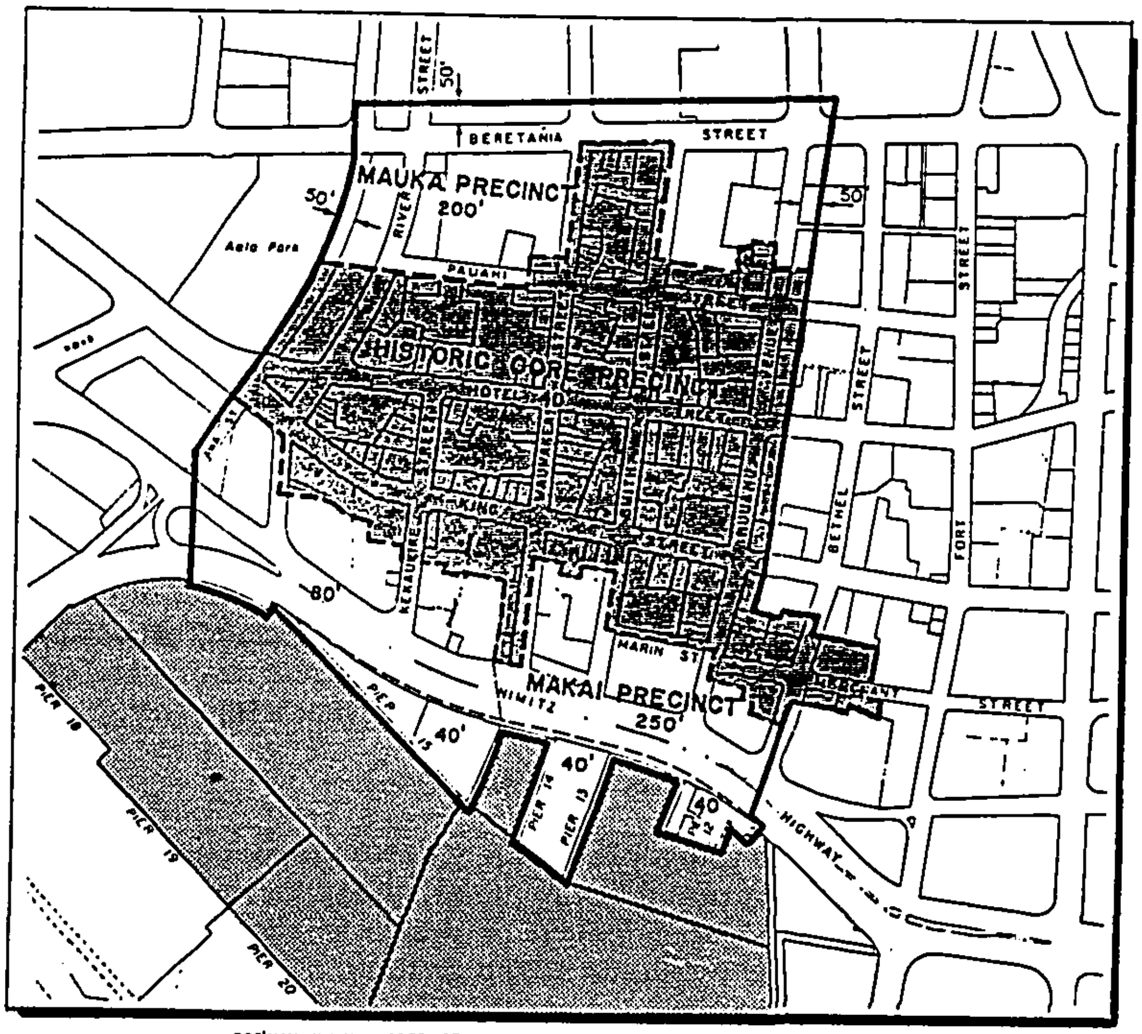
The project site is in the Makai Precinct of the Chinatown Special District of the LUO (see *Figure 23*). The redevelopment of the site is consistent with the objectives of the Makai Precinct, especially the objectives pertaining to housing, distinctive facade treatments, ground level retail activities, and landscaping along Nimitz Highway.

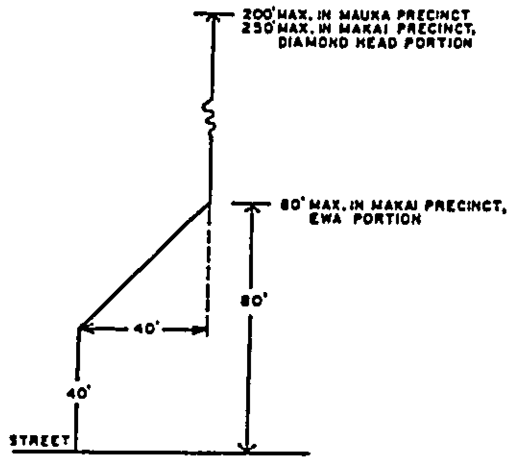
Waiver of Requirements for Public Uses

The LUO contains provisions (Section 3.150) that permits the Director of the Department of Land Utilization to grant waivers from the strict application of the development or design standards of a particular zoning district for public uses. The granting of the waiver shall not, under the circumstances and conditions applied in the particular case, adversely affect the health or safety of persons, and shall not be materially detrimental to the public welfare or injurious to nearby property improvements.

The project, as currently designed, will require a waiver from the height setback. provisions of the Chinatown District (Section 7.60-11, A, 2) relating to buildings over 40-feet in height. For each foot of additional height (over 40-feet), a building is required to be setback one foot for the first 40-feet measured horizontally across the lot. *Figures 24* and *25* illustrates the extent of non-compliance.

A waiver may also be required for the roof of the main tower, which exceeds the 250-foot height limit specified under Section 7.60-11, A, 1 of the Chinatown District provisions by 32-feet, 3-inches (see *Figures 24* and *25*). The roof is used to screen rooftop mechanical equipment. The added height is not intended to be used as habitable floor area. Under the LUO such enclosures are allowed to exceed the building height, although in certain Special Districts (such as Waikiki) this penetration is permitted up to 12-feet in height. The Chinatown District provisions, however, are silent on this issue, and therefore, the





HEIGHT SETBACK FOR MAUKA AND MAKAI PRECINCTS

CHINATOWN SPECIAL DISTRICT

PRECINCT BOUNDARIES
AND HEIGHT LIMITS

NORTH

150 200
200 100 0 400
SCALE IN FEET

LEGEND:

DISTRICT BOUNDARY

PRECINCT BOUNDARY

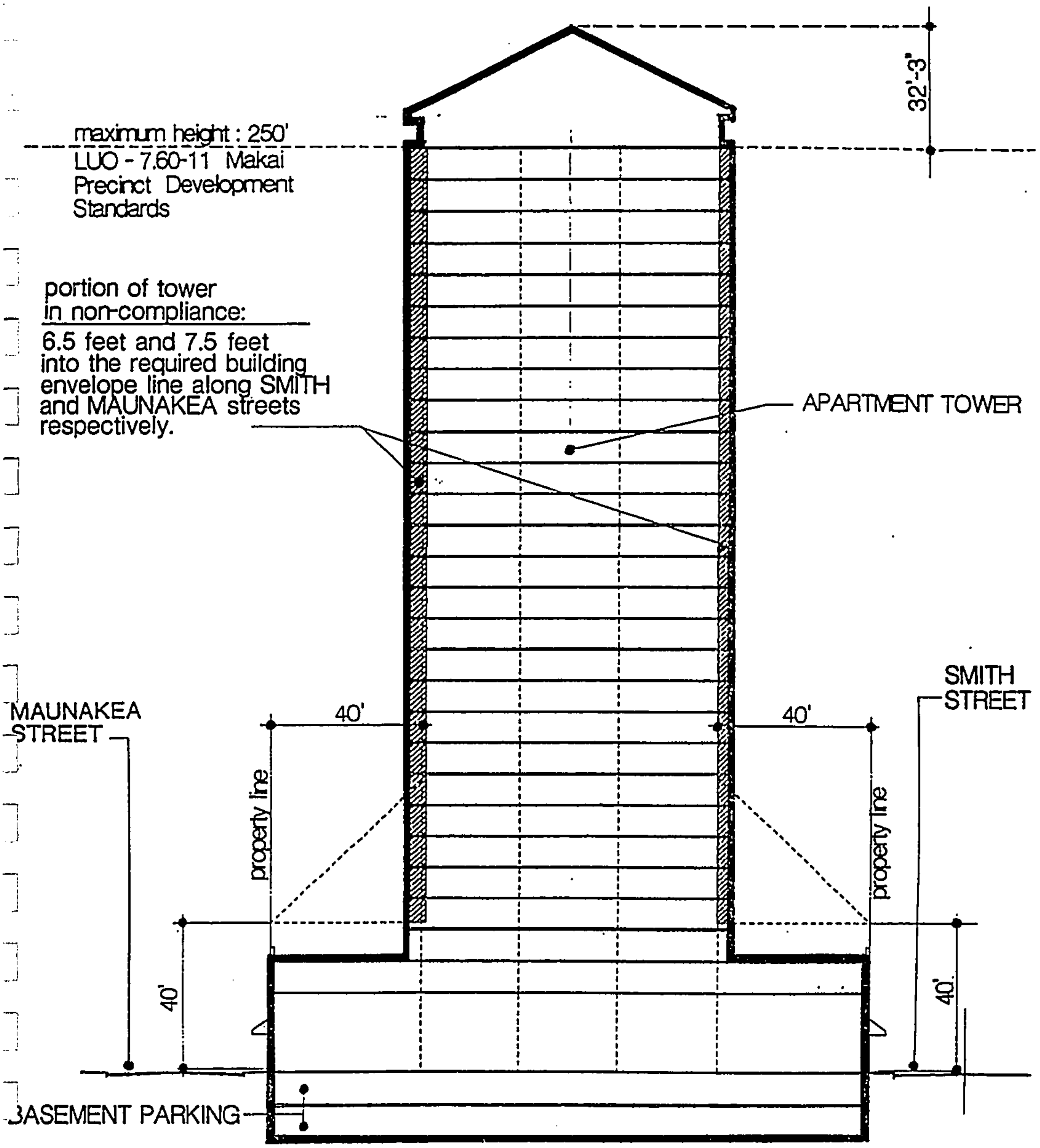
ORD. NO. 89-52
EFF. DATE: 4/18/89

EXHIBIT 9

4/89

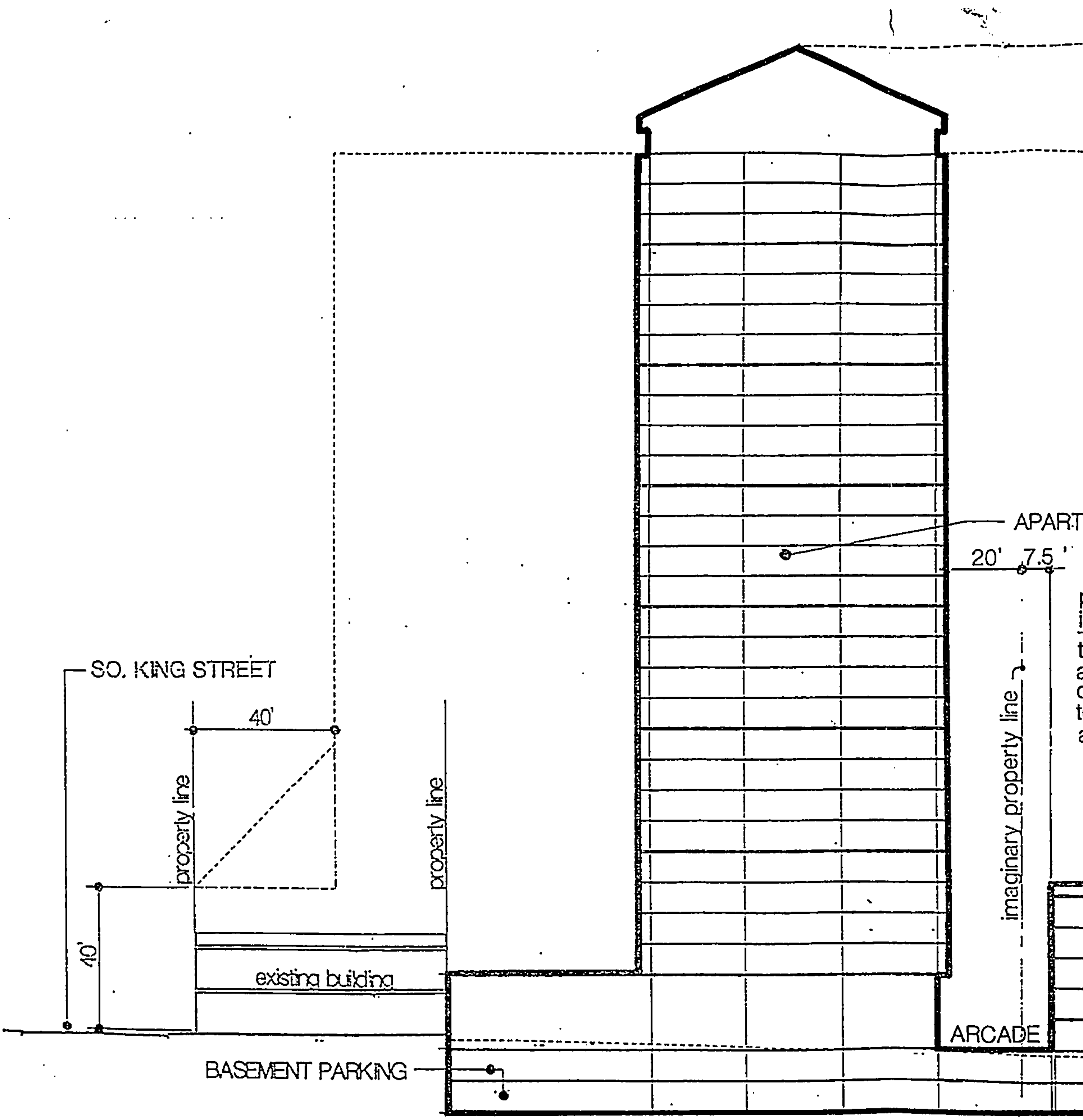
SMITH/MAUNAKEA HOUSING
Land Use Ordinance, Chinatown Special District Map

FIGURE 23

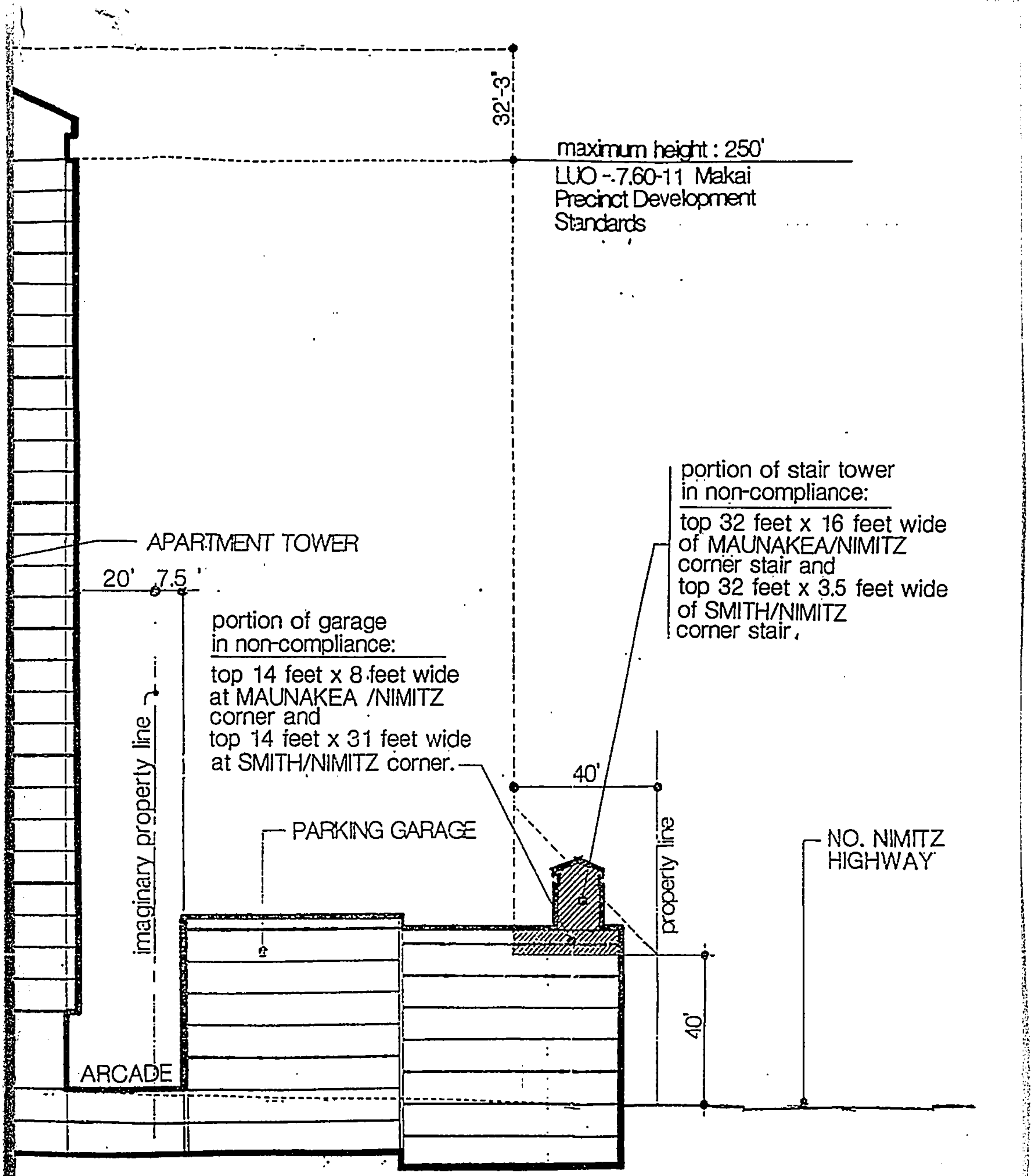


SMITH AND MAUNAKEA STREETS BUILDING HEIGHT SETBACKS

FIGURE 24



NIMITZ HIGHWAY BUILDING HE



BUILDING HEIGHT SETBACK **FIGURE 25**

basic provisions of the LUO may apply. In the LUO (Section 3.60[C]), no specific limit for such enclosures is specified.

A waiver from the parking requirements of the LUO (Section 3.70-1, *Table 1*) will also be necessary. *Table 1* (Off-Street Parking Requirements, BMX-4 Central Business Mixed Use) of Section 3.7-1 of the LUO requires 1 parking space for each unit. The one for one requirement results in a requirement of 234 parking spaces for the project versus the 165 stalls provided by the plan for the apartment units. The difference is 69 stalls, or 29 percent less than the requirement.

Generally the waivers noted above seem reasonable and would meet the criteria for approval as specified in the LUO. The height and setback encroachments are not expected to be visually noticeable by the pedestrian or from the immediate street environment, nor are they expected to adversely affect the health, safety and welfare of the public or nearby property improvements. While the height of the main tower will be noticeable from a distance, the peaked roof design is a deliberate attempt to create an architectural statement that is reflective of the overall design details of the project. It would be visually preferable to a flat roof form.

A waiver from the parking requirements seem justified and reasonable considering the type of units being provided and that a portion of the units will be for the elderly. The 29% difference is consistent with the City's experience with Downtown rental projects, like Hale Pauahi, where only 70% of the tenants use the parking. Furthermore, the project is in a location that is within walking distance of employment, financial, commercial, retail and public services, including excellent bus service to all parts of the Island.

D. Historic Preservation

In addition to the LUO Special District policies discussed above, the City Council, in March of 1990, adopted Ordinance 90-24 relating to historic preservation. The ordinance applies to City-owned or controlled lands which have been placed on the National Register of Historic Places (NRHP) or the State Register of Historic Places (SRHP). The site lies within the Chinatown District, which was registered with the NRHP in 1973. Studies are included in the document that addresses the project's impact on archaeological and historic resources of the area. Mitigation, as required, is also discussed.

An Archaeological Assessment (Bishop Museum, 1990) and an Historic Building Impact Assessment (Architects Hawaii, Inc. 1991) were prepared and included in this environmental impact statement. The findings and recommendations of these studies, as well as other follow-up studies and mitigation plans, will be submitted to the Historic Sites Section of the Department of Land and Natural Resources.

E. Park Dedication Requirement

The residential portion of the project is subject to compliance with the City's Park Dedication Ordinance #4621. The requirement is based on 110 square feet of land area for each apartment unit. The park area required for the proposed development (234 units) amounts to 25,740 square feet of land. This requirement can be satisfied by providing the necessary land area on-site or by payment of a fee equal to fair market value of an area of land to be dedicated,or in combination. Credits for previously developed park areas that serve the intended residents are also permitted. Efforts are continuing to explore ways of meeting the intent of the Park Dedication Ordinance. If compliance cannot be achieved, a 201E exemption from the City Council will be requested.

CHAPTER VI.

Alternatives Considered

VI. ALTERNATIVES CONSIDERED

Alternatives for the project have been considered which would utilize the land for several different.purposes. A No-Action Alternative was considered, which would leave the project site as it is presently being used. Development of the project at alternate sites was also considered. A third alternative explored possible variations in development concepts for the property.

No-Action Alternative

The no-action alternative would involve no changes to the existing use of the site for the foreseeable future. The site would continue as a municipal off-street parking lot, and the commercial structure along Nimitz Highway would remain. Construction-related impacts, including the temporary loss of 260 parking stalls, would be avoided. However, this alternative would continue the under-utilization of a valuable parcel of land with visually unattractive parking and commercial structures Although the no-action alternative would create fewer environmental effects, the social and economic benefits of the proposed project would not be generated.

Alternate Sites

The development of the project at another location in the area was considered. The remaining municipal parking lots in the downtown area have been evaluated as to their potential for redevelopment and are in various stages of planning, design or construction. These valuable parcels will be redeveloped to provide additional residential and commercial space in the Central Business District to achieve the City's downtown redevelopment objectives.

Alternative Concepts

Various concepts, designs and uses were considered in developing the plan currently under review. Higher density development was not considered appropriate because of government policies and regulations. Developing the site at a lower intensity was considered, but was rejected since the primary objective of the plan was to provide as many rental units as possible to meet the strong demand for such units in the downtown area. Also, a lower intensity would be contrary to the PUC DP objective of developing the urban core to the fullest extent practicable. In developing the plan considerable study was given to unit sizes and housing trends before the housing component of the project was determined, and various design schemes were developed and evaluated in selecting the design elements of the plan. Refinements to the plan are expected, however, as the project undergoes further review and evaluation.

CHAPTER VII.

Irreversible And Irretrievable Commitments And Relationship Between Short-Term Uses Of The Environment And Maintenance And Enhancement Of Long-Term Productivity

VII. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS AND RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

This chapter presents discussion on two areas required by the Environmental Impact Statement rules: (1) Irreversible and Irretrievable Commitments and (2) Relationship between local short-term uses of the environment and maintenance and enhancement of long-term productivity. The statements provided below are summarized from information contained in other chapters of this report.

A. Irreversible and Irretrievable Commitments

The Environmental Impact Statement Rules [Chapter 200, Section 11-200-17(k)] require identification of *"all irreversible and irretrievable commitments of resources that would be involved in the proposed action...unavoidable impacts and the extent to which the action makes use of non-renewable resources during the phases of the action, or irreversibly curtails the range of potential uses of the environment... "*

The proposed project will require an irreversible and irretrievable commitment of capital, labor, and physical resources. Construction materials, water, energy, and human resources also will be irretrievably committed to the design, planning, and construction of site improvements. The land when redeveloped, will be committed to the housing and commercial uses proposed for the long-term. As noted elsewhere in this report, however, potential uses of the land would not be curtailed, since the parking and commercial uses proposed are uses currently existing on the site and are considered, in terms of planning and zoning, the most appropriate uses for the site. Short-term and long-term socio-economic and environmental impacts are expected to be created by redevelopment of the site. Demolition and construction will, for the short-term, generate unavoidable fugitive dust, noise, and temporary inconvenience for surrounding businesses. A change in the visual landscape is unavoidable, since low-rise buildings will be replaced by a taller structure. Mitigative measures for both short-term and long-term impacts have been explored and are summarized in appropriate chapters and presented in full in appendices referenced throughout the report.

B. Relationship Between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

The Environmental Impact Statement Rules require that the EIS discuss "*the extent to which the proposed action involves trade-offs between short term losses and long-term losses, or vice versa, and a discussion of the extent to which the proposed action forecloses future options, narrows the range of beneficial uses of the environment, or poses long-term risks to health or safety....*" [Chapter 200, Section 11-200 (j)] and indicate "*what other interests and considerations of governmental policies are thought to offset the adverse environmental effects of the proposed action.*" [Chapter 200, Section 11-200-17 (1)].

Long-term productivity of the site should be enhanced by the proposed development. The project would continue the present use of providing public parking in addition to creating much-needed rental housing units for both the gap group and the elderly. It would also serve to revitalize the area and provide space for commercial uses. As noted elsewhere in this report, potential uses of the land would not be curtailed, since the parking and commercial uses proposed currently exist on the site and are considered, in terms of planning and zoning, the most appropriate uses. The project is not expected to pose any long-term risks to health or safety. The addition of critically-needed affordable rental housing units supports and complements existing objectives sought by State and City policies and objectives, thus long-term benefits of the project are considered to offset any short-term, construction-related adverse environmental effects.

CHAPTER VIII.

List Of Consultants Involved In Preparation Of EIS

VIII. LIST OF CONSULTANTS INVOLVED IN PREPARATION OF EIS

This report was prepared for the City and County of Honolulu, Department of Housing and Community Development by William E. Wanket, Inc. The following identifies the consultants involved in the preparation of their respective contributions. A resume follows each consultant's report.

FIRM	TASK	INDIVIDUAL
William E. Wanket, Inc.	Primary Author/ Consultants Coordinator	William E. Wanket
Architects Hawaii, Ltd.	Design Concepts, Historic Building Assessment	Alex Weinstein
Applied Research Group, Bishop Museum	Archaeological Assessment	Paul L. Cleghorn Gwen Hurst
Michael S. Chu	View Assessment	Michael S. Chu
Darby & Associates	Noise Assessment	Ron Darby
Earthplan	Social Assessment	Berna Cabacungan
Geolabs-Hawaii	Preliminary Geotechnical Engineering Exploration	Bob Y.K. Wong
B.D. Neal & Associates	Air Quality Assessment	B.D. Neal
Richard M. Sato & Associates	Civil Engineering	Dan Miyasato
John Zapotocky	Market Assessment	John Zapotocky

CHAPTER IX.

Consulted Parties, Comment and Response Letters

IX. CONSULTED PARTIES, COMMENT AND RESPONSE LETTERS

A. Environmental Impact Statement Preparation Notice (EISPN)

The notice of availability of the EIS Preparation Notice (EISPN) was officially published in the Office of Environmental Quality Control (OEQC) Bulletin on September 8, 1990. Below is a list of those receiving a copy of the EISPN. Comment letters received are indicated with a ✲ sign. Response letters have been sent to all parties commenting.

FEDERAL AGENCIES

✲ U.S. Department of the Army

✲ U.S. Department of Housing and Urban Development

✲ U.S. Department of the Interior, Fish and Wildlife Service

STATE AGENCIES

Department of Agriculture

✲ Department of Business, Economic Development - Tourism

✲ Department of Budget and Finance, Housing, Finance and Development Corporation

✲ Department of Education

✲ Department of Health

Department of Land and Natural Resources

✲ Department of Land and Natural Resources, Historic Sites

✲ Department of Transportation

✲ State Hawaii Housing Authority

✲ State Land Use Commission

Office of Environmental Quality Control

* Office of State Planning

* University of Hawaii, Environmental Center

CITY AND COUNTY OF HONOLULU

* Board of Water Supply

* Building Department

* Department of Finance

* Department of General Planning

Department of Land Utilization

* Department of Parks and Recreation

* Department of Public Works

* Department of Transportation Services

* Honolulu Fire Department

* Honolulu Police Department

* Office of Human Resources

* Councilmember Gary Gill

PUBLIC UTILITIES/COMMUNITY ORGANIZATIONS/OTHERS

* American Institute of Architects — Honolulu Chapter

American Lung Association

Chinatown Merchants Association

Chinese Chamber of Commerce

Design Advisory Committee (Henry Eng)

Downtown Business Council

Downtown Improvement Association

Downtown Neighborhood Board No. 13

Hawaii Theater Center

✲ Historic Hawai'i Foundation Main Street

✲ Hawaiian Electric Company

GTE Hawaiian Telephone Company

✲ The Gas Company

United Chinese Societies

B. Draft Environmental Impact Statement

Sixty (60) copies of the Draft Environmental Impact Statement (DEIS) were delivered to the Office of Environmental Quality Control (OEQC) on April 15, 1991. Notice of the DEIS was published in the April 23, 1991 issue of the OEQC Bulletin, with June 7, 1991 listed as the deadline for submitting comments. OEQC distributed the copies pursuant to Section §11-200-21 of the Environmental Impact Statement Rules. Additional copies were also distributed by the Department of Housing and Community Development to interested parties.

Below is a list of governmental and non-governmental agencies and individuals who have sent comments on the DEIS. Response letters were sent to all commenting parties.

FEDERAL

U.S. Department of Agriculture, Soil Conservation Service

U.S. Department of the Army

U.S. Department of the Interior, Fish and Wildlife Service

U. S . Department of the Navy

STATE OF HAWAII

Department of Accounting and General Services, Division of Public Works

Department of Budget and Finance, Housing Finance and Development Corporation

Department of Business, Economic Development and Tourism, Energy Division

Department of Defense

Department of Health

Department of Land and Natural Resources

Office of Environmental Quality Control

Office of State Planning

University of Hawaii, Environmental Center

CITY AND COUNTY OF HONOLULU

Department of General Planning

Department of Land Utilization

Department of Parks and Recreation

Department of Public Works

Board of Water Supply

Building Department

Fire Department

Police Department

OTHERS

Downtown Neighborhood Board No. 13

Hawaiian Electric Company

People Against Chinatown Evictions

Nancy Bannick

C. Comments and Response Letters

Comment letters received during the preparation of the Draft EIS and the Final EIS, together with the respective letters prepared in response are reproduced on the pages that follow.

EISPN COMMENT LETTERS & RESPONSES

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

REPLY TO
ATTENTION OF:

October 1, 1990

Planning Division

Ms. Eileen Mark
Department of Housing and
Community Development
Honolulu Municipal Building
5th Floor
650 South King Street
Honolulu, Hawaii 96813

Dear Ms. Mark:

We have reviewed the Environmental Impact Statement Preparation Notice (EISPN) for the proposed Smith-Maunakea Housing Project, Honolulu. The following comments are offered:

a. A Department of the Army permit is not required for the project.

b. The Flood Insurance Rate Map information presented in section 5.3 of the EISPN is correct.

Sincerely,

C Fya

Kisuk Cheung
Director of Engineering

Copy Furnished:

Mr. William E. Wanket, President
William E. Wanket, Inc.
Pacific Tower 600
1001 Bishop Street
Honolulu, Hawaii 96813

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

October 15, 1990

Mr. Kisuk Cheung
Director of Engineering
U.S. Army Engineer District, Honolulu
Building 230
Ft Shafter, Hawaii 96848-5440

RE: Environmental Impact Statement Preparation Notice (EISPN) for the Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Cheung:

Thank you for taking the time to review the above-referenced EISPN and for your letter of October 1, 1990. We appreciate the information that a Department of the Army permit is not required, and that statements regarding the Flood Insurance Rate Map are correct.

For your information, your letter, together with this response, will be published in the Draft EIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

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

90-328

September 19, 1990

'90 SEP 20 P1:24

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

Dear Mr. Scarfone:

SUBJECT: Environmental Impact Statement Preparation Notice (EISPN)
Smith-Maunakea Housing Project

We have reviewed the Environmental Impact Statement Preparation Notice (EISPN) for the Smith-Maunakea project that will provide 216 one and two bedroom units; 22 studio units; 16,164 square feet of commercial space on a 1.02 acre site in the Chinatown District of downtown Honolulu.

We find that our major concerns will be addressed in the draft Environmental Impact Statement (EIS). We have no additional concerns that should be addressed. We would appreciate receiving a copy of the draft EIS.

Very sincerely yours,

Calvin L

Calvin Lew
Director
Community Planning and
Development Division

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

November 5, 1990

Mr. Calvin Lew
Director
U.S. Department of Housing and Urban
Development.
Community Planning and Development Division
Honolulu Office, Region IX
300 Ala Moana Blvd., Room 331B, Box 50007
Honolulu, Hawaii 96850-4991

RE: Environmental Impact Statement Preparation Notice (EISPN) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Lew:

Thank you very much for taking the time to review the above-referenced EISPN and for your letter of September 19, 1990. We will continue to coordinate our project with your office to ensure that you have the opportunity for further review.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

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

OCT - 1 1990

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

Attention: Eileen Mark

Re: Environmental Impact Statement Preparation Notice for the City's Proposed Smith-Maunakea Housing Project

Due to current staff limitations, the Pacific Islands Office, Fish and Wildlife Enhancement cannot devote the time to adequately evaluate potential impacts to important fish and wildlife resources from the proposed project. Please understand that this notification does not represent the Fish and Wildlife Service's approval of the proposed activity. We may review future actions related to this project should workload constraints be alleviated, or if significant adverse impacts to trustee fish and wildlife resources are identified.

Sincerely yours,

William R. Kramer
for Ernest Kosaka
Field Office Supervisor
Fish and Wildlife Enhancement

cc: William E. Wanket

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

October 15, 1990

Mr. Ernest Kosaka
Field Office Supervisor
Fish and Wildlife Service
Pacific Island Office
P.O. Box 50167
Honolulu, Hawaii 96850

RE: **Environmental Impact Statement Preparation Notice (EISPN) for the Proposed Smith-Maunakea Housing Project - Response to Comments Received**

Dear Mr. Kosaka:

Thank you for taking the time to review the above-referenced EISPN and for your letter of October 1, 1990. We will continue to coordinate our project with your office to ensure that you have the opportunity for further review and comments.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

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

DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM

ENERGY DIVISION, 335 MERCHANT ST., RM. 110, HONOLULU, HAWAII 96813 PHONE: (808) 548-4080 FAX: (808) 531-5243

90:858e

October 5, 1990

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

Attention: Ms. Eileen Mark

Dear Mr. Scarfone:

Subject: Environmental Impact Statement Preparation Notice (EISPN) for Smith-Maunakea Housing Project

The Energy Division has received the above EISPN and has the following comments:

We note that in Section 7, neither the State's energy goals, objectives, policies, and priority guidelines as set out in the Hawaii State Plan, nor the State Energy Functional Plan are mentioned. Also, in Section 9, energy impacts that will result from this project are not mentioned.

We recommend that the Draft Environmental Impact Statement (DEIS) examine the Smith-Maunakea Housing Project for consistency with the energy provisions of the Hawaii State Plan and with the State Energy Functional Plan. The DEIS should explain in some detail the energy impacts of the Smith-Maunakea Housing Project, as well as the energy conservation design/technologies and renewable energy sources that will be used to help meet the project's energy requirements. The requirement for an evaluation of the project's energy impacts in the DEIS is spelled out in the enclosed excerpt from the OEQC Bulletin.

Also enclosed is a copy of a letter we received from DHM Inc., regarding our comments on a DEIS for the Waikiki Landmark. We recommend that specific language similar to that in the DHM letter be included in the DEIS for the Smith-Maunakea Housing Project. In addition, we recommend separate metering where appropriate for the commercial units, since separate metering provides an incentive for energy conservation to the unit occupants.

Thank you for the opportunity to provide comments.

Sincerely,

for Roger A. Ulveling

RAU/PE:do
Enclosures
cc: William E. Wanket

OEQC BULLETIN
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

JOHN WAIHEE
GOVERNOR

MARVIN T. MIURA, Ph.D.
DIRECTOR

Volume 5 September 23, 1988 Number 18

REGISTER OF CHAPTER 343, HRS DOCUMENTS

****

All Chapter 343, HRS documents submitted for publication in the OEQC Bulletin must be addressed to the Office of Environmental Quality Control, 465 South King Street, Room 104, Honolulu, Hawaii 96813. Documents addressed otherwise will not be considered for publication.

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NEGATIVE DECLARATIONS

The following are Negative Declarations or determinations made by proposing or approving agencies that certain proposed actions will not have significant effects on the environment and therefore do not require EISs (EIS Rules 11-200-11). Publication in the Bulletin of a Negative Declaration initiates a 60-day period during which litigation measures may be instituted. Copies are available at 25 cents per page upon request to the Office. Parties wishing to comment may submit written comments to the agency responsible for the determination (indicated in project title). The Office would appreciate a copy of your comments.

KAUAI

GOLF COURSE AT HYATT REGENCY, POIPU, Ainako Resort Associates-Grove Farm Properties, Inc./County of Kauai Planning Commission

The applicant proposes to develop an 18-hole championship-calibre golf course and operate it in association with the planned 605-room Hyatt Regency Kauai at Keoneloa Bay. The proposed development will be maintained as a resort-oriented facility but will be opened to the public. It will be developed also to accommodate an increasing demand for golf play in Poipu and to make South Kauai more competitive with other visitor destination areas on the island.

The golf course will consist of 18 holes, a driving range, putting green, and clubhouse. The clubhouse will be located near the planned Hyatt Regency Kauai and will include parking and access from Poipu Road extension. The clubhouse will include a golf pro shop, restaurant, golf club storage room and golf cart maintenance area. Also proposed are a golf course maintenance building and temporary field nursery that will be located within the golf fairways away from the golf clubhouse.

NOTEWORTHY

NEWS FROM THE EPA

Rule finalized for Premanufacture Notification Fees

The EPA Administrator signed a final rule requiring fees from manufacturers, importers, and processors who are seeking Agency review of premanufacture notices (PMNs) for new chemicals, exemption applications and significant new-use notices submitted under Section 5 of the Toxic Substances Control Act (TSCA). The rule will be published in the Federal Register within two weeks. Contact: TSCA Assistance Information Service (202) 554-1404.

Chemical Fact Sheets

EPA has distributed about 180 fact sheets prepared by the State of New Jersey on chemicals which must be reported under Section 313 of Title III (annual toxic chemcial release reports). EPA and New Jersey have committed to developing fact sheets on the remaining Section 313 chemicals by December 31, 1988. Each fact sheet contains a 2- to 5-page summary of relevant information on each chemical and was developed primarily for individuals working with chemicals, and also offers relevant and important information for general use. To obtain copies of the fact sheets, call the TSCA Information Assistance Service (202)554-1404.

Lead in Drinking Water

Safe Drinking Water Hotline's correct number: 1-800-426-4791 or (202)382-5533 in the Washington metropolitan area.

ENERGY IMPACTS

Draft Environmental Impact Statements should comply with the requirements found in State laws for evaluating any energy impacts that the project will have. The mandate for such an evaluation is found in Chapter 344, HRS ("State Environmental Policy") and Chapter 226, HRS ("Hawaii State Planning Act"). In particular, Chapter 226-18(a)(2) and (c)(3); 226-52(a)(2) and (b)(2)(D); and 226-103(f)(1) and (2) should be noted.

ENVIRONMENTAL COUCNIL MEETINGS

The Environmental Council is currently updating its list of individuals, organizations, and agencies that receive notices of its meetings. All those wishing to be kept on or added to the list are asked to submit their names and addresses to: Environmental Council, 465 S. King Street, Room 104, Honolulu, HI 96813.

DHM inc.
land use
and environmental
planning

1188 Bishop Street
Suite 2405
Honolulu, HI 96813
Ph (808) 521-9855
Fax (808) 538-3865

January 11, 1990

Mr. Maurice H. Kaya
Energy Program Administrator
Department of Business
and Economic Development
Energy Division
State of Hawaii
335 Merchant Street, Room 310
Honolulu, Hawaii 96813

Dear Mr. Kaya:

Subject: Revised Draft Environmental Impact Statement for Waikiki Landmark

Thank you for your letter commenting on the Revised Draft Environmental Impact Statement (Revised dEIS) for the Waikiki Landmark.

The proposed Waikiki Landmark Development has an estimated electrical energy consumption of 500,000 kwh/month or 1,428.6 kwh/day. The Waikiki Landmark development will incorporate the most recent energy saving technology so as to minimize the cost of energy to occupants of the commercial space and the residential units. The following features will be provided:

1) Each fan coil air conditioning unit in each unit will be separately controlled so that the occupant has the choice of cooling different areas in his/her unit at alternative times of the day.

2) A heat pump will be used to heat the building's hot water system. Studies have shown that this is the most efficient method of heating the hot water.

3) The condenser heat from the central chilled water system will be recovered by the heat pump to heat the building's hot water.

4) High efficiency motors will be used on most of the motor driven equipment.

5) High efficiency chillers will be used for the residential towers.

6) A variable speed secondary chilled water pumping system will be used for the residential fan coil units.

Electrical energy conservation measures which will be provided as part of the proposed development include:

1) Light sources to be used primarily are fluorescent and H.I.D. (High Pressure Sodium and Metal Halide). Compact fluorescent lamps will be used in place of incandescent lamps, with the exception of low-voltage accent lighting at water features, etc. A 13-watt compact fluorescent replaces a 60 watt incandescent with the same light output at a savings of 47 watts/lamp. This reduction in watts also lowers the air conditioning load.

2) Ballasts for all fluorescent lamps will be energy-saving type, or premium high power factor type for applications where energy-saving type are not manufactured. Energy-saving ballasts (ESB's) use 37 percent less energy than standard ballasts for the same light output. ESB's also run approximately 10 degrees cooler than standard ballasts, reducing the air conditioning load.

3) Reflectors for light fixtures are highly specular and contribute to overall fixture efficiency, enabling use of lower wattages and fewer fixtures to achieve desired lighting levels.

4) Secondary power factor correction is provided to bring the building power factor to 90 percent or greater.

Applicable sections of the State Plan's objectives, policies and guidelines for energy use and the State Energy Functional Plan will be examined and included in the Final EIS for the Waikiki Landmark.

Your comment letter is appreciated and will be included in the Final Environmental Impact Statement. If you should have any additional comments regarding these measures please feel free to contact me or Eric Parker of my staff.

Sincerely,

DHM inc.

Duk Hee Murabayashi (Mrs.)
President

cc: Dr. Marvin Miura, OEQC
Mr. Bennett Mark, DLU
Mr. Tony Tjan, Bel-Landmark, Inc.

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

October 23, 1990

Mr. Roger A. Ulveling
Department of Business,
Economic Development & Tourism
335 Merchant Street, Room 110
Honolulu, Hawaii 96813

RE: Environmental Impact Statement Preparation Notice (EISPN) for the Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Ulveling:

Thank you for taking the time to review the above-referenced EISPN and for your letter of October 5, 1990. We appreciate your efforts in reviewing the EISPN and offer the following information in response to your comments.

The proposed Smith-Maunakea Housing Project has an estimated electrical energy consumption of 340,000 kwh/month. Only the most recent energy saving technology will be incorporated so as to minimize the cost of energy to occupants of the commercial space and the residential units.

Electrical energy conservation measures which will be provided as part of the proposed development include:

1. Light sources to be used primarily are fluorescent and H.I.D. (High Pressure Sodium and Metal Halide). T-8 lamps will be used in place of standard fluorescent lamps and compact fluorescent lamps will be used in place of incandescent lamps, with the exception of low-voltage accent lighting at water features, etc. A 13-watt compact fluorescent replaces a 60-watt incandescent with the same light output at a savings of 42 watts/lamp.

2. Ballasts for all fluorescent lamps will be electronic energy-saving type, or premium high power factor type for applications where electronic energy-saving type are not manufactured. The combination of electronic energy-saving ballasts (EESB's) and T-8 lamps use 43 percent less energy than standard energy-saving ballasts and lamps for the same light output.

3. Reflectors for light fixtures are specular and contribute to overall fixture efficiency, enabling use of lower wattages and fewer fixtures to achieve desired lighting levels.

4. Secondary power factor correction is provided to bring the building power factor to 90 percent or greater.

5. All units and commercial spaces will be individually metered to give incentive for energy conservation.

The above information will be included in the Draft EIS and applicable sections of the State Plan's objectives, policies and guidelines for energy use and the State Energy Functional Plan will also be reviewed. Implementation of the energy conservation measures will be incorporated into the final construction documents.

Again, thank you for your comments. We will continue to coordinate our project with you to ensure that you have the opportunity for additional review and comments.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE

JOHN WAIHEE
GOVERNOR

JOSEPH K. CONANT
EXECUTIVE DIRECTOR

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

IN REPLY REFER TO:

90:PLNG/4793jt

October 8, 1990

Mr. Michael N. Scarfone
Department of Housing and
Community Development
650 South King Street, 5th floor
Honolulu, Hawaii 96813
Attn: Eileen Mark

Dear Mr. Scarfone:

Re: Environmental Impact Statement Preparation Notice (EISPN) for the City's Proposed Smith-Maunakea Housing Project

Thank you for the opportunity to review the subject EISPN.

As proposed, the project will contain 238 housing units and 179 residential parking spaces. We would appreciate if the draft EIS would address this proposed variance from off-street parking requirements.

Sincerely,

JOSEPH K. CONANT
Executive Director

JT:eks

c: William E. Wanket

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

December 31, 1990

Mr. Joseph K. Conant
Executive Director
Department of Budget and Finance
Housing Finance and Development
Corporation
Seven Waterfront Plaza
Suite 300
500 Ala Moana Boulevard
Honolulu, Hawaii 96813

RE: Environmental Impact Statement Preparation Notice (EISPN) for the Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Conant:

Thank you for taking the time to review the above-referenced EISPN and for your letter of October 8, 1990. Regarding your comments on the number of parking stalls, we offer the following response.

In determining the number of parking spaces for the project, considerations were given to unit sizes, household characteristics with a percentage targeted for the elderly, and the project's location near the employment center of Downtown. Given these considerations, the number of stalls to be provided seems adequate to serve the intended residents of the project and would justify the granting of a waiver from the parking requirements of the Land Use Ordinance.

Again, thank you for your comments.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

JOHN WAIHEE
GOVERNOR

CHARLES T. TOGUCHI
SUPERINTENDENT

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

OFFICE OF THE SUPERINTENDENT

September 26, 1990

'90 OCT -5 P1:55
DEPT. OF HOUSING & COMM. DEVELOPMENT

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

ATTN: Ms. Eileen Mark

Dear Mr. Scarfone:

SUBJECT: Environmental Impact Statement Preparation Notice
Smith-Maunakea Housing Project; Honolulu, HI

Our review of the subject preparation notice indicates it may have the following enrollment impact on the following schools:

SCHOOLS	GRADES	ENROLLMENT PROJECTIONS
Kaiulani Elementary	K-6	20 - 25
Central Intermediate	7-8	8 - 12
McKinley High	9-12	12 - 15

The projections are based on a proposed 238 residential units.

Kaiulani Elementary currently has no surplus classrooms. The projected enrollment growth from this project will require the addition of one classroom. Both Central Intermediate and McKinley High should be able to accommodate the increase in enrollment.

The Department of Education cannot assure the availability of the required classroom. Enrollment growth throughout the State and an existing statewide shortage of classrooms have limited the Department's ability to provide classrooms. Additional legislative funding will be required to meet all of our needs.

Should there be any questions, please call the Facilities Branch at 737-4743.

Sincerely,

Charles T. Toguchi

Charles T. Toguchi
Superintendent

CTT:jl

cc: E. Imai
J. Kim

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

November 5, 1990

Mr. Charles T. Toguchi
Superintendent
Department of Education
P.O. Box 2360
Honolulu, Hawaii 96804

RE: **Environmental Impact Statement Preparation Notice (EISPN) for Proposed Smith-Maunakea Housing Project - Response to Comments Received**

Dear Mr. Toguchi:

Thank you for taking the time to review the above-referenced EISPN and for your letter of September 26, 1990. We appreciate the information regarding possible project impacts on area school enrollment. Data provided will be incorporated in the EIS, including the need for additional legislative funding. We will continue to coordinate our project with you to ensure further opportunity for review and comments.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

JOHN WAIHEE
GOVERNOR OF HAWAII

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

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

In reply, please refer to:
EPHSD

December 10, 1990

90-3-234

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

From: Director of Health

Subject: Comments on Environmental Impact Statement Preparation Notice for Smith-Maunakea Housing Project
TMK: 1-7-2: 3; 4 and 5

We have reviewed the subject notice and offer the following comments:

Underground Storage Tanks (USTs)

1. Our records do not indicate the presence of any underground storage tanks located in the proposed development area. Nevertheless, a records search should be made to check for the presence of any USTs that may currently be or may previously have been located in the area. If such USTs are discovered, they should be closed in accordance with the requirements of 40 CFR Part 280 Subpart G before construction in the area begins. If, during the closure of such USTs, contamination due to releases from those USTs is also discovered, the proposing agency should initiate corrective action in accordance with the requirements of 40 CFR Part 280 Subpart F.

2. The proposing agency should recognize that any USTs installed in the proposed development area may be subject to both Federal UST rules and regulations, as found in 40 CFR Part 280, and State of Hawaii UST rules adopted in accordance with Chapter 342L, Hawaii Revised Statutes.

   If the proposing agency elects to install regulated USTs (for instance, to supply fuel or to store waste oil), the proposing agency must comply with the federal technical standards and financial responsibility requirements under 40 CFR Part 280. These regulations include requirements for:

   a. design, construction, installation, and notification;
   b. general operating requirements;
   c. release detection;

d. release reporting, investigation, and confirmation;
e. release response and corrective action;
f. changes-in-service and closure; and
g. financial responsibility requirements.

We recommend that all USTs installed in the proposed development area incorporate secondary containment measures and appropriate release detection methods into their design as a precaution against releases of product to the soil and ground water, in addition to other Federal UST requirements.

3. The installation and removal of UST systems containing flammable and combustible liquids is also subject to regulation by the City and County of Honolulu. The Honolulu City and County Fire Department should be contacted regarding any county requirements that may exist governing UST systems.

Vector Control

Be it advised that any person, firm or corporation who demolishes or clears any structure must first ascertain the presence or absence of rodents. Should such inspection reveal the presence of rodents, they must eradicate the rodents before demolition or clearing of the structures take place.

Noise

1. There are reservations toward the proposed project due to potential noise impacts resulting from the integration of commercial and residential uses.

2. The acoustical study must include the possible impact and mitigative measures of noise associated with commercial activities including heavy vehicles utilized for delivery and services on the residents within the development.

3. Address the issue of vehicular noise emissions from parking structures, including noise resulting from tire squeals.

JOHN C. LEWIN, M.D.

cc: Mr. William E. Wanket

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

December 31, 1990

Mr. John C. Lewin, M.D.
Director
Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801

RE: **Environmental Impact Statement Preparation Notice (EISPN) for the Proposed Smith-Maunakea Housing Project - Response to Comments Received**

Dear Dr. Lewin:

Thank you very much for taking the time to review the above-referenced EISPN and for your letter of December 10, 1990. We appreciate your efforts in reviewing the EISPN and offer the following information in response to your comments.

Underground Storage Tanks (USTs)

1. We are not aware of any presence of USTs on the project site. However, records will be searched to determine the existence or pre-existence of any USTs on the site prior to construction. Any USTs discovered will be closed in accordance with the requirements noted in your letter.

2.&3. USTs are not proposed for the project at this time. Should USTs be considered in the future, all federal, state and county requirements as noted in your letter will be followed.

Vector Control

All requirements of Title 11, Chapter 26, Paragraph 35 (Rodents; demolishing of structures and clearing of vacant sites and vacant lots) will be strictly adhered to.

Noise

1. Mitigating measures will be incorporated into the project design that will reduce noise impacts to acceptable levels in compliance with applicable DOH noise limits at the closest residential unit within the development. Some of the noise control measures that will be used include:

a. Sound attenuators on building and garage exhaust fans.

b. Inlet and discharge silencers on cooling towers.

c. Acoustical louvers or silencers at mechanical and electrical equipment room air intake and discharge openings.

d. Appropriate selection of vibration isolation mounts; mechanical and electrical equipment room wall, floor and ceiling constructions; acoustical linings, etc.

2. Noise from service areas, such as loading docks for the proposed commercial areas and trash pickup points can also be reduced to acceptable levels at the closest residential units within the development by suitably locating these facilities and use of acoustical treatments.

3. The noise from general vehicular movements in the makai section of the parking structure could impact some of the lower level apartments. Possible mitigation measures include acoustical treatments (e.g., spray-ons applied to the underside of the floor slabs), or completely enclosing this section of the parking structure.

Tire squeals can quite commonly occur in parking structures even at relatively low speeds if the driveway surfaces are too smooth, particularly in turning areas. Tire traction can be significantly improved and tire squeals virtually eliminated by using suitably-textured driveway surfaces.

Again, thank you for your comments.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

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

DEPUTIES

KEITH W. AHUE
MANABU TAGOMORI
RUSSELL N. FUKUMOTO

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

'90 NOV -5 AM 11:30

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
STATE HISTORIC PRESERVATION DIVISION
33 South King Street, 6th Floor
Honolulu, Hawaii 96813

REF: HP-JE
NOV 2 1990

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

Dear Mr. Scarfone:

SUBJECT: Compliance with the National Historic Preservation Act (Section 106) and Hawaii Revised Statutes Chapter 6E -- Smith-Maunakea Housing Environmental Assessment (City and County of Honolulu Department of Housing) -
Chinatown Historic District, Downtown Honolulu, O'ahu
TMK: 1-7-02: 3, 4, 5

HISTORIC PRESERVATION PROGRAM CONCERNS:

The proposed City and County Housing project is within the Chinatown Historic District (State site no. 80-14-9986) which was placed on the National Register of Historic Places on January 17, 1973. If this project is to utilize any form of federal funding, it will have to comply with Section 106 of the National Historic Preservation Act. In addition, it will need to follow the State historic preservation review process authorized under Chapter 6E-8, Hawaii Revised Statutes.

The subject parcel is presently occupied by two structures which include parking and commercial establishments. The proposed two basement levels of parking and the grade difference of approximately seven feet between Nimitz and the mauka boundary will entail major excavation and grading. Historical research by the Bishop Museum indicates the area to be of great historical importance. Our office concurs with the Museum's recommendations as presented on pages 22 - 24 of their report ("Historical Literature and Document Search for the Proposed Redevelopment of the Smith/Maunakea Apartment/Commercial Project" 1990).

Tight security will be necessary during demolition and grading to discourage bottle hunters both during daylight and nighttime hours.

Carol Kawachi of our office has been in communication with Eileen Mark regarding this project.

Very truly yours,

WW Paty

WILLIAM W. PATY
Chairperson and State
Historic Preservation Officer

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

Mr. William W. Paty
Chairperson and State Historic
Preservation Officer
Department of Land and Natural Resources
33 South King Street, 6th Floor
Honolulu, Hawaii 96813

RE: **Environmental Impact Statement Preparation Notice (EISPN) for Proposed Smith-Maunakea Housing Project - Response to Comments Received**

Dear Mr. Paty:

Thank you for taking the time to review the above-referenced EISPN and for your letter of November 2, 1990. We appreciate your efforts in reviewing the EISPN and the helpful information you provided. The following is offered in response to your comments.

The Smith-Maunakea project does not involve federal funds. The project is totally funded by City resources. Regarding Chapter 6E-8, Hawaii Revised Statutes, we will fully comply with the requirements of the State historic preservation review process. We are and will continue to be in close contact with your office on this matter.

We acknowledge that the site, according to Bishop Museum, has great historic importance. The recommendations of Bishop Museum, found on pages 22-24 of their report will be followed, including the total enclosure of the project site with high fencing, alarm systems and security guards to prevent destruction of irretrievable archaeological data.

Again, thank you for your comments.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

JOHN WAIHEE
GOVERNOR

EDWARD Y. HIRATA
DIRECTOR

DEPUTY DIRECTORS
DAN T. KOCHI (PRIMARY)
RONALD N. HIRANO
JEANNE K. SCHULTZ
CALVIN M. TSUDA

IN REPLY REFER TO:

HWY-PS
2.3856

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

OCT 4 1990

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

Dear Mr. Scarfone:

Subject: Environmental Assessment For Smith - Maunakea Housing
TMK: 1-7-2:3, 4, 5

Thank you for your letter of September 7, 1990 requesting our review of the subject environmental assessment.

We have the following comments:

1. We will require the applicant to submit a Traffic Impact Analysis Report (TIAR) defining the roadway requirements, potential traffic problems and mitigating measures to solve/minimize any facility deficiencies. The report should analyze the intersection of North Nimitz Highway and Smith Street. Projected traffic volumes should reflect the following projects: The ~~Kaahi Recreational Complex~~, Honolulu International Airport Expansion, the Airport Hotel and Warehouse Project, ~~"The Waterfront" at Aloha~~ Tower and other planned/committed projects in project area.

2. We will also require the applicant to submit plans for required improvements to our State facilities or any construction work within our highway rights-of-way for our review and approval. All costs incurred for the construction of required improved developments shall be borne by the applicant.

Very truly yours,

Edward Y. Hirata
Director of Transportation

bc: William E. Wanket, Inc.

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

October 16, 1990

Mr. Edward Y. Hirata
Director
State Department of Transportation
8690 Punchbowl Street
Honolulu, Hawaii 96813-5097

RE: Environmental Impact Statement Preparation Notice (EISPN) for the Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Hirata:

Thank you for taking the time to review the above-referenced EISPN and for your letter of October 4, 1990. We appreciate your efforts in reviewing the EISPN and offer the following information in response to your comments.

Traffic Impact Analysis Report (TIAR)

Pacific Planning and Engineering, Inc. will perform a traffic impact analysis for the project that will identify potential traffic problems and mitigative measures where feasible. The intersection of North Nimitz Highway and Smith Street will be analyzed in the study. Projected traffic volumes of those projects mentioned in your letter which will be completed by 1993 will be taken into account. The Smith-Maunakea Housing project will be completed by this date.

Construction Plans/Cost

Plans for improvements and/or construction within the highway rights-of-way will be submitted to your office for review and approval. All costs associated with such improvements will be borne by the applicant.

Again, thank you very much for your comments.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

JOHN WAIHEE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF HUMAN SERVICES
HAWAII HOUSING AUTHORITY
P. O. BOX 17907
HONOLULU, HAWAII 96817

MITSUO SHITO
EXECUTIVE DIRECTOR

FAX NO. (808) 848-3313

IN REPLY REFER TO:

90:PLNG/1360

November 13, 1990

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

Dear Mr. Scarfone:

RE: EIS PREPARATION NOTICE
SMITH-MAUNAKEA HOUSING PROJECT

We have reviewed the notice regarding the preparation of an Environmental Assessment for the subject project and have no comments to offer at this time.

Please contact either myself (848-3230) of Liana Tamura (848-3255) should you have any questions or need further assistance.

Sincerely,

MITSUO SHITO
Executive Director

cc: William E. Wanket

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 8TH FLOOR
HONOLULU, HAWAII 96813
PHONE: 523-4427 • FAX 527-5498

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

December 20, 1990

Mr. Mitsuo Shito
Executive Director
Department of Human Services
Hawaii Housing Authority
P.O. Box 17907
Honolulu, Hawaii 96817

RE: Environmental Impact Statement Preparation Notice (EISPN) for Smith-Maunakea Housing Project - Response to Comment Received

Dear Mr. Shito:

Thank you very much for taking the time to review the above-referenced EISPN and for your letter of November 13, 1990.

Although you have no comments at this time, we will continue to coordinate our project with you to ensure further opportunity for review.

Sincerely,

MICHAEL N. SCARFONE
Director

DEC 21 1990

STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT, AND TOURISM
LAND USE COMMISSION
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813
Telephone: 548-4611

September 12, 1990

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

Dear Mr. Scarfone:

Subject: EISPN for the Smith-Maunakea Housing Project Tax Map Key Nos. 1-7-2: 3, 4 & 5

We have reviewed the subject EISPN and have no comments to offer except that the subject project site is designated within the State Land Use Urban District.

Thank you for the opportunity to comment.

Sincerely,

Esther Ueda

ESTHER UEDA
Executive Officer

EU:to

cc: William Wanket

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

October 15, 1990

Ms. Esther Ueda
Executive Officer
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

RE: **Environmental Impact Statement Preparation Notice (EISPN) for the Proposed Smith-Maunakea Housing Project - Response to Comments Received**

Dear Ms. Ueda:

Thank you for taking the time to review the above-referenced EISPN and for advising that the project site is designated within the State Land Use Urban District. We will continue to coordinate our project with your office to ensure that you have the opportunity for further review and comments.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

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

October 3, 1990

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

Dear Mr. Scarfone:

Subject: Environmental Impact Statement Preparation Notice (EISPN)
Smith-Maunakea Housing Project
Tax Map Key: 1-7-2: 3, 4, & 5

It is our understanding that the Department of Housing and Community Development, City and County of Honolulu, is proposing the Smith-Maunakea Housing Project, which would include an apartment and commercial mixed-use development in the Chinatown District. According to the EISPN, the project site is designated for mixed-use development in the City's Development Plan Map for the Primary Urban Center.

We have reviewed the document and have no comments to offer at this time.

Thank you for the opportunity to comment.

Sincerely,

Harold S. Masumoto

Harold S. Masumoto
Director

cc: Mr. William E. Wanket, President
(William E. Wanket, Inc.)

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

October 15, 1990

Mr. Harold S. Masumoto
Director
Office of State Planning
State Capitol, Room 406
Honolulu, Hawaii 96813

RE: **Environmental Impact Statement Preparation Notice (EISPN) for Proposed Smith-Maunakea Housing Project - Response to Comments Received**

Dear Mr. Masumoto:

Thank you very much for taking the time to review the above-referenced EISPN and for your letter of October 3, 1990. Although you have no comments at this time, we will continue to coordinate our project with you to ensure that you have further opportunity for review.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

University of Hawaii at Manoa

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

September 20, 1990

Ms. Eileen Mark
Department of Housing Community and Development
Honolulu Municipal Building, 5th Floor
650 South King Street
Honolulu, Hawaii 96813

Dear Ms. Mark:

Environmental Impact Statement Preparation Notice (EISPN)
Smith-Maunakea Housing Project
Honolulu, Oahu

The Environmental Center has examined the referenced EISPN, and we have determined that we have no comments to offer at this time.

Thank you for the opportunity to comment on this document. We look forward to commenting on the Draft EIS when it is available for review.

Sincerely,

John T. Harrison, Ph.D.
Environmental Coordinator

cc: William E. Wanket ✓
Roger Fujioka

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR
Gail M. Kaito
DEPUTY DIRECTOR

October 15, 1990

Mr. John T. Harrison, Ph.D.
Environmental Coordinator
Environmental Center
Crawford 317
2550 Campus Road
Honolulu, Hawaii 96822

RE: **Environmental Impact Statement Preparation Notice (EISPN) for the Proposed Smith-Maunakea Housing Project - Response to Comments Received**

Dear Mr. Harrison:

Thank you very much for taking the time to review the above-referenced EISPN and for your letter of September 29, 1990. We will continue to coordinate our project with you to ensure that you have the opportunity for additional review and comments.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU

COPY

October 8, 1990

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

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

SUBJECT: YOUR MEMORANDUM OF SEPTEMBER 7, 1990 REGARDING THE ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE (EISPN) FOR THE PROPOSED SMITH-MAUNAKEA HOUSING PROJECT

We have the following comments on the proposed project.

1. The developer will be required to install a new 12-inch water main on Smith Street between King Street and Nimitz Highway to accommodate the proposed project.

2. There are presently four water services at the site, two from Smith Street and two from Nimitz Highway (see sketch on attached sheets).

3. The availability of water will be determined when the building permit is submitted for our review and approval.

4. If water is made available, the project will also be assessed our Water System Facilities Charges with credit given for all qualifying water services.

5. The construction drawings for the installation of three-inch or larger water meters and for any off-site water main improvements should be submitted for our review and approval.

6. An approved reduced pressure backflow prevention device should be installed immediately after each domestic water meter and after any meter for a fire system using chemicals.

If you have any questions, please contact Bert Kuioka at 527-5235.

Attachment

cc: William E. Wanket
(William E. Wanket, Inc.)

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

FRANK F. FASI
MAYOR

MIKE N. SCARFONE
DIRECTOR
Gail M. Kaito
DEPUTY DIRECTOR

October 15, 1990

Mr. Kazu Hayashida
Manager and Chief Engineer
Board of Water Supply
630 South Beretania Street
Honolulu, Hawaii 96813

RE: Environmental Impact Statement Preparation Notice (EISPN) for the Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Hayashida:

Thank you very much for taking the time to review the above-referenced EISPN and for your memorandum of October 8, 1990 listing the requirements for the Smith-Maunakea project. These requirements will be acknowledged in the DEIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

PB 90-781

September 14, 1990

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

FROM: HERBERT K. MURAOKA
DIRECTOR AND BUILDING SUPERINTENDENT

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE
PROPOSED SMITH-MAUNAKEA HOUSING PROJECT

This is in response to your memo dated September 7, 1990 regarding the subject project.

We have no comments to submit. Thank you for the opportunity to review the EISPN.

James Harada

HERBERT K. MURAOKA
Director and Building Superintendent

JH:jo
cc: J. Harada
William E. Wanket, Inc.

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

FRANK F. FASI
MAYOR

MIKE N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

October 16, 1990

Mr. Herbert K. Muraoka
Director and Building Superintendent
Building Department
650 South King Street
Honolulu, Hawaii 96813

RE: Environmental Impact Statement Preparation Notice (EISPN) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Muraoka:

Thank you for your memorandum of September 14, 1990 on the above-referenced project. Although you have no comments at this time, we will continue to coordinate our project with you to ensure that you have the opportunity for further review and comments.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

DEPARTMENT OF FINANCE

CITY AND COUNTY OF HONOLULU

HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

THEODORE G. JUNG
DIRECTOR

GLEN S. NONAKA
DEPUTY DIRECTOR

September 25, 1990

90 SEP 28 P1:38

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

FROM: THEODORE JUNG, DIRECTOR OF FINANCE

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE FOR PROPOSED SMITH-MAUNAKEA HOUSING PROJECT

We have reviewed the subject EISPN and have no comments to make at this time.

THEODORE JUNG
Director of Finance

TJ:jf

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

FRANK F. FASI
MAYOR

MIKE N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

December 31, 1990

Mr. Theodore Jung
Director of Finance
Department of Finance
530 South King Street
Room 208
Honolulu, Hawaii 96813

RE: Environmental Impact Statement Preparation Notice (EISPN) for the Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Jung:

Thank you for taking the time to review the above-referenced EISPN and for your letter of September 25, 1990. Although you have no comments at this time we will continue to coordinate our project to ensure further opportunity for review and comments.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

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

FRANK F. FASI
MAYOR

BENJAMIN B. LEE
CHIEF PLANNING OFFICER

ROLAND D. LIBBY, JR
DEPUTY CHIEF PLANNING OFFICER

RK 9/90-2558

October 8, 1990

MEMORANDUM

Mike

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

ATTENTION: EILEEN MARK

FROM: BENJAMIN B. LEE, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE FOR THE PROPOSED SMITH-MAUNAKEA HOUSING PROJECT

We have reviewed the Environmental Impact Statement Preparation Notice (EISPN) for the proposed Smith-Maunakea Housing Project and offer the following comments to assist in your preparation of the draft EIS.

1. The draft EIS should discuss specific planned energy conservation measures supportive of City and State initiatives to reduce the State's dependence on non-renewable resources (Common Provisions Urban Design Principles 32-1.4(7)(A)(ii) and (iii)). For example, will the design of the residential tower have provisions for separate disposal of recyclable materials? Will there be dedicated parking for bicycles and mopeds? Can design measures be employed to reduce A/C requirements for planned structures?

2. The traffic impact study should consider cumulative impacts from this and other proposed major traffic-generating developments in the vicinity, e.g., Harbor Court, Waterfront at Aloha Tower, etc.

Michael N. Scarfone
October 8, 1990
Page 2

3. This project's construction schedule coincides with the anticipated construction period of the Kaahumanu redevelopment. Seven-hundred and twenty existing stalls will be eliminated during this period resulting in major inconveniences for downtown motorists. The draft EIS should discuss expected impacts and possible mitigation.

Should you have any questions, please call Ronald Kodama at Ext. 6070.

Ben

BENJAMIN B. LEE
Chief Planning Officer

BBL:ft

cc: Mr. William E. Wanket, President
William E. Wanket, Inc.

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

FRANK F. FASI
MAYOR

MIKE N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

January 21, 1991

Mr. Benjamin B. Lee
Chief Planning Officer
Department of General Planning
650 South King Street
Honolulu, Hawaii 96813

RE: Environmental Impact Statement Preparation Notice (EISPN) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Lee:

Thank you very much for taking the time to review the above-referenced EISPN and for your letter of October 8, 1990. We appreciate your efforts in reviewing the EISPN and offer the following information in response to your comments.

1. Energy Conservation

Some of the energy conservation measures that will be provided as part of the proposed development include:

a. Light sources to be used primarily are fluorescent and H.I.D. (High Pressure Sodium and Metal Halide). T-8 lamps will be used in place of standard fluorescent lamps and compact fluorescent lamps will be used in place of incandescent lamps, with the exception of low-voltage accent lighting at water features, etc. A 13-watt compact fluorescent replaces a 60-watt incandescent with the same light output at a savings of 42 watts/lamp.

b. Ballasts for all fluorescent lamps will be electronic energy-saving type, or premium high power factor type for applications where electronic energy-saving type are not manufactured. The combination of electronic energy-saving ballasts (EESB's) and T-8 lamps use 43 percent less energy than standard energy-saving ballasts and lamps for the same light output.

c. Reflectors for light fixtures are specular and contribute to overall fixture efficiency, enabling use of lower wattages and fewer fixtures to achieve desired lighting levels.

d. Secondary power factor correction is provided to bring the building power factor to 90 percent or greater.

e. All units and commercial spaces will be individually metered to give incentive for energy conservation.

Other energy conservation measures including those listed in your letter will be considered in the final design of the project.

2. Traffic Impact Study

The traffic impact study by Pacific Planning and Engineering will include projected traffic volumes of other proposed major traffic generating developments in the vicinity which will be completed by 1993. The Smith-Maunakea project is expected to be completed by this date.

3. Parking During Construction

To mitigate against the loss of parking stalls during construction, the City will be developing an interim parking plan to minimize the inconvenience caused by the closing of the Smith-Maunakea and other municipal lots during redevelopment. Downtowners will be encouraged to use other municipal lots including Kekaulike, Bishop-Kukui, Kukui Plaza, and Hale Pauahi as well as the Neal S. Blaisdell Center and the City's new facilities at River Street and Nimitz Highway and at Bethel and Hotel Streets. Reconfiguring some of the existing lots will also be considered which could gain additional spaces. Valet parking may be a possibility for some. In the longer term, increasing the number of new public parking spaces at the proposed Pacific Nations Center at Pali Highway and Beretania Streets may be possible. Also, a priority may be placed on completing the project's parking structure so that the period during which parking will be unavailable on-site will be shortened.

Again, thank you for your comments.

Sincerely,

Gail Kaito

MICHAEL N. SCARFONE
for Director

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

FRANK F. FASI
MAYOR

WALTER M. OZAWA
DIRECTOR

ALVIN K.C. AU
DEPUTY DIRECTOR

December 19, 1990

90 DEC 21 P3:18
DEPT OF HOUSING & COMM. DEVELOPMENT

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

FROM: WALTER M. OZAWA, DIRECTOR

SUBJECT: SMITH-BERETANIA-MAUNAKEA HOUSING PROJECT
TAX MAP KEY 1-7-02: 03, 04, 05

We have reviewed the EISPN for the Smith-Maunakea Housing Project and make the following comment.

The project will be subject to compliance with the City Park Dedication Ordinance No. 4621. Procedures and requirements to comply with the Ordinance are specified in Rule 10 of the City's Park Dedication Rules and Regulations.

Walter Ozawa

WALTER M. OZAWA, Director

WMO:sl

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 5TH FLOOR
HONOLULU, HAWAII 96813
PHONE: 523-4427

FRANK F. FASI
MAYOR

MIKE N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

January 21, 1991

Mr. Walter M. Ozawa
Director
Department of Parks and Recreation
650 South King Street
Honolulu, Hawaii 96813

RE: **Environmental Impact Statement Preparation Notice (EISPN) for Proposed Smith-Maunakea Housing Project - Response to Comments Received**

Dear Mr. Ozawa:

Thank you for taking the time to review the above-referenced EISPN and for your letter of December 19, 1990 advising that the project will be subject to compliance with the City Park Dedication Ordinance No. 4621. The following is offered in response.

We will continue to coordinate the recreational plans for the Smith-Maunakea project with your office and will strive to meet the intent of the Park Dedication requirements. If we cannot fully comply, an exemption under Chapter 201E, HRS will be sought.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

DEPARTMENT OF PUBLIC WORKS

CITY A. ID COUNTY OF HC.NOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

SAM CALLEJO
DIRECTOR AND CHIEF ENGINEER

C. MICHAEL STREET
DEPUTY DIRECTOR

In reply refer to:
ENV 90-220(448)

September 24, 1990

MEMORANDUM

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

ATTENTION: EILEEN MARK

FROM: SAM CALLEJO, DIRECTOR AND CHIEF ENGINEER

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE (EISPN)
SMITH-MAUNAKEA HOUSING PROJECT
TAX MAP KEY: 1-7-2: 3, 4 AND 5

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

1. The 8-inch sewer line on Maunakea Street is adequate for the proposed housing development; however, the 28-inch sewer line on Nimitz Highway is inadequate.

2. The Nimitz Highway Reconstructed Sewer Project is tentatively scheduled for construction in Fiscal Year 1993. However, because of oil contaminated soil in the area, the project may be delayed until the State Department of Health requirements to mitigate the problem can be met.

C. Michael Street

For SAM CALLEJO
Director and Chief Engineer

cc: /Mr. William E. Wanket

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

March 7, 1991

Mr. Sam Callejo
Director and Chief Engineer
Department of Public Works
650 South King Street
Honolulu, Hawaii 96813

RE: **Environmental Impact Statement Preparation Notice (EISPN) for Smith Maunakea Housing Project - Response to Comments Received**

Dear Mr. Callejo:

Thank you for taking the time to review the above-referenced EISPN and for your letter of September 24, 1990 advising us of the adequacy of the sewer system to serve the project and the potential for delays in the Nimitz Highway Reconstructed Sewer Project. We appreciate the information provided and offer the following in response.

We understand that you will place a high priority on the Nimitz Highway Reconstructed Sewer Project and will pursue and undertake all necessary measures to achieve its timely completion. In this regard, we will continue our efforts to work with your department to ensure that the timing and completion of both projects are coordinated.

Again, thank you for your comments.

Sincerely,

M N Scarfone

MICHAEL N. SCARFONE
Director

DEPARTMENT OF TRANSPORTATION SERVICES

CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

ALFRED J. THIEDE
DIRECTOR

JOSEPH M. MAGALDI, JR
DEPUTY DIRECTOR

TE-5158
PL90.1.298

'90 OCT 10 P3:21

COMM. DEVELOPMENT

October 10, 1990

MEMORANDUM

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

FROM: ALFRED J. THIEDE, DIRECTOR

SUBJECT: SMITH-MAUNAKEA HOUSING PROJECT, EIS PREPARATION NOTICE
TMK: 1-7-2: 3, 4, 5

This is in response to your memorandum dated September 7, 1990 informing us of your intent to prepare an environmental impact statement for the subject project.

Our department should be consulted during the preparation of the EIS. In addition to the traffic impact study, the following issues should be addressed with the respective Traffic Engineering branches:

1. Provisions for and the location of public parking within the project site should be discussed with our Parking Branch.

2. The location and number of access points to the project should be discussed with our Planning Branch. The proposed driveway on Smith Street should be directly aligned with Marin Street. The possibility of providing an additional access on Maunakea Street should be considered.

If you have any questions, please contact Mel Hirayama of my staff at Local 4119.

ALFRED J. THIEDE

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

FRANK F. FASI
MAYOR

MIKE N. SCARFONE
DIRECTOR
Gail M. Kaito
DEPUTY DIRECTOR

Mr. Joseph M. Magaldi, Jr.
Director
Department of Transportation Services
650 South King Street
Honolulu, Hawaii 96813

RE: Environmental Impact Statement Preparation Notice (EISPN) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Magaldi:

Thank you very much for taking the time to review the above-referenced EISPN and for your letter of October 10, 1990. The following is offered in response to your comments:

We will continue to coordinate the parking and access needs with your office. As discussed at our December 5, 1990 meeting, consideration is being given to closing Marin Street and redeveloping it as a pedestrian mall. Regarding access to the site from Maunakea Street, this would decrease the impact on intersections along Smith Street, but increase the impact on intersections along Maunakea Street.

Again, thank you for your comments.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
1455 SOUTH BERETANIA STREET, ROOM 305
HONOLULU, HAWAII 96814

FRANK F. FASI
MAYOR

LIONEL E. CAMARA
FIRE CHIEF

DONALD S.M. CHANG
DEPUTY FIRE CHIEF

September 28, 1990

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

ATTN: EILEEN MARK

FROM: LIONEL E. CAMARA, FIRE CHIEF

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE
PROPOSED SMITH-MAUNAKEA HOUSING PROJECT

We have reviewed the subject material provided and have no comments.

Lionel E. Camara
LIONEL E. CAMARA
Fire Chief

AKL:ny

Copy to: William E. Wanket

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

FRANK F. FASI
MAYOR

MIKE N. SCARFONE
DIRECTOR
Gail M. Kaito
DEPUTY DIRECTOR

October 15, 1990

Mr. Lionel E. Camara
Fire Chief
Fire Department
1455 South Beretania Street
Room 305
Honolulu, Hawaii 96814

RE: **Environmental Impact Statement Preparation Notice (EISPN) for the Proposed Smith-Maunakea Housing Project - Response to Comments Received**

Dear Chief Camara:

Thank you for taking the time to review the above-referenced EISPN and for your letter of September 25, 1990. Although you have no comments at this time, we will continue to coordinate our project with you to ensure that you have the opportunity for further review and comments.

Sincerely,

Gail Kaito
for MICHAEL N. SCARFONE
Director

POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

1455 SOUTH BERETANIA STREET
HONOLULU HAWAII 96814 - AREA CODE (808) 943-3111

FRANK F. FASI
MAYOR

MICHAEL S. NAKAMURA
CHIEF

HAROLD M. KAWASAKI
DEPUTY CHIEF

OUR REFERENCE ES-LK

October 1, 1990

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

ATTENTION: MS. EILEEN MARK

FROM: MICHAEL S. NAKAMURA, CHIEF OF POLICE
HONOLULU POLICE DEPARTMENT

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE
PROPOSED SMITH-MAUNAKEA HOUSING PROJECT

The proposed Smith-Maunakea housing project does not appear to present any particular concerns for us at this time. We assume that the normal precautions will be taken to ensure public safety and ease traffic flow during construction. In addition, we would encourage the project designers to give appropriate attention to the principles of environmental security so as to reduce the chances for criminal activity. We may have more specific comments as the plans for the project become more precise.

Thank you for the opportunity to comment.

MICHAEL S. NAKAMURA
Chief of Police

By [signature]
JOSEPH AVEIRO
Assistant Chief of Police
Support Services Bureau

cc: Mr. William E. Wanket

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

FRANK F. FASI
MAYOR

MIKE N. SCARFONE
DIRECTOR
Gail M. Kaito
DEPUTY DIRECTOR

October 15, 1990

Mr. Michael S. Nakamura
Chief of Police
Police Department
1455 South Beretania Street
Honolulu, Hawaii 96814

RE: **Environmental Impact Statement Preparation Notice (EISPN) for the Proposed Smith-Maunakea Housing Project - Response to Comments Received**

Dear Chief Nakamura:

Thank you for taking the time to review the above-referenced EISPN and for your letter of October 1, 1990. Coordination will be maintained with the Police Department prior to construction to ensure that appropriate public safety and traffic control measures are implemented. Regarding building security measures, your input would be most welcome.

We will continue to coordinate our project with your office to ensure that you have additional opportunity for review and commments.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

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

FRANK F. FASI
MAYOR

MARIA VICTORIA R. BUNYE
DIRECTOR

VICTOR D. GUILLERMO, JR
DEPUTY DIRECTOR

September 24, 1990

MEMORANDUM

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

ATTN: EILEEN MARK

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

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE
PROPOSED SMITH-MAUNAKEA HOUSING PROJECT

The Office of Human Resources has reviewed the above cited request and offers the following comments:

(1) That provisions be made to insure the incorporation of new federal fair housing laws that require all public and private new multi-family units constructed after 1991 to be accessible for persons with disabilities.

(2) That an accessible route be provided within the total project that will allow a disabled person to freely travel to all facilities (commercial and residential) open to the general public.

(3) That parking stalls solely for persons with disabilities (residents and visitors) be provided within the Smith-Maunakea housing project in accordance with Uniform Federal Accessibility Standards (Section 4 - Accessible Elements and Spaces: Scope and Technical Requirements).

We recommend that all plans and specifications involved with the proposed project be forwarded to the Commission for Persons with Disabilities - Facility Access Unit at the address listed below for their review. This is in accordance with Hawaii Revised Statues (HRS) 103-50.

Ms. Francine Wai-Lee, Executive Director
Commission On Persons With Disabilities
Five Waterfront Plaza, Suite 210
500 Ala Moana Boulevard
Honolulu, Hawaii 96813

Thank you for the opportunity to comment on this matter.

cc: William E. Wanket, President
William E. Wanket, Inc.
Francine Wai-Lee, Executive Director
Commission on Persons with Disabilities

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

FRANK F. FASI
MAYOR

MIKE N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

Ms. Maria Victoria R. Bunye
Director
Office of Human Resources
650 South King Street
Honolulu, Hawaii 96813

RE: **Environmental Impact Statement Preparation Notice (EISPN) for Proposed Smith-Maunakea Housing Project - Response to Comments Received**

Dear Ms. Bunye:

Thank you for taking the time to review the above-referenced EISPN and for your letter of September 24, 1990. Regarding your comments, we offer the following responses:

1. Units will be constructed in accordance with federal fair housing laws to ensure accessibility for persons with disabilities.

2. The project will be designed to allow a disabled person to freely travel to all facilities open to the general public.

3. Parking stalls solely for persons with disabilities will be provided and designed in accordance with Section 4 of the Uniform Federal Accessibility Standards.

4. In accordance with Hawaii Revised Statutes 103-50, the plans and specifications for the project will be forwarded to the Commission for Persons with Disabilities - Facility Access Unit to the address noted in your letter.

Again, thank you very much for your comments.

Sincerely,

Gail Kaito

MICHAEL N. SCARFONE
Director

GARY GILL
Councilmember

October 10, 1990

To: Michael Scarfone, Director
Department of Housing and Community Development (DHCD)
Attention: Eileen Mark

From: Councilmember Gary Gill

Subject: Response to Environmental Impact Statement Preparation Notice (EISPN) for Smith-Maunakea Housing Project.

Thank you for allowing me to comment on the Smith-Maunakea Housing Project's EISPN. To obtain a better understanding of the effects of this project on the Chinatown area, I felt it necessary that I get the input of the residents in Smith and Maunakea area. On October 8, 1990, a community meeting was held to discuss some of the concerns and questions the local residents had on the Housing Projects. The comments below outline the major concerns discussed at the meeting:

- Merchants of small produce stores feel a need to regulate and control the type of business that may lease the commercial spaces proposed in the Housing Project. Merchants are wary over the saturation of similar vendors. They fear the large conglomerate companies pushing out the small business man.

- The Chinatown merchants are concerned about the lack of parking facilities in the Chinatown area due to the delay in construction of the Kaahumanu Parking lot and the overlapping construction of the Smith - Maunakea Housing Project.

- The stores, Concord Trading and Paradise Produce have back-service entrances that are accessed through the existing parking structure. It's essential that their service entrances are accessible during and after the construction of the Housing Project.

- Amount of entrances, and exits in the proposed plans seem inadequate.

- The feasibility of changing Maunakea to a one-way street flowing towards Nimtz Highway.

- Merchants would like an outline of the proposed security system during construction.

* Sent to

Page 2
October 10, 1990

- Merchants would like an outline of the proposed security system after completion of project (ie: Night security, security around the perimeter of Housing Project, security within the Project).

The attendants of the meeting consisted of merchants and store owners from the surrounding project site. Their comments need to be addressed. I hope you can assist us in clarifying their concerns.

Thank you again to comment on this EISPN, and the extended time to respond.

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

FRANK F. FASI
MAYOR

MIKE N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

January 21, 1991

Councilman Gary Gill
City and County of Honolulu
Honolulu Hale
Honolulu, Hawaii 96813

RE: Environmental Impact Statement Preparation Notice (EISPN) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Councilman Gill:

Thank you very much for taking the time to review the above-referenced EISPN and for your letter of October 10, 1990. We appreciate your efforts in reviewing the EISPN and have noted the various concerns expressed by those attending your meeting of October 8, 1990. The following is offered in response.

1. Commercial Spaces

   At this time, no determination has been made as to the specific type of businesses that may lease the commercial spaces. Controls, as appropriate and reasonable, will be considered.

2. Parking

   To mitigate against the loss of parking stalls during construction, the City will be developing an interim parking plan to minimize the inconvenience caused by the closing of the Smith-Maunakea and other municipal lots during redevelopment. Also, consideration will be given to reconfiguring some of the existing lots to gain additional spaces, as well as the use of valet parking. Also consideration will be given to placing a priority on completing the project's parking structure so that the period during which parking will be unavailable on-site will be shortened.

3. Entrances and Exits

   Coordination will be maintained with the Police Department and the Department of Transportation Services prior to construction to ensure that appropriate public safety and traffic control measures are implemented. However, in discussions with Corporation Counsel, off-site businesses now using City property (without permission or compensation) as service entrances may have to look for alternate access routes when redevelopment occurs.

Access to and exit from the site is planned from Smith Street. A traffic assessment by Pacific Planning and Engineering will address the impacts associated with this proposal.

4. One-way on Maunakea Street

The suggestion that Maunakea Street be one-way towards Nimitz Highway will be taken under advisement.

5. Security During Construction

Because of the site's historic importance (Bishop Museum), tight security will be necessary to prevent destruction of irretrievable archaeological data. Some of the measures to be taken will include high fencing, alarm systems and security guards.

6. Appropriate attention to principles of environmental security so as to reduce the chances for criminal activity will be incorporated into the design of the project. Some of the measures that will be taken include a security office manned by a security guard, security cameras at various locations, installation of enterphones and security gates, and card key access points only at various entry and exit locations.

Again, thank you very much for your comments.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

HONOLULU CHAPTER
THE AMERICAN INSTITUTE OF ARCHITECTS

October 8, 1990

Department of Housing and Community Development
650 South King Street, 5th Floor
Honolulu, Hawaii 96813
Attention: Eileen Mark

RE: EISPN for the Proposed Smith-Maunakea Housing Project

Dear Ms. Mark,

The Honolulu Chapter/American Institute of Architects has previously commented on the height of the proposed project in a letter dated March 8, 1989 (See enclosed). Although subsequent to our letter the Aloha Tower Development has proposed towers of 400 feet across Nimitz Highway, we continue to maintain that this project's height is too tall for its location within Chinatown. The project as proposed will be the first tower within the boundaries of Chinatown makai of Pauahi Street. In this regard, we look forward to the views analysis in the DEIS and to an analysis of the impact of the tower on Chinatown.

The increase of street level retail from that in the earlier scheme is a positive change. As the Aloha Tower Development and, eventually, the Bank of Hawaii site development occur, the potential for retail in this location will increase. We regret to see the entry court for the condominium tower gone from the Smith Street frontage.

We are concerned about the nature of the through-mall from Marin Street to Maunakea Street, particularly its proportion of height to width. Our concern is that it should be a pleasant pedestrian space and not a back alley. The plan and section in the EISPN are not encouraging. Hopefully, further definition by drawings in the DEIS will convey a better feeling for this space.

The exterior treatment of the building, its relation in character to Chinatown, and its compliance with the Chinatown design regulations are all important issues. Since the EISPN does not address exterior treatment, we look for more in the DEIS.

Thank you for the opportunity to comment at this important stage of the project. We look forward to the in depth analysis of the DEIS.

Sincerely,

Theodore E. Garduque

Theodore E. Garduque, AIA
President, Honolulu Chapter/AIA

Enclosure

1128 Nuuanu Avenue
Honolulu, Hawaii 96817
Tel.: (808) 545-4242

Hawaii Soci
THE AMERICAN INSTITUTE OF ARCHITECTS

8 March 1989

Mr. Mike Scarfone
Department of Housing and Community Development
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Subject: Smith-Maunakea Housing

Dear Mr. Scarfone:

The Hawaii Society/American Institute of Architects appreciates having had the opportunity to review the schematic design plans and model for the Smith-Maunakea project. We are please to offer the following comments.

The proposed design solution reconciles the various design issues involved - functional space requirements, human scale, view corridors, historic context and so forth - as practically and sensitively as possible given the parking and housing requirements programmed for the site. However, the program for the site works against other imperatives that need to be addressed if the historic low-rise character of Chinatown and its historic link to the waterfront are to be preserved.

As our Society has previously testified, it is imperative that the forty foot height limit of the Chinatown core district be maintained clear to the harborfront ewa of Maunakea Street and the Schnack Block in order to preserve that character and that historic link. Diamond head of Maunakea Street, the height may be stepped up to limit of seventy-five feet as a transition to downtown and in recognition of differing heights and uses on the corresponding portion of King Street.

To allow heights significantly greater than these is to allow the encirclement of Chinatown by tall structures to continue. In our view, Chinatown as we know it cannot survive such encirclement.

We certainly recognize that the existing structures on the Smith-Maunakea site have no preservation value and well could make way for new and better designed structures in keeping with the character of the area. We are also sympathetic to goals of providing new housing and adequate parking. We recognize that the City and County has limited sites available, and limited means to acquire new ones, to meet these goals.

Nonetheless, the irremediable change in the character of Chinatown that would result from proceeding with the Smith-Maunakea project as currently conceived is too great a

1128 Nuuanu Avenue • Honolulu, Hawaii 96817 • Telephone (808) 545-4242

consequence to suffer in pursuit of those goals. We urge the City and County to consider other options.

Thank you for the opportunity to review and comment on the proposed project. We would appreciate continuing to be apprised and involved as plans for the site evolve.

Sincerely,

Carol S. Sakata, AIA
President, Hawaii Society

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

Mr. Theodore E. Garduque, AIA
President
Honolulu Chapter
The American Institute of Architects
1128 Nuuanu Avenue
Honolulu, Hawaii 96817

RE: **Environmental Impact Statement Preparation Notice (EISPN) for Proposed Smith-Maunakea Housing Project - Response to Comments Received**

Dear Mr. Garduque:

Thank you for taking the time to review the above-referenced EISPN and for your letter of October 8, 1990. We appreciate your efforts in reviewing the EISPN and have noted your concerns regarding height and other design elements of the project. We offer the following in response:

The visual impact of the project and the building's exterior treatment and mall configuration will be addressed in the Draft Environmental Impact Statement. Furthermore, since the property lies within the Chinatown Special District, the Land Use Ordinance requires that the project be reviewed by the City's Design Advisory Committee prior to approval.

Again, thank you for your comments.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

HISTORIC HAWAII
FOUNDATION

October 12, 1990

Department of Housing and Community Development
Honolulu Municipal Building
650 South King Street, 5th Floor
Honolulu, HI 96813
Attn: Eileen Mark

Aloha:

Historic Hawai'i Foundation is interested in the City and County's plans for the Smith-Maunakea Housing Project and appreciated notification that an Environmental Impact Statement will be prepared for the project.

We would appreciate receiving a copy of the EIS and the opportunity to review and comment on it.

Thank you and aloha,

Sanford Murata

Sanford Murata
Chairman, Preservation Review Committee

cc: PRC Members
Phyllis G. Fox
William E. Wanket

P.O. Box 1658 Honolulu, HI 96806 • Telephone (808) 537-9564 • Fax (808) 526-3989 • The Ward Warehouse, Bldg. D, 2nd Floor • Honolulu, HI 96814

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

October 16, 1990

Mr. Sanford Murata
Chairman, Preservation Review Committee
Historic Hawaii Foundation
P.O. Box 1658
Honolulu, Hawaii 96806

RE: Environmental Impact Statement Preparation Notice (EISPN) for the Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Murata:

Thank you for your letter of October 12, 1990 and for your interest in the above-referenced project. We will continue to coordinate our project with you to provide opportunity for further review and comments.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

Hawaiian Electric Company, I • PO Box 2750 • Honolulu, HI 96840-0001

ENV 2-1
JA/G

William A. Bonnet
Manager
Environmental Department

September 26, 1990

Ms. Eileen Mark
Department of Housing and
Community Development
Honolulu Municipal Building, 5th Floor
650 South King Street
Honolulu, Hawaii 96813

Dear Ms. Mark:

Subject: Environmental Impact Statement Preparation Notice (EISPN) for the City's Proposed Smith-Maunakea Housing Project

We have reviewed the subject EIS, and have no comments at this time on the proposed project. HECO shall reserve comment pertaining to the protection of existing power lines within the project area until construction plans are finalized.

Sincerely,

cc: William E. Wanket, President
William E. Wanket, Inc.
Pacific Tower 600
1001 Bishop Street
Honolulu, Hawaii 96813

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

October 15, 1990

Mr. William A. Bonnet
Manager
Environmental Department
Hawaiian Electric Company, Inc.
P.O. Box 2750
Honolulu, Hawaii 96840-0001

RE: Environmental Impact Statement Preparation Notice (EISPN) for the Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Bonnet:

Thank you very much for taking the time to review the above-referenced EISPN and for your letter of September 26, 1990. We will continue to coordinate our project with you to ensure that you have the opportunity for additional review and comments.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

Gasco, Inc.
PRI

515 Kamakee Street
P.O. Box 3379 Honolulu, Hawaii 96842
Telephone (808) 547-3333
Telex (ITT) 7430292

October 2, 1990

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

'90 OCT -5 P1:44

Attention: Ms. Eileen Mark

Gentlemen:

Subject: Environmental Assessment
Smith-Maunakea Housing
Tax Map Key: 1-7-2: 3, 4 & 5

We refer to your letter dated September 7, 1990, regarding our review of the assessment for the subject project.

Please be advised that Gasco, Inc. maintains an underground gas utility system in the project vicinity, which serves a group of customers interconnected with the utility network in the Chinatown area. We would appreciate the consideration of your planners and consultants during the project planning and design process to provide the necessary coordination during construction and minimize any potential conflicts with the proposed construction.

Thank you for the opportunity to comment on the proposed project. Should there be any questions, or if additional information is required, please call me at 547-3574.

Very truly yours,

Edwin N. Sawa

Edwin N. Sawa
Manager, Engineering

ENS:glk
kky9

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

November 5, 1990

Mr. Edwin N. Sawa
Manager, Engineering
Gasco, Inc.
515 Kamakee Street
P.O. Box 3379
Honolulu, Hawaii 96842

RE: **Environmental Impact Statement Preparation Notice (EISPN) for Proposed Smith-Maunakea Housing Project - Response to Comments Received**

Dear Mr. Sawa:

Thank you for taking the time to review the above-referenced EISPN and for your letter of October 2, 1990. We will continue to coordinate our development with you to ensure opportunity for further review and comments. In addition coordination will be maintained with your office prior to and during the project's construction phase.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

DEIS COMMENT LETTERS & RESPONSES

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

May 24, 1991

Mr. Benjamin Lee, Director
Department of General Planning
Municipal Office Building, 8th Floor
650 South King Street
Honolulu, HI 96813

Dear Mr. Lee:

Subject: Draft Environmental Impact Statement (DEIS) - Smith-Maunakea Housing Project, Honolulu, Hawaii

We have reviewed the above-mentioned document and have no comments to offer at this time. We would appreciate the opportunity to review the final EIS.

Sincerely,

ACTING
WARREN M. LEE
State Conservationist

cc:
Ms. Eileen Mark, Department of Housing and Community Development, Municipal Office Building, 5th Floor, 650 South King Street, Honolulu, Hawaii 96813
Mr. William E. Wanket, William E. Wanket, Inc. Pacific Tower 660, 1001 Bishop Street, Honolulu, Hawaii 96813
Office of Environmental Quality Control, State of Hawaii, 220 S. King Street, Fourth Floor, Honolulu, HI 96813

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

June 13, 1991

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

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Lee:

Thank you very much for the copy of your May 24, 1991 letter to the Department of General Planning. We appreciate your efforts in reviewing the document. By copy of this letter, we will notify OEQC of your request to review the final EIS.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

cc: Benjamin B. Lee, Chief Planning Officer
Office of Environmental Quality Control

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

REPLY TO
ATTENTION OF:

May 30, 1991

Planning Division

Mr. Benjamin B. Lee
Chief Planning Officer
Department of General Planning
Municipal Office Building, 8th Floor
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Lee:

We have reviewed the Draft Environmental Impact Statement for the proposed Smith-Maunakea Housing Project, Honolulu. Our previous comments in response to the Preparation Notice (letter dated October 1, 1990) have been incorporated into the document. We have no additional comments.

Sincerely,

Clarence Fujii
Acting Director of Engineering

Copies Furnished:

Department of Housing & Community Development
Attn: Ms. Eileen Mark
Municipal Office Building, 5th Floor
650 South King Street
Honolulu, Hawaii 96813

William E. Wanket, Inc.
Attn: Mr. William E. Wanket
Pacific Tower 660
1001 Bishop Street
Honolulu, Hawaii 96813

Office of Environmental Quality Control
State of Hawaii
220 South King Street, Fourth Floor
Honolulu, Hawaii 96813

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

JUN 6 '91

Mr. Clarence Fujii
Acting Director of Engineering
Department of the Army
U.S. Army Engineer District, Honolulu
Building 230
Ft. Shafter, Hawaii 96858-5440

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Fujii:

Thank you very much for the copy of your May 30, 1991 letter to the Department of General Planning on the above-referenced project. We appreciate the statement of acknowledgement that your previous comments have been incorporated into the Draft EIS.

For your information, your letter together with this response, will be included in the Final EIS.

Sincerely,

Gail Kaito

MICHAEL N. SCARFONE
for Director

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

MAY 16 1991

Mr. Benjamin B. Lee
Department of General Planning
Municipal Office Building, 8th Floor
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Lee:

Re: Smith-Maunakea Housing Project

The proposed action will have little adverse impact on fish and wildlife resources within our jurisdiction. In view of this, we have no objection to your issuance of a permit for this project.

Sincerely,

Robert P. Smith

Robert P. Smith
Field Supervisor
Pacific Islands Office

cc: Eileen Mark, DHCD
William E. Wanket, Inc.
OEQC

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 5TH FLOOR
HONOLULU, HAWAII 96813
PHONE: 523-4427 • FAX 527-5498

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

May 29, 1991

Mr. Robert P. Smith
Field Supervisor
U.S. Department of the Interior
Fish and Wildlife Service
Pacific Islands Office
P.O. Box 50167
Honolulu, Hawaii 96850

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Smith:

Thank you very much for the copy of your May 16, 1991 letter to the Department of General Planning. We appreciate your review of the documents and your comments that the proposed action will have little adverse impact on fish and wildlife resources.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

cc: Benjamin B. Lee, Chief Planning Officer

DEPARTMENT OF THE NAVY
COMMANDER
NAVAL BASE PEARL HARBOR
BOX 110
PEARL HARBOR, HAWAII 96860-5020

IN REPLY REFER TO:
11010
Ser 00F2/0994
01 MAY 1991

Mr. Benjamin B. Lee
Chief, Planning Officer
Department of General Planning
City & County of Honolulu
650 South King St., 8th Floor
Honolulu, Hawaii 96813

Dear Mr. Lee:

SMITH-MAUNAKEA HOUSING PROJECT

We reviewed the subject DEIS and have no comments to offer. Since we have no further use for the DEIS, it is being returned to the Office of Environmental Quality Control.

Thank you for the opportunity to review the draft.

Sincerely,

W. K. Liu

W. K. LIU
Assistant Base Civil Engineer
By direction of
the Commander

Copy to:
C&C Dept of Hsg & Comm Dev
William E. Wanket, Inc.
OEQC (w/DEIS)

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

FRANK F. FASI
MAYOR

MIKE N. SCARFONE
DIRECTOR

GAIL M. KAITO
DEPUTY DIRECTOR

May 28, 1991

Mr. W. K. Liu
Assistant Base Civil Engineer
Naval Base Pearl Harbor
Box 110
Pearl Harbor, Hawaii 96880-5020

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Liu:

Thank you very much for the copy of your 1 May 1991 letter to the Department of General Planning regarding the proposed Smith-Maunakea Housing Project. We appreciate your efforts in reviewing the document.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

cc: Benjamin B. Lee, Chief Planning Officer

(P)1459.1

APR 29

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

Attention: Mr. Benjamin Lee

Gentlemen:

Subject: Smith-Maunakea Housing Project
Honolulu, Oahu
Draft EIS

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

Should there be any questions, please have your staff contact Mr. Ralph Yukumoto of the Planning Branch at 548-7192.

Very truly yours,

T. Tominaga

TEUANE TOMINAGA
State Public Works Engineer

RY:bk
cc: Department of Housing and Community Development
William E. Wanket, Inc.
Office of Environmental Quality Control

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

May 28, 1991

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

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Tominaga:

Thank you very much for the copy of your April 29, 1991 letter to the Department of General Planning regarding the above-referenced project. We appreciate your efforts in reviewing the DEIS.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE

cc: Benjamin B. Lee, Chief Planning Officer

JOHN WAIHEE
GOVERNOR

JOSEPH K. CONANT
EXECUTIVE DIRECTOR

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

IN REPLY REFER TO:

91:PLNG/2806jt

June 17, 1991

TO: Mr. Benjamin Lee
Dept. of General Planning
City & County of Honolulu

FROM: Joseph K. Conant
Executive Director

SUBJECT: Draft Environmental Impact Statement for the Proposed Smith-Maunakea Housing Project

Thank you for the opportunity to review the subject report. We are supportive of your efforts to expand affordable housing opportunities in the City and County of Honolulu.

JKC/JT:eks

c: Dept. of Housing and Community Development
William E. Wanket, Inc.
Office of Environmental Quality Control

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

FRANK F. FASI
MAYOR

MIKE N. SCARFONE
DIRECTOR

GAIL M. KAITO
DEPUTY DIRECTOR

June 24, 1991

Mr. Joseph K. Conant
Executive Director
Department of Budget and Finance
Housing Finance and Development Corporation
Seven Waterfront Plaza, Suite 300
500 Ala Moana Boulevard
Honolulu, Hawaii 96813

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Conant:

Thank you very much for your June 17, 1991 memorandum to the Department of General Planning. We appreciate your review of the document and your statement of support for our efforts to expand affordable housing opportunities in the City and County of Honolulu.

For your information, your memorandum together with this letter will be included in the Final EIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

cc: Benjamin B. Lee, Chief Planning Officer

DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM

JOHN WAIHEE
GOVERNOR
MURRAY E. TOWILL
DIRECTOR
BARBARA KIM STANTON
DEPUTY DIRECTOR
RICK EGGED
DEPUTY DIRECTOR

ENERGY DIVISION, 335 MERCHANT ST., RM. 110, HONOLULU, HAWAII 96813 PHONE: (808) 548-4080 FAX: (808) 531-5243

April 29, 1991

Department of General Planning
Municipal Office Building, 8th Floor
650 South King Street
Honolulu, Hawaii 96813

Attention: Ben Lee

Dear Sir:

Subject: Smith-Maunakea Housing Project
Honolulu, Oahu, Hawaii
TMK: 1-7-02:Parcels 3, 4 & 5

We wish to inform you that we have no comments to offer on the subject environmental impact statement.

Thank you for the opportunity to review the document.

Sincerely,

Maurice H. Kaya
Energy Program Administrator

MHK:hkeis32

cc: Department of Housing and Community Development
✓William E. Wanket, Inc.
Office of Environmental Quality Control

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

FRANK F. FASI
MAYOR

MIKE N. SCARFONE
DIRECTOR

GAIL M. KAITO
DEPUTY DIRECTOR

May 28, 1991

Mr. Maurice H. Kaya
Energy Program Administrator
Department of Business, Economic Development
& Tourism
335 Merchant Street, Room 110
Honolulu, Hawaii 96813

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Kaya:

Thank you very much for the copy of your April 29, 1991 letter to the Department of General Planning. We appreciate your efforts in reviewing the document.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

cc: Benjamin B. Lee, Chief Planning Officer

JOHN WAIHEE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
3949 DIAMOND HEAD ROAD, HONOLULU, HAWAII 96816-4495

EDWARD V. RICHARDSON
BRIGADIER GENERAL
ADJUTANT GENERAL

MYLES M. NAKATSU
COLONEL
DEPUTY ADJUTANT GENERAL

April 30, 1991

Engineering Office

Department of General Planning
City & County of Honolulu
Municipal Office Building
650 South King Street, 8th Floor
Honolulu, Hawaii 96813

Gentlemen:

Smith-Maunakea Housing Project

Thank you for providing us the opportunity to review the above subject project.

We have no comments to offer at this time regarding this project.

Sincerely,

Jerry M. Matsuda

Jerry M. Matsuda
Lieutenant Colonel
Hawaii Air National Guard
Contracting & Engineering Officer

cc: Ms. Eileen Mark
Dept of Housing & Comm Dev
William E. Wanket, Inc.
OEQC w/EIS

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

FRANK F. FASI
MAYOR

MIKE N. SCARFONE
DIRECTOR

GAIL M. KAITO
DEPUTY DIRECTOR

May 28, 1991

Lieutenant Colonel Jerry M. Matsuda
Hawaii Air National Guard
Contracting & Engineering Officer
Department of Defense
Office of the Adjutant General
3949 Diamond Road
Honolulu, Hawaii 96816-4495

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Lieutenant Colonel Matsuda:

Thank you very much for the copy of your April 30, 1991 letter to the Department of General Planning regarding the above-referenced project. We appreciate your efforts in reviewing the document.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

cc: Benjamin B. Lee, Chief Planning Officer

JOHN WAIHEE
GOVERNOR OF HAWAII

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

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

June 10, 1991

In reply, please refer to:
EMD / SDWB

Ref. 91-2-136X

Mr. Benjamin Lee
Chief Planning Officer
Department of General Planning
City & County of Honolulu
Municipal Office Building, 8th
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Lee:

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE SMITH-MAUNAKEA HOUSING PROJECT
HONOLULU, HAWAII
TMK: 1-7-02: 3, 4, AND 5

Thank you for the opportunity to review and comment on the subject project. We have examined the Draft Environmental Impact Statement and have the following comments to offer from the Noise and Radiation Branch:

> In addition to compliance with Community Noise Permit requirements, traffic noise from heavy vehicles traveling to and from construction sites must be minimized near existing residential areas and must comply with the provisions of Title 11, Administrative Rules, Chapter 42, Vehicular Noise Control for Oahu.

If you should need to contact the Noise and Radiation Branch, please call Jerry Haruno, Branch Chief, at 548-4383.

Very truly yours,

JOHN C. LEWIN, M.D.
Director of Health

c: Department of Housing and Community Development
City and County of Honolulu
ATTN: Ms. Eileen Mark

William E. Wanket, Inc.
ATTN: William E. Wanket

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

FRANK F. FASI
MAYOR

MIKE N. SCARFONE
DIRECTOR

GAIL M. KAITO
DEPUTY DIRECTOR

June 24, 1991

Mr. John C. Lewin, M.D.
Director
Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Lewin:

Thank you very much for the copy of your June 10, 1991 letter to the Department of General Planning. We appreciate your comments and efforts in reviewing the document. All Community Noise Permit requirements and provisions of Title 11, Administrative Rules, Chapter 42, Vehicular Noise Control for Oahu will be complied with.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

cc: Benjamin B. Lee, Chief Planning Officer

JOHN WAIHEE
GOVERNOR OF HAWAII

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

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

DEPUTIES

KEITH W. AHUE
MANABU TAGOMORI
Dan T. Kochi

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

REF:OCEA:JN

MAY 23 1991

File No.: 91-442
Doc. No.: 0787E

The Honorable Benjamin Lee
Department of General Planning
Municipal Office Building, 8th Floor
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Lee: Ben

Subject: Department of Housing and Community Development, City and County of Honolulu -- Draft EIS for the Smith-Maunakea Housing Project Honolulu, Oahu TMK: 1-7-02: 3-5

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

Our Department's Historic Preservation Division comments that their office has concurred with the recommendations of the consulting archaeologist in a November 2, 1990 letter from our Chairperson to Mr. Michael Scarfone. The Draft Environmental Impact Statement faithfully reflects these recommendations. After the existing structures are demolished and pavement is removed, four backhoe trenches will be excavated in three areas: 1) the NE corner of the project parcel at the location of the adobe house of Marin's daughter; 2) the SE corner at the location of Marin's coral stone house; 3) two in the makai section of the project parcel. The results of these excavations will provide the basis for formulation of a data recovery plan, which will be approved by this office before construction-related excavation commences.

The Division of Land Management indicates that they are in the process of conveying in fee the State-owned land identified as TMK: 1-7-02: 03, 04 to the City & County of Honolulu.

Thank you for your cooperation in this matter. Please feel free to call me or Roy Schaefer at our Office of Conservation and Environmental Affairs, at 548-7837, if you have questions.

Very truly yours,

William W. Paty

cc: Dept of Housing and Community Development
William E. Wanket, Inc.
OEQC

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

JUN 5 '91

Mr. William W. Paty
Chairperson
Board of Land and Natural Resources
P.o. Box 621
Honolulu, Hawaii 96809

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Paty:

Thank you very much for the copy of your May 23, 1991 memorandum to the Department of General Planning and for the status of the State's land conveyance to the City and County of Honolulu. In addition, we appreciate receiving acknowledgement that the Draft EIS "faithfully reflects" the recommendations of your Department.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely

Gail Kaito

MICHAEL N. SCARFONE
Director

cc: Benjamin B. Lee, Chief Planning Officer

JOHN WAIHEE
GOVERNOR

BRIAN J. J. CHOY
Director

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
220 SOUTH KING STREET
FOURTH FLOOR
HONOLULU, HAWAII 96813

June 7, 1991

Mr. Benjamin Lee
Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Lee:

This is written in reference to the Draft Environmental Impact Statement for the Smith-Maunakea Housing Project. The Office of Environmental Quality Control (OEQC) has no substantive comments to offer at this time. Thank you for the opportunity to comment.

Very truly yours,

for BRIAN J. J. CHOY
Director

cc: Department of Housing and Community Development
William E. Wanket, Inc.

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

JUN 20 '91

Mr. Brian J. J. Choy
Director
Office of Environmental Quality Control
220 South King Street
Fourth Floor
Honolulu, Hawaii 96813

Dear Mr. Choy:

Thank you very much for the copy of your June 7, 1991 letter to the Department of General Planning. We appreciate your efforts in reviewing the document.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely,

M N Scarfone

MICHAEL N. SCARFONE
Director

cc: Benjamin B. Lee, Chief Planning Officer

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

JOHN WAIHEE, Governor

May 31, 1991

The Honorable Benjamin B. Lee
Chief Planning Officer
Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Lee:

Subject: Comments on Draft Environmental Impact Statement for Smith-Maunakea Housing
Downtown, Honolulu, Hawaii
TMK: 1-7-02: 3, 4, and 5

We have reviewed the Draft Environmental Impact Statement for the Smith-Maunakea Housing Project, which will include rental apartments, commercial floor space and parking complex in the Chinatown District. According to the DEIS, the project site is zoned for mixed-use development (BMX-4).

We have reviewed the subject document and have no comments to offer at this time.

Thank you for the opportunity to comment.

Sincerely,

for Harold S. Masumoto
Director

cc: Ms. Eileen Mark, DHCD
Dr. Bruce S. Anderson, OEQC
Hon. Joseph Conant, HFDC
Mr. William E. Wanket, President
(William E. Wanket, Inc.)

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

June 13, 1991

Mr. Harold S. Masumoto
Director
Office of State Planning
State Capitol
Honolulu, Hawaii 96813

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Masumoto:

Thank you very much for the copy of your May 31, 1991 letter to the Department of General Planning. We appreciate your efforts in reviewing the document.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

cc: Benjamin B. Lee, Chief Planning Officer

Wested

University of Hawaii at Manoa

Environmental Center
A Unit of Water Resources Research Center
Crawford 317 • 2550 Campus Road • Honolulu, Hawaii 96822
Telephone: (808) 956-7361

May 30, 1991
RE:0582

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

Dear Mr. Scarfone:

Draft Environmental Impact Statement (DEIS)
Smith-Maunakea Housing
Honolulu, Oahu

The above referenced project includes a 28 story building containing 216 residential units with a total of 202,000 square feet floor area, and 13,900 square feet of commercial spaces on a 44,677 square foot lot.

The Environmental Center has reviewed this DEIS with the assistance of Kathleen Wilson, Urban and Regional Planning; Panos D. Prevedouros, Civil Engineering; Peter Nicholson, Civil Engineering; Tamotsu Sahara, Property Management; and Lee Lyttle, Environmental Center.

General Comment

Our reviewers found the DEIS to be generally well researched and well written. However, this project lies within a distinctly Asian community, yet there is scant consideration regarding the facade and street-level treatment of this development in order to reflect this sensitivity.

Air Quality

The software used by the consultant (MOBILE4 and CALINE4) yields some counter-intuitive results, specifically that future levels of pollution will be lower than present levels despite the fact that: 1) most of the air pollution is due to automobile traffic, and 2) higher traffic volumes are expected. The DEIS's pollution projections, therefore, are suspect.

Short-term, construction-related air pollution due to lane closures and congestion is not dealt with adequately. It is stated that the analysis for the queuing effect was based upon the Highway Capacity Manual (HCM). The HCM, however, does not provide such methodology. Our reviewers suggest that a more appropriate simulation software might be employed, such as TRANSYT or NETSIM.

Because the project will serve a sizeable elderly population, some discussion on ventilation systems in the underground parking areas should be added.

Noise Impact

Our reviewers found the assessment to be generally well written. Since this part of the EIS depends upon the traffic volume counts and projections, those data should be displayed here, and they should be consistent with the data in the traffic section of the EIS.

Transportation Impacts

Our reviewers question several issues addressed in the Traffic Impact Assessment Report (TIAR) included as an appendix. We question the assumption that traffic on King Street will not increase due to congestion in the area, as stated. At least half of the growth assumed along the Nimitz Highway corridor should be factored in to the traffic projections.

Figure 8, on page 19, is poorly displayed. The vertical scale is too large to ascertain the trend. Further, regression analysis using only five data points is not meaningful. Averaging the growth at mid-year intervals would be better.

On page 20, some types of trips were reduced by 70-90 percent with no justification given, other than speculation that more people will start walking to work. Also, there is no analysis presented to support the traffic assignment step based on travel time.

We also note the absence of intersection analysis. What are the signal timings? Could better signal timings improve future traffic flows? What saturation flows are used?

Several operational analysis results, specifically Tables 7,8, and 9, seem optimistic compared with the existing situation. Were temporary lane blockages as well as the presence of buses and other heavy vehicles accounted for? A table with the calibrated saturation flows would be insightful in this regard.

The reduction of parking spaces in this part of town during the construction period could be significant given the overlap of development activities at this and several sites. Table 9 of the Social Impact Assessment indicates that public parking could be reduced by as much as 38 percent. Mitigative measures, such as greater staggering of construction schedules of these projects, should be discussed.

Social Impacts

Our reviewers found this analysis to be very complete and comprehensive. The mitigative measures stated in the consultant's report were found to be particularly well presented. However, we suggest that discussions on issues concerning adequate parking, street security, and conformance to the Historic Distict's plans be expanded. Given the thoroughness of the consultant's report, more of the findings should be included in the main body of the EIS.

Preliminary Geotechnical Report

Our reviewers found this report, as a preliminary, to be adequate and thorough. Further detailed site investigation, including additional boring and sampling data, should be gathered.

Thank you for this opportunity to comment.

Yours truly,

John T. Harrison, Ph.D.
Environmental Coordinator

cc: OEQC
C&CH General Planning
William E. Wanket, Inc.
Roger Fujioka
Panos D. Prevedouros
Kathleen Wilson
Peter Nicholson
Tamotsu Sahara
Lee Lyttle

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 5TH FLOOR
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FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

JUL 1991

Mr. John T. Harrison, Ph.D.
Environmental Coordinator
Environmental Center
University of Hawaii at Manoa
Crawford 317
2550 Campus Road
Honolulu, Hawaii 96822

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Harrison:

Thank you very much for your May 30, 1991 letter. We appreciate your efforts in reviewing the document. Information in response to your comments is provided below:

General Comment

The quality of the streetscape and character of Chinatown were given prime consideration in designing the facade and street-level treatment of the project. Several studies were undertaken specifically to identify the urban design characteristics of Chinatown, and the results of these studies were used to form the basis for the design. These studies in their entirety can be found in Appendices G and J of the DEIS. In addition, consideration is being given to introducing Asian accents in the project in highly visible elements of the building, including the use of prevailing bright colors in the area on the building facade, doors, window frames, etc.

Air Quality

Paragraph 1. The air quality study prepared for the project (included as Appendix B of the DEIS) shows that, if the project is built, one of the four intersections studied will have slightly improved air quality in 1993 and the other three will remain about the same or deteriorate slightly compared to existing conditions.

Compared to the 1993 without project case, air quality will deteriorate slightly with the project at all locations studied. Each year many older, more-polluting vehicles are taken out of service and are replaced by new vehicles with better emission control devices. Thus, even though traffic volumes may increase with time, overall emissions may go down resulting in improved air quality. Average emissions on a per vehicle basis are expected to decrease by about 20 percent between 1990 (the existing case) and 1993 (the with project case).

Paragraph 2. Generally, it is recognized that during the period of construction for any project short-term impacts of various types will inevitably occur, but the impacts will not be chronic. Insofar as air quality impacts from traffic congestion are concerned, as stated in the DEIS, these can be somewhat alleviated by moving equipment and personnel to and from the site and by closing traffic lanes when necessary during off-peak traffic hours as much as possible. As stated in Appendix B, queuing estimates were made based on the project traffic study, Transportation Research Board procedures (the Highway Capacity Manual), U.S. EPA guidelines, and traffic observations at the subject intersections. To make queuing estimates, traffic volumes, capacity estimates and a queuing algorithm are required. Traffic volumes came from the project traffic study, capacity estimates from the Highway Capacity Manual and the queuing algorithm from U.S. EPA guidelines. Queuing estimates were then compared to observations and adjusted if appropriate. Use of detailed traffic simulation models such as TRANSYT or NETSIM to assess the operation of traffic networks normally is beyond the scope of an air quality study for a project such as this.

Paragraph 3. Ventilation in the underground parking facilities is discussed in Section 6.2 of Appendix B, DEIS.

<u>Noise Impact</u>

Appropriate references to traffic tables will be made in the Final EIS.

<u>Transportation Impacts</u>

Paragraph 1. The zero growth rate for through-traffic along King Street was deemed reasonable for the following reasons:

1. Traffic counts for the past 4 years indicate that daily traffic on King Street (at Nuuanu Stream Bridge) has actually been <u>decreasing</u>. (See enclosed traffic counts.)

2. Given that the surrounding area is almost totally "built-out", additional traffic along King Street would come from <u>new</u> developments in the area. To the best of our knowledge, we have taken into account all new or proposed developments within the study time frame in addition to the growth in through traffic.

3. Most people avoid driving <u>through</u> downtown during peak periods if they do not have to.

Paragraph 2. The data used to ascertain the trend is enclosed. Traffic count data over the past 5 years at the intersection of Nimitz Highway and Bishop Street indicates a historical growth of 1%. Traffic count data over the past 10 years along Nimitz Highway (at Nuuanu Stream Bridge) indicates a historical growth of 1.2%. Use of trend lines for traffic forecasting are based on the historical stability of traffic patterns. We did not state nor do we imply any statistical significance of the volume sample.

Paragraph 3. The Trip Generation Report by the Institute of Transportation Engineers indicates that apartment units close to the Central Business District (CBD) have a smaller trip generation rate than units farther away from the CBD. Trip generation studies of the few residential buildings in CBD also indicated smaller rates.

Office land uses were reduced because the Trip Generation Report indicates that larger office buildings have smaller trip generation rates. The retail land uses were reduced to account for the high pedestrian traffic and the internal capture of apartment/retail/commercial buildings.

The traffic was assigned based on the shortest or most direct routes to the intended destination (demand assignment) and on observed travel patterns.

Paragraph 4. Based on the consultants field observations the synchronized signals along King Street and Nimitz Highway were operating fairly well (i.e. traffic was moving consistently). After discussion with the City and County Department of Transportation Services staff, they indicated that they would not change the timing of the signals at the study intersections.

Paragraph 5. The signalized intersections were analyzed using "Operational Analysis" from the Highway Capacity Manual. The presence of bus stops, buses, and other heavy vehicles were included in this standard procedure. The analysis also accounts for the area in which the signalized intersections are located, the Central Business District. The saturation flow rates were decreased by 10% to account for the traffic conditions associated with the Central Business District. The average delays per vehicle computed from the analysis were compared to actual measurements of delays in the field and were relatively close.

Paragraph 6. City projects planned for the Downtown/Chinatown area are already on a staggered construction schedule. According to the City's inventory of available public parking stalls in this area, current projections indicate that the inventory of 2,249 stalls will decrease at most approximately 108 to 343 stalls at various times during the period of January 1992 through 1993. Thereafter, the parking inventory is projected to increase to a final inventory of approximately 2,689 stalls upon completion of all redevelopment projects on or about April 1994.

Social Impacts

The Social Assessment Section of the EIS text addresses the main issues relating to the Smith-Maunakea project, as identified in the consultant's report (Appendix E). This summary appropriately directs the reader's further interest to the full report, where more detailed information was desired. Regarding your general suggestion that certain areas be expanded, this will be given further consideration in the preparation of the Final EIS.

Preliminary Geotechnical Report

As appropriate and necessary, further detailed site investigation will be undertaken.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

Cy to: Benjamin B. Lee, Chief Planning Officer

Enclosures

HAWAII STATE DOT, HIGHWAYS DIVISION

24-HOUR TRAFFIC COUNT-STATION SUMMARY

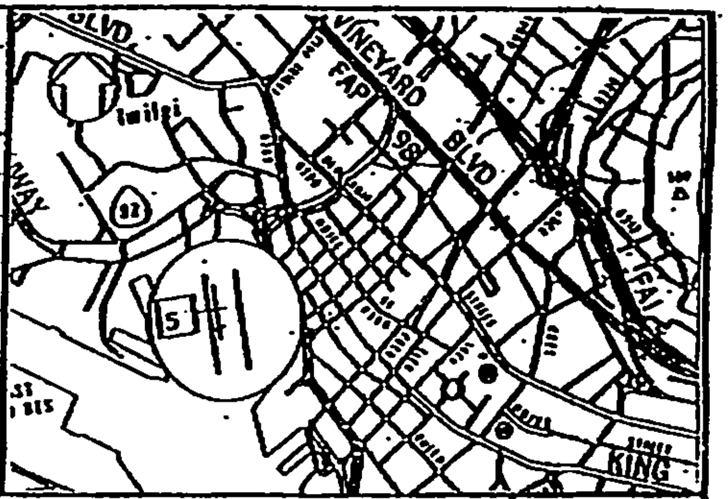
Station No: SL-31 Count Type:____ Group:____ Old No:____

Location: King Street at Nuuanu Stream Bridge

STATION CHARACTERISTICS	ROAD SECTION D-1		D-2		
Number of Lanes					
Lane Width (Ft)					
Lateral Clearance (Ft) Left/Right					
Detection Method (Loops/Hose)					

Special Conditions:

Hwy Divided: No__ Yes__ Type:



24-HOUR TRAFFIC VOLUMES

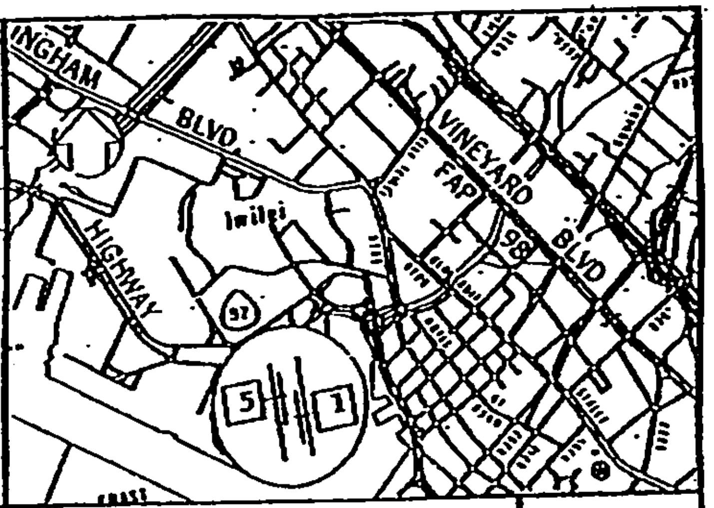
Col. I.D	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P
Traffic I.D	D-1	D-2	TOTAL												
	Mov 5														
DATE															
05/79	16538		16538												
07/80	16206		16206	(VTC)											
05/81	14938		14938												
05/82	16304		16304												
12/82	17234		17234	(VTC)											
04/03-04/84	18124		18124												
08/05-06/85	18251		18251												
04/10-11/86	19423		19423												
04/10-11/86	20655		20655	(VTC)											
11/19-20/87	20478		20478												
10/05-06/88	19680		19680												
06/15-16/89	18422		18422												

24-HOUR TRAFFIC COUNT-STATION SUMMARY

HAWAII STATE DOT, HIGHWAYS DIVISION

Station No: SL-30 Count Type:______ Group:______ Old No:______

Location: Nimitz Hwy at Nuuanu Stream Bridge



STATION CHARACTERISTICS	D-1		D-2		
Number of Lanes					
Lane Width (Ft)					
Lateral Clearance (Ft) Left/Right					
Detection Method (Loops/Hose)					

(ROAD SECTION)

Special Conditions:

Hwy Divided: No__ Yes__ Type:

24-HOUR TRAFFIC VOLUMES

Col. I.D	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	
Traffic I.D	D-1	D-2	TOTAL													
	Nov 5	Mov 1														
DATE																
05/79	28529	33802	62331													
07/80	28524	35818	64342	(VTC)												
05/81	30177	32142	62319													
12/82	30224	37334	67558	(VTC)												
04/03-04/84	28924	35182	64106													
09/05-06/85	27907	34069	61976													
04/17-18/86	32398	39429	71827	(VTC)												
12/17-18/86	29231	39007	68238													
11/19-20/87	30787	36439	67226													
10/05-06/88	29371	39110	68481													
05/17-18/89	32738	41344	74082													

Form TI 85-3 MID BLOCK

STATION NO: SL-30

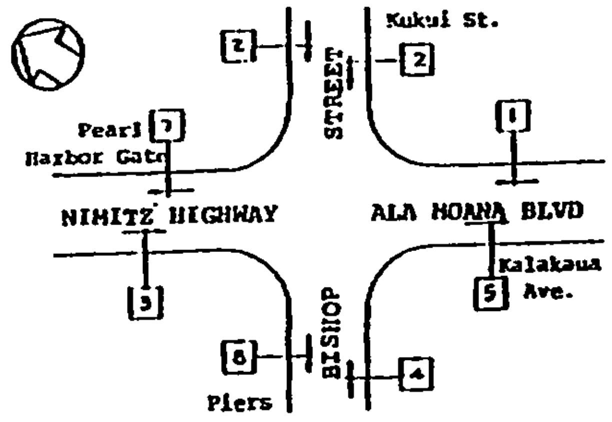
HAWAII STATE DOT, HIGHWAYS DIVISION

24-HOUR TRAFFIC COUNT-STATION SUMMARY

Station No: 417　　Count Type:______　Group:______　Old No:______

Location: Nimitz Highway at Ala Moana Boulevard and Bishop Street

STATION CHARACTERISTICS	LEG 1	LEG 2	LEG 3	LEG 4	
	INTERSECTION APPROACHES				
Traffic Control	2 - P	H A S E	A C T	U A T E	D
Width of Approach (Ft)					
No. of Lanes at Approach	3	4	5	2	
Separate Turning Lane (Lt,Rt,Lt/Rt)	None	Lt/Rt	Rt	Lt/Rt	
Parking (AM, PM, All Day, None)					
Bus Stop (NS:Near Side/FS:Far Side)	No	No	No	No	



24-HOUR TRAFFIC VOLUME BY MOVEMENT

DATE	MOV 01	MOV 05	TOTAL	MOV 02	MOV 06	TOTAL	MOV 03	MOV 07	TOTAL	MOV 04	MOV 08	TOTAL			TOTAL	VEHICLES ENTERING INTERSECTION
Aug 1983 . . .	33795	33752	67547	9885	-	9885	26444	*34759	*61203	925	2538	3463				71049
Jan 10-11, 1985	25166	34628	59794	9846	-	9846	28779	32309	61088	449	2491	2940				64240
Dec 12-13, 1985	30628	32842	63470	8378	-	8378	30700	30686	61386	558	2469	3027				70264
Dec 02-03, 1987	24998	33721	58719	8307	-	8307	29073	30569	59642	567	1919	2486				62945
Aug 07-08, 1989	34746	34801	69547	7953	-	7953	33639	33655	67294	790	3309	4099				77128

Form TI 85-4 INTERSECTION　　STATION NO: 417

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

FRANK F. FASI
MAYOR

BENJAMIN B. LEE
CHIEF PLANNING OFFICER

ROLAND D. LIBBY JR.
DEPUTY CHIEF PLANNING OFFICER

VW 4/91-1351

April 30, 1991

MEMORANDUM Mike

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

FROM: BENJAMIN B. LEE, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)
FOR THE PROPOSED SMITH-MAUNAKEA HOUSING PROJECT

We have reviewed the Draft Environmental Impact Statement (DEIS) for the proposed Smith-Maunakea Housing project. Our review of this document included an analysis and comparison of: (1) all referenced letters commenting upon the Environmental Impact Statement Preparation Notice (EISPN); (2) all responses to these letters by the Department of Housing and Community Development (DHCD); (3) all letters received by the Department of General Planning to date commenting upon this DEIS; and (4) the contents of the DEIS.

We find that you have addressed all comments and requests adequately with the exception of the following items:

1. Potential project delay due to replacement of the 28-inch sewer main under Nimitz Highway.

   The Department of Public Works commented that investigation and remediation of oil contaminated soil may delay this project beyond the start of construction tentatively scheduled for Fiscal Year 1993. Please describe in the FEIS the effect that delay of the new Nimitz Highway 28-inch sewer may have on this project and any alternative solutions to this problem.

2. Potential noise impacts on residents of the project from commercial uses and motor vehicles.

The DEIS (pp. 42 and 43) states:

> "In summary, the measurement results confirm that the project site is in a relatively noisy environment, with existing background (L90) noise levels at or near the site of typically 60 to 65 dBA during the daytime. The main noise source was traffic on Nimitz Highway and other city streets. At times, aircraft noise was also quite noticeable at certain locations."

In the approval of certain Oahu projects, i.e., West Beach, the maximum noise impact permitted by residential areas is 60 dBA during day time. Please include in the FEIS all noise mitigating measures proposed in this project and your estimate of the resultant interior apartment noise levels.

We also note that your response to the Department of Health's letter of December 10, 1990 does not specifically address the first question under subtitle "Noise":

> "(1) There are reservations toward the proposed project due to potential noise impacts resulting from the integration of commercial and residential uses."

Please address this concern in the FEIS.

3. Accessibility by disabled persons.

There is no statement in the DEIS or in Appendix E, Local Impact Assessment, to match your letter to the Department of Human Resources, which describes how the project will meet the requirements for accessibility to disabled persons. Please describe in the FEIS how these requirements will be incorporated in this project.

Should you have any questions, please call Verne Winquist at 527-6044.

Ben

BENJAMIN B. LEE
Chief Planning Officer

BBL:js

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

JUL 1 5 1991

Mr. Benjamin B. Lee
Chief Planning Officer
Department of General Planning
Municipal Office Building, 8th Floor
650 South King Street
Honolulu, Hawaii 96813

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Lee:

Thank you very much for your April 30, 1991 memorandum. We appreciate your efforts in reviewing the document. Information in response to your comments is provided below:

Nimitz Highway Sewer Improvement

Coordination is continuing between our office and the Department of Public Works on this issue. At this time, it is not certain that a delay will occur. There are no known alternative solutions to this problem.

Noise Impacts

The 60dBA referenced in your memorandum for certain Oahu projects, such as West Beach, probably referred to Aircraft noise levels using Day-Night Average Sound Level (Ldn) and not to the noise levels exceeded 10 percent of the time, e.g., the L90 range of 60 to 65 found at the current project with traffic being the main noise source.

The mitigative measures listed on Page 46 of the DEIS will be incorporated into the design of the project, and electrical outlets for window air conditioners will be provided. The implementation of these measures will allow interior noise level to meet HUD's goal of Ldn 45.

Regarding your comment on our response to the EISPN comment letter from the State Department of Health (DOH), our reply did address DOH's first question under the subtitle "Noise." Please refer to Page 2, Item 1 under Noise of our reply letter to DOH dated December 31, 1990.

Accessibility by Disabled Persons

Our response to the EISPN comments from the Department of Human Resources will be incorporated into the text of the FEIS.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely,

Gail Kaito
for MICHAEL N. SCARFONE
Director

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813 • (808) 523-4432

FRANK F. FASI
MAYOR

DONALD A. CLEGG
DIRECTOR

LORETTA K.C. CHEE
DEPUTY DIRECTOR

LU 04/91-2450(JSM)

June 6, 1991

MEMORANDUM

TO: BENJAMIN B. LEE, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

FROM: DONALD A. CLEGG, DIRECTOR

SUBJECT: THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE SMITH-MAUNAKEA HOUSING PROJECT

We have reviewed the Draft Environmental Impact Statement for the subject project.

Our review indicates that in general the proposal is in conformance with the design control system for the Chinatown Special Design District. Details such as the colors, store-front design, etc. will be addressed upon submittal of the Design District application.

Requested waivers for the height setback are minor and are not in conflict with the existing regulations.

We do have some concern about the articulated stair towers. Variations of heights at lower levels result in a saw-tooth like skyline which should be avoided, when possible, in the District. Such articulation should be reserved for very special design elements like the Aloha Tower. We may have objections to the clock tower within the Maunakea Market Place, if highly visible from outside of the courtyard.

We, therefore, recommend that the stair tower be of minimum height and/or otherwise reduced in visual impact.

We note that the proposed project also will require the waiver of some of the other design standards of the Land Use Ordinance, especially as they apply to building height and parking. Although these do not seem to be unreasonable requests, the final Environmental Impact Statement should include a stronger justification as to why these waivers are necessary.

Please contact John Morihara of our staff (527-5349), if you have any questions or need any further assistance.

Donald Clegg

DONALD A. CLEGG
Director of Land Utilization

DAC:lg

cc: Department of Housing and Community Development
William E. Wanket, Inc.

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

July 8, 1991

Mr. Donald A. Clegg
Director
Department of Land Utilization
Municipal Office Building, 7th Floor
650 South King Street
Honolulu, Hawaii 96813

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Clegg:

Thank you very much for a copy of your June 6, 1991 memorandum to the Department of General Planning. We appreciate your efforts in reviewing the document, and note that your review indicated that the proposal, in general, is in conformance with the design control system for the Chinatown Special Design District and the height setback waivers are not in conflict with the existing regulations. Regarding your other comments, we offer the following in response:

Stair Towers

As stated in the DEIS (Page 3), the plans and the design details have not been finalized and are subject to change as the project advances through the design development stage. Your concerns are noted and your suggestion that the stair towers be of minimum height and/or otherwise reduced in visual impact will be given consideration.

Waivers

Further justification of all requested waivers will be addressed upon submittal of the waiver application to your office.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

Cy to: Benjamin B. Lee, Chief Planning Officer

DEPARTMENT OF PARKS AND RECREATION

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

WALTER M. OZAWA
DIRECTOR

ALVIN K.C. AU
DEPUTY DIRECTOR

May 9, 1991

TO: BENJAMIN B. LEE, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

ATTN: EILEEN MARK

FROM: WALTER M. OZAWA, DIRECTOR

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT (EIS)
PROPOSED SMITH-MAUNAKEA HOUSING PROJECT
TAX MAP KEY 1-7-02: 4 & 5

We have reviewed the EIS for the proposed Smith-Maunakea Housing Project and make the following comments and recommendations:

The size of the proposed mixed-use project would have a significant impact on our inadequate public park facilities in the downtown area. At this time, there are no public parks being planned to serve new residential projects in the downtown area other than passive type mini parks and pedestrian promenades. Consequently, it is important that adequate active recreational areas and facilities be provided in the design of the project to serve its future residents.

The project will be subject to compliance with the City's Park Dedication Ordinance No. 4621. Procedures and requirements to comply with the Ordinance are specified in the City's Park Dedication Rules and Regulations.

Thank you for the opportunity to review and comment on the EIS. Should you have any questions, please call Jason Yuen of our Advance Planning Branch at extension 6316.

WALTER M. OZAWA, Director

WMO:ei

cc: William E. Wanket, Inc.
Office of Environmental Quality Control
Dept. of Housing & Community Development

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR
Gail M. Kaito
DEPUTY DIRECTOR

July 8, 1991

Mr. Walter Ozawa
Director
Department of Parks and Recreation
Municipal Office Building, 10th Floor
650 South King Street
Honolulu, Hawaii 96813

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Ozawa:

Thank you very much for a copy of your May 9, 1991 memorandum to the Department of General Planning. We appreciate your efforts in reviewing the document.

Your concern over the lack of public park facilities in the downtown area, and your recommendation that adequate active recreational areas and facilities be provided in the design of the project are noted. As our plans progress, we will continue to consult with your office on the recreational component of the final plan. However, as stated to you in our previous letter of January 21, 1991 (EISPN), an exemption from the Park Dedication Ordinance No. 4621, under the provisions of Chapter 201E, HRS, may be necessary.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

Cy to: Benjamin B. Lee, Chief Planning Officer

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

FRANK F. FASI
MAYOR

SAM CALLEJO
DIRECTOR AND CHIEF ENGINEER

C. MICHAEL STREET
DEPUTY DIRECTOR

In reply refer to:
ENV 91-95(449)

May 1, 1991

MEMORANDUM

TO: BENJAMIN B. LEE, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

FROM: SAM CALLEJO, DIRECTOR AND CHIEF ENGINEER

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)
SMITH-MAUNAKEA HOUSING PROJECT
TAX MAP KEY: 1-7-02: 3, 4 AND 5

We have received the subject DEIS and have the following comments:

1. The proposed project may be required to conform with Ordinance No. 2412, as amended.

2. We have no additional comments on the wastewater infrastructure at this time.

Sam Callejo

SAM CALLEJO
Director and Chief Engineer

cc: DHCD
William E. Wanket, Inc.
OEQC

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR
Gail M. Kaito
DEPUTY DIRECTOR

JUN 5

Mr. Sam Callejo
Director and Chief Engineer
Department of Public Works
650 South King Street
Honolulu, Hawaii 96813

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Callejo:

Thank you very much for the copy of your May 1, 1991 memorandum to the Department of General Planning. We appreciate your review of the document and the information that the project may be required to conform to the recently amended Ordinance 2412. In addition, we note that you have no additional comments on the wastewater infrastructure at this time.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU

COPY

June 5, 1991

TO: BENJAMIN B. LEE, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

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

KH

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) DATED APRIL 1991 REGARDING THE PROPOSED SMITH-MAUNAKEA HOUSING PROJECT, TMK: 1-7-02: 3-5

We have no objections to the proposed 234-unit rental housing complex, commercial space and parking structure. Our previous comments of October 8, 1990, which are incorporated in the DEIS document, are still applicable.

If you have any questions, please contact Bert Kuioka at 527-5235.

cc: Eileen Mark, DHCD
William E. Wanket, Inc.
OEQC

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

JUN 20 '91

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

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Hayashida:

Thank you very much for the copy of your June 5, 1991 memorandum to the Department of General Planning. We appreciate your efforts in reviewing the document and your comment that you have no objections to the proposed project.

For your information, your memorandum together with this letter will be included in the Final EIS.

Sincerely,

MICHAEL N. SCARFONE
Director

cc: Benjamin B. Lee, Chief Planning Officer

PB 91-540

May 2, 1991

MEMO TO: BENJAMIN LEE, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

FROM: HERBERT K. MURAOKA
DIRECTOR AND BUILDING SUPERINTENDENT

SUBJECT: SMITH-MAUNAKEA HOUSING PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)

We have reviewed the DEIS for the subject project and have no comments to offer.

Thank you for the opportunity to review the document.

HERBERT K. MURAOKA
Director and Building Superintendent

JH:jo
cc: J. Harada
Housing & Comm. Develop. Dept.
(Eileen Mark)
William E. Wanket, Inc.
Office of Environmental Quality Control

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

CITY AND COUNTY OF HONOLULU · STATE OF HAWAII

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

Mr. Herbert K. Muraoka
Director and Building Superintendent
Municipal Building
650 South King Street
Honolulu, Hawaii 96813

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Muraoka:

Thank you very much for the copy of your May 2, 1991 memorandum to the Department of General Planning. We appreciate your review of the document.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

cc: Benjamin B. Lee, Chief Planning Officer

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
1455 SOUTH BERETANIA STREET, ROOM 305
HONOLULU, HAWAII 96814

FRANK F. FASI
MAYOR

LIONEL E. CAMARA
FIRE CHIEF

DONALD S.M. CHANG
DEPUTY FIRE CHIEF

April 30, 1991

TO: BENJAMIN B. LEE, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

FROM: LIONEL E. CAMARA, FIRE CHIEF

SUBJECT: SMITH-MAUNAKEA HOUSING PROJECT
HONOLULU, HAWAII - TMK: 1-7-02: PARCELS 3, 4 & 5

We have reviewed the subject material provided and have no additional comments.

Should you have any questions, please contact Acting Assistant Chief Attilio Leonardi of our Administrative Services Bureau at 943-3838.

Lionel E. Camara

LIONEL E. CAMARA
Fire Chief

AKL:ny

Copy to: Eileen Mark (DHCD)
Wiliam Wanket, Inc.
OEQC

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

May 28, 1991

Mr. Lionel E. Camara
Fire Chief
Fire Department
1455 South Beretania Street, Room 305
Honolulu, Hawaii 96814

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Camara:

Thank you very much for the copy of your April 30, 1991 memo to the Department of General Planning regarding the above-referenced project. We appreciate your efforts in reviewing the DEIS.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

cc: Benjamin B. Lee, Chief Planning Officer

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

FRANK F. FASI
MAYOR

MICHAEL S. NAKAMURA
CHIEF

HAROLD M. KAWASAKI
DEPUTY CHIEF

OUR REFERENCE ES-LK

May 29, 1991

TO: BENJAMIN B. LEE, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

FROM: MICHAEL S. NAKAMURA, CHIEF OF POLICE
HONOLULU POLICE DEPARTMENT

SUBJECT: SMITH-MAUNAKEA HOUSING PROJECT

The environmental impact statement for the Smith-Maunakea Housing Project appears to require only one comment. That is prompted by the memo from Michael Scarfone, dated October 15, 1990, which appeared in the EISPN comment/letters/responses section. That memo solicited further input regarding building security measures.

In our earlier response to this project proposal, we urged that the project designers give appropriate attention to the principles of environmental security so as to reduce the opportunities for criminals. The principles we had in mind include such things as extensive lighting of common areas (to make it harder for anyone to hide); the use of deadbolts on doors and locks on windows (to make break-ins more difficult); correct positioning of doors and windows (i.e., don't position a window within arm's reach of a door); and so on. We believe that these principles are now relatively well entrenched in the architectural literature, and designers should be familiar with them.

The use of private security personnel is another common means of protecting the premises. However, this is a decision that can be made later and does not require incorporation into the basic design of the facility.

Thank you for the opportunity to comment.

MICHAEL S. NAKAMURA
Chief of Police

By B. Fujii
for CHESTER E. HUGHES
Assistant Chief of Police
Support Services Bureau

cc: Dept. of Housing
and Community Development
William E. Wanket, Inc.
OEQC

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

JUN 6 '91

Mr. Chester E. Hughes
Assistant Chief of Police
Support Services Bureau
Honolulu Police Department
1455 South Beretania Street
Honolulu, Hawaii 96814

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Hughes:

Thank you for a copy of your May 29, 1991 memorandum to the Department of General Planning. We appreciate your efforts in reviewing the document, and we thank you for your suggestions on building security. These suggestions will be taken into consideration in preparing the final plans for the project.

For your information, your memorandum together with this response will be included in the Final EIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

cc: Benjamin B. Lee, Chief Planning Officer

DOWNTOWN NEIGHBORHOOD BOARD NO. 13
c/o NEIGHBORHOOD COMMISSION • CITY HALL, ROOM 400 • HONOLULU, HAWAII 96813

June 10, 1991

Department of General Planning
650 South King Street, 8th Floor
Honolulu HI 96813
Attention: Verne Winquist

Re: DEIS, Smith-Maunakea Housing Project

Dear Mr. Winquist:

The Downtown Neighborhood Board has reveiwed the DEIS for the above referenced project. We have the following comments:

First, we would like to compliment the architects on the design.

The Downtown Neighborhood Board objects to any exemptions from the park dedication ordinance. Downtown is park poor, especially in the areas of active recreation and where the residents are concentrated. If the needs cannot be met on site, we suggest the funds which would be deposited toward park dedication be applied to parks serving downtown residents, preferably the Smith-Beretania parking lot redevelopment or the Zippy's block, which the BOard has long advocated be turned into an active park.

The DEIS says we can use several park sites in the area. Kamalii Park has been rezoned and may be demolished as part of the Pacific Nations Center. We have been told by St. Andrews Cathedral that Queen Emma Square may be private. In any event, it is on the Cathedral grounds and no one is aware that it is public space. The Pauahi Community Service facility is an indoor center with no active recreation. The Fort Street Mall Wilcox Park, and Chinatown Gateway park are all passive. Two are waterfall parks and one, Wilcox, has a prohibited uses sign. Aala Park is tent city and dangerous. Parents will not let their children go there. The Beretania Community Park is overused by its adjacent neighbors.. Residents need ground level playgrounds, recreation centers and ball courts and in lieu fees can help rpovide them.

We also object to any waiver from the parking requirements. There is a great need for parking in the Chinatown-Downtown area. That need will continue to grow as both the residential and commercial populations increase. We would also like to know if the parking rates will be the same as now and whether the lot will be open to the public 24 hours a day or closed at night, as at Chinatown Gateway.

A main omission from the DEIS is a City parking plan. Several lots will be closed at the same time, taking hundreds of parking spaces out of the available inventory. Yet, while there has been talk of a plan we have not seen one. This needs to be addressed in the EIS.

We also believe that the traffic analysis was inadequate. Maunakea/King and Maunakea/Beretania need to be studied. Many cars travel down Maunakea Street and park in the present Kelaulike and Smith/Maunakea lots Under the reconstruction plans, if the Kekaulike lot is filled they will have to turn left on King to Nuuanu, right on Nuuanu to Nimitz, right on Nimitz to Smith and right on Smith to the lot. This needs to be addressed in the EIS. We support Chief Planning Officer Ben Lee's comments that the traffic impact study should consider the cumulative impacts from this and other proposed major traffic generating developments in the vicinity. He specifically cites the Waterfront at Aloha Tower. Yet both that and the Pacific Nations Center were omitted from the study. Both need to be included.

We also agree with Mr. Lee's comments concerning specific planned energy conservation measures. We too would like to know if the residential tower will have separate disposal of recyclable materials and whether there will be dedicated parking for bicycles and mopeds.

Testimony at the House Education Committee this past session indicated that McKinley High School is scheduled for renovations and that the Department of Education may reduce the number of classes, thus reducing student enrollment by at least 100. This needs to be addressed in the EIS.

The DEIS contains many errors. To name a few, the State office tower is owned by the State, not Hemmeter, and is located on Beretania between Richards and Alakea, not at the corner of Bishop; the Smith/Beretania parking lot project calls for approximately 325 stalls, not 500; the Regional and Project Locations Maps have the Maunakea Marketplace on the wrong block. We hope these and other errors will be corrected in the EIS.

We also expect that 1990 census figures will be used in the EIS.

This is a multi-generational mixed income building. Hale Pauahi was designed the same way. We would like to see a plan developed which would address the problems occurring at Hale Pauahi, i.e. drug use and excessive noise bothering the seniors, so Smith Maunakea will not suffer the same consequences.

Sincerely,

Lynne Matusow

Lynne Matusow
Chairman

cc. Department of General Planning
William Wanket✓
OEQC

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

JUL 17 '91

Ms. Lynne Matusow
Chairman
Downtown Neighborhood Board No. 13
c/o Neighborhood Commission
Room 400
City Hall
Honolulu, Hawaii 96813

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Ms. Matusow:

Thank you very much for the copy of your June 10, 1991 letter to the Department of General Planning. We appreciate your efforts in reviewing the document and thank you for your compliment on the design. Information in response to your other comments is provided below:

Park Dedication Ordinance

Your objection to any exemptions from the park dedication ordinance is noted. As stated in the DEIS (Page 101), we are continuing to explore ways of meeting the intent of the Park Dedication Ordinance, and your suggestions concerning off-site park improvements are appreciated.

Existing Park Sites

Your comments on the restrictive nature of the existing parks in the area are noted. The restrictive nature of these parks was also noted in the DEIS Social Impact Assessment report, Appendix E, Pages 54-56.

Parking Waiver

Your objection to any waiver from the parking requirements is noted. Our experience in other Downtown rental projects, however, suggest that the waiver is reasonable. Parking rates and the hours of operation for the parking garage have not been determined at this time.

Parking Plan

Although a final mitigating parking plan has not been developed, consideration is being given to reconfigurating some of the existing lots to gain additional spaces, as well as the use of valet parking. Also consideration will be given to placing a priority on completing the project's parking structure so that the period during which parking will be unavailable on-site will be shortened. Staggering of construction schedules will also be employed to lessen the number of loss spaces at any one time.

Traffic Analysis

The intersections of Maunakea/King and Maunakea/Beretania were not studied because future project traffic will not significantly affect these intersections. Present access to the site is from Maunakea and Smith Streets. Therefore, a portion of traffic generated by the site uses Maunakea Street. In the future, the only access to the project will be from Smith Street. Traffic that is presently using the Maunakea Street access will be diverted to the Smith Street access. It is more likely that drivers will use Nuuanu Avenue instead of Maunakea Street from Vineyard Boulevard in the future. Therefore, the primary impacts due to the project will occur along Nuuanu Avenue and Smith Street instead of Maunakea Street.

Your comment in support of Chief Planning Officer, Ben Lee, is in reference to his comment letter on the EISPN. In our reply to his comments, we responded that the traffic study will include projected traffic volumes of other proposed major traffic generating developments in the vicinity which will be completed by 1993, which is the year that the Smith-Maunakea project is expected to be completed. Both the Waterfront at Aloha Tower and the Pacific Nations Center projects are expected to be completed sometime after the Smith-Maunakea project is in use.

Planned Energy Conservation Measures

Again, your support of Mr. Lee is in reference to his comment letter on the EISPN. Also included in the DEIS was our response letter which listed the specific energy conservation measures that will be incorporated into the design of the project. These same measures were also listed in the text of the DEIS, Page 89.

As part of the building operational requirements, tenants will be instructed to deposit recyclable materials in designated areas in the basement. Also, there will be dedicated parking for bicycles and mopeds distributed in all parking floors.

Education

During the preparation of the DEIS, the State Department of Education (DOE) advised that McKinley High School should be able to accommodate the 12-15 percent enrollment increase expected from the project. As of this date, staff from the Facilities Branch of

DOE still believe this small number of students can be accommodated at the high school. Regarding renovations at McKinley High School, staff from the Facilities Branch of DOE advised that such efforts are still under consideration, but that no definite plans for its implementation has been determined at this time, pending the availability of funding and the resolution of a feasible student relocation plan.

Errors

We appreciate your identification of certain incorrect notations made in Appendix E of the DEIS and on Figure 1 of the EISPN. These "errors" do not in any significant way affect the findings contained in the text of the DEIS, Appendix E, or in the EISPN. The latter, for your information, is included in the DEIS only to certify that this document served as the EISPN. As appropriate, corrections will be made in the Final EIS.

1990 Census

The 1990 census figures are preliminary at this time, and the definitive figures are not expected for quite some time. Furthermore, the preliminary information only contains housing and population counts for the study area. In comparing the 1990 information with the 1989 information used in the DEIS, the differences are slight and would not substantially alter any findings in the DEIS (see below).

	1989	1990
Population	9,049	8,542
Housing	4,831	4,608

For purposes of this EIS, we do not find it appropriate to use the 1990 information for the following reasons:

1. The 1990 preliminary census information has been critized for underestimating population counts. For this study area, the 1990 census count is lower than the 1989 count produced by the City Department of General Planning. The biggest differences are in the Makai Chinatown area, Census Tract 52. I believe the City's information is more accurate because it is based on actual unit counts.

2. The 1990 information is too general to make any analysis. Gross population and housing count tell us very little about the subject community.

Multi-Generational Mixed Income Building

Tenants wil sign rental agreements that will require full complinace with established house rules. In addition to compliance with the laws of the State of Hawaii, these rules will contain provision tailored to meet the peace, health, safety and general welfare of those residing in the project. The rules will be strictly enforced and repeat offenders will not be tolerated.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

Cy to: Benjamin B. Lee, Chief Planning Officer

Hawaiian Electric Company, Inc. • PO Box 2750 • Honolulu, HI 96840-000

ENV 2-1
EIS
JA/G

William A. Bonnet
Manager
Environmental Department

May 20, 1991

Mr. Ben Lee
Department of General Planning
Municipal Office Building
650 South King St., 8th Floor
Honolulu, Hawaii 96813

Dear Mr. Lee:

Subject: Draft Environmental Impact Statement (DEIS) for Smith-Maunakea Housing Project

We have reviewed the subject DEIS, and have no comments on the proposed project at this time. HECO shall reserve comment pertaining to the protection of existing power lines bordering the project area until construction plans are finalized.

Sincerely,

cc: Eileen Mark, Dept. of Housing and Community Development
William E. Wanket, William E. Wanket, Inc.

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

May 29, 1991

Mr. William Bonnet
Manager
Environmental Department
Hawaiian Electric Company, Inc.
P.O. Box 2750
Honolulu, Hawaii 96840-0001

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Mr. Bonnet:

Thank you very much for the copy of your May 20, 1991 letter to the Department of General Planning. We appreciate your review and note that you are reserving comments on the protection of existing power lines bordering the project area until construction plans are finalized.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely,

Gail Kaito
for MICHAEL N. SCARFONE
Director

cc: Benjamin B. Lee, Chief Planning Officer

People Against Chinatown Evictions
1170 Nuuanu Ave. #503
Honolulu, HI 96817

June 25, 1991

Mike Scarfone
Department of Housing and Community Development
650 South King St.
Honlulu, HI 96813

RE: Smith-Maunakea Housing DEIS

Dear Mr. Scarfone,

We have talked to residents in Chinatown regarding the Smith-Mauankea Housing DEIS, and they have raised several major concerns.

The primary concern for tenants in Chinatown is the serious lack of affordable housing in Honolulu in general and the Chinatown-Downtown area in particular. One indication of this was that there were 13 applicants for each affordable unit in Chinatown Gateway Plaza and only 0.8 applicants for each market unit. Furthermore, HHA has a waiting list of over 12,000 for its subsidized units, with an average wait of four years. In addition, the State of Hawaii estimates that there are over 8,000 homeless persons here.

Therefore, the tenants strongly recommend that ALL of the units in Smith-Maunakea Housing be affordable units. We know this is feasible, because there have already been successful 100% low-income housing developments in Chinatown, such as Teddi Duncan Apartments (River-Pauahi), Pauahi Kupuna and Smith-Beretania Apartments.

We would also like clarification on the statement, "Part or all of the the Kaahumanu premium will be used to subsidize project costs (EISPN, paragraph 4.2, Page 8.) Does this mean that Harbor Court Developers are paying in-lieu fees instead of fulfilling their affordable housing requirements? In view of the critical affordable housing shortage, we would strongly oppose the City allowing the developer to shirk their responsibility in this area.

Finally, we would like to object to the City ignoring the Chinatown tenants represented by PACE during the consultations for the EISPN and the DEIS. In fact, the entire list of consulted parties includes numerous government and business organizations and only one community organization, the Downtown Neighborhood Board. We hope that in the future you will correct this oversight, and instead consult with PACE early in the planning process on all City projects in the Chinatown area.

The City administration has made many public commitments to affordable housing. This project represents a chance to live up to those commitments, and we hope that the City will take the opportunity to provide for the urgent low-income housing needs of Hawaii's people.

Sincerely yours,

Soy Wong

for Christine Brown
for the PACE Steering Committee

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

July 8, 1991

Ms. Christine Brown
People Against Chinatown Evictions
1170 Nuuanu Avenue #603
Honolulu, Hawaii 96817

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Ms. Brown:

Thank you very much for your June 25, 1991 letter. We appreciate your efforts in reviewing the document. Information in response to your comments is provided below:

Number of Affordable Units

The need for affordable housing is a well-documented fact, and there are several ways the City has tried to address this issue. The use of federal funds to subsidize development costs and rent subsidies to offset operating deficits is one way. This approach was used in those projects referenced in your letter. Another approach, the one used for the Smith-Maunakea project, is to use all City funds, where the affordable units are subsidized through the rental of market units. In the Smith-Maunakea case, it is not feasible to have 100% affordable units. The market units are necessary to offset the cost of developing and operating the affordable units. In this regard, every attempt is being made to maximize the number of affordable units.

Kaahumanu Premium

The Request for Proposal (RFP) for the Kaahumanu site did not include an affordable housing component as a requirement. In fact, housing was an option. The premium paid by the developer was for the right to develop the site, and not in-lieu fees for meeting any affordable housing provisions.

Notification

PACE will be included in our list of community groups to be contacted for projects in Chinatown. In this connection, we would appreciate being kept advised of any change in mailing address concerning your organization.

Regarding your comment on the City administration's many public commitments to affordable housing, let me say unequivocally that the Smith-Maunakea project is another example of that commitment.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

NANCY BANNICK

871 Kapiolani Boulevard, Room 3
Honolulu, Hawaii 96813 (808) 533-7168

June 12, 1991

Mr. Verne Winquist
Department of General Planning
650 South King Street, 8th Floor
Honolulu, Hawaii 96813

Dear Verne:

Thank you for asking me to comment on the Draft Environmental Impact Statement for the proposed Smith-Maunakea Housing Project.

I feel, as with its Harbor Court Kaahumanu Parking Structure Project, the City has done right by selecting good designers for the development and working with them to come up with a high-rise project that is about as sensitive to the low-rise Chinatown Historic District and the Honolulu waterfront as one can be.

Placing the tower on the mauka portion of the site and wrapping the structures at ground level with Chinatown-like facades are evidences of that. Probably the stair towers will also enhance the blend of old and new, although one of their models, the tower at Maunakea Market Place, seems to me to be a forced element.

I think our City government, however, is wrong to be developing its municipal parking lots along the waterfront with tall and dense housing and commercial projects. We certainly need housing and housing in this general area would be well-placed; but lots fronting the harbor and Nimitz Highway as it skirts the harbor ought to have only low-profile buildings or be open spaces.

With Harbor Court, Smith-Maunakea, and River-Nimitz (already a hideous example and only 80 feet) and the Aloha Tower Project towers to go up across the highway, we will almost totally have cut off the most historic part of our city from the harbor that gave it its beginnings. And we will have made most Downtown Honolulu streets into dark canyons. In a few years we'll be saying, "Whatever happened to Honolulu?"

We have only to look at the jarring note River-Nimitz is to what was once the picturesque outlet to Nuuanu Stream and gateway into Chinatown to learn our lesson. We would be justified in leaving Smith-Maunakea--and Harbor Court--to low-profile treatment to protect and enhance this most important part of our city, to keep Honolulu Honolulu, to preserve its sense of place.

Sincerely,

Nancy Bannick

CC: Department of Housing and Community Development
William E. Wanket
Office of Environmental Quality Control

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

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

July 8, 1991

Ms. Nancy Bannick
871 Kapiolani Boulevard
Room 3
Honolulu, Hawaii 96813

RE: Draft Environmental Impact Statement (DEIS) for Proposed Smith-Maunakea Housing Project - Response to Comments Received

Dear Ms. Bannick:

Thank you very much for the copy of your June 12, 1991 letter to the Department of General Planning. We appreciate your efforts in reviewing the document and have noted your concerns regarding the development of high-rise structures along Nimitz Highway as it skirts the harbor.

While we respect your views on this matter, the proposal for developing the site was based on adopted policies and objectives of the General Plan, Development Plan, Zoning, and the provisions of the Chinatown District that established a 250-foot height maximum for the property. With these policies in mind, the primary objective was to provide as many rental units as possible to meet the strong demand for such units in the downtown area. To offset some of the concerns you noted, design features were incorporated to ensure that the development will be compatible with the character of the area and with the existing structures of historic and architectural significance. Also, the frontage along Nimitz Highway will be extensively landscaped, perhaps with a water feature, that will greatly improve the present appearance of this area.

For your information, your letter together with this response will be included in the Final EIS.

Sincerely,

Gail Kaito

for MICHAEL N. SCARFONE
Director

APPENDIX A.

Historical Literature And Documents Search

Applied Research Group, Bishop Museum

MS.091390

HISTORICAL LITERATURE AND DOCUMENTS SEARCH FOR THE PROPOSED REDEVELOPMENT OF THE SMITH/MAUNAKEA APARTMENT/COMMERCIAL PROJECT HONOLULU, O'AHU

PART 1
HISTORICAL LITERATURE AND DOCUMENTS SURVEY

by

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September 1990

Public Archaeology Section
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Bishop Museum
Honolulu, Hawai'i

INTRODUCTION

A historical background and document search for the proposed Smith-Maunakea redevelopment project was undertaken by the Applied Research Group of the Bishop Museum for William E. Wanket, Inc. Research objectives were to predict potentially sensitive areas within the proposed project area, and to assist in evaluating the conditions and nature of possible subsurface archaeological features and deposits.

SITE DESCRIPTION

The proposed project site, owned by the City and County of Honolulu, is located in the District of Kona in downtown Honolulu, Oahu. A two story brick faced building (1897 C. Brewer warehouse) on the project site fronts Nimitz Highway (formerly Queen Street) and a three level parking garage. The off-street parking garage abuts buildings facing Merchant Street, and is bounded by Smith Street to the south, and Maunakea Street to the north. The parking garage and the two story building are within the National Register and Chinatown Special Historic District boundaries (Figure 1).

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

Three previous archaeological investigations have been undertaken within the National Register and Chinatown Historic District. A 1984 investigation at the parking lot redevelopment on the block bounded by Nu'uanu, Hotel and Bethel Streets was conducted by Joseph Kennedy of Archaeological Consultants of Hawaii. Eight to ten feet of fill at this site was determined to be imported backfill, and excavations were discontinued. A second excavation at the north-east corner of Hotel and Bethel Streets (Pantaleo Ms. 051589) conducted by the Bishop Museum Applied Research Group in 1988 documented a fill of historic materials underlain by volcanic ash with a coral substrate. Prehistoric features and/or materials were not noted from either project. Bishop Museum

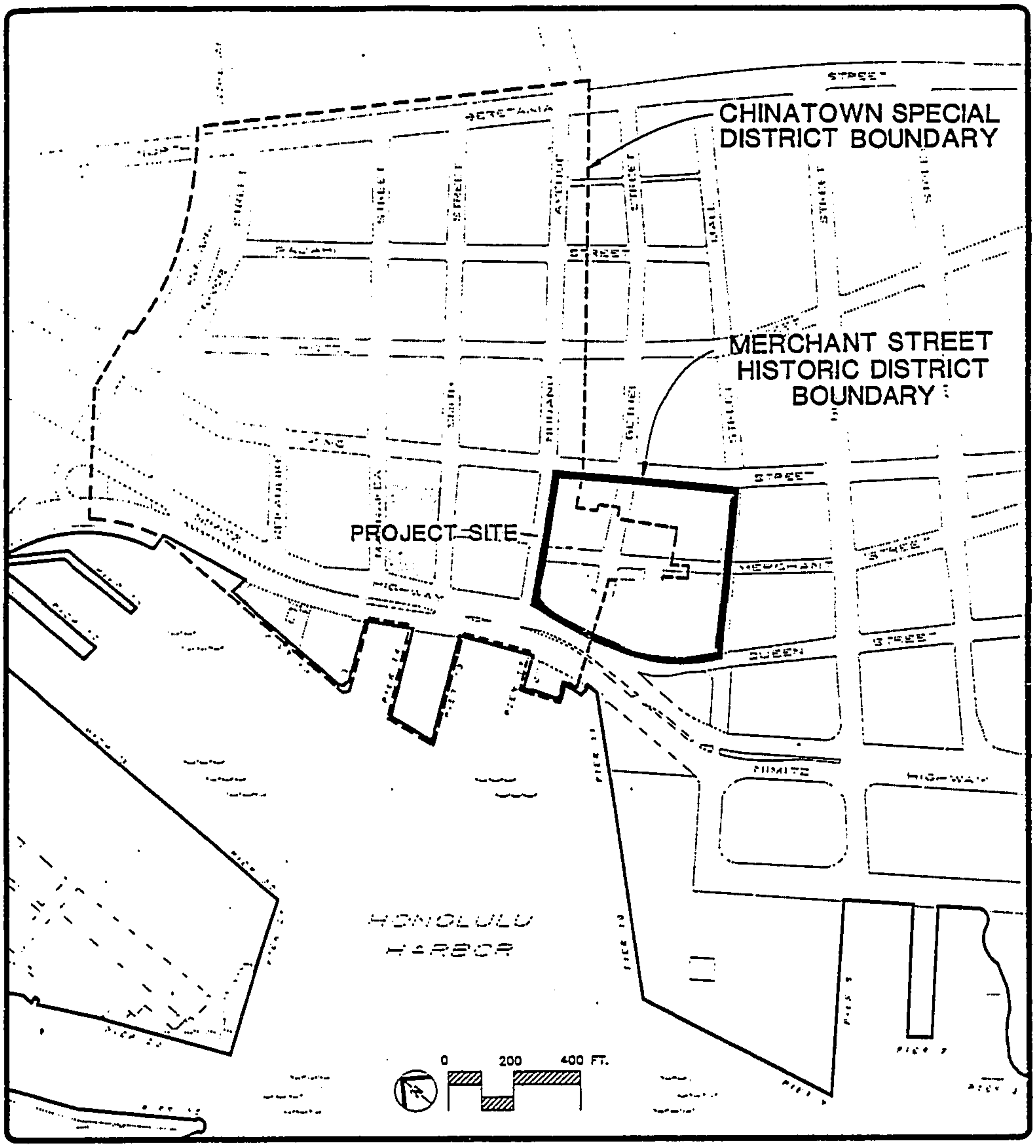


Figure 1: PROJECT SITE/SPECIAL DISTRICT. Screened area indicates project project parcel. (after Spencer Mason Architects)

Applied Research Group monitored backhoe operations at the City and County of Honolulu redevelopment project at the corner of River Street and Nimitz Highway during the summer of 1989 (Landrum, Ms. pending). The site was heavily disturbed by backfill from Nu'uanu Stream and later excavations for a sewerage pump. One in-situ burial and prehistoric, and historic materials were recovered.

PRELIMINARY RESEARCH

Sources consulted to reconstruct a chronology of the project area land use, impacts and activities included government land, tax documents, and survey maps. Additional information was abstracted from published biographies, archived photographs, newspaper articles, and Honolulu City directories. A maze of property leases, bills of sale, deeds, and partial deeds exist after 1850 and only those adding specific research information have been cited.

PROJECT SITE 1807-1845

Two centuries of intensive land use is recorded in association with the proposed project area. Diverse land activities included use for housesites and interrment purposes with a focus on maritime shipping and trade as well as commerical manufacturing, merchandising, public services, and governmental offices. In the early 1800's the land was obtained and used by two foreign individuals; Don Francisco de Paula Marin of Spain, and John Coffin Jones of Boston. Surviving children of Marin and Jones inherited all but the harbor front property from the land commission awards during 1846-1848.

Biographies of *Don Francisco de Paula Marin* (Gast and Conrad 1973), and John Jones *The Contentious Consul* (Gast 1976) have been published. Published abstracts from Don Francisco Marin's journals, early letters and related documents included in these publications provide an early history of the site area land use:

Don Francisco de Paula Marin

Born in Jerez, Spain on 28 November 1774, Don Francisco de Paula Marin arrived in Hawaii in 1793/94 from a northwest coast Spanish colony on Nootka Sound. The Don appears to have been engaged in extensive south sea voyages and west coast smuggling while maintaining a home base in Hawaii during his first decade in the Sandwich Islands. By 1807, Marin had permanently settled in Oahu as King Kahamehaha's close companion and advisor. At this time he is noted as a distiller, and as a breeder of cattle and horses imported from California (Gast and Conrad, 1973:1-9).

Houses of permanent structural types began appearing in Honolulu during King Kahamehaha's brief residence in Honolulu (1809-1812). After supervising the construction of the King's house in 1809 (later Marin's storage house for trade goods), Marin constructed a two story coral personal residence known as "America" on the project site in 1811. In modern day terms, "America House" was located: "close to the corner of Smith and Marin (later Marine) Streets". Closely arranged around the Marin House were the grass houses of his workers and "guest houses" for ship captains who boarded with Marin while their vessels were in port (Gast and Conrad 1973: 29-30, 36).

A survey of the Marin place "claimed and occupied by the Marini family" in 1846 describes the property (Figure 2) as having a wharf in the front with walls fronting the sea, along the east side of the Marin property, and also along the south side of the property adjoining a "broken down wall on the makai side of the alley" (Marine Street) (Foreign Register 1:144-146). Sworn native testimony relating to the Marin's property boundaries (Lunai) in 1847 adds to the chronology of Marin's land development:

> "In the year 1811 in the month of February I was living in a stone house ["America House"]. The servants were living nearby close to the landlords at that time. There was no enclosure except for a small fence to keep the hogs away. This time also, his ship arrived from Norway to anchor for six weeks perhaps... the captain lived at Manini's house. There was no other house or lot except for those houses and the one which Manini's servants occupied. In the year 1813...I came back from China. There were two [additional] houses standing there for Winship[1] and he was building a wood fence in front of the houses. In the year 1816 or 1818 the ship arrived again from China[2]

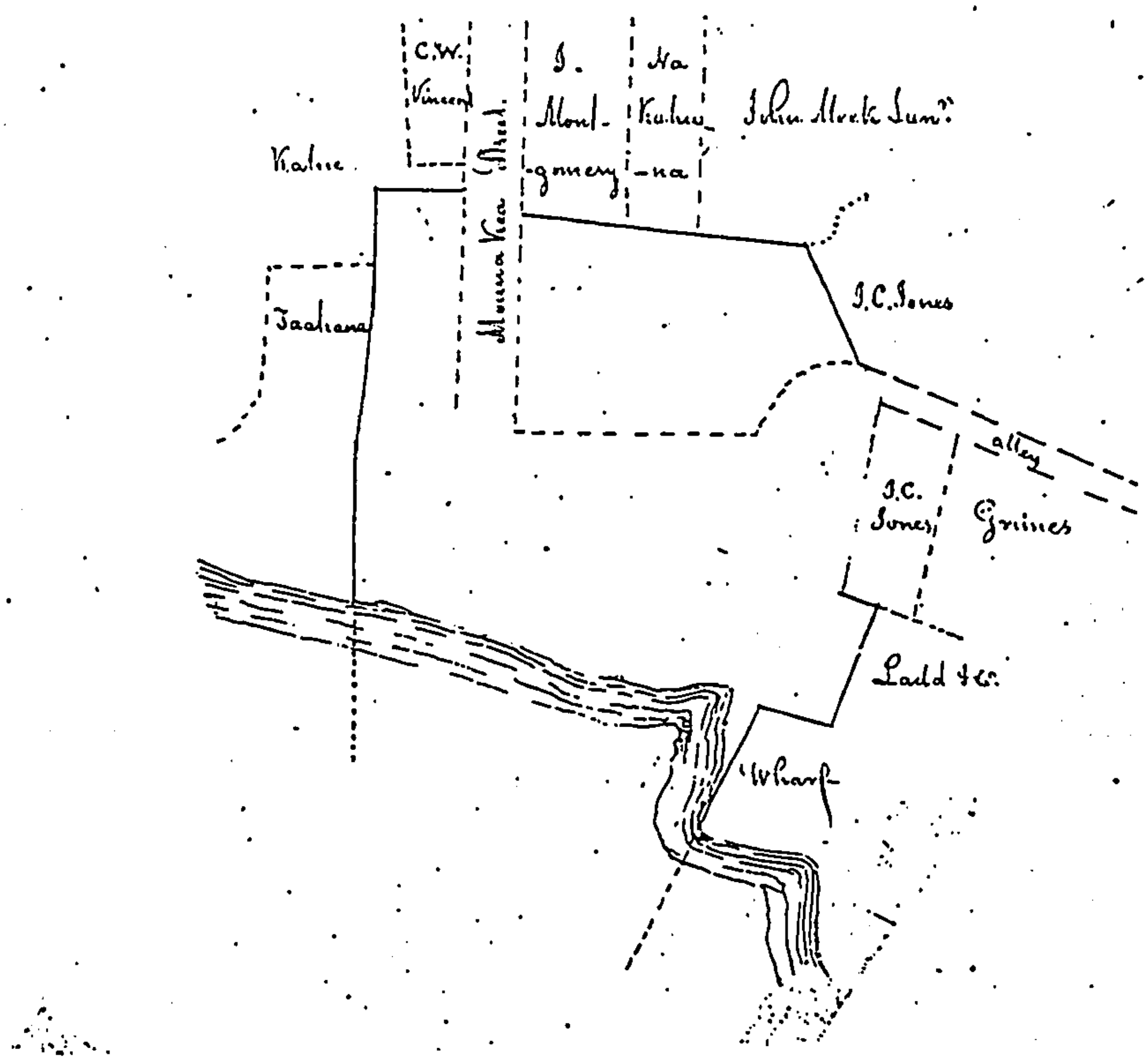


Figure 2: MARIN AND JONES LAND CLAIM, 1846.
(Foreign Register 1:146)

(Foreign Register 1:146)

and Winship did not return to these islands. In 1820 I returned again from China and saw a large corral being built... I did not realize there was a lot mauka. I returned again in May 1824 and have lived here continuously. In 1824 Marini had a large surrounding fence and in 1834 the property had moved toward the south" (Native Testimony 2:276).

Marin's journal lists, among his many enterprises, the manufacture of "tiles" in 1813 which may have been mistranslated from Spanish, and the "tiles" mentioned were possibly "adobe". An adobe house was built by Marin in 1834 for his daughter, Maria Cruze, which was later fronted by Maunakea Street when the street was extended through Marin's property about 1839 (Gast and Conrad 1973:36, 140-141). The house was particularly noticeable in Honolulu and the "double adobe house" was mentioned in a description of the "old" Honolulu Harbor in 1864 (Pacific Commercial Advertiser, 9 April 1864, 3:4).

Foremost among Marin's enterprises was the ship supply and maritime trading business for which Marin had the former King's residence as a trade storehouse, a wharf, and provided lodgings for ships captains. In addition to managing the cutting and shipping of royal sandalwood exports (Gast and Conrad, Chapter 4), Marin engaged in bartering for pearls, tortoise shell, beche de mer, and tapa. Augmenting Marin's local trade goods were produce from his gardens including potatoes and a wide variety of fruits and vegetables. A partial inventory of imported trade goods mentioned in Marin's journals are: hand tools and hardware, muskets, cannons, powder and flints; sheet copper and bar iron; textiles (silk, nankeen) and blankets; Chinese goods; and miscellaneous beads, epauletts, looking glasses and pipes (Gast and Conrad, 1973: 33, 125, 193, 199-307).

The location of Don Francisco's rum, brandy, gin and arrack distillery first mentioned in 1807 is likely to have been located near his vineyards (Vineyard Street. One or more domestic activities: barrel coppering; beer brewing; making of cigars, tallow candles, and tiles; processing of sugar and

[1]Nathan and Jonathan Winship, Boston ship merchants. Entered into the sandalwood contract of 1812 with King Kamehameha I.

[2]Sandalwood.

taro; or the bottling of lime juice, kukui and cocoanut oils, and vinegar are possible products manufactured on Marin's house site. Marin's horticultural gardens ("The Lime Trees") in Pauoa Valley (now the site of the City and County of Honolulu Water Preserve) may have been the site of some of these activities.

Twenty-three children are known to have been fathered by Don Francisco "and only seven...were alive when the Land Commission adjudicated the claims of his heirs". One of Marin's daughters, Francisca, died on 28 August 1821 and was buried "in my [Marin's] land within the fence." Locations of the burials of thirteen of Marin's children are unknown and other of Marin's children are likely to have also been buried in the housesite land. Don Francisco de Paula Marin died 30 October 1837 and was buried 7 November 1837 in a vault near to, and maka of his stone house marked as F on Figure 3, page on the proposed project site (Gast and Conrad, 1973:36, 91, 132, 134).

John Coffin Jones, Jr.

Captain John Coffin Jones, Jr. arrived in Honolulu on 20 May 1821 as a sandalwood trading representative of Marshall and Wildes (a Boston based shipping firm), and as an agent appointee of President James Monroe for Commerce and Seamen at Oahu (Gast 1976:13). John Jones, although specifically sent as an agent for the U. S. Government, was locally recognized as being the "American Consul". Holding two titles, John Jones II was politically tied into maritime impacts produced by the Pacific whaling grounds discovery in 1820, Monroe's Doctrine of 1823 (in part to curb the Russian-American Company fur traders), and for personal advancement. Adjoining Marin's property to the south, the American Consulate two story structure constructed on Queen Street (Plate 1) is described by Gast (1976:83):

> "The wooden house which was to become the American Consulate as well as Jone's residence and place of business was brought in frame on the Paragon in 1819. Construction was begun in September of that year. It was located on a tract of land given to Marshall and Wildes, on the waterfront, adjacent to the Marin holdings."

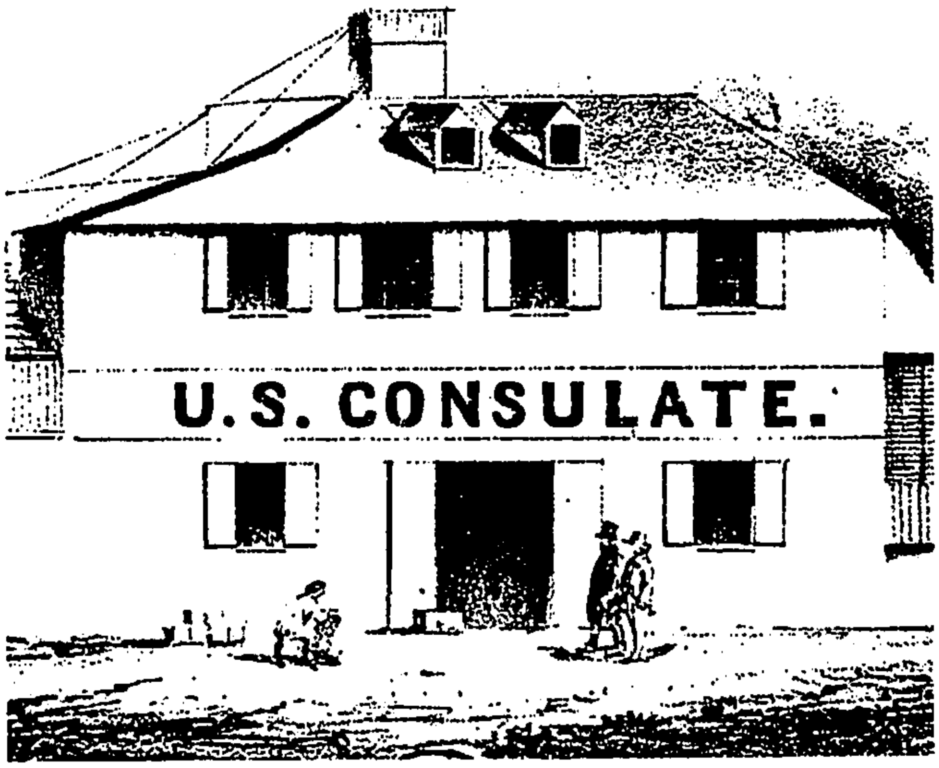


Plate 1: THE AMERICAN CONSULATE 1853 (Bishop Museum)

The two story wood structure began a fad among the royalty for pre-fabricated houses in Hawaii, which were provided and shipped by Boston traders. During Jones'intermittent private business absences from Hawaii on voyages to the Spanish Main, the northwest coast, and Canton, the house was occupied by a Major Willam Warren "who conducted a tavern on the premises" (Gast 1976:39, 89). Elegant dinner parties given by John Jones in the combined business and resident building (and by neighbor, Don Francisco Marin as well) are noted in the 1820's (Thrum 1901:75-87). The "American Consulate", still standing in 1853, was apparently demolished shortly afterwards (Thrum 1899:88).

John Jones took as his first common-law Hawaiian wife, Hannah Holmes, widow of William Davis by whom he had one daughter. His second Hawaiian wife, Lahilahi, the daughter of Don Francisco lived with their three other children on the site property. In about 1832, Jones built a coral stone house for Lahilahi adjacent to the wooden house on Marin's land (Gast 1976:52, 69,70). Foreign testimony taken from Stephen Reynolds during the Land Commission awards describes the Jones' business and resident as being:

> "...a houselot bounded by John Meeks, Jr. land mauka; ewa by heirs of Marinis sold to Doctor Judd, makai; by some grass houses of John Manini which I believe is claimed as far as Drews Shop; waititi by Kalamas land, and crosses the lane at the back of I. I. Caranave, partly fenced. Claimants are children of Lahilahi who was Ma______'s daughter obtained her right from her. The mother died in about 1844. The house which is stone was built by the father in about 1832. The father is still living in Boston. There are also several straw houses on the land at the back..." (Foreign Testimony, 2:241).

Apparently in anticipation of dismissal as consular agent, the "goods, stores and furniture" of Jones was shipped to Santa Barbara, California in August 1837. Jones was replaced by P. A. Brinsmade on 9 April 1839, and his last visit to Honolulu was in 1844 at which time his children were residing on the property (Gast 1976:157, 162, 174).

MARIN and JONES ESTATE DIVISIONS 1847-1897

During the Land Commission Mahele awards, five of Don Francisco Marin's children received the Honolulu waterfront property in three Apana. Another son of Marin, Paul, sold the harbor front and the land facing Queen Street to the government in 1847 (Figure 3). Claims (LCA 217) were awarded: to Frank Manini (Apana 1); joint tenancy to Antoinette, John, and George Manini (Apana 2); and Cruz Manini (Apana 3) (Land Claim Awards 3:59). Buildings and appurtenances were demolished by a fire in 1860. Most of the property became part of Honolulu Iron Works in the 1870's with frame buildings along Maunakea Street.

Three children of John Jones (Marin's grandchildren) by his wife Lahilahi (daughter of Marin) received the property adjoining Marin's to the south (LCA 810). Originally claimed as one property (Land Claim Awards 3:102)

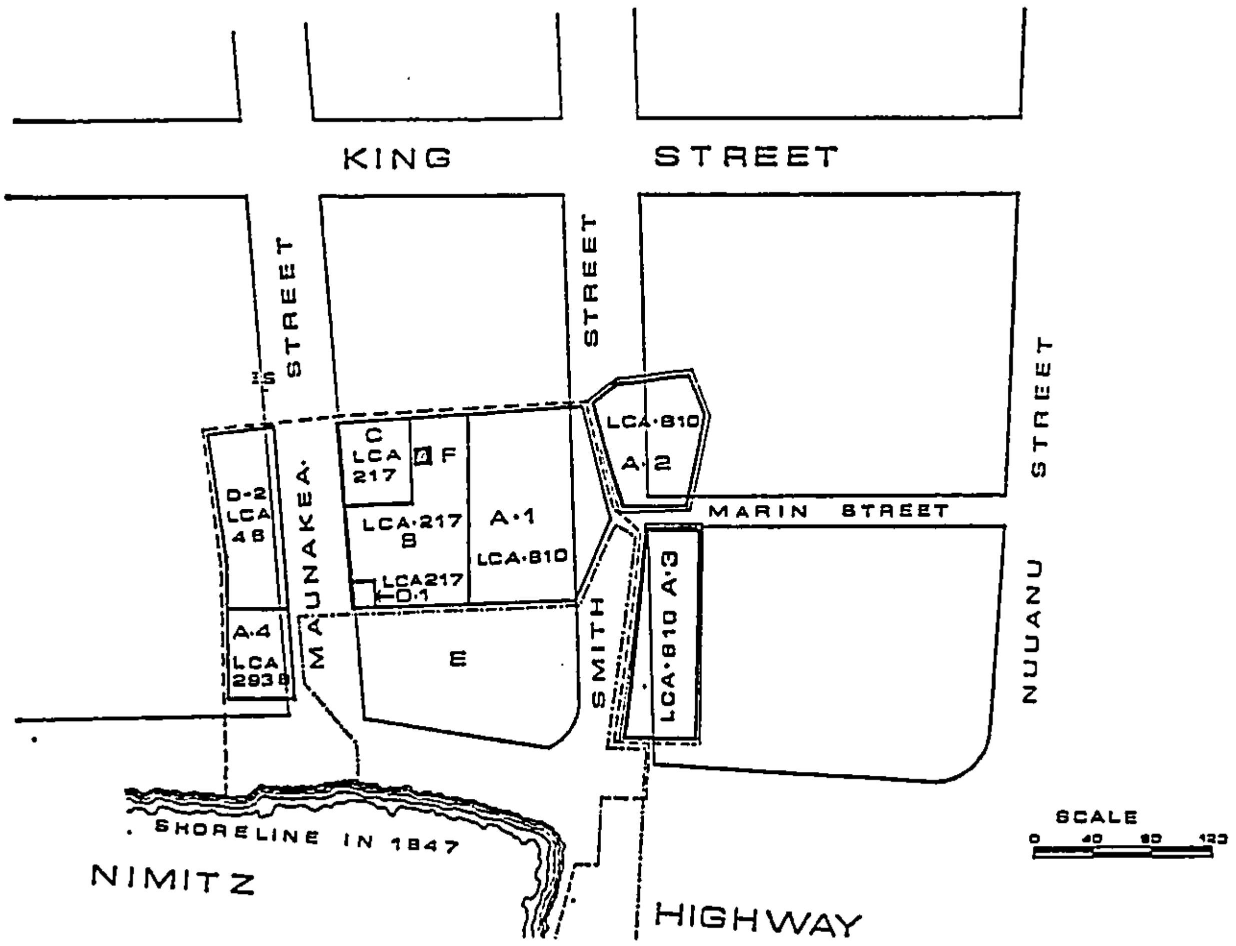


Figure 3: MARIN AND JONES LAND CLAIM AWARD BOUNDARIES (Gast and Conrad)

by Francis, Rosalie, and John Jones III, the Jones property (RP 1080) was awarded to Rosalie and John Jones III following Francis Jones' death in 1850. Land claim award boundaries are shown on Figure 3. LCA 810 was also occupied by the Honolulu Iron works after 1864.

LCA 217, Government Property, Queen Street

On 4 February 1847 "it was voted that the Minister of Finance act as per application of [Paul F.] Manini dated 2 February 1847...to sell the wharf site for $1,200.00" (Privy Council Records 2:308). The mauka portion of the "wharf site" now fronts Nimitz Highway (Figure 3).

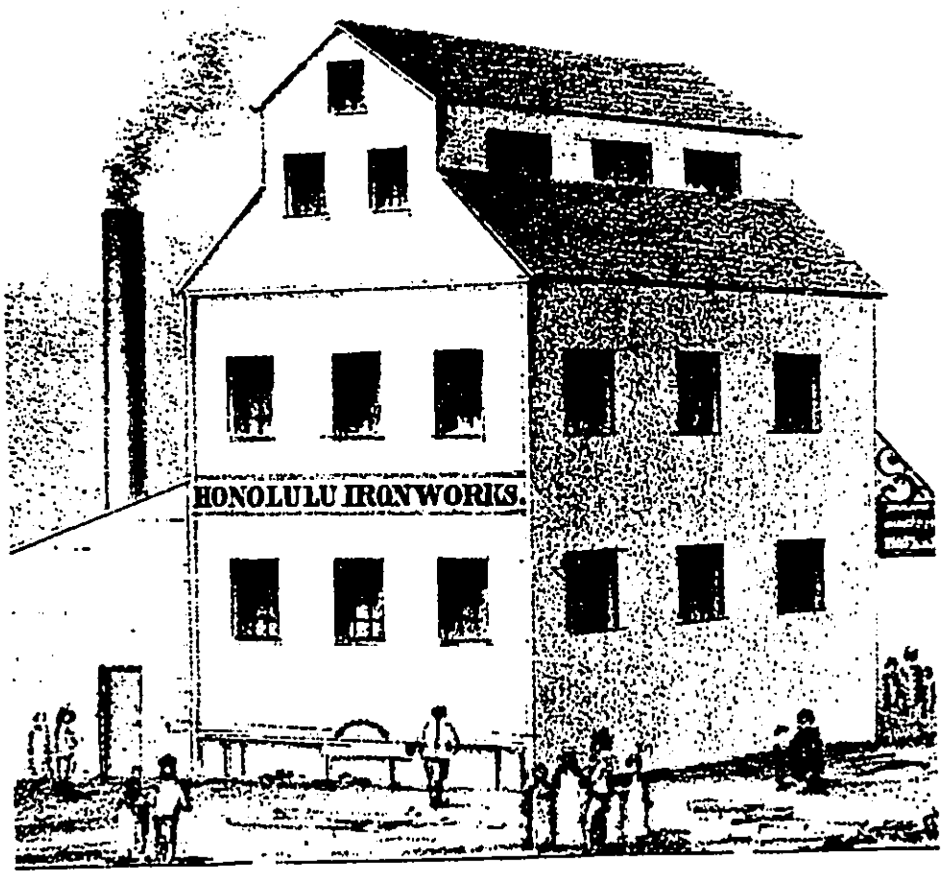


Plate 2: HONOLULU FLOUR MILL, 1853. (Bishop Museum)

Misnamed the "Honolulu Iron Works" (see Baker 1950:48), the three story Honolulu Flour Mill (Plate 2) on the Hawaiian Government property deeded by Paul Manini was begun in the fall of 1853. Corner stones to a machine shop owned by D. M. Weston, and a steam foundry owned by Thomas Hughes (inventor of the sugar drying centrifugal) ewa of the Flour Mill were laid on 9 December 1853 (Thrum 1914:45). Location of the foundry and flour mill is cited in 1914 as having been at "the corner of Marine Street near Queen" (Thrum 1914:45). Fire insurance maps in 1879 (Figure 4) and Monsarrat in 1891 (Hawaii State Archives) show the "old foundry" and boiler shed (machine shop) on the northwest corner of the project site, or at the corner of Maunakea and Queen Streets.

Attached to the Honolulu Flour Mill was a bakery which blazed into flames in the early evening of 29 December 1860. In total, fourteen surrounding buildings were destroyed by the 1860 fire including "six small native buildings mostly occupied as butcher shops" on the project area. An adobe building occupied by R. Gilliland, built for Rosalie Jones-Gilliland on Marin's property in 1832 was among the buildings inventoried as destroyed (Pacific Commercial Advertiser, 3 January 1861, 2:3-4). The exact location of Don Francisco Marin's vault was apparently lost following this 1860 fire. The foundry was later rebuilt by Thomas Hughs following the fire, and wooden frame houses fronting Maunakea Street were then erected over the previous location of the double adobe houses of Cruz Marin and Antoinette Jones.

In 1869, the Honolulu City Directory gives one listing for an individual named "Paulo" at 2 Queen Street (Bennett 1869:84), and no other listings. In 1879 (Figure 4) the "old foundry" and boiler making shed are shown on the corner of Maunakea and Queen. Ewa of, and adjoining the Honolulu Iron Works fronting Queen Street are spar manufacturing buildings and a Chinese store. An angled outhouse (privy) is shown on the 1879 map in about the central portion of the project area in the rear area of the buildings fronting Queen Street. The angle suggests that the privy is associated with the Honolulu Iron Works.

In 1880 and 1889 the Chinese Store is listed as occupied by Toy Lum (Lum Loy) and Company, grocers at 1 Queen Street. Monsarrat's 1891 map shows the old foundry as a storage shed, a carpenters shop in the rear of Lum Toy's fruit store, and the remainder of the project area occupied by the Honolulu Iron Works. A "new brick warehouse" occupied by C. Brewer and Company Limited was built in 1897 (Thrum 1898:162) fronting the length of Queen Street from the Honolulu Iron Works (Smith Street) to Maunakea Street. (The Brewer warehouse is currently standing on Nimitz Highway; the lower part serving as a restaurant/tavern and the second story as apartment rooms.)

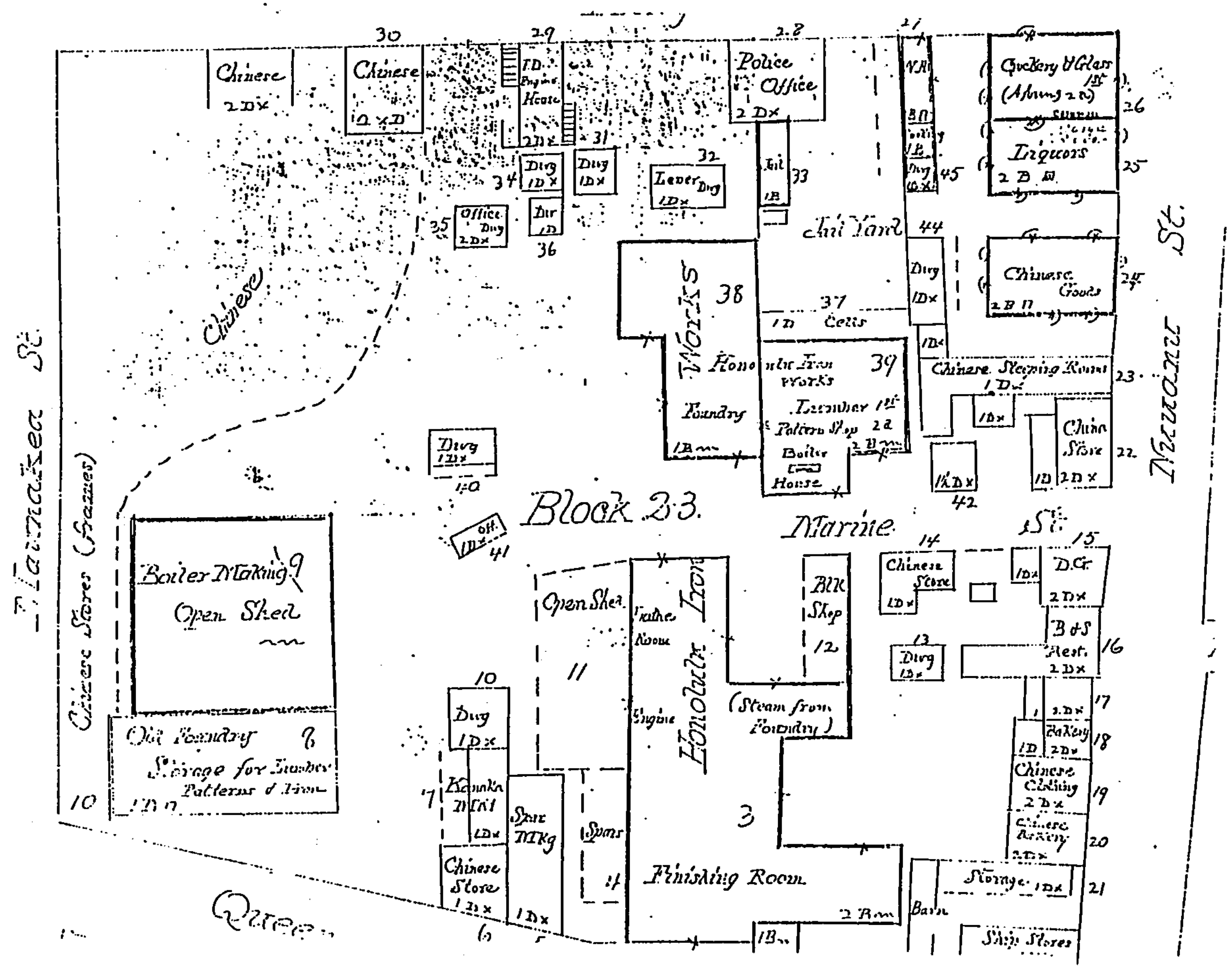


Figure 4: SMITH-MAUNAKEA 1879

(Lion Fire Insurance Map)

LCA 217, Apana 1, Frank Manini Housesite

Fronting Maunakea Street, the Frank Manini(1823-1867) housesite lot (L.C.A. 217/R.P.1615) was bounded by government lands to the west and by his sibling's awards to the south and east (Figure 3). The lot with "improvements and tenements" was released by a leasehold deed from Frank P. Manini to John Manini on 2 December 1856 for $3,000.00 (Liber 8:316). The leasehold was then transferred on 25 August 1859 to Nicholas Manini after the death of his father (John) with "tenements, hereditaments and appurtenances" (Liber 12:98).

Frank Manini, a road supervisor, died in 1868 (Pacific Commercial Advertiser, 15 May 1869, 3:6). Kalili, widow of Frank Manini and the "Hawaiian Club" are listed at 3 Maunakea in 1869 (Bennett 1869:82). The 1879 Lion Fire Insurance Map (Figure 4) shows the area unmapped with a notation that there were Chinese frame stores along the front of Maunakea. The Honolulu City Directory for 1880 lists William Tyson and I. Van Brackle as "eating housekeepers", and P. H. Wood, a market inspector as residing here (Browser, 1880:120, 126). The property with "rents &c." was deeded to Emanuel S. Cuna (Marin-Jones descendant and proprietor of Union Saloon on Merchant Street) on 30 January 1880 (Liber 62:257) from Nicholas Manini. One structure is shown in this location on Maunakea Street on an 1891 Fire Insurance Map survey by Monsarrat (Hawaii State Archives) and the poi factory of Sung Yu Lai appears to be have been located here then (Brown 1889:89). A portion of the property (Apana 1) "not to exceed 25' length and 9' depth was quit claimed by E. S. Cuna on 24 June 1891 to the government for purposes of widening Maunakea Street (Interior Department Records).

LCA 217, Apana 2, Antoinette, John C., and George (II) Manini Property

Fee simple titles to Apana 2 was granted to Antoinette, John and George Manini on 28 February 1853 (Resolutions 7, 8, 9; Privy Council 7:111). Apana 2, bounded by Maunakea Street to the north, separated the housesites of Frank Manini to the east and Cruz Manini to the west. Also bounding Apana 2 was the government harbor front to the west, and the Jones land claim award to the south.

Antoinette Marini (1832-1905) married Lyman Swan in 1851 (Gast and Conrad 1973:142). Lyman Swan disposed of Antoinette's third share of Apana 2 to Henry Robinson in 1856 (Liber 8:60), and the Swan family moved from Honolulu to California. Nicholas Manini (heir of John Manini) acquired a portion of the property in 1859, and George Manini died in 1868 (Pacific Commercial Advertiser, 15 May 1869) leaving no heirs.

Antoinette and husband, Lyman Swan leased a part of the remainder of the piece of land (closer to Marine Street) to the Honolulu Iron Works in 1874 (Liber 39:38) which was later deeded to the Honolulu Iron Works in 1879 (Liber 63:47). A portion of Apana 2 fronting Maunakea Street was deeded to A. F. Swan (either Antoinette or son, Alfred) on 22 September 1879 from Nicholas Manini, then living in Kauai (Liber 63:45).

No residences are listed at 5 Maunakea for Apana 2 in 1869. Figure 4 in 1879 lists the area as occupied by Chinese and the 1880 city directory lists a livery stable maintained by P. H. Woods (the Market Inspector) at this address (Browser 1880:126). Neither the 1889 directory listing or the 1891 map shows any structures on Apana 2 fronting Maunakea Street.

LCA 217, Apana 3 (Maria) Cruz Manini Housesite

Apana 3 of L.C.A. 217 (R.P. 1613) fronting Maunakea Street, in the north-east section of the project area was awarded to Cruz Manini (1818-), wife of Captain Joseph Maughan. A resolution granting a fee simple title to Cruz Manini was adopted by the Privy Council on 28 February 1853 (Privy Council Records 7:111). An adobe house with a small yard was constructed on the lot in 1834 (Gast and Conrad 1973:140-141), and Maria Cruz Marini was residing here at 7 Maunakea in 1869 (Bennett 1869:83).

Chinese stores, noted as frame buildings, are listed on an incomplete 1879 Lion's Fire Insurance Map fronting the length of Manunakea (Figure 4). A saddler, J. P. Shields is listed in business at this location in 1880 (Browser 1880:113) and Tong Wong Kee, a fish net maker is listed at this address in 1889 (Brown 1889:89). Monsarrat's 1891 Fire Insurance Map of Honolulu (Hawaii State

Archives shows one building on Maunakea Street with the remainder of the area left vacant; presumably occupied by Chinese. H. M. Von Holt (a general merchandise dealer located on King Street) and Fred Harrison (a mason and building contractor) proposed to exchange a piece of this LCA, required for widening of Maunakea Street, to the Hawaiian Government on 14 December 1897 (Interior Department 90:147).

LCA 810, Apana 1 John Jones III

Land Claim 810, awarded to the three children of John Jones II originally overlapped Marin Alley, later flanking the ewa end of Marine Street and fronting Smith (Figure 3). The property was divided into three apanas with Apanas 2 and 3 (not within the proposed project area) flanking Marine Steet claimed by Antoinette Jones-Gilliland. Apana 1, the area of the Jones estate within the project site area was claimed and owned by John Jones III until his death in 1865 (Gast and Conrad 1973:199).

Initially, part of this apana was leased on 13 July 1854 for ten years to William H. Johnson and George Emmes (ship builders) by Stephen Reynolds, John Jones' guardian. Following the Honolulu Flour Mill fire in 1860, the lease to Johnson and Emmes was cancelled on 4 January 1861 (Liber 6:208). A mortgage deed to Alexander Cartwright, a commercial merchant and general shipping agent was executed by Stephen Reynolds on 20 February 1860 (Liber 12:336) for another portion of this apana. Other portions of the apana were sold by mortgage deed on 10 October 1861 by John Jones to Joseph O. Carter (treasurer and secretary of C. Brewer and Company) and Charlotte Coady (widow of R. Coady and Company, ship chandlers and commission merchants) (Liber 14:325), and to Charlotte Cody on 27 April 1863 (Liber 16:388). Other early leases and deeds of record for the John Jones estate and the southeastern area of the project area are:

April 1864 John C. Jones & wife (i.e. R. Gilliland) estate by administrator. Ten year lease to Keaka, portion RP 1080 fronting Marine Street and adjoining property of John Meek and Kalama (Liber 18:86).

6 April 1864 John C. Jones estate. Lease to Thomas Hughes [owner of foundary of Honolulu Flour Mill in 1860] two pieces land on Marine Street. (Liber 18:91)

26 March 1880 Francis C. Gilliland. Par./D. to Angela E.Cuna, 1/5 interest in R. P. 1080, Ap. 1. Marine St. (Liber 62:451).

The majority of the John Jones property was occupied by the Honolulu Iron Works built by Thomas Hughes in about 1864. Figure 4, the Honolulu City Fire Insurance Map for 1878/79 and Monsaratt's 1891 map (Hawaii State Archives) shows the eastern portion of the Honolulu Iron Works "finishing room" with an open attached shed ewa (on the project site), and the foundary of Honolulu Iron Works further mauka. These Honolulu Iron Works structures are in the location of Smith Street which was extended to Queen Street in 1907 (Gast and Conrad 1973:36).

PROJECT SITE, 1900-CURRENT

"When it was known that the fire [22 January 1900 Chinatown fire] was beyond control...the employees of the Iron Works began to prepare...two hundred odd men...formed a bucket brigade from the wharves into the buildings. The *buildings and woodwork along Maunakea Street were demolished long before the fire menaced* [the rest of] Block 13 (Figure 5). By nightfall the fire at this point was...under control (Pacific Commercial Advertiser 22 January 1900, 2:3-6).

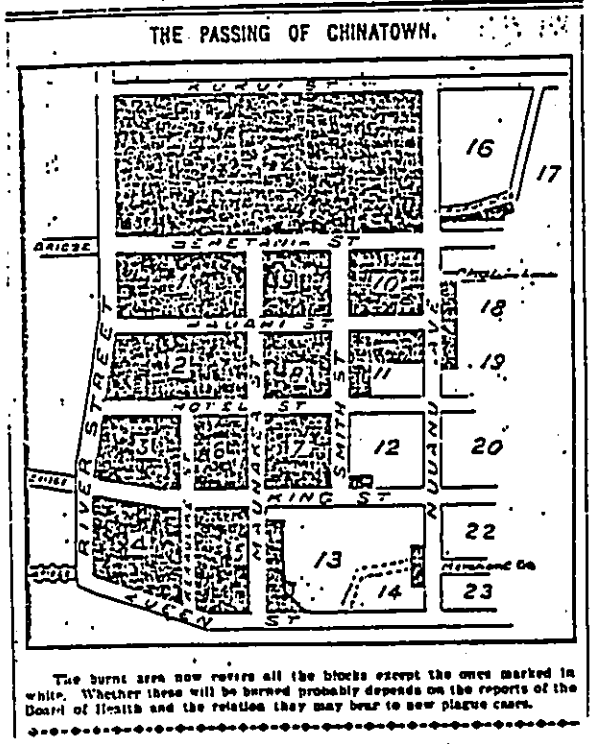


Figure 5: EXTENT OF THE 1900 CHINA TOWN FIRE (Pacific Commercial Advertiser)

Brewer and Co.'s warehouse fronting Queen; the Sailors Union on Maunakea in the location of LCA 217, Apana 1, and an oil and iron warehouse in the former "boiler shed" are mapped on the project area in 1900 (Figure 6). Map changes in 1914 (Figure 7) shows Smith Street extended from Marine Street to Queen with an "auto stand" (taxi) covering the front portion of LCA 217, Apana 3 on Maunakea Street. Subsequently mapped between 1927 and 1950 (Figure 8) Smith Street is extended completely through from King Street with a gas station fronting Smith; a restaurant and bar in Brewers warehouse fronting Queen Street (remodeled and fire-proofed in 1940) with a large rear warehouse attached; and an enlarged gas station in the former taxi stand on Maunakea Street.

Tax records for TMK 1-7-2 parcel 3 on Queen Street indicate that the Territory of Hawaii building (Brewers warehouse) was leased to Henry Awa Wong in 1940 for twenty-one years. Various restaurant/tavern and rooming house leases are taxed for this building through 1983. TMK 1-7-2 parcel 4 extending from Maunakea to Smith (Marin LCA 217, Apanas 1 and 2/Jones LCA 810, Apana 1) was leased to grower's co-ops between 1949 and 1953; revised for parking in 1953, and concessioned for off-street parking in 1984. Acquired about 1940 from the E. C. Cuna estate, TMK 1-7-2 parcel 5 on Maunakea Street (Cruz Marin LCA 217, Apana 3) was concessioned for off-street parking in 1984.

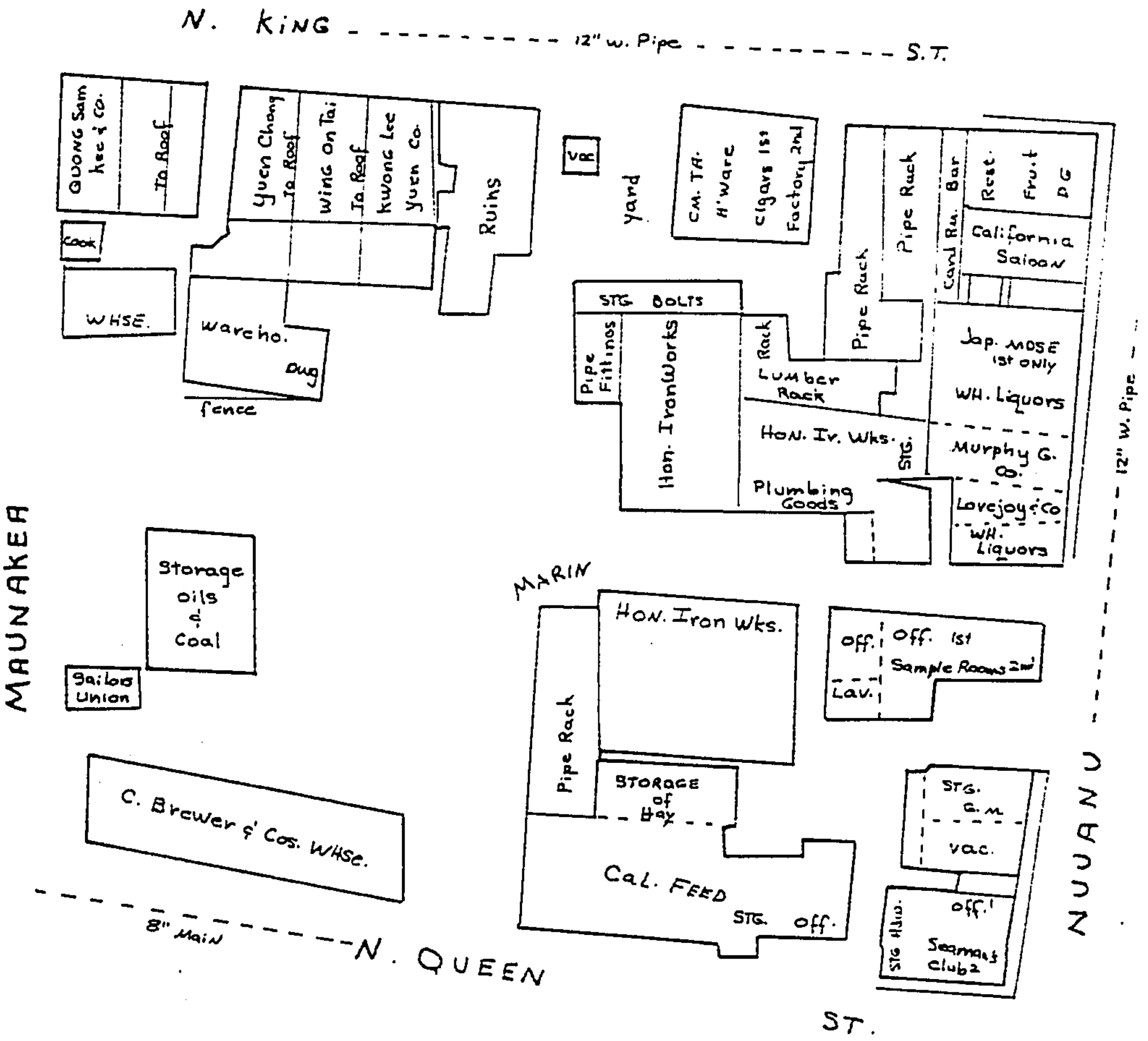


Figure 6: SMITH-MAUNAKEA 1900 (Firemans Fund Insurance Company)

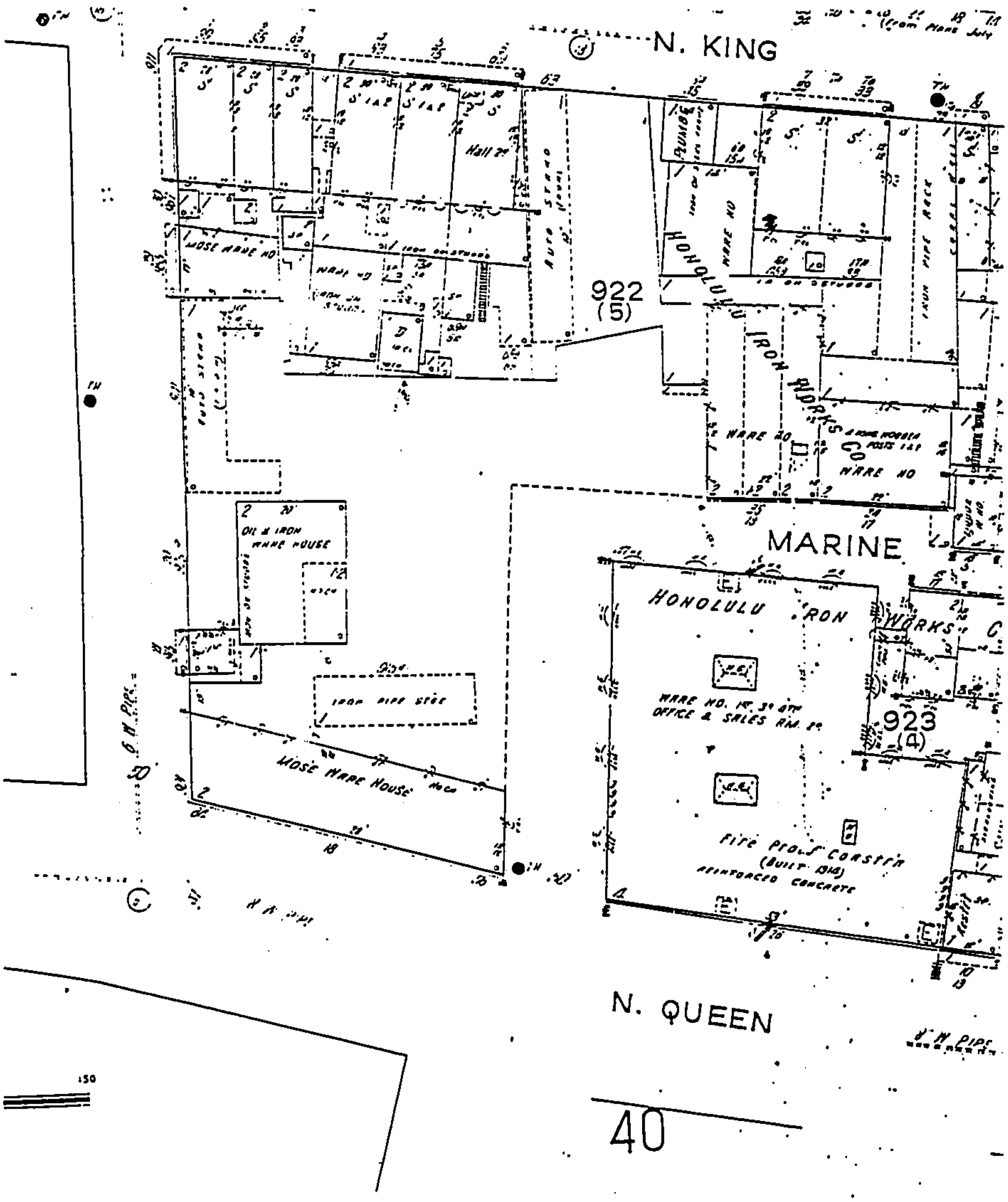
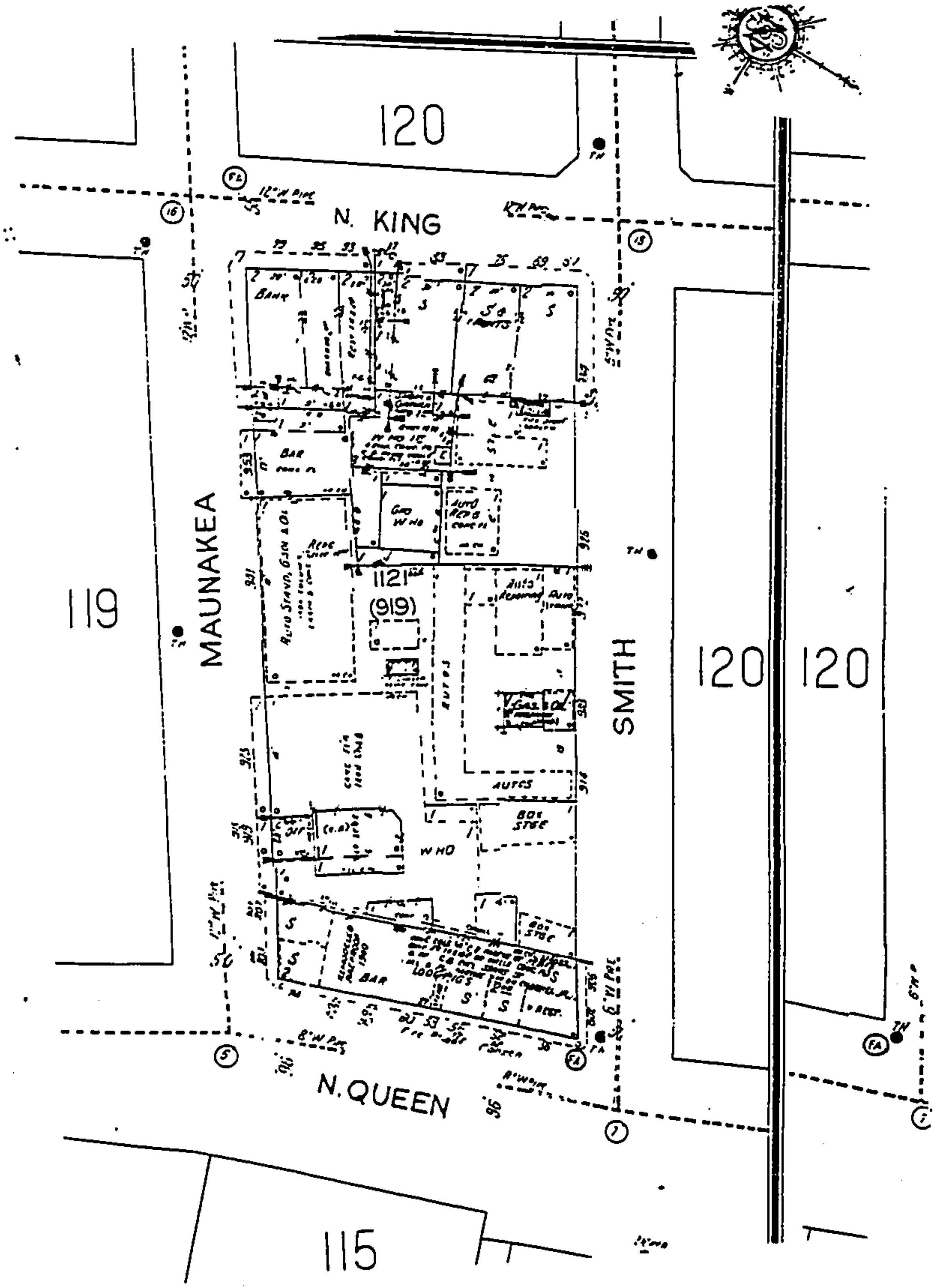


Figure 7: SMITH-MAUNAKEA 1914 (Sanborn Map Company)



(Sanborn Map Company)

Figure 8: SMITH-MAUNAKEA 1927-1950

SUMMARY

Prehistoric activities on the proposed Smith-Maunakea project area, not indicated by post-contact historic documents, remain to be interpreted from the archaeological record. Intense post-contact period activities associated with King Kamehameha I's sandalwood shipping and trade throughout the Pacific are of record through government documents, journals, publications, and preserved communications. Early post-contact period structures on the site area include thatched houses, a coral stone house, and the first wooden frame structure in Honolulu. Associated with the early historic activities are interrments, coral walls, wooden fences, a horse corral, horticulture, and the manufacture of spirits and tiles. Two fire events impacted the site area: the first fire destroying sugar and flour manufacturing buildings, small businesses and residences; the second fire demolishing Chinese buildings. Other impacts were street improvements and extensions. Installation of water service/ sewerage pipes, tanks for gas service stations, and foundations for existing structures are presumed to have previously impacted the Smith-Maunakea project area.

RECOMMENDATIONS

The two story, brick faced building of C. Brewer's warehouse and a three tiered parking garage currently cover the entire proposed Smith-Maunakea project area. The site is fully developed and no previous archaeological survey has been done. The historical background of the proposed Smith-Maunakea project has pre-historic implications as well as early contact and early historical importance. Historical documents and records indicate highly sensitive areas within the proposed project site. In addition to proper burial treatment procedures, archaeological monitoring of construction activities, and preliminary archaeological testing to determine the nature of deposits are recommended as an initial data recovery phase:

- The burial vault of Don Francisco de Paula Marin, the burial of his daughter, and possibly his other children are recorded in previously published records. Whether their remains are intact, or have been removed/ damaged/destroyed over the years is unknown. Avoidance of further damage to the potential remains of these individuals is necessary. Damage to possible burials may occur during boring activities. It is recommended that no boring/core sampling be done in the Mauka side of the project site prior to a finalized mitigation plan (see following).

- Legislative Act 306 enacted by the Legislature of the State of Hawaii in 1990 provides procedures for the protection and disposition of historic burials. Section 13 specifies (Section 6E-43 of Revised Statues) guidelines for mitigation based on criteria established by the Hawaii Register of Historic places.

- Archaeological monitoring during all phases of surface material removal and demolition is recommended. Sub-surface materials such as foundation piers and water pipe systems should be left in situ until archaeological testing is completed. Sectional block removal of surface concrete minimizes impacts to subsurface archaeological remains.

- Several test pits in locations indicated by historical information will provide essential initial data needed to formulate strategies for data recovery. The establishment of a 5 m grid system to cover the entire project site is recommended for spatial control. Four backhoe assisted test pits in the following locations are recommended:

1. One test pit near the NE corner of the site fronting Maunakea Steet, identified as the former location of the adobe house of Marin's daughter, for recovery of possible structural remains or features.

2. One test pit on the SE corner of the project area fronting Smith Street in the area of Marin's 1811 coral stone house.

3/4. Two test pits in the Makai section of the project area which appear to be sandalwood activity areas and later flour and sugar manufacturing locations, now covered by the Brewer and Company warehouse building.

Contingent upon the results of this initial testing phase, a complete data recovery plan will be formulated.

The destruction of irretrievable archaeological data is occuring through the activities of artifact (bottle) collectors and construction companies. Total enclosure of the project site with high fencing, alarm systems and security guards are necessary.

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BISHOP MUSEUM

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Contract Manager, Public Archaeology Division
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Logistics

c. Name of Firm with which associated:

Bishop Museum

d. Years experience: With This Firm 18 With Other Firms 1

e. Education: Degree(s) / Year / Specialization

BA / 1973 / Anthropology

f. Active Registration: Year First Registered/Discipline

Society of Professional Archaeologists-1979-Archaeology

g. Other Experience and Qualifications relevant to the proposed project:

Over 15 years of supervisory experience in contract and research archaeology projects in Hawaii and other Pacific areas, including Guam.

In 1974, conducted the Archaeology Inventory of Guam with DR. Fred Reinman and participated in the formulation of the Guam Historic Preservation Plan.

Extensive background in archaeological projects involving cultural, prehistoric/historic, and interpretive/ educational services.

Specializing in contracts administration for the past thirteen years.

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b. Project Assignment:

Site Director

c. Name of Firm with which associated:
Bishop Museum

d. Years experience: With This Firm 2 With Other Firms 24

e. Education: Degree(s) / Years / Specialization

BAS / 1987 / Anthropology

f. Active Registration: Year First Registered/Discipline

g. Other Experience and Qualifications relevant to the proposed project:

Extensive field background in prehistoric, historic and classical archaeology including dry site, shell midden, and hydralic excavations/recording/analysis.

Washington State Centennial Dig Co-Ordinator 1986/1987.

Specializing in historic research and identification, dating, analysis of glass artifacts including contracts with U. S. Department of the Interior.

APPENDIX B.

Air Quality Study

B. D. Neal & Associates

AIR QUALITY STUDY
FOR THE PROPOSED
SMITH-MAUNAKEA HOUSING PROJECT

HONOLULU, OAHU, HAWAII

Prepared for:

William E. Wanket, Inc.

January 1991

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1.0 INTRODUCTION AND PROJECT DESCRIPTION

The City and County of Honolulu is proposing to redevelop the area between Maunakea and Smith Streets and King Street and North Nimitz Highway in the Chinatown District of downtown Honolulu (see Figure 1). The site for the proposed project presently is occupied by a three-level municipal parking structure containing 260 parking stalls and a two-story building containing an eating and drinking establishment on the ground floor and other commercial enterprises on the second floor. Redevelopment plans call for the removal of the existing structures and the construction of a 250-foot tower and an adjacent parking structure. The tower will contain 238 apartment units and approximately 16,000 square feet of commercial space. A total of 439 parking spaces will be provided on two basement levels of the tower and within the adjacent parking structure. Construction of the proposed project is slated to begin early in 1991, and full development is expected to be achieved sometime during 1993.

The purpose of this study is to describe existing air quality in the project area and to assess the potential short-term and long-term direct and indirect air quality impacts that could result from the redevelopment and subsequent use of the proposed facilities. Measures to mitigate potential impacts are suggested where possible and appropriate.

2.0 AMBIENT AIR QUALITY STANDARDS

Ambient concentrations of air pollution are regulated by both national and state ambient air quality standards (AAQS). National AAQS are specified in Section 40, Part 50 of the Code of Federal Regulations (CFR), while State of Hawaii AAQS are defined in

Chapter 11-59 of the Hawaii Administrative Rules. Table 1 summarizes both the national and the state AAQS that are specified in the cited documents. As indicated in the table, AAQS have been established for six air pollutants. These regulated air pollutants include: particulate matter, sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone and lead. National AAQS are stated in terms of primary and secondary standards. National primary standards are designed to protect the public health with an "adequate margin of safety". National secondary standards, on the other hand, define levels of air quality necessary to protect the public welfare from "any known or anticipated adverse effects of a pollutant". Secondary public welfare impacts may include such effects as decreased visibility, diminished comfort levels, or other potential injury to the natural or man-made environment, e.g., soiling of materials, damage to vegetation or other economic damage. In contrast to the national AAQS, Hawaii State AAQS are given in terms of a single standard that is designed "to protect public health and welfare and to prevent the significant deterioration of air quality".

Each regulated air pollutant has the potential to create or exacerbate some form of adverse health effect or to produce environmental degradation when present in sufficiently high concentration for prolonged periods of time. The AAQS specify a maximum allowable concentration for a given air pollutant for one or more averaging times to prevent harmful effects. Averaging times vary from one hour to one year depending on the pollutant and type of exposure necessary to cause adverse effects. In the case of the short-term (i.e., 1- to 24-hour) AAQS, both national and state standards allow one exceedance per year.

State of Hawaii AAQS are in some cases considerably more stringent than comparable national AAQS. In particular, the State of Hawaii

1-hour AAQS for carbon monoxide is four times more stringent than the comparable national limit.

Under the provisions of the Federal Clean Air Act [1], the U.S. Environmental Protection Agency (EPA) is required periodically to review and re-evaluate national AAQS in light of research findings more recent than those that were available at the time the standards were originally set. Occasionally new standards are created as well. Most recently, the national standards for particulate matter have been revised to include specific limits for particulate 10 microns or less in diameter (PM-10) [2]. The State of Hawaii has not explicitly addressed the question of whether to set limits for this category of air pollutant, but national AAQS prevail where states have not set their own more stringent levels.

Hawaii relaxed its AAQS for sulfur dioxide in 1986 to make them essentially the same as national limits. Various forums have proposed that the state also relax its carbon monoxide standards to the national levels, but at present there are no indications that such a change is being considered.

3.0 REGIONAL AND LOCAL CLIMATOLOGY

Regional and local climatology significantly affect the air quality of a given location. Wind, temperature, atmospheric turbulence, mixing height and rainfall all influence air quality. Although the climate of Hawaii is relatively moderate throughout most of the state and most of the year, significant differences in these parameters may occur from one location to another. Most differences in regional and local climates within the state are caused by the mountainous topography.

Hawaii lies well within the belt of northeasterly trade winds generated by the semi-permanent Pacific high pressure cell to the north and east. On the island of Oahu, the Koolau and Waianae Mountain Ranges are oriented almost perpendicular to the trade winds, which accounts for much of the variation in the local climatology of the island. Downtown Honolulu, the site of the proposed project, is located in a coastal area leeward of the Koolau Mountains. Although large urban areas may create their own microclimates to some extent, long-term weather data available from the Honolulu International Airport, located about 4 miles to the northwest, is at least semi-representative of the project site.

Wind frequency data given in Table 2 for Honolulu International Airport show that the annual prevailing wind direction for this area of Oahu is east northeast. On an annual basis, 34.7 percent of the time the wind is from this direction, and nearly 75 percent of the time the wind is in the northeast quadrant. Winds from the south are infrequent occurring only a few days during the year and mostly in winter in association with Kona storms. Wind speeds average about 10 knots (12 mph) and mostly vary between about 5 and 15 knots (6 and 17 mph). Surface winds in downtown Honolulu are similar to those recorded at the airport but are undoubtedly deviated and channeled at some locations by the many high-rise buildings.

Air pollution emissions from motor vehicles, the formation of photochemical smog and smoke plume rise all depend in part on air temperature. Colder temperatures tend to result in higher emissions of contaminants from automobiles but lower concentrations of photochemical smog and ground-level concentrations of air pollution from elevated plumes. In Hawaii, the annual and daily variation of temperature depend to a large degree on elevation above sea level, distance inland and exposure to the trade winds. Average temperatures at locations near sea level generally are warmer than those at higher elevations. Areas exposed to the trade wind tend to have the least temperature variation, while inland and leeward areas often have the most. Downtown Honolulu's coastal, leeward location results in a relatively moderate temperature profile compared to other locations around Oahu and the state. At the airport, average annual daily minimum and maximum temperatures are 70°F and 84°F, respectively [3]. The extreme minimum temperature was 53°F during February 1983, and the extreme maximum was 94°F during September 1988. Temperatures in the downtown area may be slightly higher compared to the airport due to urban effects.

Small scale, random motions in the atmosphere (turbulence) cause air pollutants to be dispersed as a function of distance or time from the point of emission. Turbulence is caused by both mechanical and thermal forces in the atmosphere. It is often measured and described in terms of Pasquill-Gifford stability class. Stability class 1 is the most turbulent and class 6 the least. Thus, air pollution dissipates the best during stability class 1 conditions and the worst when stability class 6 prevails. In urbanized areas like downtown Honolulu, stability class 4 is generally the highest stability class that occurs, developing during the nighttime and/or during cloudy daytime conditions.

Mixing height is defined as the height above the surface through which relatively vigorous vertical mixing occurs. Low mixing heights can result in high ground-level air pollution concentrations because contaminants emitted from or near the surface can become trapped within the mixing layer. In Hawaii, minimum mixing heights tend to be high because of mechanical mixing caused by the trade winds and because of the temperature moderating effect of the surrounding ocean. Low mixing heights may sometimes occur, however, at inland locations and even at times along coastal areas early in the morning following a clear, cool, windless night. Coastal areas also may experience low mixing levels during sea breeze conditions when cooler ocean air rushes in over warmer land. Mixing heights in the state typically are above 3000 feet (1000 meters). Low mixing heights in the downtown Honolulu area will tend to be inhibited by urban effects but may occur on occasion.

Rainfall can have a beneficial affect on the air quality of an area in that it helps to suppress fugitive dust emissions, and it also may "washout" gaseous contaminants that are water soluble. Rainfall in Hawaii is highly variable depending on elevation and on location with respect to the trade wind. Downtown Honolulu being a leeward location and near sea level experiences a relatively dry climate. Average annual rainfall amounts to about 24 inches with summer months being the driest. Monthly rainfall may vary from as little as a trace to more than 20 inches.

4.0 PRESENT AIR QUALITY

Present air quality in the project area is mostly affected by air pollutants from vehicular, industrial and/or natural sources, and perhaps to a lesser and occasional extent from distant agricultural sources. Table 3 presents an air pollutant emission summary for the City and County of Honolulu that was compiled in 1980. These are the latest data that are available. Emissions are undoubtedly higher at this time, but the proportional relationships may continue to be about the same. The mineral products industry was the most significant source category for emissions of particulate matter. Sulfur dioxide emissions originated mainly from power plants, while motor vehicles accounted for much of the emissions of nitrogen oxides, carbon monoxide and hydrocarbons.

Nimitz Highway, adjacent to the project site, is a major arterial roadway that carries heavy motor vehicle traffic much of the time. Emissions from motor vehicles using this roadway, primarily nitrogen oxides and carbon monoxide, will tend to be carried away from the project site by the prevailing winds.

The only major industrial source of air pollution located near the project site (a few blocks to the south) is the Honolulu Power Plant operated by Hawaiian Electric Company (HECO). This steam-electric generating facility consists of two units fueled by low sulfur oil. Existing air quality in the project vicinity may be affected by nitrogen oxides and sulfur dioxide emissions from the boiler chimneys. At the present time, HECO plans to close down this facility in the 1994-95 timeframe with no plans for replacement.

Natural sources of air pollution emissions that also could affect the project area but cannot be quantified very accurately include the ocean (sea spray), plants (aero-allergens), wind-blown dust, and perhaps distant volcanoes on the Island of Hawaii.

The State Department of Health operates a network of air quality monitoring stations at various locations on Oahu. Each station, however, typically does not monitor the full complement of air quality parameters. Table 4 shows an annual summary of air quality measurements that were made nearest to the project site for each of the regulated air pollutants for the period 1985 through 1989.

Sulfur dioxide is monitored by the State Department of Health at an air quality station located in Campbell Industrial Park at Barbers Point, several miles west of the project site. Monitoring consisted of measurements of 24-hour average sulfur dioxide concentration every sixth day. There were no exceedances of the state/national 24-hour AAQS for sulfur dioxide during the 5-year period. Concentrations monitored during the last 4 years reported were consistently low with daily mean values at or below 5 $\mu g/m^3$.

Total suspended particulate concentrations were monitored at the Department of Health Building in downtown Honolulu, just a few blocks south of the project site. During the 1985-89 reporting period, the highest 24-hour average total suspended particulate concentration measured was 61 $\mu g/m^3$. Average daily concentrations were about 25 to 30 $\mu g/m^3$. No exceedances of the state AAQS for this parameter were recorded.

The nearest PM-10 monitoring station is located about 0.7 miles northeast of the project site at Kauluwela School. Twenty-four hour average PM-10 concentrations monitored at this location ranged from 7 to 52 $\mu g/m^3$ between 1985 and 1989. Average daily concentrations were generally less than 20 $\mu g/m^3$. All values reported were within the national AAQS.

The nearest carbon monoxide measurements were made at the Department of Health building in downtown Honolulu. The average daily maximum 1-hour concentration measured at this location was about 2 mg/m^3. During the most recent year reported, 1989, the daily maximum 1-hour concentration ranged from 0.3 to 7.8 mg/m^3, and no exceedances of the state 1-hour AAQS were recorded. During previous years (1985-88), maximum 1-hour concentrations were higher, and one to three exceedances of the state 1-hour AAQS were measured each year. Daily maximum 8-hour values for 1988 and 1989 have not been reported at this writing, but concentrations for the 1985-87 period ranged from 0.1 to 4.7 mg/m^3. The average of the daily maximum 8-hour values was about 1.3 mg/m^3. No exceedances of the state 8-hour AAQS were recorded. Present concentrations of carbon monoxide in the project area are estimated later in this study based on air quality modeling of vehicular emissions.

The nearest available ozone measurements were obtained at Sand Island (about 1/2 mile west of the project site). Except for 1985, the maximum 1-hour concentration each year during the past few years has averaged about 90 $\mu g/m^3$. No exceedances of the state AAQS have been recorded since 1985.

The closest and most recent measurements of ambient lead concentrations that have been reported were made at the downtown Honolulu monitoring station between 1985 and 1987. Lead concentrations at this location had a downward trend, most probably reflecting the increased use of unleaded gasoline. Average quarterly concentrations were near or below the detection limit. No exceedances of the state AAQS have ever been recorded.

Nitrogen dioxide is no longer monitored by the Department of Health anywhere in the state. Concentrations of this pollutant were measured from 1971 through 1976 at Barbers Point, and annual mean values were found to vary from 11 to 29 $\mu g/m^3$, safely inside the state and national AAQS.

Based on the data and discussion presented above, it appears likely that the State of Hawaii AAQS for particulate, sulfur dioxide, nitrogen dioxide and lead are currently being met at the project site. The ozone AAQS has not been exceeded during the past four years at the Sand Island monitoring station. Carbon monoxide readings from urban Honolulu indicate that the state AAQS for carbon monoxide may be exceeded at a rate of one to three times per year in traffic congested areas.

5.0 SHORT-TERM IMPACTS OF PROJECT

Short-term direct and indirect impacts on air quality could potentially occur due to project construction. For a project of this nature, there are two potential types of air pollution emissions that could directly result in short-term air quality impacts during project construction: (1) fugitive dust from demolition work and from vehicle movement and soil excavation; and (2) exhaust emissions from on-site construction equipment. Indirectly, there also could be short-term impacts from slow-moving construction equipment traveling to and from the project site and from a temporary increase in local traffic caused by commuting construction workers.

Fugitive dust emissions may arise from the demolition and removal of existing structures on the site and from the grading and dirt-moving activities associated with site preparation once the area is cleared. The emission rate for fugitive dust emissions from construction activities is difficult to estimate accurately because of its elusive nature of emission and because the potential for its generation varies greatly depending upon the type of soil at the construction site, the amount and type of dirt-disturbing activity taking place, the moisture content of exposed soil in work areas, and the wind speed. The EPA [4] has provided a rough estimate for uncontrolled fugitive dust emissions from construction activity of 1.2 tons per acre per month under conditions of "medium" activity, moderate soil silt content (30%), and precipitation/evaporation (P/E) index of 50. Uncontrolled fugitive dust emissions in the project area would likely be somewhat higher because the PE index for the downtown Honolulu area is probably less than 50 due to the relatively dry climate. In any case, State of Hawaii Air Pollution Control Regulations [5] prohibit visible emissions of fugitive dust from construction activities at the property line. Thus, an effective dust control plan for the project construction phase is essential.

Adequate fugitive dust control can usually be accomplished by the establishment of a frequent watering program to keep demolition areas and bare-dirt surfaces in construction areas from becoming significant dust generators. Using wind screens may also be required. Control regulations further stipulate that open-bodied trucks be covered at all times when in motion if they are transporting materials likely to give rise to airborne dust. Haul trucks tracking dirt onto paved streets from unpaved areas is oftentimes a significant source of dust in construction areas. Some means to alleviate this problem, such as tire washing, may be appropriate. Paving of parking areas and/or establishment of landscaping as early in the construction process as possible can also lower the potential for fugitive dust emissions.

On-site mobile and stationary construction equipment also will emit air pollutants from engine exhausts. The largest of this equipment is usually diesel-powered. Nitrogen oxides emissions from diesel engines can be relatively high compared to gasoline-powered equipment, but the standard for nitrogen dioxide is set on an annual basis and is not likely to be violated by short-term construction equipment emissions. Carbon monoxide emissions from diesel engines, on the other hand, are low and should be relatively insignificant compared to vehicular emissions on nearby roadways.

Indirectly, slow-moving construction vehicles on roadways leading to and from the project site could obstruct the normal flow of traffic to such an extent that overall vehicular emissions are increased, but this impact can be mitigated by moving heavy construction equipment during periods of low traffic volume. Likewise, the schedules of commuting construction workers can be adjusted to avoid peak hours in the project vicinity. Thus, most potential short-term air quality impacts from project construction can be mitigated.

6.0 LONG-TERM IMPACTS OF PROJECT

6.1 Roadway Traffic

By serving as an attraction for increased motor vehicle traffic on nearby roadways, the proposed project is considered to be an indirect air pollution source. Motor vehicles with gasoline-powered engines are significant sources of carbon monoxide. They also emit nitrogen oxides, and those burning leaded gasoline contribute lead to the atmosphere. The use of leaded gasoline in new automobiles is now prohibited. As older vehicles continue to disappear from the numbers of those currently operating on the state's roadways, lead emissions are approaching zero. Nationally, so few vehicles now require leaded gasoline that the EPA is proposing a total ban on leaded gasoline to take effect immediately. Even without such a ban, reported quarterly averages of lead in air samples collected in urban Honolulu have been near zero since early 1986. Thus, lead in the atmosphere is not considered a problem anywhere in the state.

Federal air pollution control regulations also call for increased efficiency in removing carbon monoxide and nitrogen oxides from the exhausts of new motor vehicles. By the year 1995 carbon monoxide emissions are expected to be about 30 percent less than the amounts now emitted due to the replacement of older vehicles with newer models. Further reductions in vehicular emissions have recently been proposed by the President for areas of the country that do not currently meet AAQS, mainly through the use of alternative fuels.

To evaluate the potential long-term indirect air quality impact of increased roadway traffic associated with a project such as this, computerized emission and atmospheric dispersion models can be used to estimate ambient carbon monoxide concentrations along roadways leading to and from the project. Carbon monoxide is selected for modeling because it is both the most stable and the most abundant of the pollutants generated by motor vehicles. Furthermore, carbon monoxide air pollution is generally considered a microscale problem, whereas nitrogen oxides air pollution most often is a regional issue. This is reflected in the fact that the AAQS for carbon monoxide are specified on a short-term basis (1-hour and 8-hour averaging times) while the AAQS for nitrogen dioxide are set on an annual basis.

For this project, three scenarios were selected for the carbon monoxide modeling study: year 1990 with present conditions, year 1993 without the project, and year 1993 assuming the project is built and complete. To begin the modeling study, critical receptor areas in the vicinity of the project were identified for analysis. Generally speaking, roadway intersections are the primary concern because of traffic congestion and because of the increase in vehicular emissions associated with traffic cycling: decelerating, stopping, queuing and accelerating. For this study, the four key intersections identified in the traffic study were also selected for air quality analysis. These include: Smith Street at King Street, Nuuanu Avenue at King Street, Smith Street at Nimitz Highway, and Nuuanu Avenue at Nimitz Highway. The traffic impact assessment report for the project [6] describes the present and future conditions and configurations of these intersections in detail.

The main objectives of the modeling study were to estimate both current and projected levels of maximum 1-hour average carbon monoxide concentrations that could then be directly compared to the national and state AAQS. The traffic impact assessment report indicates that traffic volumes generally are or will be higher during the afternoon peak hour than during the morning peak period. Worst-case emission and meteorological dispersion conditions typically occur during the morning hours at many locations. However, due to possible effects from the queuing of vehicles at intersections and to vehicle cold-start considerations, both morning and afternoon peak traffic hours were examined to ensure that worst-case concentrations were identified.

The EPA computer model MOBILE4 [7] was used to calculate vehicular carbon monoxide emissions for each year studied. One of the key inputs to MOBILE4 is vehicle mix. Based on recent vehicle registration figures, the present and projected vehicle mix in the project area is estimated to be 91.9% light-duty gasoline-powered vehicles, 5% light-duty gasoline-powered trucks and vans, 0.5% heavy-duty gasoline-powered vehicles, 0.6% light-duty diesel-powered vehicles, 1% heavy-duty diesel-powered trucks and buses, and 1% motorcycles.

Other key inputs to the MOBILE4 emission model are the cold/hot start fractions. Motor vehicles operating in a cold- or hot-start mode emit excess air pollution. Typically, motor vehicles reach stabilized operating temperatures after about 4 miles of driving. For traffic operating within the project area, it was assumed that during the morning peak hour about 25 percent of all vehicles would be operating in the cold-start mode and that about 5 percent would be operating in the hot-start mode. During the afternoon peak hour, the cold/hot start percentages were assumed to be 50 percent and 10 percent, respectively. These operational mode values were estimated based on a report from the California Department of Transportation [8] and taking into consideration the likely different origins of morning/afternoon traffic in the project area. MOBILE4 idle emissions were adjusted to account for excess cold/hot-start emissions per a recent U.S. EPA memorandum [9].

Ambient temperatures of 59 and 68 degrees F were used for morning and afternoon peak-hour emission computations, respectively. These are conservative assumptions since morning/afternoon ambient temperatures will generally be warmer than this and emission estimates given by MOBILE4 are inversely proportional to the ambient temperature.

After computing vehicular carbon monoxide emissions through the use of MOBILE4, these data were then input to the latest version of the computer model CALINE4 [10]. CALINE4 was developed by the California Transportation Department to simulate vehicular movement and atmospheric dispersion of vehicular emissions. It is designed to predict 1-hour average pollutant concentrations along roadways based on input traffic and emission data, roadway/receptor geometry and meteorological conditions.

Input peak-hour traffic data were obtained from the traffic study cited previously. The traffic volumes given in the traffic study for the future scenarios include project traffic as well as traffic from other growth that is expected to occur in the area by the year 1993. Traffic queuing estimates were made based on the project traffic study, Transportation Research Board procedures [11], U.S. EPA guidelines [12], and traffic observations at the subject intersections. For vehicles using Smith Street, King Street and Nuuanu Avenue, vehicle speeds were assumed to be limited to 25 mph either due to posted speed limits or to congested traffic conditions. Deceleration and acceleration times of 10 and 12 seconds, respectively, were assumed. Vehicles traversing Nimitz Highway were assumed to accelerate up to 35 mph in 18 seconds and decelerate from 35 mph to a stop in 16 seconds.

Model roadways were set up to reflect actual roadway geometry, physical dimensions and operating characteristics. Pedestrian walkways in the project area are located very close to the traveled roadways as is typical of central business district locations. Thus, model receptor sites were located approximately 1 to 2 meters from the edge of the roadways near the intersections studied. All receptor heights were placed at 1.5 meters above ground to simulate levels within the normal human breathing zone.

Downtown Honolulu is a typical central business district location in that street canyons have been created by the construction of many low- and high-rise buildings close to the streets. This results in channeling of the wind at street level and may reduce the dispersion of air pollutants emitted by motor vehicles traversing the area. To account for this, the street canyon option of CALINE4 was used to assess the King Street intersections. Intersections along Nimitz Highway in the vicinity of the project mostly do not form street canyons; thus, this option of the model was not used at the Nimitz Highway intersections.

Input meteorological conditions for this study were defined to provide "worst-case" results. One of the key meteorological inputs is atmospheric stability category. For these analyses, atmospheric stability category 4 was assumed for both morning and afternoon cases. This is the most conservative stability category that can be used for estimating pollutant dispersion in urban locations. A surface roughness length of 300 cm was assumed with a mixing height of 300 meters. Worst-case wind conditions were defined as a wind speed of 1 meter per second with a wind direction resulting in the highest predicted concentration.

Existing background concentrations of carbon monoxide in the project vicinity are believed to be at moderate levels. Hence, background contributions of carbon monoxide from sources or distant roadways not directly considered in the analysis were accounted for by adding a background concentration of 1 ppm to all predicted concentrations for both the 1990 and the 1993 scenarios.

Table 5 summarizes the final results of the modeling study in the form of the estimated worst-case 1-hour morning and afternoon ambient carbon monoxide concentrations. These results can be compared directly to the state and the national AAQS. Estimated worst-case carbon monoxide concentrations are presented in the table for three scenarios: year 1990 with existing traffic, year 1993 without project traffic and year 1993 with project traffic. The locations of these estimated worst-case 1-hour concentrations all occurred at or very near the indicated intersections.

Except at the intersection of Nuuanu Avenue and King Street, all afternoon peak-hour concentrations estimated for the existing case were higher than the morning peak-hour values. This is because afternoon traffic volumes are higher (except at Nuuanu/King) and afternoon emissions were estimated to be higher also due to a larger percentage of cold-start vehicles. As indicated in the table, the estimated present (1990) worst-case 1-hour carbon monoxide concentration in the project area, 23.1 mg/m^3, occurs during the morning peak hour near the intersection of Nuuanu Avenue and King Street. Worst-case 1-hour values at other locations in the project vicinity were generally in the 15 to 20 mg/m^3 range.

In the year 1993 without the proposed project, a worst-case 1-hour concentration of 21.4 mg/m^3 was predicted to occur during the afternoon peak-traffic hour near the intersection of Nuuanu Avenue and Nimitz Highway. Concentrations near this level also can be expected to occur in the vicinity of Nuuanu Avenue and King Street during the morning. Peak morning and afternoon worst-case values at the other locations studied for this scenario ranged between about 11 and 20 mg/m^3. Except at Nuuanu Avenue/King Street, morning peak-hour concentrations were generally about 25 to 50 percent lower than the afternoon worst-case values.

Predicted 1-hour worst-case concentrations for the 1993 with project scenario ranged from 10.5 mg/m^3 during the morning at Smith Street and Nimitz Highway to 22.7 mg/m^3 during the afternoon at Nuuanu Avenue and Nimitz Highway. Compared to the without project case, predicted worst-case concentrations were generally only a few percent higher. Compared to the existing case, predicted concentrations with the project range from about 10 percent lower to about 10 percent higher depending on location.

Thus, all estimated worst-case 1-hour carbon monoxide levels for all scenarios are within the national AAQS of 40 mg/m^3. It appears likely, however, that existing concentrations of carbon monoxide as well as future concentrations either without or with the project may exceed the State of Hawaii 1-hour AAQS of 10 mg/m^3 on occasion at several locations in the project area.

Worst-case 8-hour carbon monoxide concentrations were estimated by multiplying the worst-case 1-hour values by a persistence factor of 0.5. This accounts for two factors: (1) traffic volumes averaged over eight hours are lower than peak 1-hour values, and (2) meteorological dispersion conditions are more variable (and hence more favorable) over an 8-hour period than they are for a single hour. Based on <u>monitoring</u> data, 1-hour to 8-hour persistence factors for most locations generally vary from 0.4 to 0.8 with 0.6 being the most typical. One recent study based on <u>modeling</u> [13] concluded that 1-hour to 8-hour persistence factors could typically be expected to range from 0.4 to 0.5. EPA guidelines [12] recommend using a value of 0.6 to 0.7 unless a locally derived persistence factor is available. Recent monitoring data for Honolulu reported by the Department of Health [14] suggests that this factor may range between about 0.35 and 0.55 depending on location and traffic variability. Considering the location of the project and the traffic pattern for the area, a 1-hour to 8-hour persistence factor of 0.5 is probably most appropriate for this application.

The resulting estimated worst-case 8-hour concentrations are indicated in Table 6. For the 1990 scenario, the estimated worst-case 8-hour carbon monoxide concentration was 11.6 mg/m^3 at the intersection of Nuuanu Avenue and King Street. Other locations ranged from 8.3 mg/m^3 near Smith Street at King Street to 10.3 mg/m^3 near Smith Street at Nimitz Highway. The predicted maximum values for the year 1993 without and with project scenarios were 10.7 and 11.4 mg/m^3, respectively; both occurred at the Nuuanu Avenue/Nimitz Highway intersection. Other locations were generally in the 7 to 10 mg/m^3 range without project and 7 to 11 mg/m^3 with project. Either with or without the project, 1993 concentrations should be about the same or lower than existing concentrations except at Nuuanu Avenue and Nimitz Highway where concentrations should be about 10 percent higher. Comparing the predicted values for the existing case to the AAQS, it appears that both the state and the national 8-hour standard may be exceeded at several locations in the project vicinity. In 1993 with or without the project, worst-case concentrations will likely continue to exceed the state and national 8-hour AAQS.

The results of this study reflect several assumptions that must be made concerning traffic movement and worst-case meteorological conditions. One such assumption concerning worst-case meteorological conditions is that a wind speed of 1 meter per second with a steady direction for 1 hour will occur. A steady wind of 1 meter per second blowing from a single direction for an hour is not very likely and may occur only once a year or less. With wind speeds of 2 meters per second, for example, computed carbon monoxide concentrations would be only about one-half the values given above.

6.2 Parking Facilities

The existing three-level parking structure currently located on the project site has a capacity of 260 stalls. Traffic ingress/egress is via Smith Street. All parking levels are above ground and are naturally ventilated to maintain acceptable air pollution levels within the structure.

The proposed redevelopment project provides for the replacement of the current 260 public parking stalls while adding an additional 179 parking spaces for residents of the proposed project for a total parking capacity of 439 stalls. The proposed parking facility will have two levels of basement parking and six levels of parking above ground. Traffic will both enter and exit the parking facility from Smith Street. Final details of the parking structure design are not yet available, but it is likely that the above ground parking areas will be naturally ventilated while the basement parking area will require mechanical ventilation.

Although there are no specific air pollution standards pertaining to parking structures, the State Department of Health specifies ventilation design guidelines for enclosed parking garages in Chapter 11-39 of the Hawaii Administrative Rules. These guidelines require that each level of an enclosed parking structure be mechanically vented unless: (1) more than half the wall area is open along at least 40 percent of the perimeter; (2) there are no employees who normally work in the space; and (3) there is adequate natural ventilation. Mechanical ventilation equipment, either supply or exhaust, must provide a minimum of 1.50 cubic feet per minute (cfm) of outdoor air per square foot of space over the entire floor area. (These are the design criteria also currently recommended by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) for ventilating parking garages [15].) At locations where traffic congestion may occur, such as at exits, more ventilation capacity is required.

The state design guidelines referenced above also specify that an engineered system may be employed using the formula:

$$Q = K n / C$$

where ,

Q = exhaust ventilation rate (cfm)
K = 1,380,000
n = number of cars running at one instant
C = allowable concentration (ppm)

For engineered systems, C must be selected with regard to the "threshold limit value" for carbon monoxide and as approved by the Director of the Department of Health.

Threshold Limit Values (TLVs) are set by the American Conference of Governmental Industrial Hygienists (ACGIH) and pertain to the air within the industrial workplace [16]. The ACGIH TLV for carbon monoxide is stated in terms of a time-weighted average (TWA) concentration of 55 mg/m^3 (50 ppm) for an 8-hour period (40 hours per week). A TLV short-term exposure limit (STEL) of 440 mg/m^3 (400 ppm) is also specified for a 15-minute period. Thus, compared to the state and the national AAQS (see Table 1), the ACGIH TLVs for carbon monoxide are much less restrictive.

The formula given above pertaining to the design of ventilation systems for enclosed parking facilities was promulgated in January 1983 when the state rule for air conditioning and ventilating was established. Motor vehicles in the 1990's emit less carbon monoxide on the average than they did during the early 1980's when this rule was adopted. Thus, use of this formula for designing parking garage ventilation systems for today's or future facilities probably will result in overly conservative ventilation requirements.

In 1993 when the proposed project will be complete, motor vehicles will emit a maximum of about 14 grams per minute each of carbon monoxide while idling or operating at low speeds in the parking garages in the cold-start mode. This assumes an ambient temperature of 59°F. Because Honolulu's average minimum temperature is 70°F and since emissions are inversely proportional to ambient temperature, cold-start emissions will usually be lower. Motor vehicles typically reach stabilized operating temperatures within about 7 to 8 minutes after a cold start. After reaching stabilized temperatures, emissions will amount to about 3 grams per minute per vehicle on the average. Shown in Table 7 are the estimated worst-case 15-minute average concentrations that will occur in the underground parking garages assuming that 1.5 cubic feet per minute (cfm) of outdoor air per square foot of space is provided. Worst-case concentration estimates assume that 25 percent of the capacity of the parking level operates continuously with 100 percent of the vehicles in the cold-start mode. As indicated in the table, worst-case concentrations within the project's underground parking facilities are estimated not to exceed about 240 mg/m^3. Thus, worst-case carbon monoxide levels within the underground parking facilities should be well below the TLV-STEL (440 mg/m^3) even with the minimum required ventilation.

To comply with the state design guidelines as well as to provide an adequate margin of safety, a minimum ventilation capacity of 1.50 cubic feet per minute per square foot of floor space should be provided within the proposed underground parking facilities. However, as suggested by ASHRAE and if approved by the Department of Health, carbon monoxide sensors could be used to reduce ventilation rates during inactive periods and thereby decrease energy consumption while maintaining carbon monoxide concentrations below the TLV-STEL.

Air vented from the underground parking garages and impacting public areas will be subject to state and national AAQS. Thus, all air from underground parking garages should be vented as far enough away from pedestrian areas as is practicable so as to achieve a dilution factor of at least five to ten.

It should be noted that the estimated concentrations given in Table 7 pertain to the year 1993. In future years, concentrations will decrease as more and more older model vehicles are retired from the fleet. It also should be noted that the number of parking stalls, floor space and ventilation rates shown in the table are preliminary estimates and are subject to modification. However, it is unlikely that these figures will change significantly in the final design.

Design of the above ground parking facilities is still in the preliminary stage; however, it is anticipated that these facilities will rely on natural ventilation to control carbon monoxide levels within and adjacent to the parking structure. Architectural screening will likely be used to provide for both an aesthetically pleasing appearance and adequate natural air flow. In compliance with Department of Health design guidelines, more than half the wall area should be open along at least 40 percent of the perimeter of each parking level.

Project plans call for the proposed parking structure to be located makai of the project's tower. Thus, the tower will be situated to the northeast of the parking structure and will at least partially block air flow from the prevailing wind direction. However, even with wind speeds as low as 1 mph infiltrating the facility, natural ventilation should provide sufficient outdoor air if the wall space conforms to Department of Health guidelines.

6.3 Electrical Demand

The proposed project also will cause indirect emissions from power generating facilities as a consequence of electrical power usage. The annual electrical demand of the project when fully developed is not expected to exceed about 4 million kilowatt-hours. This power demand, some of which will be offset by the present electrical power demand at the site, would most probably be provided mainly by oil-fired generating facilities located on Oahu. However, with H-Power now online and plans for a coal-fired power plant at Campbell Industrial Park in the near future, some of the project power could well come from sources burning other fuels. In order to meet the electrical power needs of the proposed project, power generating facilities will be required to burn more fuel and hence more air pollution will be emitted at these facilities. Given in Table 8 are estimates of the indirect air pollution emissions that would result from the project electrical demand assuming all power is provided by burning more fuel oil at Oahu's power plants. If power is supplied instead or in part by coal or solid waste burning facilities, emissions will likely be higher than the values given in the table.

6.4 Solid Waste Disposal

Solid waste generated by the project when fully completed is expected to amount to less than 2 tons of refuse per day. Most if not all of this refuse will likely be hauled away in two to three truckloads per week and either landfilled or burned at another location. If all refuse is landfilled, the only air pollution emissions associated with solid waste disposal will be due to exhaust fumes and fugitive dust from the trucks and heavy equipment used to place the refuse in the landfill. If, on the other hand, all or part of the refuse is burned at a municipal incinerator or other facility (such as H-Power), disposal of solid waste from the project will also result in emissions of particulate, carbon monoxide and other contaminants from the incineration facility. Table 9 gives emission factors for municipal refuse incinerators (without controls) in terms of pounds of air pollution per ton of refuse material charged. Thus, uncontrolled air pollutant emission rates in terms of pounds per day, for example, can be estimated by multiplying the emission factors given in the table by the number of tons per day of refuse that is burned. Particulate emissions from the H-Power facility are much lower because emissions will be treated by a high-efficiency particulate control system. It should also be noted that if the project electrical demand derives all or in part from H-Power, this will help to offset emissions from burning oil or coal to produce power that might otherwise result.

7.0 SUMMARY OF IMPACTS AND MITIGATIVE CONSIDERATIONS

7.1 Impacts Summary

The major short-term air quality impact will be the potential emission of significant quantities of fugitive dust during demolition and project construction. Uncontrolled fugitive dust emissions from construction activities are estimated to amount to about 1.2 tons per acre per month. During construction phases, emissions from engine exhausts (primarily consisting of carbon monoxide and nitrogen oxides) will also occur both from on-site construction equipment and from vehicles used by construction workers and from trucks traveling to and from the project.

The primary long-term air pollution impact from the project will arise from the increased motor vehicle traffic associated with the project. Redevelopment of the site will result in a net increase of 179 parking stalls and new commercial/retail and residential facilities on the site. These expanded/new facilities will generate more traffic entering/exiting the project area and on adjacent streets. Potential increased levels of carbon monoxide concentrations along roadways leading to and from the proposed development and from and within parking facilities will be the primary concern. Based on mathematical modeling of projected vehicular traffic and on atmospheric dispersion estimates of vehicular emissions, it is predicted that with the proposed project worst-case carbon monoxide concentrations along roadways in the project vicinity will be only slightly higher compared to the without project case and will vary with location from about 10 percent lower to about 10 percent higher compared to existing levels. With or without the project, worst-case concentrations should remain within the national 1-hour ambient air quality standard set by the U.S. Environmental Protection Agency. The U.S. EPA 8-hour standard for carbon monoxide, however, may be exceeded occasionally near traffic-congested areas with or without the project in the year 1993; concentrations during the current year may also exceed this standard. Traffic from the proposed project will not contribute significantly to the future exceedances.

The more stringent State of Hawaii 1-hour and 8-hour ambient air quality standards for carbon monoxide may be exceeded at times during the current year and either with or without the project in the year 1993 at several locations in the study area. The state standard is set so low, however, it is probably exceeded at many intersections in the state that have even moderate traffic volumes. It is worth noting here that, although the national AAQS allow higher levels of carbon monoxide, the national standards were developed after extensive research with the objective of defining levels of air quality that would protect the public health with an adequate margin of safety.

Carbon monoxide concentrations within the underground parking facilities will be controlled by mechanical ventilation equipment. Under worst-case conditions, it is projected that concentrations within the underground parking garages will be maintained well within safety guidelines by supplying 1.5 cubic feet per minute of outdoor air per square foot of floor space on each basement parking level. Air vented from basement parking areas may potentially impact public areas outside.

Carbon monoxide concentrations within above ground parking facilities will be maintained at acceptable levels by means of natural ventilation. Architectural screening will likely be used to provide an aesthetically pleasing appearance while providing for sufficient natural air flow. The location of the tower with respect to the parking structure will at least partially block air flow from the prevailing wind direction, but infiltration of the wind through open or screened walls should still provide adequate ventilation.

Some long-term impacts could also potentially occur due to indirect emissions from power generating facilities supplying the project with electricity and from the burning of waste materials generated by the project. Quantitative estimates of these impacts were not made, but it appears likely that any impacts will be relatively small since emissions from supplying the project with electrical power and solid waste disposal service will be much less than 1 percent of current Oahu emissions.

7.2 Mitigative Considerations

Strict compliance with State of Hawaii Air Pollution Control Regulations regarding establishment of a regular dust-watering program and covering of dirt-hauling trucks will be required to effectively mitigate fugitive dust emissions from construction activities. Twice daily watering is estimated to reduce dust emissions by up to 50 percent. Use of wind screens, while generally less effective than watering, may further reduce dust. If dirt tracking onto paved roads by haul trucks is a problem, tire washing could help to reduce the resulting fugitive dust emissions. Paving of parking areas and establishment of landscaping early in the construction schedule will also help to control dust. Increased vehicular emissions due to disruption of traffic by construction equipment and/or commuting construction workers can be alleviated by moving equipment and personnel to the site during off-peak traffic hours.

Options available to mitigate traffic-related air pollution are to improve roadways, reduce traffic or reduce individual vehicular emissions. The project traffic study indicates that roadway improvements are unnecessary and/or unfeasible based on traffic engineering considerations. Aside from improving roadways, air pollution impacts from vehicular emissions can be mitigated by reducing traffic through the use of mass transit and car pooling and/or by adjusting local school and business hours to begin and end during off peak times. Although it is conceivable that the efficiency of motor vehicle engines and/or emission control equipment will be improved or that vehicles will be developed which burn cleaner fuels at some point in the future, it is not likely that these developments will occur before project completion in 1993. With regard to cleaner burning fuels, vehicles burning methanol or compressed natural gas or powered by electrical motors are some of the possibilities for technological development that are currently being contemplated. Even without technological breakthroughs, it is also possible that at some point in the future the State may decide to adopt either a motor vehicle inspection and maintenance program which would ensure that emission control devices are properly maintained, and thereby reduce emissions, or more restrictive emission control standards. Finally, each year for the next several years, automotive emissions for the fleet as a whole will go down a few percent. If the decrease in emissions exceeds the increase in traffic after the year of project completion (1993), air quality may improve after this date.

Carbon monoxide concentrations within the underground parking structures can be minimized by providing mechanical ventilation capacity that conforms to Hawaii Administrative Rules and to ASHRAE standards. At least 1.5 cubic feet of fresh air per minute per square foot of floor space should be provided; additional capacity near exits or other areas of traffic congestion may be necessary. If fresh air intake fans are utilized, intake vents should be located as far away from roadway traffic fumes as is practicable. Exhaust vents should be located so as to avoid recirculation and to ensure that exhaust air is diluted by a factor of 5-10 by the time it reaches outside pedestrian areas. Use of carbon monoxide sensors within the parking structures to monitor air pollution concentrations and to control ventilation equipment will ensure safety and conserve energy (by reducing ventilation rates during off-peak hours). Sufficient ingress/egress capacity to permit entry and exit with minimal delays will also mitigate air pollution impacts both within and adjacent to the facilities. As an extra mitigative measure, emergency procedures and equipment should be provided to counter potential problems arising from power outages and/or ventilation equipment failure.

Air pollution within above ground parking facilities can be kept to a minimum by opening wall areas facing the prevailing wind direction to the maximum extent possible. In downtown Honolulu, the prevailing winds are from the northeast. Thus, open or screened wall areas on the northeast side of the facilities are advisable. Sufficient entry/exit capacity will also reduce air pollution within and adjacent to the above ground parking facilities.

Indirect emissions from project electrical demand could be reduced somewhat by utilizing solar energy design features to the maximum extent possible. This might include installing solar water heaters, designing condominiums and commercial space so that window positions maximize indoor light without unduly increasing indoor heat, and using landscaping where feasible to provide afternoon shade to cut down on the use of air conditioning. Use of wind power generating units and other alternative energy sources by the utility instead of fuel-burning facilities also would lessen indirect emissions from project electrical demand. Additionally, use of carbon monoxide sensors in the underground parking facilities to control ventilation equipment could reduce electrical power demand.

Any air pollution impacts from burning solid waste from the project could be reduced substantially if the incinerator is fitted with pollution control equipment, i.e., electrostatic precipitators or fabric filters. Conservation and recycling programs could also reduce solid waste which would reduce any related air pollution emissions proportionately. Quite likely, solid waste from the project will processed by the H-Power garbage-to-energy facility which is fitted with fabric filters to control air pollution. Use of solid waste to generate power offsets emissions that would otherwise occur from fossil-fueled power plants.

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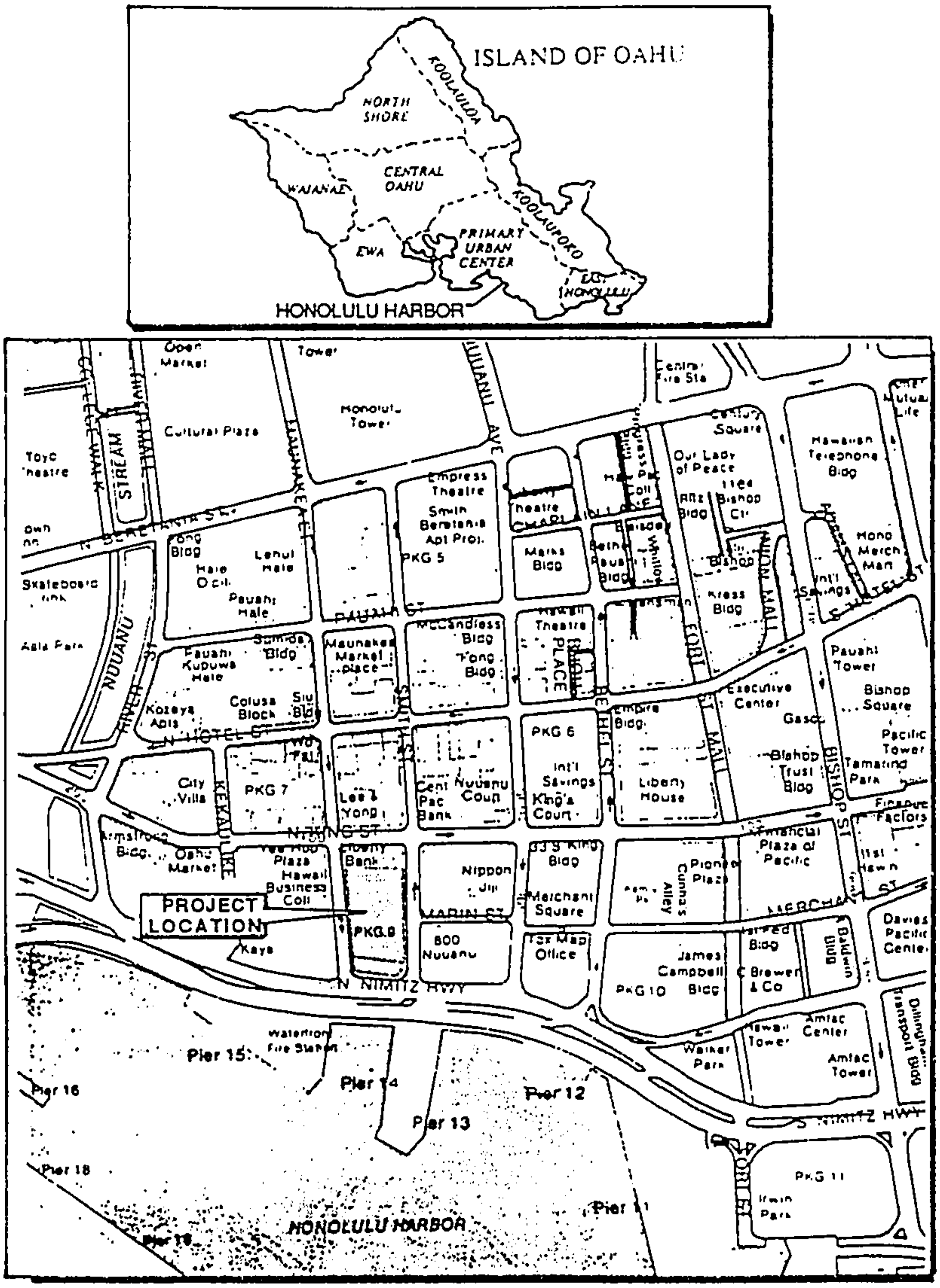

SMITH /MAUNAKEA HOUSING
Regional and Project Location Maps

FIGURE 1

Table 1

SUMMARY OF STATE OF HAWAII AND NATIONAL AMBIENT AIR QUALITY STANDARDS

			Maximum Allowable Concentration		
Pollutant	Units	Averaging Time	National Primary	National Secondary	State of Hawaii
Suspended Particulate Matter	$\mu g/m^3$	Annual	-	-	60[a]
		24 Hours	-	-	150[b]
Particulate Matter[c]	$\mu g/m^3$	Annual	50	50	-
		24 Hours	150[b]	150[b]	-
Sulfur Dioxide	$\mu g/m^3$	Annual	80	-	80
		24 Hours	365[b]	-	365[b]
		3 Hours	-	1300[b]	1300[b]
Nitrogen Dioxide	$\mu g/m^3$	Annual	100	100	70
Carbon Monoxide	mg/m^3	8 Hours	10[b]	-	5[b]
		1 Hour	40[b]	-	10[b]
Ozone	$\mu g/m^3$	1 Hour	235[b]	235[b]	100[b]
Lead	$\mu g/m^3$	Calendar Quarter	1.5	1.5	1.5

[a]Geometric mean

[b]Not to be exceeded more than once per year

[c]Particles less than or equal to 10 microns aerodynamic diameter

Table 2

ANNUAL WIND FREQUENCY FOR HONOLULU INTERNATIONAL AIRPORT (%)

Wind Direction	Wind Speed (knots) 0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	>40	Total
N	0.5	2.5	1.3	0.5						4.8
NNE	0.3	1.2	1.6	1.5	0.2					4.7
NE	0.3	2.1	6.1	11.0	3.2	0.3				23.0
ENE	0.2	2.5	10.9	16.6	4.1	0.3				34.7
E	0.1	1.0	2.5	2.8	0.5					7.0
ESE	0.0	0.3	0.4	0.3						1.1
SE	0.0	0.3	0.8	1.0	0.1					2.2
SSE	0.1	0.4	1.2	0.7	0.1					2.4
S	0.1	0.5	1.4	0.6	0.1					2.7
SSW	0.0	0.3	0.8	0.3						1.5
SW	0.0	0.2	0.8	0.4						1.5
WSW	0.0	0.3	0.5	0.4						1.2
W	0.1	0.5	0.2	0.2						1.1
WNW	0.2	1.4	0.3	0.1						2.0
NW	0.4	2.3	0.8	0.1						3.8
NNW	0.5	2.3	0.8	0.2						3.8
CALM	2.5									2.5
TOTAL	5.4	18.3	30.6	36.5	8.5	0.7				100.0

Source: Climatography of the United States No. 90 (1965-1974), Airport Climatological Summary, Honolulu International Airport, Honolulu, Hawaii, U.S. Department of Commerce, National Climatic Center, Asheville, NC, August 1978.

Table 3

AIR POLLUTION EMISSIONS INVENTORY FOR
CITY AND COUNTY OF HONOLULU, 1980

Source Category	Emissions (tons/year)				
	Partic-ulate	Sulfur Oxides	Nitrogen Oxides	Carbon Monoxide	Hydro-carbons
Steam Electric Power Plants	2,092	36,736	12,455	1,065	184
Gas Utilities	14	0	199	0	0
Fuel Combustion in Agricultural Industry	1,088	579	358	0	31
Refinery Industry	622	7,096	2,149	266	2,584
Petroleum Storage	0	0	0	0	1,261
Metallurgical Industries	28	96	40	0	0
Mineral Products Industry	6,884	1,883	597	0	31
Municipal Incineration	42	145	2,029	0	184
Motor Vehicles	1,413	1,014	17,270	239,198	22,853
Construction, Farm and Industrial Vehicles	184	193	2,507	3,729	338
Aircraft	382	145	1,751	5,594	1,476
Vessels	42	386	438	533	123
Agricultural Field Burning	1,399	0	0	15,982	1,692
Total:	14,190	48,273	39,793	266,367	30,757

Source: State of Hawaii, Department of Health

Table 4

ANNUAL SUMMARY OF AIR QUALITY MEASUREMENTS FOR
MONITORING STATIONS NEAREST SMITH-MAUNAKEA HOUSING PROJECT

Parameter / Location	1985	1986	1987	1988	1989
Sulfur Dioxide / Barbers Point					
No. of 24-Hr Samples	59	57	53	59	54
Range of 24-Hr Values (µg/m3)	10-48	<5-10	<5-13	<5-19	<5-20
Average Daily Value (µg/m3)	24	<5	5	<5	<5
No. of State AAQS Exceedances	0	0	0	0	0
Particulate / Downtown Honolulu					
No. of 24-Hr Samples	59	57	53	59	59
Range of 24-Hr Values (µg/m3)	10-48	11-61	14-59	12-45	16-48
Average Daily Value (µg/m3)	24	25	25	26	30
No. of State AAQS Exceedances	0	0	0	0	0
PM-10 / Liliha					
No. of 24-Hr Samples	10	51	42	53	55
Range of 24-Hr Values (µg/m3)	13-52	7-35	10-33	9-25	10-33
Average Daily Value (µg/m3)	23	18	17	17	16
No. of State AAQS Exceedances	NA	NA	NA	NA	NA
Carbon Monoxide / Downtown Honolulu					
No. of Days of 1-Hr Samples	342	348	345	360	323
Range of Daily Max. 1-Hr Values (mg/m3)	0.0-10.4	0.2-13.5	0.3-11.1	0.2-10.4	0.3-7.8
Avg. Daily Maximum 1-Hr Value (mg/m3)	1.5	2.2	1.7	1.7	1.9
No. of State 1-Hr AAQS Exceedances	1	3	1	1	0
No. of Days of 8-Hr Samples	246	213	228	-	-
Range of Daily Max. 8-Hr Values (mg/m3)	0.1-4.4	0.3-4.7	0.3-3.9	-	-
Avg. Daily Maximum 8-Hr Value (mg/m3)	1.3	1.4	1.2	-	-
No. of State 8-Hr AAQS Exceedances	0	0	0	-	-
Ozone / Sand Island					
No. of Days of 1-Hr Samples	341	346	342	362	342
Range of Daily Max. 1-Hr Values (µg/m3)	8-198	10-88	4-84	0-94	0-96
Avg. Daily Maximum 1-hr Value (µg/m3)	43	39	38	13	15
No. of State AAQS Exceedances	3	0	0	0	0
Lead / Downtown Honolulu					
No. of 24-Hr Samples	58	57	57	-	-
Range of 24-Hr Values (µg/m3)	0.0-0.3	0.0-0.2	0.0-0.2	-	-
Average Quarterly Value (µg/m3)	0.2	0.0	0.0	-	-
No. of State AAQS Exceedances	0	0	0	-	-

Source: State of Hawaii Department of Health

Table 5

ESTIMATED WORST-CASE 1-HOUR CARBON MONOXIDE CONCENTRATIONS ALONG ROADWAYS NEAR SMITH-MAUNAKEA HOUSING PROJECT
(milligrams per cubic meter)

Roadway Intersection	Year/Scenario: 1990/ Present AM	1990/ Present PM	1993/ Without Project AM	1993/ Without Project PM	1993/ With Project AM	1993/ With Project PM
Smith/King	11.5	16.6	11.2	14.6	12.4	14.8
Nuuanu/King	23.1	20.2	20.7	17.6	20.9	19.1
Smith/Nimitz	11.0	20.6	10.5	20.0	10.5	21.7
Nuuanu/Nimitz	15.4	19.8	15.0	21.4	15.6	22.7

Hawaii State AAQS: 10
National AAQS: 40

Table 6

ESTIMATED WORST-CASE 8-HOUR CARBON MONOXIDE CONCENTRATIONS ALONG ROADWAYS NEAR SMITH-MAUNAKEA HOUSING PROJECT (milligrams per cubic meter)

Roadway Intersection	Year/Scenario 1990/ Present	1993/ Without Project	1993/ With Project
Smith/King	8.3	7.3	7.4
Nuuanu/King	11.6	10.4	10.4
Smith/Nimitz	10.3	10.0	10.8
Nuuanu/Nimitz	9.9	10.7	11.4

Hawaii State AAQS: 5
National AAQS: 10

Table 7

ESTIMATED WORST-CASE 15-MINUTE CARBON MONOXIDE CONCENTRATIONS
WITHIN SMITH-MAUNAKEA HOUSING PROJECT UNDERGROUND PARKING FACILITIES

Parking Level	Number Parking Stalls	Approximate Floor Space (sq. ft.)	Ventilation Rate (cfm)[a]	Worst-Case Concentration[b,c] (mg/m^3)
Basement-1	121	42,240	63,360	237
Basement-2	123	42,240	63,360	241

[a]Based on 1.50 cubic feet per minute per square foot of floor space.

[b]Includes background concentration of 1 mg/m^3 and assumes ambient temperature of 59 degrees F.

[c]Assumes 1/4 capacity of parking level operating throughout 15-minute period and average emissions of 14 grams per minute per vehicle (100% in cold-start mode during year 1993).

[d]Threshold Limit Value/Short-Term Exposure Limit for carbon monoxide: 440 mg/m^3.

Table 8

ESTIMATED INDIRECT AIR POLLUTION EMISSIONS FROM SMITH-MAUNAKEA HOUSING PROJECT ELECTRICAL DEMAND[a]

Air Pollutant	Emission Rate (tons/year)
Particulate	<1
Sulfur Dioxide	11
Carbon Monoxide	<1
Volatile Organics	<1
Nitrogen Oxides	3

[a]Based on U.S. EPA emission factors for industrial boilers [4]. Assumes electrical demand of 4 million kw-hrs per year and low sulfur oil used to generate power.

Table 9

UNCONTROLLED AIR POLLUTION EMISSION FACTORS FOR MUNICIPAL REFUSE INCINERATORS (lb/ton)[a]

Air Pollutant	Emission Factor
Particulate	14[b]
Sulfur Oxides	2.5
Carbon Monoxide	35
Organics	1.5
Nitrogen Oxides	3

[a]Emission factors are given in terms of weight of material emitted per unit weight of refuse material charged.
[b]Assumes incinerator equipped with settling chamber and water spray.

Source: U.S. Environmental Protection Agency [4]

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WORK EXPERIENCE

CURRENT, since 1988: CONSULTING METEOROLOGIST, Barry D. Neal & Associates, Honolulu, Hawaii. Provide consulting services in air quality and applied meteorology to government, industry, utilities, engineering firms and architect/planning organizations. Prepare air quality assessments for environmental impact statements and for air pollution permit applications. Conduct air quality modeling and monitoring studies.

1983 - 1987: SENIOR METEOROLOGIST/AIR QUALITY SPECIALIST, Amartech, Ltd, Saudi Arabia. Provided air quality and meteorological consulting services to industrial and governmental clients. Major assignments included managing an environmental study for a new oil-fired power plant and operating a network of nine meteorological/air quality monitoring stations surrounding a new industrial center. Other duties included supplying expertise in the use of meteorological data for engineering design, providing advice on air pollution emissions and emissions control, and performing atmospheric dispersion assessments.

1977 - 1983: METEOROLOGIST, Bechtel Group, Inc., San Francisco, California. Provided expertise in many areas of industrial and applied meteorology for projects located around the U.S. and the world. Areas of expertise provided included: air quality modeling, air quality and meteorological monitoring, air pollution emissions and emissions control equipment, engineering design, and environmental regulations and permit applications.

EDUCATION

1977: Graduate Studies, Department of Meteorology, San Jose State University, San Jose, California.

1976: B.S. Meteorology, San Jose State University, San Jose, California.

PROFESSIONAL DATA

Certified Consulting Meteorologist. Member of the American Meteorological Society and the Air Pollution Control Association.

APPENDIX C.

Noise Impact Assessment

Darby & Associates, Ltd.

D.L. ADAMS ASSOCIATES, LTD.
dba
DARBY
& ASSOCIATES
ACOUSTICAL CONSULTANTS

#90-27
February 20, 1991

William E. Wanket, Inc.
Pacific Tower, Suite 660
1001 Bishop Street
Honolulu, HI 96813

Attention: Mr. William Wanket

RE: ENVIRONMENTAL NOISE IMPACT ASSESSMENT
SMITH/MAUNAKEA HOUSING, HONOLULU, HAWAII

Dear Mr. Wanket:

In this report, we present our findings on environmental noise aspects of the subject project.

1. <u>SUMMARY OF FINDINGS</u>

1.1 There are no existing noise-sensitive buildings in the immediate vicinity of the project site. Most existing buildings nearby are commercial although there are some mixed-use projects planned, or undergoing construction, near the site.

1.2 The project site is in a relatively noisy area, with existing background (L90) noise levels of typically 60 to 65 dBA during the daytime. Traffic on Nimitz Highway and other city streets is the dominant noise source.

1.3 During tradewind departures from Honolulu International Airport, civilian jet aircraft typically produce maximum noise levels ranging from less than 60 dBA (i.e., at or below the existing background noise) to up to about 70 dBA. However, the Day-Night Average Sound level (Ldn) due to aircraft noise at the project site is less than the State Department of Transportation's 60 dBA residential area limit.

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1.4 It is estimated that some of the proposed apartments in the Smith/Maunakea development will be subjected to Ldn's of 65 to 70 dBA, i.e., above the Department of Housing and Urban Development's Ldn 65 limit for conventional construction. Possible mitigation measures include avoiding the use of jalousie windows, using well-sealed sliding windows with double strength glass, and air-conditioning or mechanically ventilating noise-sensitive areas (to allow windows to be kept closed for noise reduction purposes).

1.5 The additional traffic on Nimitz Highway and other city streets should not cause any significant environmental noise impact.

1.6 If piledriving is used, vibration monitoring is recommended to ensure that ground-borne vibration transmitted into adjacent buildings is well below the limits at which structural damage can occur.

1.7 Construction noise could cause some short-term annoyance to occupants of neighboring commercial buildings (and to residents in future mixed-use project nearby), particularly if piledriving is used.

1.8 In cases where construction noise exceeds, or is expected to exceed, the Department of Health's property line limits, a permit must be obtained from the DOH. Required permit conditions include restrictions on permissible operating hours.

2. PROJECT DESCRIPTION

Smith/Maunakea is a mixed-use project sponsored by the City & County of Honolulu's Department of Housing and Community Development. It will include a 250-foot high apartment tower, ground floor commercial areas and public and resident parking. In addition to the studios and the one and two-bedroom apartments in the tower, a number of studio apartments will be located on Level 3 of the development; some of these will be quite close to Nimitz Highway.

The site, which is presently occupied by a three-level municipal parking structure and a commercial building, is bounded by Smith Street, Nimitz Highway, Maunakea Street, and, on its mauka side, by commercial buildings fronting King Street (see Figure 1). All existing buildings in the immediate vicinity of the project site are commercial. Several mixed-use projects are, however, planned (or are under construction) near the site, including the Waterfront at Aloha Tower, Harbor Court, Kekaulike-Maunakea, and Chinatown Gateway Plaza and Park (which is currently nearing completion).

3. THE EXISTING ACOUSTICAL ENVIRONMENT

3.1 General

Ambient noise measurements were made at and near the project site on the afternoon of August 16, 1990. Noise levels were recorded over 10-minute sampling periods at Locations A through E, shown in Figure 1, using a Larson-Davis Laboratories Model 700 Sound Level Meter. The measurement locations are described below:

A. In front of the "Honolulu Art Gallery" premises, at the corner of Maunakea Street and Nimitz Highway, about 20 ft from the Nimitz curb.

B. At the surface car parking lot, between Nuuanu Avenue and Bethel Street, about 40 ft from the Nimitz curb.

C. Next to the Smith Street exit of the Hawaii National Bank building's parking garage, 10 ft from the Smith Street curb and 25 ft from Marin Street.

D. At the entrances to the commercial premises at 934 and 942 Maunakea Street, about 12 ft from the Maunakea Street curb.

E. On the project site, at the Ewa/makai corner of the upper level of the existing municipal parking structure, about 75 ft from Nimitz Highway.

Further measurements were made on the upper level of the existing municipal parking structure (near Location E) over a 1-hour period on August 19, 1990, to assess the noise from aircraft operations associated with Honolulu International Airport (HIA).

A 24-hour noise measurement, commencing at 2 pm on October 3, 1990, was subsequently performed on the roof of the Hawaii National Bank Building, just opposite the site. It was considered that the results of this measurement, made on the Diamond Head/makai corner of the roof, would provide some indication of the noise levels to which the proposed apartment tower will be exposed.

Weather conditions during the measurements were generally clear, with temperatures of around 90^{o} and tradewinds at 10 to 20 mph.

3.2 Measurement Results

The noise measurement results, in terms of the Equivalent Continuous Noise Level (Leq), the minimum noise level (Lmin), the levels exceeded for 90%, 50%, 10% and 1% of the time (L90, L50, L10 and L1, respectively), and the maximum noise level (Lmax), are presented in Table 1 and summarized below. These statistical levels are commonly-used descriptors of environmental noise; for example, the L1 level describes the near-maximum noise, while L90 is a good measure of the background noise level. (A brief description of acoustical terminology is presented in Appendix I.)

Location	Measured Noise Levels - dBA						
	Leq	Lmin	L90	L50	L10	L1	Lmax
A	75	61	67	74	78	83	85
B	68	61	63	67	71	75	77
C	65	60	62	64	67	73	77
D	65	58	60	63	69	73	76
E	68	62	64	68	70	73	75

Table 2 presents a summary of the single-event aircraft noise levels measured near Location E.

Figure 2 shows the hourly statistical noise levels measured on the roof of the Hawaii National Bank Building over a 24-hour period, commencing at 2 pm on October 3, 1990. The Day-Night Average Sound Level (Ldn) over this period was 68 dBA.

The above data confirm that the project site is in a relatively noisy area, with existing background (L90) noise levels at and near the site of typically 60 to 65 dBA during the daytime. The main noise source was traffic on Nimitz Highway and other city streets. At times, aircraft noise was also quite noticeable at certain locations.

During the above noise measurements (i.e., on August 16 and 19, and October 3-4, 1990), aircraft operations at HIA were typical of normal tradewind patterns with wide-body jet departures from Runway 8R, the reef runway, and inter-island jet departures from Runway 8L (i.e., departure tracks 01 and 07; and 04, 05 and 08; respectively, shown in

Figure 3 - from Reference 1). Tradewind departures currently represent about 90% of the annual departures from HIA.

The maximum noise level (Lmax) from almost half of the aircraft movements monitored over a 1-hour period on August 19, 1990 was less than 60 dBA at the project site. Most of the other aircraft observed during this period produced an Lmax in the range of 60 to 70 dBA. The noisiest aircraft recorded was a DC-9 interisland jet, which produced an Lmax of 73 dBA while taking off.

Previous data obtained at the site of the Waterfront at Aloha Tower Project showed certain military jets to be significantly louder (by 10 dBA or more) than the noisier civilian aircraft (Reference 2). The highest noise level recorded near the Aloha Tower during that study was an Lmax of 81 dBA, from two F-18 military jets taking off simultaneously.

Figure 4 indicates that noise from aircraft arriving on tracks 27, 28 and 29 during Kona weather operations, which occur about 10% of the time (on an annual average basis), may also impact the site. However, Reference 2 also notes that aircraft arrivals during Kona weather produced slightly lower (by about 5 dBA) noise levels near the Aloha Tower than tradewind departures.

3.3 Estimated Noise Exposure Levels

An extract from the 1992 HIA Noise Exposure Map, presented in Figure 5, shows that the site will be exposed to a Day-Night Average Sound Level (Ldn) due to aircraft noise of about 58 dBA.

However, based on the short-term measurement results presented in Table 1, and the 24-hour noise data obtained opposite the site, it is estimated that some of the proposed apartments will be exposed to existing Ldn's of 65 dBA or higher, due primarily to traffic noise. Those worst affected will be the studios on Level 3 closest to Nimitz Highway, which will be subjected to estimated existing noise exposure levels of up to about Ldn 68. The mid to upper-level tower apartments having direct line-of-sight to Nimitz Highway and King Street could also be exposed to existing Ldn's of 65 dBA or higher.

4. NOISE STANDARDS AND GUIDELINES

Land-use compatibility guidelines are commonly presented in terms of Ldn, a measure of noise exposure over a typical 24-hour period. It is essentially the Leq measured over a 24-hour period (after adding 10 dBA to the noise levels recorded between 10 pm and 7 am, to account for people's higher sensitivity to noise at night).

For example, the U.S. Environmental Protection Agency and the Department of Housing and Urban Development (HUD) specify that residential and other noise-sensitive developments can normally be constructed in areas subjected to noise exposure levels of up to Ldn 65, with no special noise control measures required in buildings of conventional construction (References 3 and 4). Sites exposed to Ldn's in the range of 65 to 75 dB are considered normally unacceptable for residential development, with building approval subject to additional noise control measures. These criteria are generally consistent with the land use compatibility guidelines shown in Figure 6, obtained from Reference 5.

In Hawaii, the State Department of Transportation stipulates an aircraft noise exposure limit of Ldn 60 for residential buildings.

The Federal Highway Administration provides criteria for defining traffic noise impact as well as a noise prediction model (Reference 6).

Note that for residential developments located within an Ldn 65 to 70 zone, HUD's site acceptability standards require the construction to provide a minimum of 5 dBA attenuation in addition to "attenuation provided by buildings as commonly constructed in the area, and requiring open windows for ventilation." A minimum of 10 dBA additional attenuation is required for residential projects exposed to an Ldn of 70 to 75 dBA. HUD also has a design goal of Ldn 45 or less for the interior spaces of dwelling units.

On Oahu, State and County noise regulations may be enforced whenever noise emissions exceed specified levels and cause complaints from occupants of neighboring properties. However, the State Department of Health (DOH) and City and County of Honolulu Land Use Ordinance (LUO) noise regulations are expressed in terms of maximum allowable noise levels rather than a 24-hour noise exposure level, such as Ldn (see Figures 7 and 8).

The DOH regulations use A-weighted sound levels and state that the allowable noise levels shall not be exceeded for more than 10% of the time during any 20-minute period (Reference 7). The LUO regulations differ from those of the DOH in that they use octave band sound levels instead of A-weighted levels and no temporal factor is involved (Reference 8). In addition, the DOH also specifies maximum allowable noise levels for vehicles, including trucks (Reference 9).

5. POTENTIAL IMPACTS AND DESCRIPTION OF CONTROLS

5.1 Additional Traffic Generated by the Project

A traffic count was performed during the noise measurements at Locations A and B to permit calibration of the FHWA Highway Traffic Noise Prediction Model. The FHWA traffic noise model was then used, in conjunction with projections of future (1993) traffic volumes with and without the project, to estimate increases in noise levels due to project-generated traffic. The results, presented in Table 3, show that the project-generated traffic will cause noise level increases of 1.2 dBA or less. This is not considered a significant increase in terms of subjective response.

Thus, the additional traffic on Nimitz Highway and other city streets, generated by the proposed Smith/Maunakea development, should not by itself cause any significant environmental noise impact. Future traffic increases, including project-generated traffic and general traffic growth will, however, increase noise exposure levels at the proposed development by 1 to 2 dBA above those existing, and so the worst-affected apartments (the Level 3 studios) will be exposed to estimated future Ldn levels of up to about 70 dBA.

5.2 Project Operational Noise

The noise from any mechanical and electrical equipment associated with the proposed development, including air conditioning equipment, garage exhaust fans, transformers, etc., will be reduced to acceptable levels at the property lines (i.e., in compliance with the appropriate DOH and LUO limits) and within the development itself, provided the appropriate noise control measures are incorporated in the design. The required noise control measures may include the following:

(1) Sound attenuators on building and garage exhaust fans.

(2) Inlet and discharge silencers on cooling towers.

(3) Acoustical louvers or silencers at mechanical and electrical equipment room air intake and discharge openings.

(4) Appropriate selection of vibration isolation mounts; mechanical and electrical equipment room wall, floor and ceiling constructions; acoustical linings; etc.

Noise from service areas, such as loading docks and trash pickup points, can also be reduced to acceptable levels at the closest noise-sensitive areas by suitably locating these facilities, use of acoustical treatments, etc.

5.3 Aircraft and Traffic Noise

As indicated in Figure 5, the proposed development will be subjected to estimated 1992 aircraft noise exposure levels of approximately Ldn 58, i.e., in compliance with the State Department of Transportation's Ldn 60 residential area limit. In the longer-term, there should be some reduction in aircraft noise exposure levels at the project site when the older, Stage 2 civilian aircraft are eventually phased out. However, changes in the type of military aircraft and their operations can also affect the Ldn contours. Thus, predictions of HIA noise impact into the future can show a large variability.

A comparison between the projected 1992 and 2007 contours in the 1988 FAA, Part 150 Study (Reference 10) indicates a reduction of about 5 dBA in the aircraft noise exposure levels at the project site in spite of increased operations, primarily because the 2007 contours reflect a situation where the majority of the aircraft are Stage 3.

Some of the proposed apartments will, however, be exposed to existing and future Ldn's of 65 dBA and higher, due primarily to traffic noise. Those worst affected will be the studios on Level 3 closest to Nimitz Highway, which will be exposed to future Ldn's of up to about 70 dBA, i.e., higher than HUD's Ldn 65 limit for conventional construction. The mid to upper-level tower apartments having direct line-of-sight to Nimitz Highway and King Street will also be exposed to future Ldn's of 65 dBA or higher. Possible mitigation measures include:

(1) Avoid jalousie windows, or restrict their use to the less noise-sensitive areas (bathrooms, laundries, etc.). Where possible, use sliding windows with double strength glass, and frames that seal well in the closed position.

(2) Air-condition or mechanically ventilate noise-sensitive areas (to allow windows to be kept closed for noise reduction purposes).

5.4 Construction Noise

Development of the project site will involve demolition, excavation and construction activities. The various construction phases of the development project may generate significant amounts of noise; the actual amounts are dependent upon the methods employed during each stage of the process. Typical construction equipment noise ranges in dBA are shown in Figure 9.

In cases where construction noise exceeds, or is expected to exceed, the DOH's "allowable" property line limits, a permit must be obtained from the DOH to allow the operation of vehicles, construction equipment, power tools, etc., which emit noise levels in excess of the "allowable" limits. Required permit conditions for construction activities are:

> "No permit shall allow construction activities creating excessive noise...before 7:00 am and after 6:00 pm of the same day."

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

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

If piledriving is required, piledrivers will be the loudest equipment used during construction and will probably cause some short-term annoyance to occupants of the neighboring commercial buildings (and to residents in future mixed-use projects nearby). It would be advisable to monitor ground vibration caused by any piledriving activities to ensure that the vibration transmitted into neighboring buildings is well below the levels at which structural damage can occur.

Note that construction noise from some of the other projects planned near the site (e.g., the Waterfront at Aloha Tower) may, depending on their relative scheduling, impact occupants of the subject project. However, the mitigation measures described above would also be applicable to these other projects.

Sincerely,

Ronald A. Darby

Ronald A. Darby, P.E.

RD/JCS/ld.rpt

Encl.

REFERENCES:

1. *Honolulu International Airport Master Plan Update and Noise Compatibility Program Inventory of Existing Noise Mitigation Programs and Noise Map Information*, prepared for State of Hawaii Department of Transportation, Airports Division, October 1988.

2. *Environmental Noise Assessment for the Proposed Waterfront at Aloha Tower Project*, prepared by Darby & Associates for Wilson Okamoto & Associates, Inc., June 1990.

3. *HUD Environmental Criteria and Standards*, 24 CFR Part 51, Federal Register, Volume 44, No. 135, July 12, 1979; amended 49 FR 880, January 6, 1984.

4. *Toward a National Strategy for Noise Control*, U.S. Environmental Protection Agency, April 1977.

5. Appendix to American National Standard ANSI 53.23-1980, *Sound Level Descriptors for Determination of Compatible Land Use.*

6. *FHWA Highway Traffic Noise Prediction Model*, FHWA - RD - 77 - 108; U.S. Department of Transportation, December 1978.

7. *Chapter 43 - Community Noise Control for Oahu*, Department of Health, State of Hawaii, Administrative Rules, Title 11, 1981.

8. *Section 3.11, Noise Regulations*, Land Use Ordinance, City and County of Honolulu, October 22, 1986.

9. *Chapter 42 - Vehicular Noise Control for Oahu*, Department of Health, State of Hawaii, Administrative Rules, Title 11, November 6, 1981.

10. *Preliminary Ldn Contours for Current HIA Master Plan and Noise Compatibility Program*, FAA, Part 150, Study by E. K. Noda & Associates, Inc.

TABLE 1

NOISE DATA RECORDED AT FIVE LOCATIONS AT AND NEAR THE SITE OF THE PROPOSED SMITH/MAUNAKEA HOUSING DEVELOPMENT, ON THURSDAY, AUGUST 16, 1990

*Location	Time	Measured Noise Levels - dBA							Dominant Noise Sources
		Leq	Lmin	L90	L50	L10	L1	Lmax	
A	1:29 - 1:39 pm	75	61	67	74	78	83	85	Traffic on Nimitz
B	1:58 - 2:08 pm	68	61	63	67	71	75	77	Traffic on Nimitz, welding equipment on Pier 13
C	2:19 - 2:29 pm	65	60	62	64	67	73	77	Traffic on Nimitz, aircraft, traffic on Smith Street, conversation from pedestrians
D	2:41 - 2:51 pm	65	58	60	63	69	73	76	Traffic on Maunakea Street, traffic on Nimitz
E	3:03 - 3:13 pm	68	62	64	68	70	73	75	Traffic on Nimitz, aircraft movements

* See Figure 1

TABLE 2

SUMMARY OF SINGLE EVENT NOISE LEVELS RECORDED ON THE UPPER LEVEL OF THE EXISTING PARKING GARAGE AT THE SMITH/MAUNAKEA PROJECT SITE ON SUNDAY, AUGUST 19, 1990

Time	Aircraft Type	Maximum Noise Level (Lmax) - dBA
1:32 pm	DC-10	<60
1:34	L-1011	<60
1:37	B-747	62
1:43	B-737	70
1:53	DC-8	<60
1:54	DC-10	<60
1:58	B-737	<60
1:59	B-747	68
2:00	DC-9	68
2:02	B-737	60
2:05	DC-10	61
2:10	B-737	<60
2:11	DC-9	<60
2:15	DC-9	73
2:16	DC-9	71
2:19	B-747	64
2:20	DC-10	<60
2:22	DC-10	<60
2:24	B-737	<60
2:26	DC-9	63
2:28	B-737	64

TABLE 3

PREDICTED FUTURE (1993) TRAFFIC NOISE LEVELS

AT SELECTED LOCATIONS

Condition	Location		
	Nimitz (between Smith/Maunakea	King (between Maunakea	Smith (between Nimitz & King)
a.m. Peak with Project	75.7	68.9	53.0
a.m. Peak without Project	75.6	68.9	51.8
Increase in a.m. Peak due to Project-Generated Traffic	+0.1	<+0.1	+1.2
p.m. Peak with Project	73.9	66.1	55.9
p.m. Peak without Project	73.9	66.1	55.3
Increase in p.m. Peak due to Project-Generated Traffic	<+0.1	<+0.1	+0.6

Note: Noise levels are Equivalent Continuous Noise Levels in dBA, at arbitrary 100 ft reference distance.

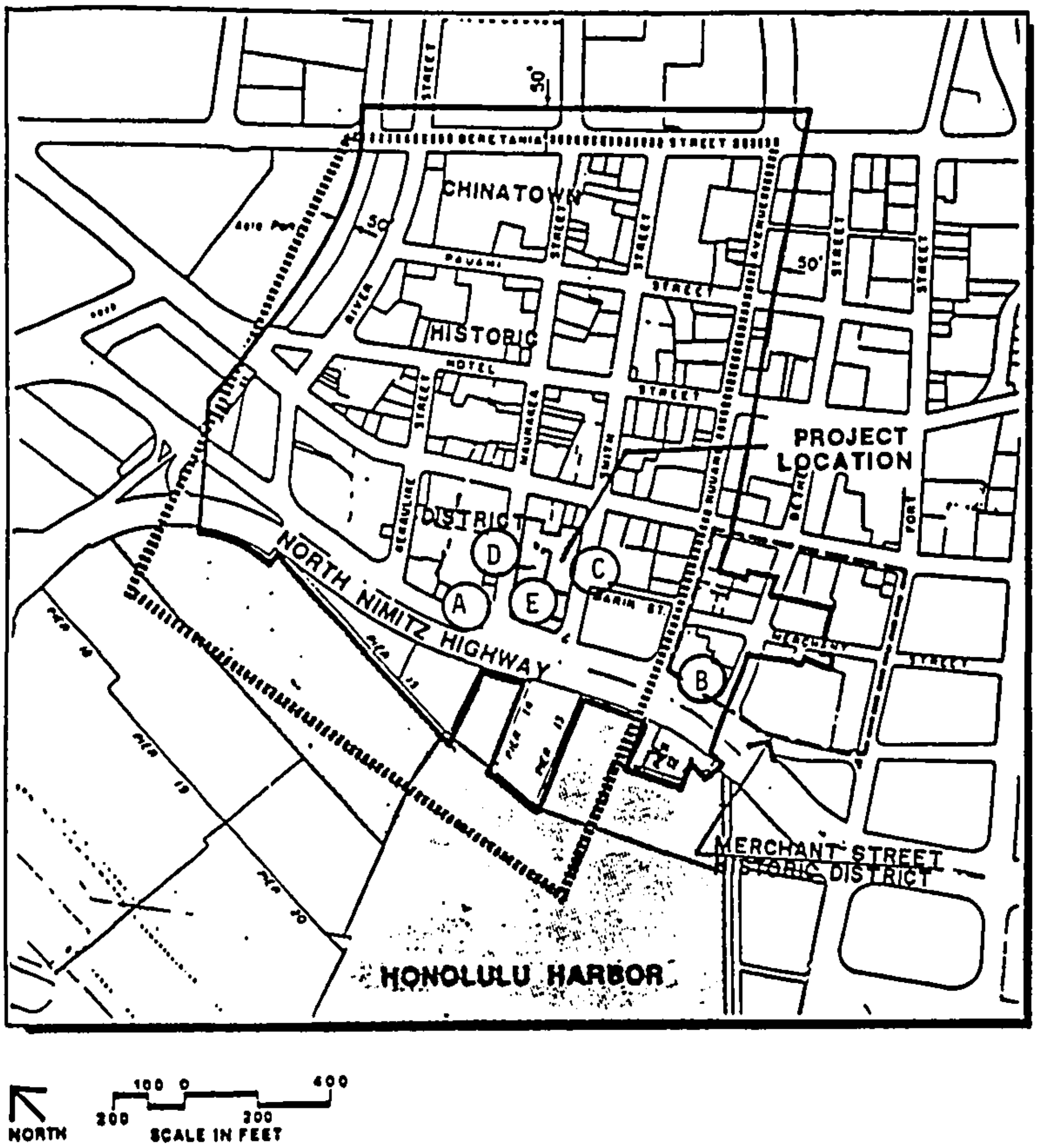

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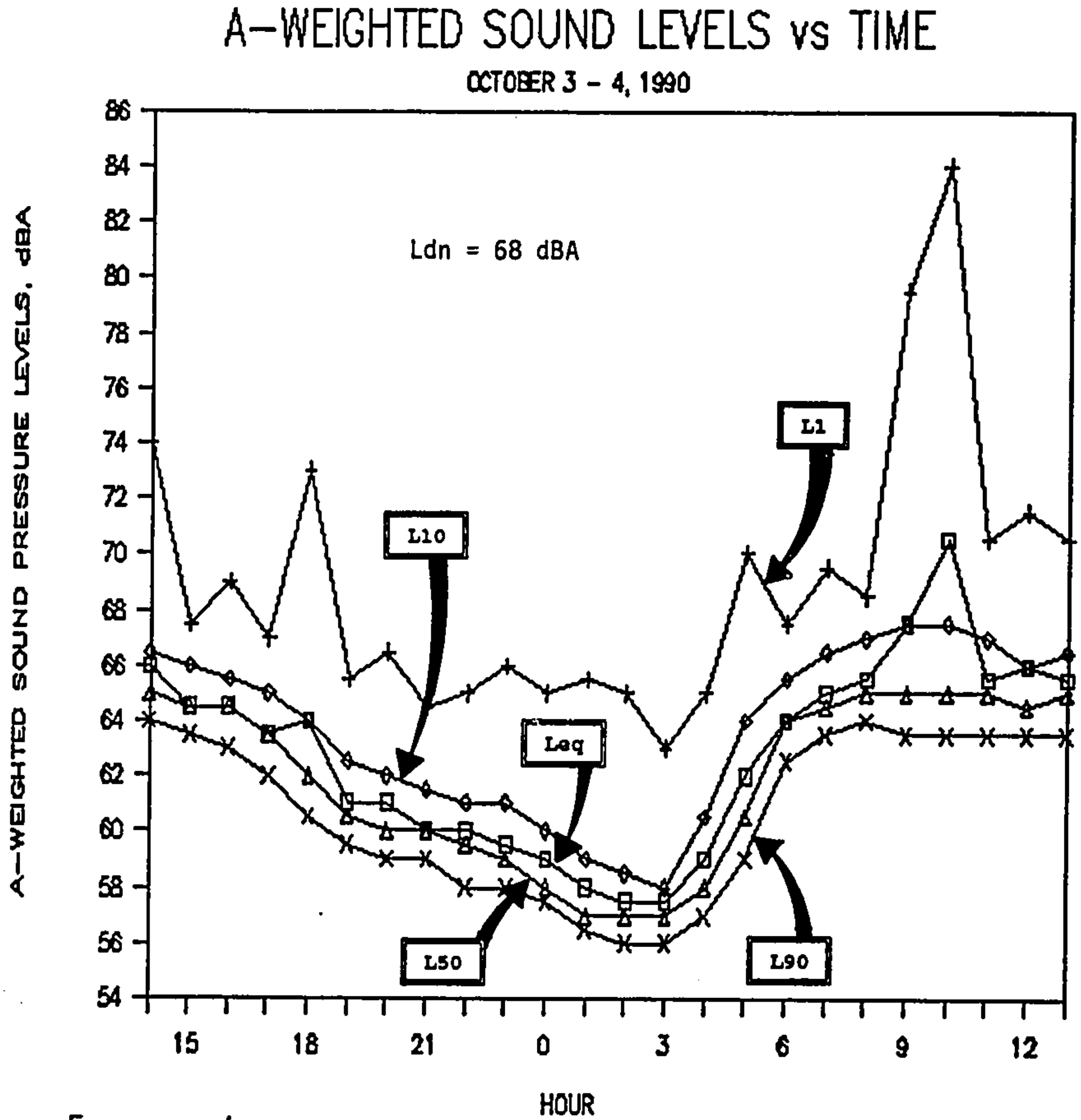
FIGURE 1 SITE PLAN SHOWING NOISE MEASUREMENT LOCATIONS



NOTE: EACH HOUR'S DATA ARE PLOTTED AT THE COMMENCEMENT OF THAT HOUR (E.G., THE LEVELS RECORDED BETWEEN 10 AND 11 AM ARE PLOTTED AT 10 AM).

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FIGURE 2 STATISTICAL NOISE LEVELS MEASURED ON THE ROOF OF THE HAWAII NATIONAL BANK BUILDING OVER A 24-HOUR PERIOD COMMENCING AT 2 PM ON 10/3/90

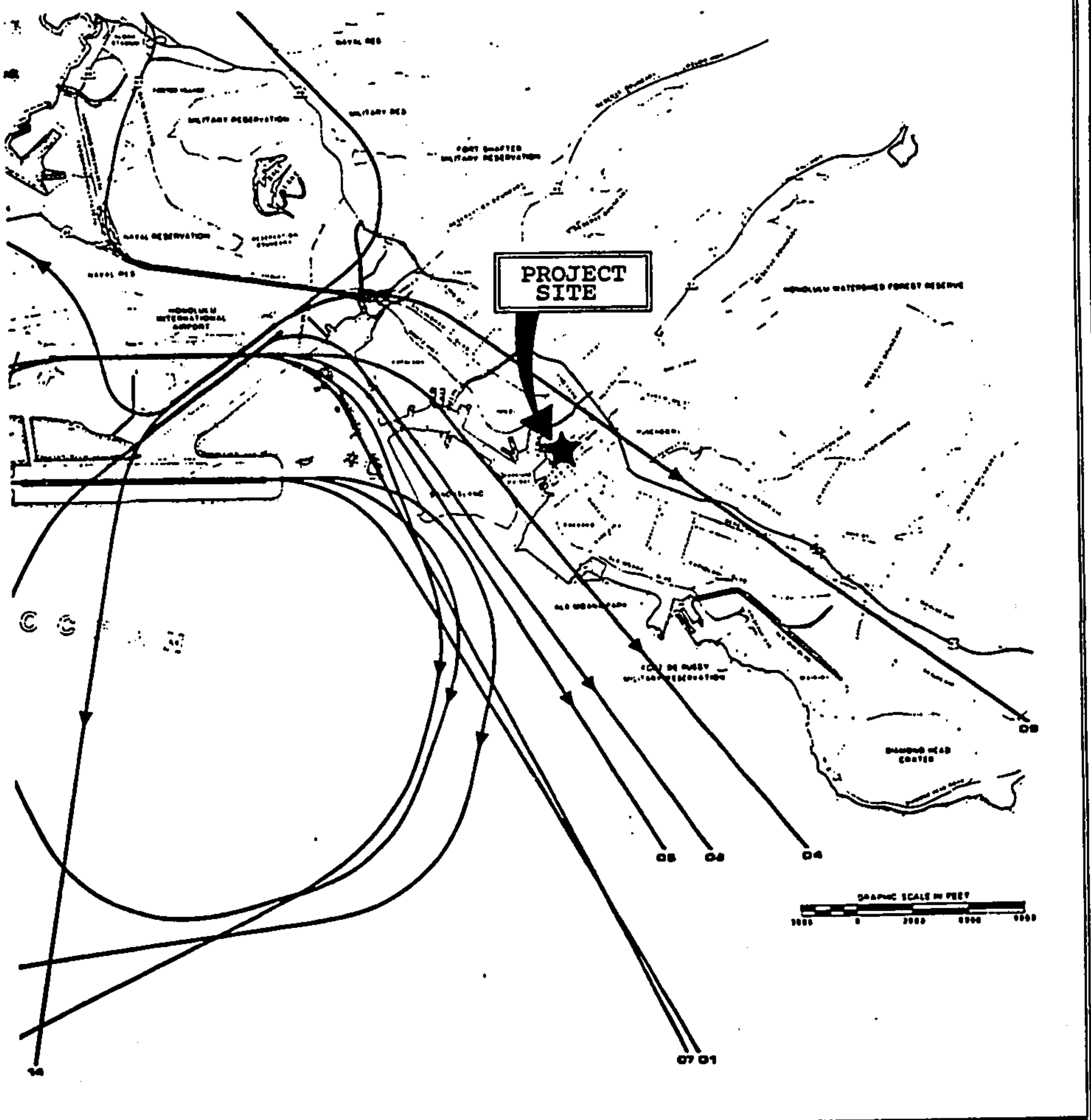

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FIGURE 3 EXTRACT FROM PLAN SHOWING HIA FLIGHT DEPARTURE TRACKS (FROM REFERENCE 1)

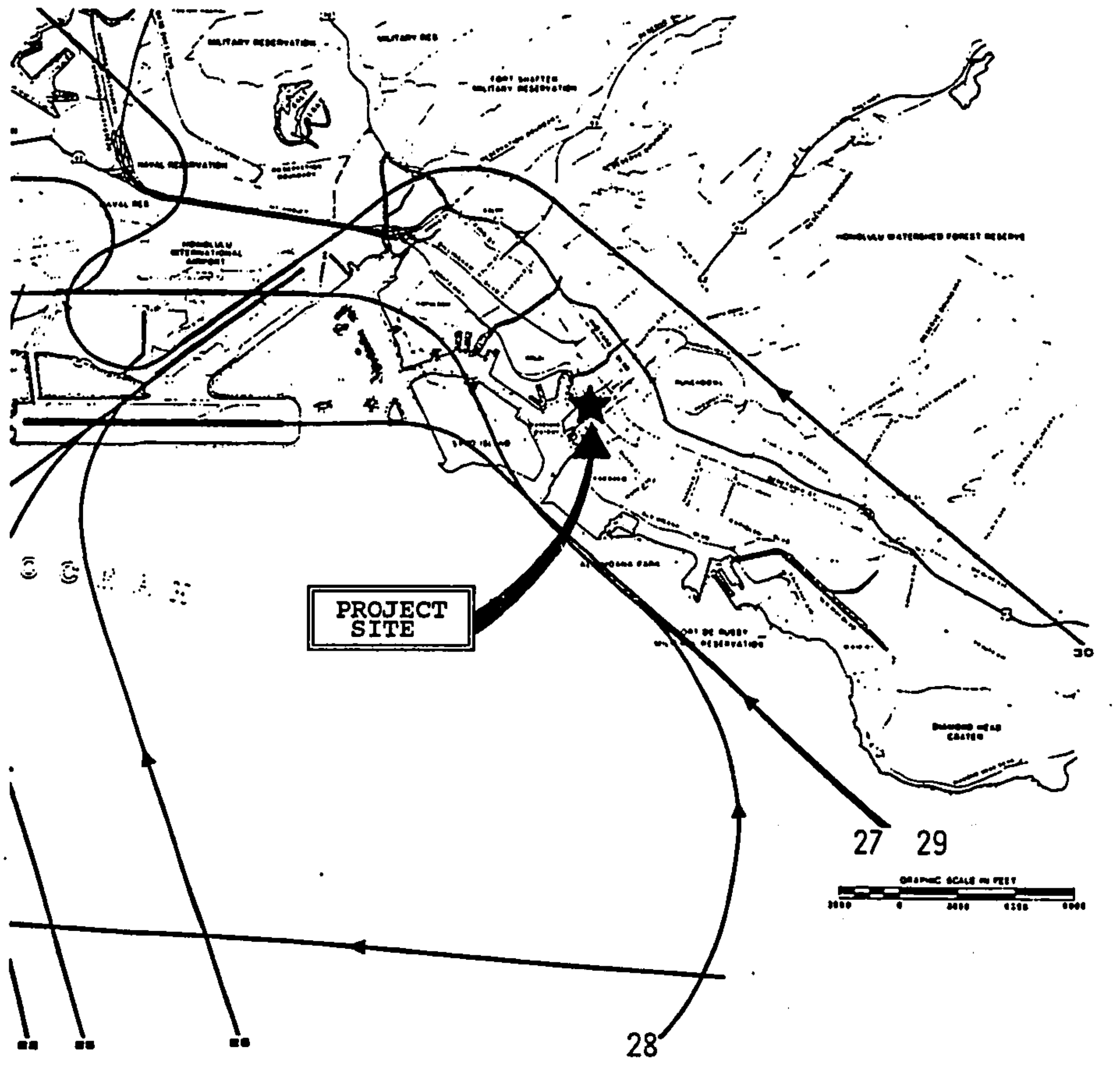

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FIGURE 4 EXTRACT FROM PLAN SHOWING HIA FLIGHT ARRIVAL TRACKS (FROM REFERENCE 1)

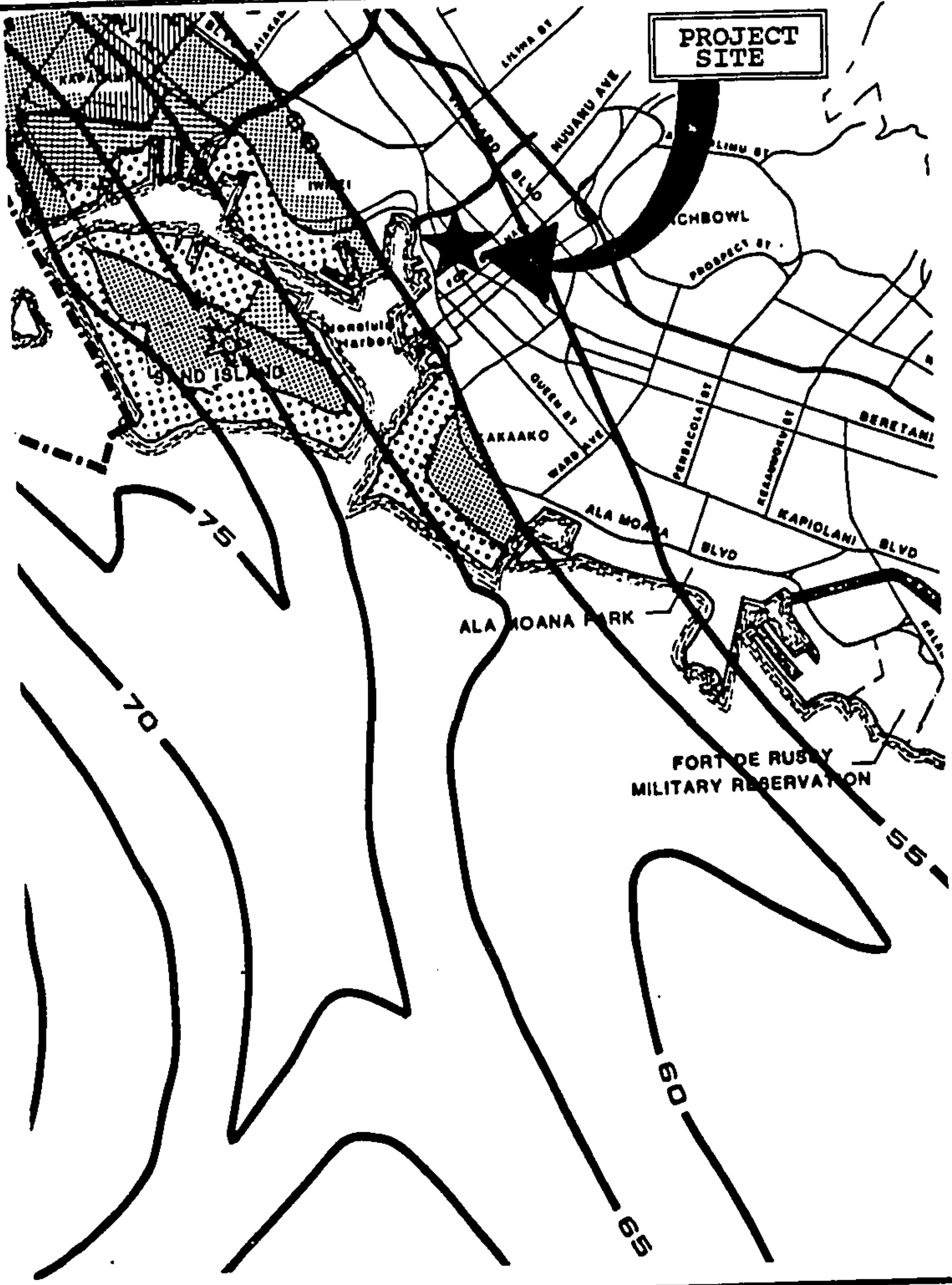

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FIGURE 5 EXTRACT FROM THE 1992 HONOLULU INTERNATIONAL AIRPORT NOISE CONTOUR MAP, SHOWING PROJECT SITE IN RELATION TO LDN CONTOURS

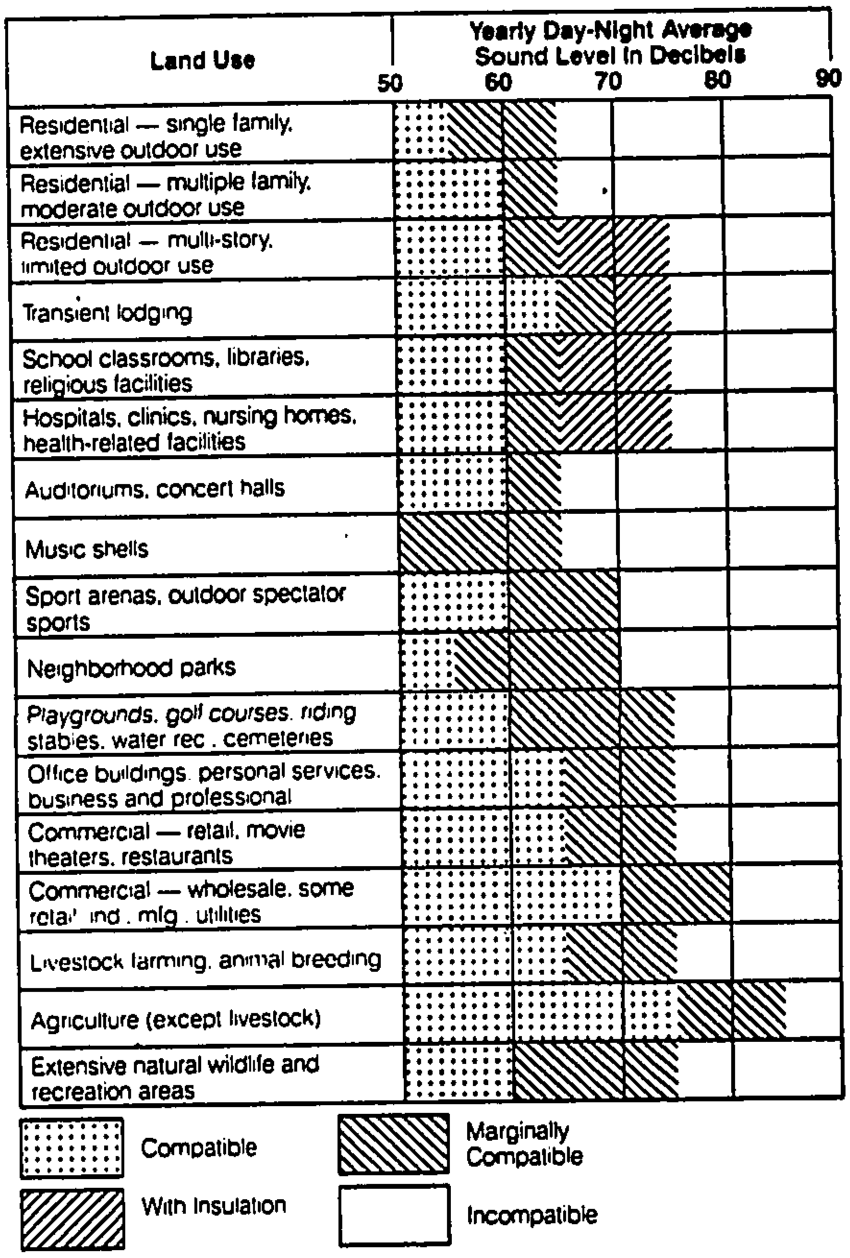

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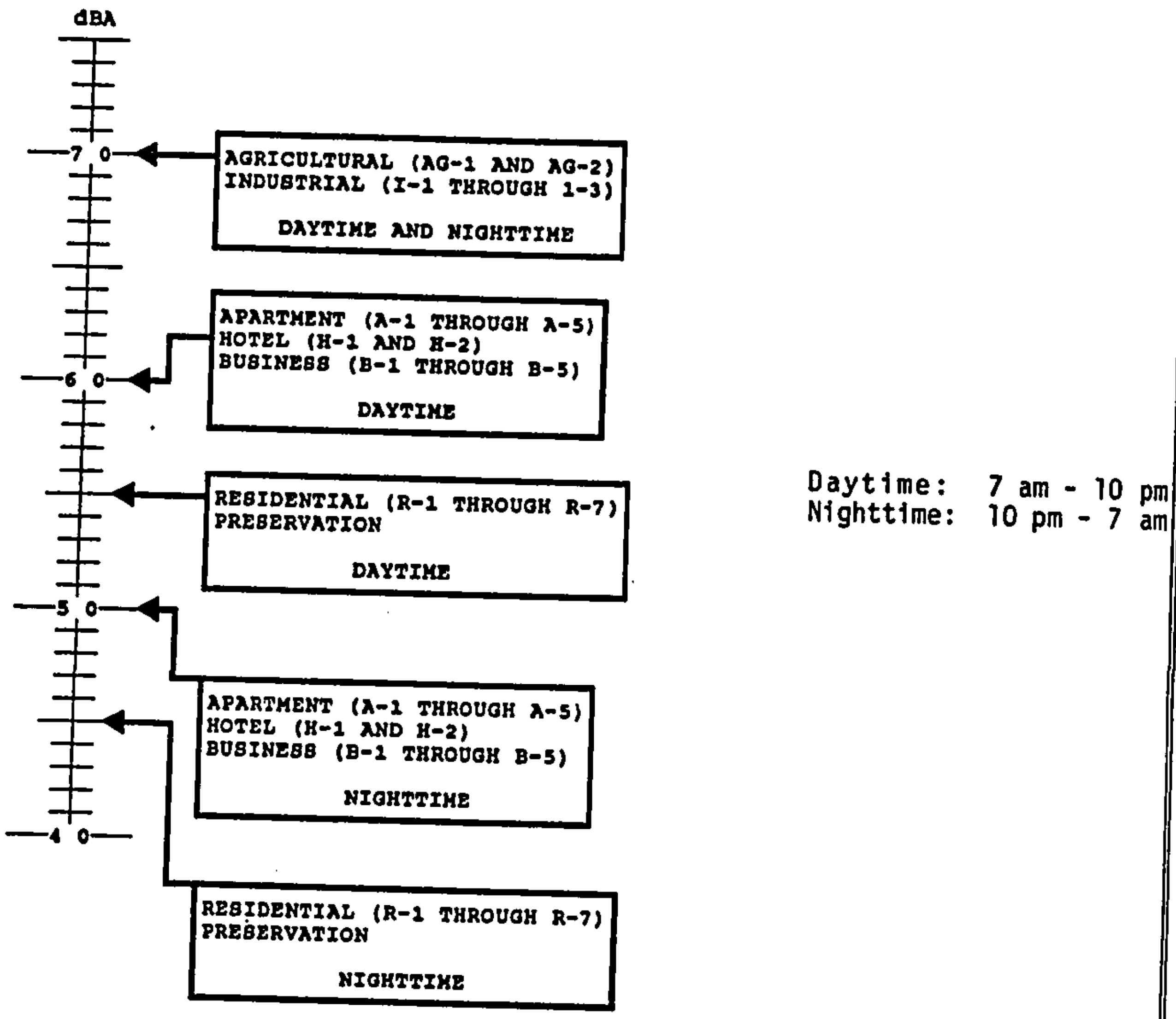
FIGURE 6 LAND USE COMPATIBILITY FOR BUILDINGS AS COMMONLY CONSTRUCTED (FROM REFERENCE 5)



Note: The regulations state that the "allowable" noise levels shall not be exceeded for more than 10% of the time within any 20-minute period.

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FIGURE 7 DEPARTMENT OF HEALTH PROPERTY LINE NOISE LIMITS FOR VARIOUS ZONING DISTRICTS

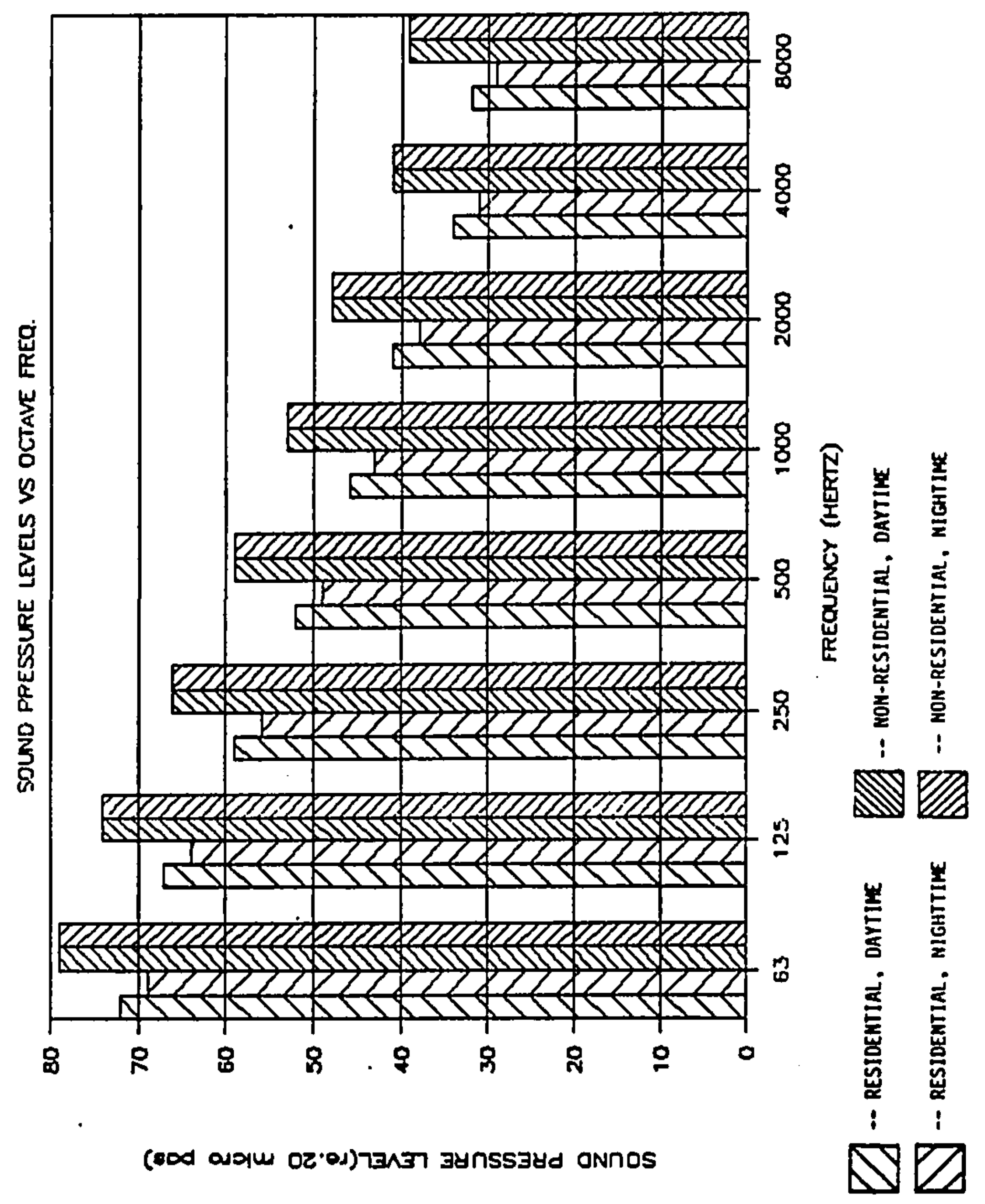

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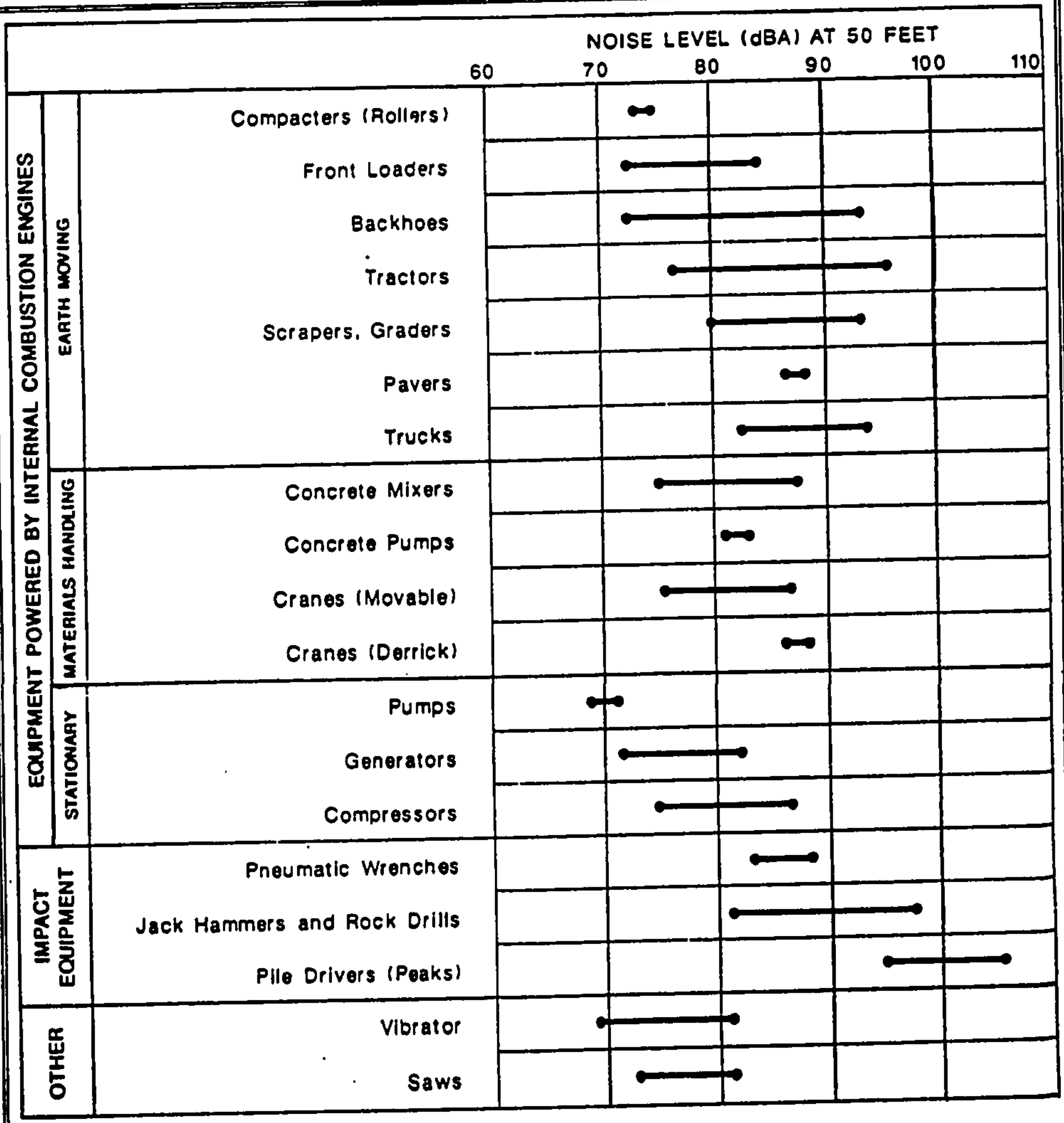
FIGURE 8 MAXIMUM ALLOWABLE OCTAVE BAND NOISE LEVELS (FROM CITY & COUNTY OF HONOLULU LAND USE ORDINANCE)



Note: Based on Limited Available Data Samples

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FIGURE 9 TYPICAL CONSTRUCTION NOISE LEVELS @ 50' DISTANCE

SOURCE: U.S. ENVIRONMENTAL PROTECTION AGENCY 1972

APPENDIX I

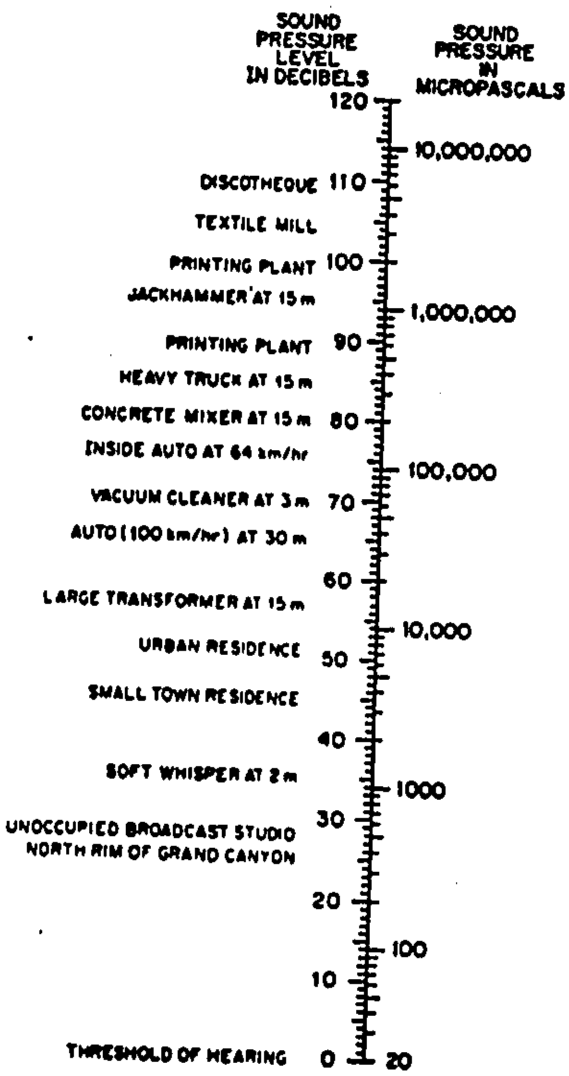
ACOUSTICAL TERMINOLOGY

Sound (Noise) Level

Sound or noise consists of minute fluctuations in atmospheric pressure capable of evoking the sense of hearing. It is measured using precision instruments known as sound level meters, in terms of decibels, abbreviated dB. Sound Level, or Sound Pressure Level, is defined as:

$$SPL = 20 \log (P/Pref) \quad dB$$

where P is the sound pressure fluctuation (above or below atmospheric pressure) and Pref is 20 micropascals, which is approximately the lowest sound pressure that can be detected by the human ear. So if P is 20 micropascals, SPL = 0 dB, if P is 200 micropascals, SPL = 20 dB, and so on. The chart below indicates the relation between sound pressure and sound pressure level, and also shows typical dBA levels of various sources of noise.



When two sound levels are combined, the result is the logarithmic sum. For example, two sound levels of 50 dB produce a combined level of 53 dB, not 100 dB; two sounds of 40 and 50 dB produce a combined level of 50.4 dB.

dBA

Sound level, or noise level, is usually expressed in terms of dBA which is measured using the "A-weighting" filter incorporated in sound level meters. This is an electronic filter having a similar frequency response to the human ear, which is most sensitive to sounds in the range 1000 to 4000 Hz, and less sensitive to lower and higher frequencies. The level of a sound in dBA is a good measure of the loudness of that sound, and so different sounds having the same dBA level sound about equally as loud.

A change of 1 or 2 dBA in the level of a sound is difficult for most people to detect, but a 3 to 5 dBA change corresponds to a small but noticeable change in loudness. A 10 dBA change corresponds to an approximate doubling or halving in loudness.

Statistical Sound (Noise) Levels

Sounds that vary in level over time, like road traffic noise and most community noise, are commonly described in terms of Lx, where L is the noise level exceeded for x% of a given measurement period, and/or Leq, the Equivalent Continuous Noise Level. For example, L1 is the noise level exceeded for 1% of the time, L10 the noise exceeded for 10% of the time, and so on. Leq is defined as the steady sound level that contains the same amount of acoustical energy as the given time-varying sound.

Figure A-1 illustrates the relationship between selected statistical sound levels.

Day-Night Average Sound Level (Ldn)

Ldn is essentially the Equivalent Continuous Noise Level measured over a 24-hour period. However, in calculating the Day-Night Average Sound Level, 10 dBA is added to the noise levels recorded between 10 pm and 7 am to account for people's higher sensitivity to noise at night. Figure A-2 shows typical Ldn levels in outdoor locations.

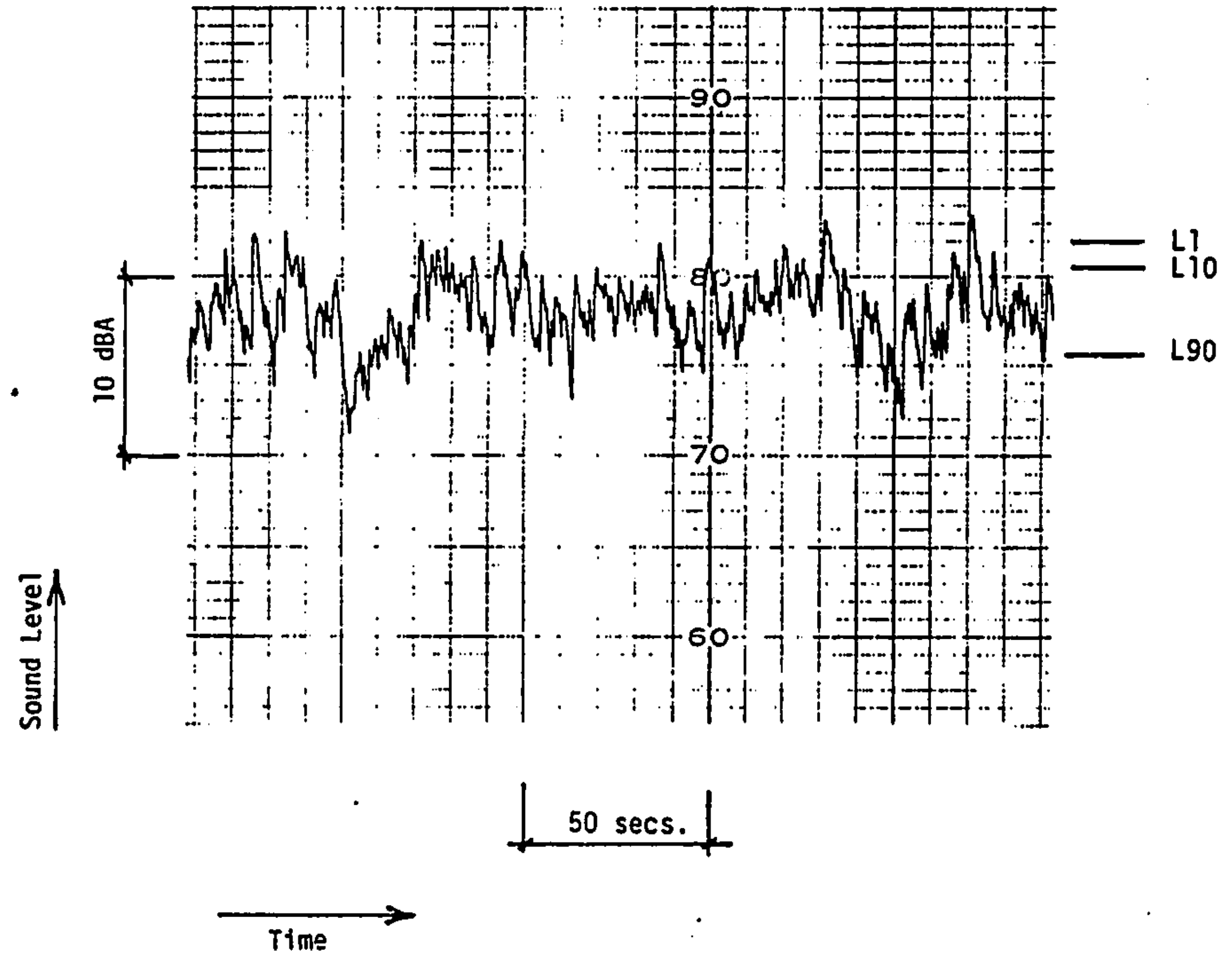


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FIGURE A-1 USE OF STATISTICAL SOUND LEVEL DESCRIPTORS FOR TIME-VARYING SOUND

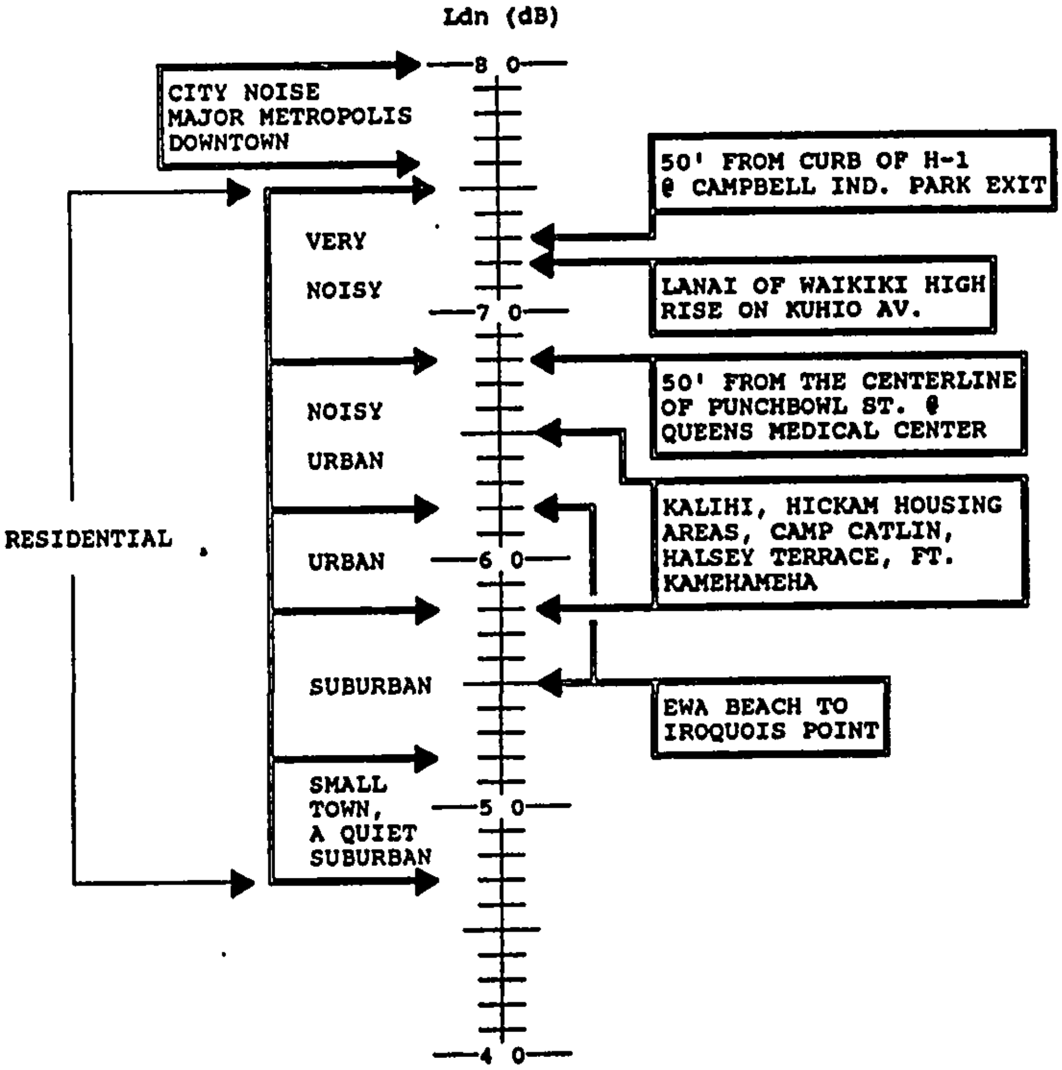

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FIGURE A-2 TYPICAL LDN LEVELS IN OUTDOOR LOCATIONS

APPENDIX II

RESUMES OF

RONALD A. DARBY

AND

JOHN C. SHEARER

PROFESSIONAL BIOGRAPHY
RONALD A. DARBY

EDUCATION
Master of Science in Engineering, Catholic University, Washington D.C.
Bachelor of Science in Mechanical Engineering, Pennsylvania State University
Graduate studies include courses at the University of Maryland and the University of Hawaii and the completion of the required course work for Doctor of Engineering at Catholic University.

REGISTRATION
Registered Professional Engineer:
Hawaii
Maryland

PROFESSIONAL AFFILIATIONS
Acoustical Society of America
National Council of Acoustical Consultants Consulting Engineers Council of Hawaii
National Society of Professional Engineers

EXPERIENCE
Mr. Darby founded Darby & Associates (formerly Ronald A. Darby & Associates and Darby-Ebisu & Associates, Inc.) in 1970. Mr. Darby has performed airport, community and industrial noise exposure measurements, evaluations and studies in the Hawaiian Islands, Guam and mainland U.S.A. He has been responsible for architectural and mechanical equipment noise control efforts for new and existing building projects in the Pacific Basin, Mainland U.S.A. and Japan.

Mr. Darby was a research scientist at LTV Research Center, Hawaiian Division from 1967 and 1970. He was involved in all phases of deep ocean underwater acoustic measurement exercises, planning, data collection, data processing (analog and digital), analysis and reporting. Typical results were long range sound transmission loss values, ambient noise levels and source levels. Mr. Darby developed a unique method to measure radiated noise levels of submarines using aircraft. He also served as member of Tactical Analysis Group for Commander, Anti-submarine Warfare Forces, Pacific at Pearl Harbor.

Other relevant work experience includes his responsibilities as a research mechanical engineer at the Marine Engineering Laboratory, Annapolis, Maryland (Now NSRDC) from 1960 to 1967. In this position, he was technical secretary of the "Submarine Noise Measurement Panel", Committee of Undersea Warfare, National Academy of Science for one and a half years. Significant accomplishments include the development of a practical technique for predicting radiated noise from ship's machinery and the development of laboratory techniques and special transducers for measuring structural noise transmission from machines. Mr. Darby also created technological forecasts and cost effectiveness studies on machinery noise and devised practical experiments to evaluate machinery noise quieting devices, i.e., isolation mounts, flexible hoses, sound enclosures, etc.

PROFESSIONAL BIOGRAPHY
JOHN C. SHEARER

EDUCATION
Master of Science in Engineering Acoustics, University of Southampton, U.K.
Bachelor of Engineering in Mechanical Engineering, University of Adelaide, Australia

PROFESSIONAL AFFILIATIONS
National Association of Acoustical Consultants
Australian Acoustical Society
Institution of Engineers (Australia)

EXPERIENCE
Mr. Shearer joined Darby & Associates, Kailua, Hawaii, as senior consultant in 1989. Prior to this, he was senior consultant at Richard Heggie Associates Pty. Ltd. in Sydney, Australia from 1988 to 1989. His responsibilities included environmental noise impact assessments for proposed hotels, commercial and industrial developments, architectural acoustics and mechanical noise control for high rise office buildings, hotels and television studios.

Mr. Shearer was senior consultant at Wilson, Ihrig & Associates, Inc. in Oakland, California from 1985 to 1988. He was involved in assessing the noise and vibration impact of new rapid transit systems throughout the U.S. and in assessing the community noise impact of helicopter operations. Other responsibilities included analysis of existing and projected noise levels at proposed residential developments potentially impacted by aircraft noise, prediction of the environmental noise impact of proposed motor sport raceways, analysis of building sound isolation requirements and the design of acoustic enclosures for pumps, compressors, etc.

As director at Shearer-Gardner Pty. Ltd. in Adelaide, Australia from 1977 to 1984, Mr. Shearer was involved in a wide range of projects in environmental noise assessments and control, industrial noise control and architectural acoustics. Also, Mr. Shearer served as branch manager at Vipac and Partners Pty. Ltd. in Adelaide, Australia from 1975 to 1977, where his consulting responsibilities included environmental and industrial noise control and architectural acoustics.

APPENDIX D.

Market And Mix Assessment

John Zapotocky, Consultant

Market and Mix Assessment
for the Proposed Smith Maunakea
Rental Project

Prepared for:
The Department of Housing and Community Development

Prepared by:
John Zapotocky, Consultant

October 1990

Smith Maunakea
Market / Mix Assessment
October 1990

Executive Summary

The Department of Housing and Community Development has proposed a 238 unit rental apartment project located at Smith and Maunakea Streets in downtown Honolulu. The target markets for the project are the households with incomes of 80% and below, 80% to 120% and market units. In the 120% of household income and below range the project intends to target the one of the special housing needs group, the elderly with a total of 60 units or 25% of the units. The purpose of this assessment is to determine the responsiveness of the proposed project to the existing demand for residential rental properties in the City and County of Honolulu.

The methodology of the assessment is to review the existing information relating to demand for rental apartments and evaluate how the propose project meets the existing and future needs. How the Smith Maunakea Project responds to those specific need is described below:

Need For Additional Housing

As indicated in Section IV of this assessment, there is a critical need for additional housing units on Oahu. There is a strong demand for residential rental units in the primary urban center and in the downtown area in particular because of the following: located proximate to employment, shopping, medical and public facilities.

How Smith Maunakea Responds

The Smith Maunakea project will provide additional housing units. These units will be located in the desirable downtown area.

Demand for Special Needs and Gap Group Housing.

In addition to the general housing needs there are special housing needs categories and gap group housing needs. A 1977 study identified 11,900 elderly rental households as being in the special needs category. The elderly housing component has been growing rapidly and is expected to continue to do so for the foreseeable future due to the demographics of the population. Thus it is expected to grow at a pace greater than that of the general need for housing.

The gap group is another area of special concern. Generally gap group households earn between 80% and 120% of median income, earning too much to qualify for government housing assistance yet earning too little to qualify for market housing.

According to a 1989 Peat Marwick study there is an existing shortfall of 7,400 rental units which is expected to grow by 2,500 rental units per year reaching approximately 49,500 units by the year 2008. This study also estimates that 36% of this shortfall will be for units affordable to families earning between 50% and 80% of median, 16% affordable to families earning between 80% to 120% of median, and 14% affordable to families earning in excess of 120% of median.

Smith Maunakea Responds

Smith Maunakea provides both gap group and elderly housing. Smith Maunakea will provide a minimum of 25% of its units for elderly housing. The project has also targeted 40% of its units for gap group rental households. (Note: A portion of the elderly households are also expected to be gap group households.) While modest in scale (238 units) the entire residential unit output of the Smith Maunakea project is targeted to mitigate against future projected shortfalls in rental unit development.

Household Size Need

According to (1983) census data the median renter household size was 2.4 persons per unit. A review of specific renter household sizes indicates that 94% of renter households are five persons or smaller.

How Smith Maunakea Responds

Smith Maunakea provides a range of unit sizes and types including studio, one bedroom and two bedroom units. These units can accommodate household sizes of one to five persons. Thus the units would accommodated vast majority of family sizes expected to be seeking rental units.

Commercial Development

The proposed Smith Maunakea project will result in the demolition of an existing two story commercial building totaling 11,590 square feet.

How Smith Maunakea Responds

The proposed Smith Maunakea development will provide for 16,164 square feet of additional ground floor commercial space. This space will replace the space being lost while at the same time providing an additional 4,574 square feet for additional commercial development.

VI. Summary

The Chinatown Gateway Project which was completed in mid 1990 and targeted rental households with similar income levels was well received. The River Nimitz project, which contains an elderly and gap group component similar to the proposed Smith Beretania project has also received strong interest six months prior to its anticipated completion in the first quarter of 1991.

The Smith Maunakea Project responds to the general market demand for rental housing as well as the affordable demand and the demand for elderly units. The mix of units is well suited to the mix of household sizes and income levels which make up the bulk of the current and projected future demand.

Smith Maunakea
Market / Mix Assessment
October 1990

I. Introduction

The Department of Housing and Community Development has proposed a 238 unit rental apartment project located at Smith and Maunakea Streets in downtown Honolulu. The target markets for the project are the households with incomes of 80% and below, 80% to 120% and market units. In the 120% of household income and below range the project intends to target one of the special housing needs group, the elderly with a total of 60 units or 25% of the units. The purpose *of this assessment is to determine the responsiveness of the* proposed project to the existing demand for residential rental properties in the City and County of Honolulu.

II. Methodology

The methodology used to develop the study includes interviews and discussions with government officials, including officials of the Department of Housing and Community Development, the Governors Office on Aging, the Housing Finance and Development Corporation and others responsible for government programs. Review of current information regarding demand for rental units, including census data and other studies developed to determine the demand for rental units on Oahu. The information obtained is then synthesized and compared with the proposed unit mix.

III. Background

The lack of affordable housing is one of the most important issues facing the State of Hawaii. Oahu resident surveys often rank the lack of affordable housing near the top of their concerns. Island government and business leaders acknowledge that the lack of affordable housing results in economic dislocation, contributes to the labor shortage and acts as a disincentive to new businesses locating in Hawaii. At the same time, the lack of affordable housing results in all residents sharing the burden of higher costs: homeowners pay higher mortgage payments and higher real property taxes; renters pay higher rents; and many families are forced to share accommodations with relatives or friends out of economic necessity. Ultimately some families who have exhausted their resources or worn out their welcome with families and friends are forced into shelters or onto the streets.

To respond to this problem, the State and City governmental agencies with responsibility for housing have taken on an increasing role.

IV. Review of Existing Information

A number of studies have been undertaken to estimate the demand for rental housing. Two recent studies were selected to provide the primary assessment of the existing demand for rental housing. Other information has been included to supplement and update the two primary sources.

The "Draft: State Housing Functional Plan - Technical Reference Document" dated July 31, 1987 prepared at the direction of the State Housing Functional Plan Advisory Committee, contains a comprehensive overview of the State's housing situation. Although the current draft plan is unpublished as of this date, it has been circulated to the various county planning and housing agencies for comment and has also had input from a variety of private sector sources. This study was selected as a primary resource because it contains the official position of the State of Hawaii, is relatively recent and has had wide distribution for governmental and private industry comment.

The "Rental Housing Development Study for the Island of Oahu" prepared by KPMG Peat Marwick for the Department of Housing and Community Development in July 1989 contains a comprehensive overview of the rental housing market for the Island of Oahu and contains projections of rental housing demand broken down by income categories thru the year 2008. This study was selected as a primary resource because it has identified the specific rental demand for the Island of Oahu and is relatively recent.

A. Draft - State Housing Functional Plan - Technical Reference Document (TRD)

Section 3 of the Housing Functional Plan TRD discusses the housing need groups. According to the discussion there are two types of need groups: the general needs group; and the special need groups, consisting of the elderly, the handicapped and disabled, and the homeless. Section 3 also identified the gap group as requiring special emphasis in the area of housing need.

1. General Need

"Lack of decent, affordable housing is one of Hawaii's most pressing, ongoing problems." So begins the section relating to the housing need in the general population. Overcrowding and inadequate plumbing were used to measure the amount of substandard housing in the State. According to the information collected 44,905 housing units, approximately 15% of the State's housing stock, were overcrowded by federal standards. Further, 6,508 units had inadequate plumbing with 1,800 units being both overcrowded and lacking plumbing. Thus by these measures statewide, 49,613 units or approximately 17% of the housing supply, are substandard. The Oahu rental market, according to the same report, contains 115,383 rental units, of which 23,691 units are either overcrowded and/or lacking in plumbing facilities. Thus 20.5% of Oahu's rental units are substandard.

2. Special Needs Housing - Elderly

According to the Technical Reference Document "Elderly people have distinctive housing problems and preference. Reliance on fixed income sources, and more widespread existence of medical conditions hindering mobility and independence are factors in many senior citizens' housing needs. Preference are influenced by extensive home ownership among elderly households; a desire to remain in familiar surroundings of home and neighborhood; limited transportation mobility; need for nearby medical and commercial services; and preference for residence with others in the same age group." While information contained in the Housing Functional Plan - TRD is dated, based on a 1977 survey, there has been a tremendous growth in the number of elderly households since that time based on the demographic trends. Therefore information developed in 1977 is expected to be a conservative estimate of the extent of the elderly housing need.

Elderly-headed Households in
Significant Housing Problems Group (1)
City and County of Honolulu
1977

Home Owners	1,405
Renters	11,906
Total	13,311

(1) The elderly significant housing needs problems group consists of owner occupant elderly living in units in unacceptable condition; and elderly households in rental units.

Source: "Draft - State Housing Functional Plan Technical Reference Document" 1987 p. 57 Table III-33

At the time the survey was conducted it was determined that elderly households tend to be small with 67% being one or two person households. A further breakdown showed 40% of low income renters and 37% of gap group renters to be single person households.

3. Gap Group

According to the Draft Housing Functional Plan TRD, the gap group is defined as those households earning between 80% and 120% of median income. Because these households have the potential to qualify for "for-sale" housing, government programs have been developed to assist this group in achieving home ownership. However, as identified in the PMM study discussed subsequently, there is a substantial demand for gap group rental housing. It should be remembered that while economic factors are likely to prevent those with lower incomes from achieving home ownership, it is not the only reason for families desiring to rent.

A certain percentage of high income households, where presumably economic factors are not the primary reason for choosing to rent or buy, choose to rent. The following are some of the reasons for choosing to rent: The personal freedom allowed by renting; The desire to allocate financial resources to priorities other than housing, i.e., investment in a business or in a hobby; And the desire for flexibility where individuals are on a temporary or contract work assignment, i.e., construction workers or who are assigned to a project of know duration.

B. Rental Housing Development Study for the Island of Oahu

According to the KPMG Peat Marwick (PM) study, Oahu's demographics as well as a number of social factors, i.e., later marriages, higher divorce rate, longer life expectancies, lower birth rates and more elderly are resulting in a lower household size which is projected to continue for the foreseeable future. Thus the household formation rate is higher than the population growth. PM estimated that there was a shortfall of 13,300 housing units as of 1988. This estimate was obtained by subtracting an estimate of households from the estimate of housing units. Most of this shortfall was being met by a doubling up of households, i.e., children remaining with parents after graduation and after marriage, other joint living arrangements.

PM used a declining household size to project future household formation rates. They allocated a portion of the projected housing inventory to serve the transient accommodations market and provided for a 2% vacancy rate to estimate the long term demand for rental units. These demand estimates were further allocated to income categories ranging from very low, low, moderate and market units. According to their estimates total demand for rental units through 2008 totaled 67,710.

A projected supply of rental units from government and private sources was estimated. The following table shows the estimated shortfall of rental units based on the computations of demand and supply.

Projected Rental Household Demand
Projected Rental Household Supply
Projected Rental Household Shortfall
1989 to 2008

	%Median Income	Demand	Supply	Shortfall
Very Low	<50%	19,500	2,305	17,200
Lower	>50% to <80%	21,530	3,915	17,600
Moderate	>80% to <120%	12,110	4,310	7,800
Market	>120%	14,560	7,705	6,900
Total		67,700	18,235	49,500

Source: "Rental Housing Development Study for the Island of Oahu" KPMG Peat Marwick, July 1989

Over the next twenty years, the rental unit shortfall is expected to total approximately 2,500 units per year.

C. Other Sources

1. General Housing Characteristics Annual Housing Survey: 1983 - City and County of Honolulu.

Statistics developed in the 1983 Annual Housing Survey (discontinued after 1983) showed there was a substantial amount of doubling up in Honolulu housing units.

a. Presence of Subfamilies

The presence of subfamilies is one indication of the number of shared units or doubling up. According to the information derived from the 1983 survey Honolulu's 120,600 owner occupied units included 8,000 units where one subfamily was present and 1,100 units where two subfamilies were present. Thus a total of 9,100 owner occupied units or 7.5% contained subfamilies. Of the 125,200 renter occupied units 1,800 units contained one subfamily and 200 units contained two subfamilies. Thus 1.6% of the renter occupied units contained subfamilies.

b. Presence of Relatives and Non Relatives

The presence of relatives and non relatives in addition to the primary household is also an indication of sharing or doubling up. In 1983 22% of owner occupied units and 20% of renter occupied units included relatives or non relatives in addition to the primary household.

c. Monthly Housing Cost (Renters)

The statistics also showed that the median gross rent as a percentage of income increased from 22% in 1970, to 26% in 1976, and to 31% in 1983. Thus half of the renter households were paying more than 31% of their income in rent in 1983. Perhaps more importantly, 22% of the non subsidized rental households paid in excess of 50% of their income for rent.

d. Household Size of Renter Households (1983)

The following information is presented to indicate the household size of renter households. This information is necessary in order to determine the type of units which would appropriately accommodate renter households.

Household Size Renter
City and County of Honolulu
Year 1983

1 person	30,600
2 persons	34,300
3 persons	23,700
4 persons	19,700
5 persons	9,200
6 persons or more	7,800
Median	2.4

2. "Comprehensive Master Plan for the Elderly: Update 1988" Executive Office on Aging, March 1988

a. "The receipt by older adults of fixed retirement incomes and benefits can mean that housing cost exceed their ability to pay for safe, decent shelter."

b. Recommendation: "The Executive Office on Aging shall advocate for the development of affordable housing for older adults and shall work in collaboration with State, County, and private sector units to plan, design, and develop toward the provision of such alternatives."

c. According to Gail Haruki, Program Specialist with the Executive Office on Aging, housing for the elderly, especially rental housing is a growing problem. The reasons for this growth are varied, however, the elderly population is growing tremendously and that fact alone tends to magnify the problem. The elderly are consuming an increased amount of medical services so that location of housing near medical services or where convenient transportation to medical services is available is more important. In addition, there is more demand for elderly housing facilities which provide care. The lack of these facilities may cause the elderly to stay in regular residential units beyond the elderly householder's ability to maintain the unit whether owned or rented.

3. "Hawaii Housing Authority Composite Report" July 1988 thru June 1989

Annually, the Hawaii Housing Authority (HHA) publishes a report detailing activities of its public housing and rental subsidy and assistance programs. (Note: HHA administers several housing assistance programs including a Federal Section 8 program). According to the latest report 7,240 households served by HHA on Oahu. Of these 2,455 were elderly and 4,785 were not. The average household size was 1.6 persons for elderly households and 3.7 persons in other households. (p. 116)

The number of applications, for public housing or rental subsidies or assistance, processed statewide in fiscal year 1989 was 8,128. The number of placements was 1,817 thus 6,303 unserved applicants. Oahu accounts for approximately 80% of the state's population. (p. 229) Assuming that the number of applicants for assistance mirrors the population, more than 4,500 of those unserved applicants are located on Oahu. According to HHA staff, the ability to place applicants in 1989 is typical.

This information indicates the depth of the housing problem especially among households qualifying for governmental assistance.

4. Level of demand for similar projects undertaken by Housing and Community Development Projects. Interview with DHCD Staff (Glen Maeda)

a. Chinatown Gateway

The Chinatown Gateway project contains two hundred market and affordable rental units. All of the units in this project are one bedroom units. There is no special set aside for elderly. The range of income levels to be served however, are comparable to the range of income levels to be served by the proposed Smith Maunakea project. Smith Maunakea is located approximately two blocks from the Chinatown Gateway project.

The following table shows the number of units offered in each income category, the number of applicants for each category and the ratio of applicants to units. It can be inferred from the figures that the demand is highest for units available to families earning the least amount of income.

Income Criteria	# Units	Applicants	Coverage
80% of Median	40	513	12.8 times
120% of Median	80	150	1.9 times
Market	80	66	.8 times

The fact that fewer applications were received than there are market priced units is not surprising given the following: the units are priced at market; and, the application process was conducted well in advance of the projected occupancy dates. Thus, while there is a general shortage of rental units that shortage is least pronounced at the market priced level. Typically a person seeking a market priced unit does not require a three to six month lead time in obtaining a unit. Most rental units advertised for rent are available currently or within thirty days. According to Glen Maeda of the DHCA staff and representatives of National Mortgage Company, Chinatown Gateway's rental agent, market rental units will be absorbed quickly once they are available for occupancy.

b. River Nimitz

The River Nimitz project is a city sponsored development which contains a mix of units similar to the proposed Smith Maunakea development.

Income Criteria	# Units	Applicants	Coverage
Elderly / Handicapped and Low Income Units	30	169	5.6 times
Gap Group	24	90	3.7 times
Market	36	121	3.4 times

The City has developed other rental housing projects within the downtown area, including the just completed Chinatown Gateway. Older projects including the Hale Pauahi project have a long term track record of providing rental units in the downtown area at affordable and market prices with virtually 100% occupancy. These projects also contain a mix of market and affordable rentals similar to that proposed for the Smith Maunakea Project.

5. Summary of Demand County Wide and Within the Downtown Area for Rental Housing Units

As described above, there is a strong demand for housing throughout the City and County of Honolulu for all types of housing but particularly affordable for-sale and rental housing. Based on the response to previous and current city rental projects within the downtown area there is a strong demand for additional affordable rental projects in the downtown area.

V. How the Smith Maunakea Project Responds to Existing and Projected Rental Housing Demands

The following section assesses how the Smith Maunakea Project responds to the existing and projected demand for rental housing.

A. Smith Maunakea Target Market

The following information regarding target markets for the units within the Smith Maunakea project was provided by John Reid of the Department of Housing and Community Development, who is the Smith Maunakea Project Manager.

Qualifying Household Income:		Target Market Household Types and Sizes:	
Market	95	Elderly	60
120% of Median	95	Singles	71
80% of Median	48	2 - 4	107
	238		238

General Occupancy Guidelines for Department of Housing and Community Development Projects:

Occupancy Per Unit

Unit Type	Persons Per Unit
Studio	1 - 2
1 Bedroom	1 - 3
2 Bedroom	2 - 5

B. Smith Maunakea Specific Unit Descriptions

The Smith Maunakea Project consists of 238 residential units including 108 two bedroom units, 108 one bedroom units and 22 studios. One and two bedroom units will be contained in a 27 story tower consisting of 27 identical floors with eight units on each floor, four two bedrooms and four one bedrooms. The twenty two studios will be located on the third floor.

2 Bedroom Units:

54 units	@ 775 sq. ft.	=	41,850
27 units	@ 800 sq. ft.	=	21,600
27 units	@ 760 sq. ft.	=	20,520
108 units			83,970

1 Bedroom Units:

54 units	@ 605 sq. ft.	=	32,670
27 units	@ 575 sq. ft.	=	15,525
27 units	@ 560 sq. ft.	=	15,120
108 units			63,315

Studio Units:

22 units ranging from 300 to 420 sq. ft.	=	7,302

Parking:

A total of 434 parking stalls will be provided of which 155 or 36% will be compact stalls.

Commercial Area:

Seven commercial units totaling 16,164 sq. ft. will be located on the ground floor. Individual units will have street frontage on either Smith or Maunakea Streets.

C. How the Smith Maunakea Project responds to the existing and projected needs.

Need For Additional Housing

As indicated in Section IV of this assessment, there is a critical need for additional housing units on Oahu. There is a strong demand for residential rental units in the primary urban center and in the downtown area in particular because of the following: located proximate to employment, shopping, medical and public facilities.

How Smith Maunakea Responds

The Smith Maunakea project will provide additional housing units. These units will be located in the desirable downtown area.

Demand for Special Needs and Gap Group Housing.

In addition to the general housing needs there are special housing needs categories and gap group housing needs. A 1977 study identified 11,900 elderly rental households as being in the special needs category. The elderly housing component has been growing rapidly and is expected to continue to do so for the foreseeable future due to the demographics of the population. Thus it is expected to grow at a pace greater than that of the general need for housing.

The gap group is another area of special concern. Generally gap group households earn between 80% and 120% of median income, earning too much to qualify for government housing assistance yet earning too little to qualify for market housing.

According to a 1989 Peat Marwick study there is an existing shortfall of 7,400 rental units which is expected to grow by 2,500 rental units per year reaching approximately 49,500 units by the year 2008. This study also estimates that 36% of this shortfall will be for units affordable to families earning between 50% and 80% of median, 16% affordable to families earning between 80% to 120% of median, and 14% affordable to families earning in excess of 120% of median.

Smith Maunakea Responds

Smith Maunakea provides both gap group and elderly housing. Smith Maunakea will provide a minimum of 25% of its units for elderly housing. The project has also targeted 40% of its units for gap group rental households. (Note: A portion of the elderly households are also expected to be gap group households.) While modest in scale (238 units) the entire residential unit output of the Smith Maunakea project is targeted to mitigate against future projected shortfalls in rental unit development.

Household Size Need

According to 1983 census data the median renter household size was 2.4 persons per unit. A review of specific renter household sizes indicates that 94% of renter households are five persons or smaller.

How Smith Maunakea Responds

Smith Maunakea provides a range of unit sizes and types including studio, one bedroom and two bedroom units. These units can accommodate household sizes of one to five persons. Thus the units would accommodated vast majority of family sizes expected to be seeking rental units.

Commercial Development

The proposed Smith Maunakea project will result in the demolition of an existing two story commercial building totaling 11,590 square feet.

How Smith Maunakea Responds

The proposed Smith Maunakea development will provide for 16,164 square feet of additional ground floor commercial space. This space will replace the space being lost while at the same time providing an additional 4,574 square feet for additional commercial development.

VI. Summary

The Chinatown Gateway Project which was completed in mid 1990 and targeted rental households with similar income levels was well received. The River Nimitz project, which contains an elderly and gap group component similar to the proposed Smith Beretania project has also received strong interest six months prior to its anticipated completion in the first quarter of 1991.

The Smith Maunakea Project responds to the general market demand for rental housing as well as the affordable demand and the demand for elderly units. The mix of units is well suited to the mix of household sizes and income levels which make up the bulk of the current and projected future demand.

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JOHN ZAPOTOCKY, CONSULTANT, Honolulu, Hawaii — 1985 - Present

Principal. Independent consultant specializing in real estate related assignments. Services provided include financial analysis, market assessments, real estate related environmental assessments and environmental impact statements and specific research assignments. Assignments undertaken as the primary contractor, in partnership with other consultants and as a subcontractor. Representative clients and assignments during the past year include:

City Dept. of Housing & Community Development [2] .... Waiola Planned Community Market Assessment

Halekua Development Co. [1] .... Royal Kunia Phase II Market Assessment

West Beach Estates [2] .... Ko Olina Phase II Market Assessment

ANA Hotels Hawaii, Inc. [2] .... Makaha Expansion Market Assessment

VMS Realty Partners [1] .... Planned Community Economic Model

K. G. Hawaii. Inc. [1] .... Ko Olina Phase II Economic Model

Estate of James Campbell [2] .... Kahuku Master Plan Market Assessment

Hawaii States Properties [2] .... Makena Surf Expansion Market Assessment

[1] Prime Contractor
[2] Sub-Contractor

MOKULEIA HOMESTEADS, Honolulu, Hawaii — 1979 - 1984

General Manager. Managed development activities for the $80 million 3,000 acre proposed agricultural/residential community on the site of the former Dillingham Ranch in Mokuleia. Coordinated planners, engineers, attorneys and consultants to obtain infrastructure and subdivision approvals. Met and negotiated with government agencies and achieved approvals for a $5 million water system and a $4 million sewer system. Reviewed bids, selected contractors and administered contracts for drilling of three water wells with a total capacity of 4.5 million gallons per day. Prepared annual budgets for both development and operation activities. Other responsibilities included miscellaneous real estate transactions related to operations, i.e., pasture leases, polo field lease, and guesthouse rentals; and management responsibility for fifteen ranch employees.

WAILEA DEVELOPMENT COMPANY, Kihei, Maui **1975 - 1979**

Project Coordinator. Coordinated development of the Wailea Ekolu project, a $25 million 150-unit luxury condominium within the 1,200 acre Wailea Resort Community. Responsibilities included feasibility analysis, coordination of the design process, preparation of exhibits and communications for government approval authorities. Supervised preparation of sales and condominium documentation and participated in development of the marketing plan. Simultaneously worked on the Wailea Kai project, a $10 million 100-lot residential subdivision, and the Wailea Elua II project, a $20 million 66-unit luxury resort.

Financial Administrator. Supervised the preparation of annual and long-range plans and responsible for cash planning. Participated in the redesign of the accounting reports in order that they be more effective management tools. Supervised the day-to-day financial and accounting activities of the company.

Director of Planning and Budget Analysis. Prepared annual and long-range plans. Performed variance analysis on financial reports. Analyzed financial statements of prospective tenants for the Wailea Town Center, a 50,000 square foot commercial project.

KAISER AETNA (KACOR), Honolulu, Hawaii **1973 - 1975**

Manager, Administration & Contract Control. This position encompassed four primary areas of responsibilities: escrow, contract administration, architectural control and office management.

Manager, Hawaii Kai Golf Courses. Directly responsible for all planning and operations. Prepared operating and capital budgets. Directed operations through three department heads who in turn supervised forty persons. Responsible for developing and implementing the marketing program.

EDUCATION: College of Business Administration
University of Hawaii

1974: Postgraduated work in Finance
1973: M.B.A.
1969: B.A. in Economics

PROFESSIONAL AND VOLUNTEER ORGANIZATIONS: Land Use Research Foundation
(Mokuleia Representative)
Hawaii Society of Corporate Planners
(President Fiscal Year 1983)
Kukui Plaza Owners Association
(Director)

APPENDIX E.

Social Impact Assessment

Earthplan

Social Impact Assessment

for

Smith–Maunakea Redevelopment

Prepared for the City Department of Housing and Community Development
by Earthplan

October 1990

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Tables and Figures

Tables

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Section 1

Background and Introduction

1 BACKGROUND AND INTRODUCTION

1.1 Description Of This Report

1.1.1 Purpose Of This Report

The City and County of Honolulu is proposing an apartment and commercial complex in Chinatown, Oahu. Because City and County land and funds are involved in the proposed action, the project is subject to environmental study requirements of Chapter 343, Hawaii Revised Statutes.

An environmental assessment was produced for the project in September, 1990. An Environmental Impact Statement is currently being prepared, and this social impact assessment is summarized and appended to that document.

1.1.2 Preparers Of This Report

This report was prepared by Earthplan located at 81 South Hotel Street, Suite 211. *Berna Cabacungan*, principal of Earthplan, was the project manager, and principal researcher and writer. Independent contractor *Michael P. Mays* assisted in research related to community issues, and was principal interviewer.

1.1.3 Report Organization

This report contains five major sections. The remaining portions of Section 1 present the following discussions:

* Section 1.2 summarizes existing and surrounding uses and the proposed project.
* To help the reader understand the social impact assessment purpose and function, Section 1.3 describes social impact assessment in general and its application in the Smith-Maunakea project.

Section 2 provides a profile of the existing community to establish the social context in which project impacts may occur. Information includes employment, population, housing and other social characteristics.

Section 3 explores the study area's future without the proposed project. This information extends the baseline data by identifying the possible future scenarios for the community independent of the proposed project. Public policies and major public and private developments are included in this analysis.

Section 4 identifies preliminary community issues and concerns on this project, based on historical trends to date and on interviews conducted for this report.

Section 5 identifies potential social impacts of the Smith-Maunakea project. This section discusses (1) resident population impacts; (2) impacts on existing on-site uses; (3) impacts on the character and uses of the nearby neighborhood; (4) impacts on the regional character; and (5) public services and facilities.

1.2 Project Description

1.2.1 Description of the Subject Property and the Nearby Environment

The project site encompasses 1.03 acres, or 44,677 square feet. The City and County of Honolulu owns most of the site. The State of Hawaii owns approximately 5,793 square feet of land located on the makai portion of the site. The State portion is part of a land exchange with the City. Until this exchange was arranged, the State land was intended to be marketed via a public auction. The land exchange was approved by the Honolulu City Council in Resolution 90-199.

Two types of uses are currently occupying the project site:

1. The dominant structure on the site is a three-story parking garage containing 260 stalls. This City garage is operated by Apcoa, Inc. Weekday rates are $.50 per half hour for the first two hours, and $1.00 per every half hour thereafter. On weekends, rates are $.50 per half hour, with a maximum rate of $1.00.

2. The State portion of the property is occupied by a two-story building containing a restaurant and an adult entertainment on the ground floor and unknown activities on the second floor.

The project site is bounded by Smith Street on the Diamond Head side, Maunakea Street on the Ewa side, and North Nimitz Highway is makai of the project site. On the mauka side of the project site are three privately-owned buildings containing a bank, offices, a produce market and a store offering export wholesale and retail goods. These buildings front King Street.

Uses in the vicinity of the project site are varied. On the street level are banks and small financial institutions, antique and collectible shops, small ethnic restaurants and trade stores, and small markets. Above grade level in nearby buildings are numerous small entrepreneurial enterprises and service-oriented businesses.

1.2.2 Project Components

The City proposes to establish three uses on the project site:

* **Residential.** A 250-foot structure will contain 238 apartment units. The majority of these, 216 units, will range in size from 560 to 800 square feet. There will be an equal number of one- and two-bedroom units.

  The other 22 units will be studios. These will be detached from the residential tower and will be located on the third level along Smith and Maunakea Streets.

  All of the units will be rentals. Forty percent of the units will be priced for incomes between 80 and 120 percent of the median income. Twenty percent will be priced for those whose incomes are less than 80 percent of the median income. The remaining 40 percent will be priced according to market.

  The intended mix of residents includes:

  - elderly (25 percent),
  - one- to two-member households (30 percent), and
  - two- to five-member households (45 percent).

* **Commercial.** Approximately 16,164 square feet in seven commercial areas will be provided.

* **Other.** An open courtyard and mall will separate the residential tower from the parking structure. The mall will be at street level and will contain a water feature. Also, a recreation deck will be located on the roof of the parking garage.

1.3 Social Impact Assessments And Its Application In This Project

Social impact assessment is a field of applied social science which has to do with the development and disclosure of social information relevant to (1) informing the decision-making process, and/or (2) developing management actions to deal with problematic social outcomes of a proposed project. It draws sometimes from social science, but other times from organizational development, political analysis, or simple journalism.

Commonly identified uses of social impact assessments include (1) understanding the ability of a community or group to adapt to changing conditions; (2) defining the problems or clarifying the issues involved in a proposed change; (3) illuminating the meaning and importance of anticipated change, and (4) identifying mitigation opportunities or requirements.

The emphasis of this process varies, based on the particular land use characteristics of a project, the extent of development in nearby areas and the requirements of the different permit processes.

This report serves as the mechanism to identify current community issues and potential social impacts which should be considered in the current process of preparing an Environmental Impact Statement for the Smith-Maunakea project.

In the overall social impact assessment *process*, this report can be useful in further and ongoing community dialogue between the City and the affected parties. The ongoing nature of this process can lead to an informed community and project team, possible project modifications, and, ideally, consensus on proposed actions.

Section 2

Profile of the Existing Community

2 PROFILE OF THE EXISTING COMMUNITY

This section describes the social context in which the Smith-Maunakea would be located. This information helps in understanding who comprises the community and their desires and aspirations. It also is a major factor in estimating project impacts. Section 2.1 defines the study area, and Section 2.2 describes community trends and characteristics, including study area employment, population and housing trends, population and family characteristics, and labor force characteristics.

2.1 Definition of the Study Area

The Smith-Maunakea project site is in Chinatown and near the Honolulu Central Business District. The site is within the boundaries of the Downtown Neighborhood Board No. 13 and is located in the 18th Senatorial District and the 35th Representative District.

In this report, the study area encompasses neighborhoods easily accessible to the project and includes the variety of residential, commercial and office developments in the area. Depicted in *Figure 1*, the study area includes the following:

* The **Chinatown Sub-Area** is bounded by Nuuanu Avenue on the east and River Street on the west, and extends from the H-1 Freeway to Piers 13, 14 and 15. *Census Tracts 51* and *52*, which are separated by Beretania Street, comprise this sub-area. The project site is located in Census Tract 52.

* The **Downtown Sub-Area** is bounded by Queen Emma, Beretania and Richards Streets on the eastern side and Nuuanu Avenue on the west, and extends from the H-1 Freeway to Nimitz Highway. Within these boundaries, Beretania Street separates the Central Business District, which is most of *Census Tract 40, from Census Tract 42.*

In the late 1800s, Honolulu's commercial area centered around Fort and Hotel Streets. Less extensive, Chinatown was further inland, bounded by Hotel, Nuuanu, Beretania and River Streets. Both districts have since grown over the years and they now meet at Nuuanu Avenue and extend from Nimitz Highway to Beretania.

Chinatown and the Central Business District were Honolulu's retail and commercial center earlier in this century. Over time, however, residential growth occurred further and further away from downtown Honolulu. Subsequently, supermarkets and shopping centers were built in outlying areas, offering customers more convenience and a wide range of merchandise. Ala Moana Shopping Center became the primary retail center of the island, followed by other shopping centers.

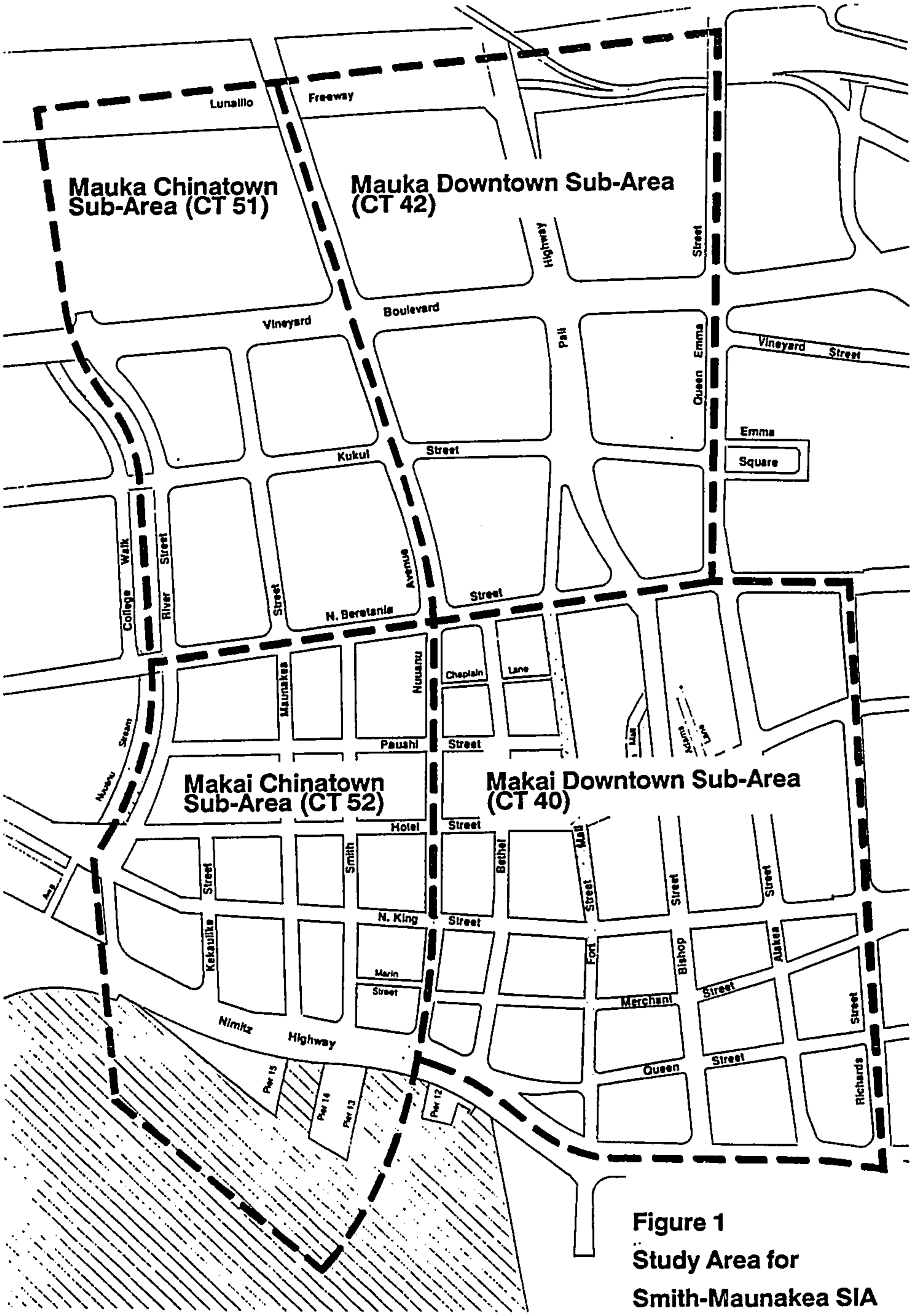


Figure 1
Study Area for Smith-Maunakea SIA

Chinatown merchants had difficulty competing with shopping centers (Peat, Marwick, Mitchell & Co., 1981). Some stores closed; those that stayed kept renovations to a minimum. The deteriorating appearance of the area was exacerbated by the fragility of most of Chinatown's buildings which are wooden structures built soon after 1900.

Plans for urban renewal were drawn up in the 1960s and 1970s. In the Central Business District, new high-rises have replaced many older structures. Further construction and beautification have been proposed by private developers and the City. Fort Street Mall was developed as a pedestrian mall, and Hotel Street became restricted to busses and emergency vehicles.

Initially, the renewal of Chinatown was conceived as a matter of clearing away most structures to build a new "superblock" (Gruen, 1968). Current City policy calls for the respect and enhancement of the historical quality of much of Chinatown, while encouraging new residential developments which meet housing needs and help the economic renewal of small businesses in the area.

Further inland are areas affected by the development of both the Business District and Chinatown, but are not directly identified with these areas. Between Beretania and School Street, there are multifamily buildings mostly built since 1970, a few service enterprises, and the H-1 Freeway. Large parts of these areas were cleared for the highway as part of the urban renewal process, making them distinct from the older residential districts further from the urban center.

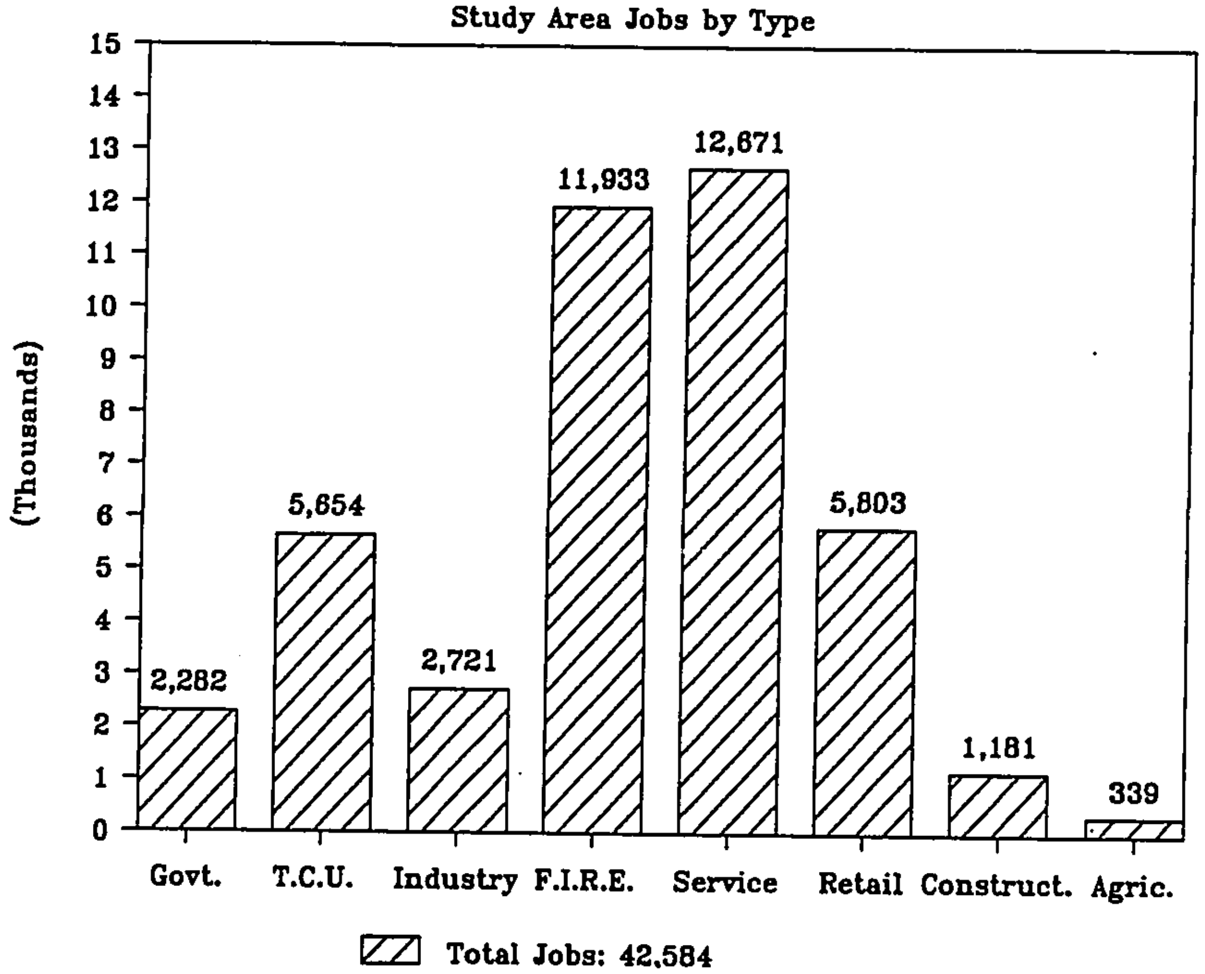
2.2 Population Trends and Characteristics

2.2.1 Study Area Employment

In 1985, an estimated 42,584 people worked in the study area; most of them live outside the study area. *Figure 2* shows the breakdown of study area jobs by job types. In the total study area, 30 percent of the total jobs were service-related, followed by 28 percent in jobs related to finance, insurance, and real estate. The next highest categories were retail (14 percent) and transportation, communications and utilities (13 percent) (City and County of Honolulu Department of General Planning, Planning Information Branch, 1989). Note that one percent of the total study area jobs are agricultural, and these are agriculture-related jobs of the major landowner companies, such as Alexander and Baldwin and Castle and Cooke.

Figure 3 shows the distribution of jobs relative to Chinatown and Downtown. In 1985, Chinatown contained 4,653 jobs, which were distributed quite evenly throughout the region. The largest category of jobs was retail, at 28 percent, followed by service at 25 percent.

Figure 2
Study Area Jobs by Type

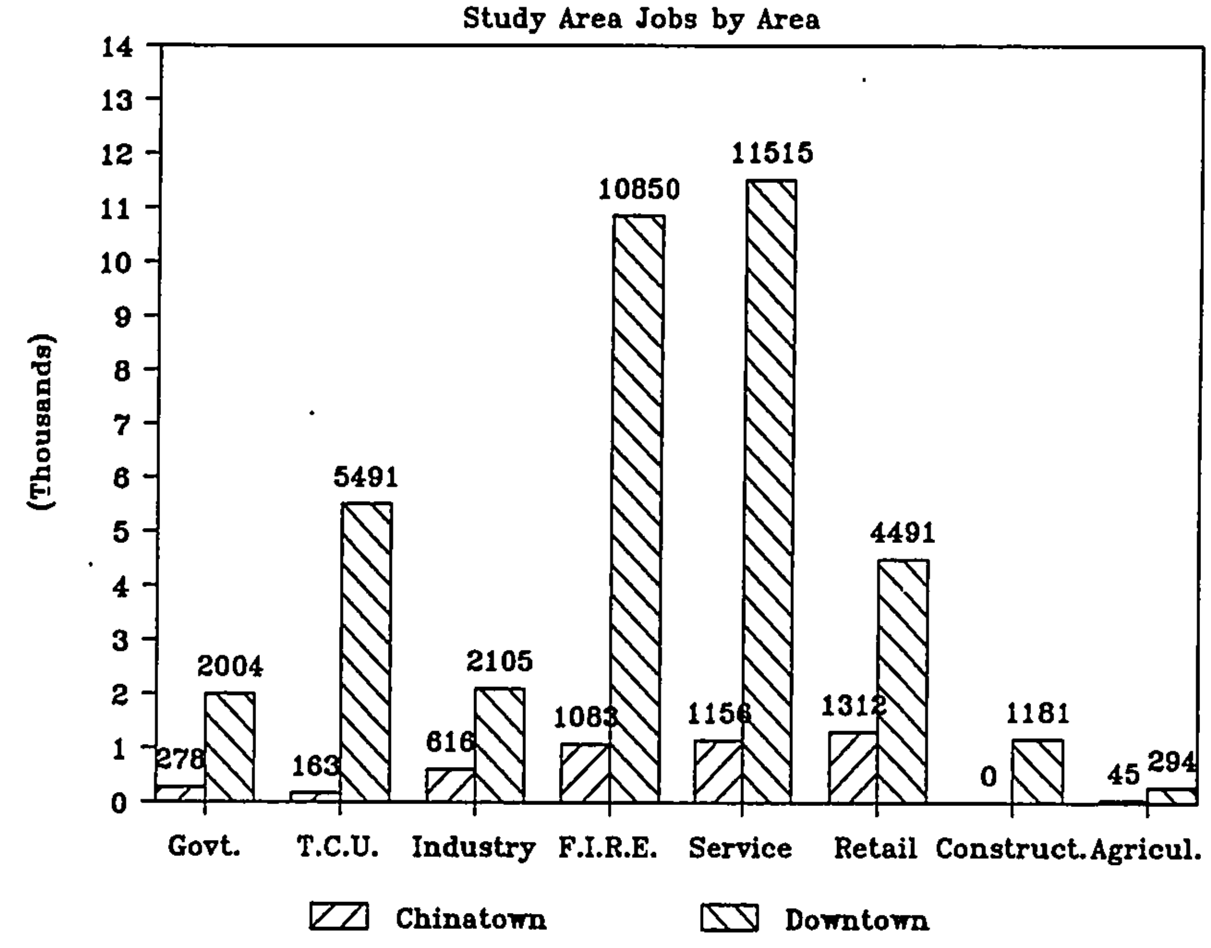


T.C.U. -- Transport, communications and utilities
F.I.R.E. -- Finance, insurance, real estate
Agriculture jobs are those in large landowner companies which are related to agricultural activities

Source: City and County of Honolulu Department of General Planning, Planning Information Branch. Traffic Assessment Zones. October 1987.

Figure 3

Study Area Jobs by Area



T.C.U. -- Transport, communications and utilities
F.I.R.E. -- Finance, insurance, real estate
Agriculture jobs are those in large landowner companies which are related to agricultural activities

Source: City and County of Honolulu Department of General Planning, Planning Information Branch. Traffic Assessment Zones. October 1987.

As expected, most of the jobs were found in the Central Business District (CBD), which is mostly *Census Tract 40*, where almost 38,000 people, or 85 percent, worked. In contrast to the strong retail showing in Chinatown, Downtown's strongest categories were service and finance, insurance, and real estate. This district captured the majority of all job categories with the exception of retail and industrial jobs; Chinatown contained one-fourth of the total retail and industrial jobs (City and County of Honolulu Department of General Planning, Planning Information Branch, 1989).

2.2.2 Population and Housing Trends

Between 1960 and 1989, the residential population in the City and County of Honolulu increased by over 340,000 people, from 500,409 in 1960 to 841,600 in 1989.

The rate of the island's growth has been steadily decreasing over recent decades. As shown in *Table 1*, islandwide population in the 1960s increased by an average of 2.3 percent per year. In the 1970s, the annual growth rate decreased to 1.9 percent. In the first half of this decade, the average annual growth rate went down to 1.2 percent. Between 1985 and 1989, the rate decreased even further, to less than one percent.

For the study area, the net population increase between 1960 and 1989 is estimated at 4,383 persons from 4,666 to 9,049.

The study area population growth rate was not as consistent as the islandwide rate. Between 1960 and 1970, the study area residential population decreased by approximately 5.4 percent a year. Since 1970, the population has increased with the highest average annual growth rate occurring in the 1970s, at 8.3 percent a year. This uneven pattern of growth reflects major construction projects -- the H-1 highway and urban development efforts -- occurring in the study area.

With new residential projects, the study area population continues to grow at rates higher than the rest of the island. Between 1980 and 1985, the study area grew an average of four percent each year. The growth rate increased to 5.9 percent between 1985 and 1989.

Within the study area, the population growth patterns of particular census tracts have changed significantly as parts of these were cleared and redeveloped. Honolulu's so-called Chinatown has never had exclusively Chinese residents (Lind, 1980; Glick, 1936). Chinatown has been, and still remains, an urban hub for new immigrants and immigrants who first came to rural sites in Hawaii. Its population has declined, as the flow of new immigrants has decreased and the housing stock has aged.

Table 1
Study Area Average Annual Growth Rates: 1960 to 1989

	1960-1989	1960-1970	1970-1980	1980-1985	1985-1989
City and County of Honolulu	1.8%	2.3%	1.9%	1.2%	0.9%
Study Area Total	**2.3%**	**-5.4%**	**8.3%**	**4.0%**	**5.9%**
Downtown Sub-Area	**3.7%**	**-0.1%**	**10.6%**	**1.4%**	**-0.1%**
Mauka (CT 42)	3.4%	1.6%	8.5%	0.0%	-0.1%
Makai (CT 40)	4.6%	-10.0%	23.4%	5.3%	-0.2%
Chinatown Sub-Area	**1.6%**	**-8.4%**	**5.8%**	**7.2%**	**11.3%**
Mauka (CT 51)	0.4%	-53.4%	—	8.1%	0.0%
Makai (CT 52)	3.1%	1.3%	-4.8%	5.5%	27.0%

The Central Business District has not been a major residential zone. In the inland tracts of the study area, population growth began in the 1970s, with the construction of Kukui Gardens, Kukui Plaza, and Beretania North, and has continued. Specific population trends are as follows:

* The project site is in the makai portion of Chinatown, or *Census Tract 52*. This area contains a highly fluctuating residential population. In the 1960s, growth was modest at 1.3 percent a year. In the 1970s, the population decreased. As new multi-family housing projects were constructed in the 1980s, growth has been accelerating. In the first half of the decade the average annual growth rate was 5.5 percent. Between 1985 and 1989, the area grew at a significant rate of 27 percent a year.

* Revitalization and urbanization efforts caused the virtual elimination of the residential population in the mauka portion of Chinatown (*Census Tract 51*) in the 1960s. This was followed by the addition of 1,600 residents in the new multi-family housing developed by the City during the 1970s. In the first half of the 1980s, this area was still experiencing major growth, at approximately 8.1 percent a year. No growth was experienced between 1985 and 1989.

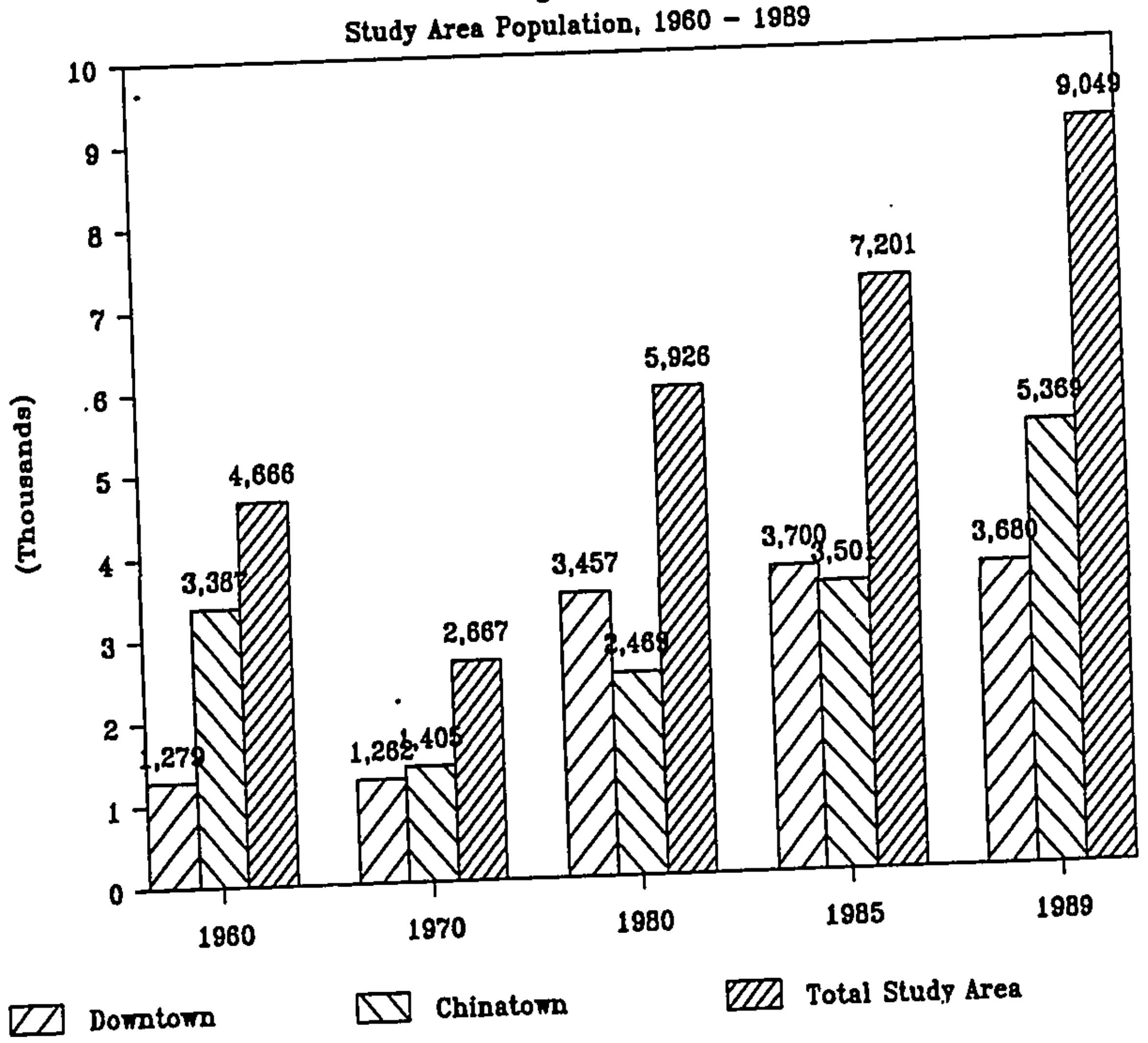
* In the Downtown Sub-Area, the *Census Tract 40* population decreased in the 1960s, but increased eight times during the 1970s, with the development of Harbor Square Town and Harbor Towers. This area has continued to grow in the early 1980s, mostly because of the addition of residential units in the Executive Centre. A slight decline has occurred between 1985 and 1989.

* In mauka Downtown, or *Census Tract 42*, the population grew the most between 1970 and 1980, with an annual growth rate of 10.6 percent. This was due mostly because of the addition of Kukui Plaza. Since 1980, the residential population of this area has remained stable.

As a result of these fluctuating growth trends, the proportion of Chinatown and Downtown residents varied with respect to the two sub-areas. *Figure 4* illustrates the study area population from 1960 to 1989. In 1960 Chinatown's population was over twice the size of the Downtown population. By 1970, the two areas were almost even, and, by 1980, there were more people living in Downtown. In 1985, Chinatown's population rose sufficiently to almost equal that of Downtown, and by 1989, there was once again more people living in Chinatown.

Table 2 provides 1980 Census housing stock information for Oahu and the study area. Study area residential units area are virtually all in multiple-unit buildings. The units are small, in comparison to the City and County norm.

Figure 4
Study Area Population, 1960 - 1989



Source: Based on traffic zone information available at the City and County of Honolulu, Department of General Planning, Planning Information Branch.

Table 2

Housing Stock Characteristics: Oahu and Study Area, 1980

		Chinatown Sub-Area		Downtown Sub-Area	
	Oahu	Mauka (CT 51)	Makai (CT 52)	Mauka (CT 42)	Makai (CT 40)
Year-round housing units					
Total vacant	8.2%	0.7%	4.6%	4.2%	18.1%
Vacant for sale	0.5%	0.0%	0.0%	0.1%	0.0%
Vacant for rent	3.6%	0.4%	2.3%	1.8%	9.4%
Held for occasional use	0.9%	0.1%	0.4%	0.1%	3.8%
Other	3.2%	0.1%	1.9%	2.1%	4.9%
Median number of rooms	4.3	2.2	1.1	2.7	2.7
Condominium units as a percentage of total housing	22.5%	26.3%	4.6%	58.4%	57.4%
Tenure as a percentage of total housing					
Owner-occupied	49.9%	0.5%	0.0%	31.1%	35.1%
Renter-occupied	50.1%	99.5%	100.0%	68.9%	64.9%
Median cash rent	$279	$163	$150	$347	$250
As percent of median family income	14.2%	19.8%	14.6%	17.7%	9.4%

Source: U. S. Bureau of the Census, 1980 Summary Tape File 1-A

In all the study area tracts, most units were occupied by renters. On the Downtown side of the study area most units were in condominiums. In most of the study area, 1980 rents were below the City and County average. This is in part because of the relatively high density of government-subsidized housing in Chinatown.

At the same time, demand for housing in Census Tracts 42, 51, and 52 was strong, as the low vacancy rates indicate. The relatively high vacancy rate in tract 40 for 1980 may have resulted from apartments being held for vacation rentals or for short-term rentals.

In the past, single-room "bachelor housing" units were numerous in the area. Relatively crowded quarters and shared plumbing facilities were not uncommon. This is less apt to be the case as older buildings are replaced or turned to non-residential uses.

By 1989, the study area contained 4,831 residential units, as shown on *Table 3*. Virtually all of these units continue to be multi-family units. Over half (57 percent) of the units were in Chinatown.

Five percent of the study area residents, or about 420 people, lived in group living quarters, such as rooming houses, and most of these quarters are located in the Chinatown Sub-Area.

Compared to an islandwide 1989 household size of 3.04 persons, the study area had an average household size of 1.84 persons, as is to be expected because of the predominance of multi-family units. The mauka portion of Chinatown had the largest average household size of 2.12 persons. Makai Chinatown had the smallest household size of 1.65 persons (City and County of Honolulu Department of General Planning, Planning Information Branch, September, 1990).

2.2.3 Population and Family Characteristics

Results of the 1980 census are summarized in *Tables 4* and *5*. This information shows that, in 1980:

* The people of the study area were older compared to the islandwide population.
* In much of the study area, a large part of the 1980 population lived in non-family households.
* Throughout the study area, the average number of persons per family was below the City and County average.

Table 3
Study Area Housing, 1989

	Total Study Area	Chinatown Sub-Area		Downtown Sub-Area	
		Mauka (CT 51)	Makai (CT 52)	Mauka (CT 42)	Makai (CT 40)
Total population	**9,053**	**2,385**	**2,988**	**2,624**	**1,056**
Persons living in households (%)	95%	100%	87%	100%	96%
Persons in group living quarters (%)	5%	0%	13%	0%	4%
Total housing units	**4,831**	**1,158**	**1,618**	**1,537**	**518**
Single Family Units	3	1	2	0	0
Multi-Family Units	4,828	1,157	1,616	1,537	518
Percent occupancy	**97%**	**97%**	**98%**	**97%**	**97%**
Average household size	**1.84**	**2.12**	**1.65**	**1.76**	**2.02**

Source: Based on traffic zone information available at the City and County of Honolulu, Department of General Planning, Planning Information Branch

Table 4
Study Area Population Characteristics, 1980

	Oahu	Chinatown Sub-Area Mauka (CT 51)	Chinatown Sub-Area Makai (CT 52)	Downtown Sub-Area Mauka (CT 42)	Downtown Sub-Area Makai (CT 40)
Ethnicity					
Caucasian	33.1%	12.3%	9.6%	43.2%	63.0%
Japanese	24.9%	10.9%	7.5%	23.3%	12.8%
Chinese	6.9%	23.5%	19.0%	14.3%	2.4%
Filipino	12.8%	11.5%	47.7%	4.6%	7.2%
Hawaiian	10.5%	11.4%	10.0%	4.3%	3.7%
Other	11.8%	30.7%	6.3%	10.3%	10.9%
Age					
Less than 5 years	7.8%	13.0%	3.8%	4.3%	2.3%
5 - 17 years	24.2%	16.3%	7.0%	6.9%	4.9%
18 - 64 years	60.7%	53.5%	60.6%	74.3%	81.0%
65 or more years	7.2%	17.1%	28.6%	14.6%	11.8%
Median age	28.1 years	29.5 years	51.0 years	39.2 years	42.6 years
Education * (people aged 25+)					
0 - 8 years only	14.4%	40.1%	56.8%	9.7%	4.3%
Some high school (9-12)	45.5%	38.2%	31.3%	34.9%	44.4%
Some post high school	18.3%	12.4%	5.4%	21.5%	19.8%
College, 4+ years	21.7%	9.3%	6.5%	33.9%	31.5%
Place of Birth * (people aged 5+)					
Hawaii	55.1%	48.9%	28.2%	45.1%	44.7%
Other U.S. born **	30.1%	6.4%	17.1%	40.3%	42.8%
Foreign country	14.8%	44.7%	54.7%	14.6%	12.5%
Residence 5 years Previous (people aged 5+)					
Same house	48.2%	11.5%	49.8%	23.5%	31.9%
Same island	25.5%	57.7%	35.1%	58.8%	31.2%
Different island	1.3%	2.2%	0.0%	2.1%	3.4%
Different state	18.4%	6.4%	4.3%	10.6%	33.5%
Different country	6.6%	22.2%	10.7%	5.0%	0.0%

* Figures based on 15 percent sample

** Includes persons born in U.S. territories and persons born abroad or at sea to American parents

Source: U.S. Bureau of the Census, 1980 Summary Tape File 1-A and 3-A

Table 5
Study Area Family Characteristics, 1980

	Oahu	Chinatown Sub-Area Mauka (CT 51)	Chinatown Sub-Area Makai (CT 52)	Downtown Sub-Area Mauka (CT 42)	Downtown Sub-Area Makai (CT 40)
Population in families as a percentage of total population	85.6%	79.5%	35.1%	88.3%	49.3%
Family composition					
Husband and wife present	82.8%	52.2%	69.2%	80.2%	63.2%
Male only	4.5%	2.8%	17.6%	6.6%	12.6%
Female only	12.7%	45.1%	13.2%	13.2%	24.2%
With own children under 18 Female head	54.9%	69.4%	36.3%	31.9%	40.0%
Below poverty level	7.5%	27.8%	31.9%	4.1%	3.2%
Median family income	$23,554	$9,886	$12,292	$23,460	$32,004
Non-family households Percentage below poverty level	15.9%	47.4%	44.8%	4.8%	16.4%

Except for "Population in Families," all figures based on 15 percent sample.

Source: U.S. Bureau of the Census, 1980 Summary Tape File 1-A and 3-A

* In all tracts, the majority of the 1980 population was not Hawaii-born, though the population of different tracts vary in background (United States Department of Commerce, Bureau of the Census, 1981a and 1981b).

It is useful to discuss the Chinatown and Downtown Sub-Areas separately, as their populations differ in several respects.

In the Chinatown sub-area, most residents were far less affluent in 1980. The proportion of both family and non-family households below the poverty line in *Census Tracts 51* and *52* was well above the Oahu averages. Also, many residents had relatively less schooling.

There were also distinctions between the mauka and makai portions of Chinatown. In makai Chinatown, or in *Census Tract 52,* residents had the following characteristics:

* Residents were likely to have been born outside the United States. Nearly half were Filipino in 1980. Chinese were also well represented; other major groups had few members in the district.

* Older men were numerous. Only a third of the resident families had children in the household. The neighborhood was stable, with half the residents in the same house they had occupied five years before (United States Department of Commerce, Bureau of the Census, 1981a and 1981b).

Living mauka of Beretania Street, Chinatown residents of *Census Tract 51* can be described as follows:

* Many of the residents could not have lived in the same house in 1975 and 1980, since many buildings in that tract were constructed in the 1970s.

* Most of the residents came from Oahu, but a substantial number had lived outside the United States. Also, nearly as many residents were foreign-born as were Hawaii-born, and other U.S.-born Americans were few.

* Ethnically, Chinese and Koreans were strongly represented in this tract, while Caucasians, Japanese, Filipinos and Hawaiians were all present in roughly equal numbers.

* The population was young compared to the rest of the study area, and families with dependent children were in the majority. The proportion of families headed by women was exceptional (United States Department of Commerce, Bureau of the Census, 1981a and 1981b).

In the Downtown sub-area, which includes *Census Tracts 40 and 42*,

* The population was relatively well educated and affluent. Median family incomes in tract 40 were well above the Oahu average in 1980, while incomes of tract 42 families were close to the average. In both tracts, few families had incomes below the poverty line.

* Most families in the Downtown sub-area did not have children in the household in 1980.

* In 1980, Caucasians formed the largest ethnic group in this area. Ethnic Japanese and Chinese formed the next largest groups. While many residents were Hawaii-born, a high percentage were from other states.

* The proportion of the population who had lived in the same house five years previously was low, mostly because of the then new residential units. In *Census Tract 40*, a third of the residents had lived elsewhere in the United States five years earlier (United States Department of Commerce, Bureau of the Census, 1981a and 1981b).

2.2.4 Labor Force Characteristics of the Downtown Resident Population

Labor force characteristics were in line with the findings concerning population and families noted earlier. The 1980 Census showed that laborers and service workers were numerous on the Chinatown side (see *Table 6*). Residents in the Downtown side of the study area were likely to have relatively high-status and well paid occupations.

Labor force participation was high among Downtown sub-area residents, while many more adults were not in the labor force on the Chinatown side. Unemployment was relatively high in Chinatown.

Although residents of the study area live near Honolulu's financial and government center, they had to spend about as much time getting to work as did other Oahu residents in 1980.

Table 6
Labor Force Characteristics, 1980

	Oahu	Chinatown Sub-Area Mauka (CT 51)	Chinatown Sub-Area Makai (CT 52)	Downtown Sub-Are Mauka (CT 42)	Downtown Sub-Are Makai (CT 40)
Potential Labor Force, aged 16+					
Not participating in labor force	30.8%	46.3%	46.2%	26.0%	17.4%
In armed forces	10.1%	0.0%	1.5%	0.9%	2.1%
Part of civilian labor force	59.1%	53.7%	52.3%	73.1%	80.4%
Unemployed Civilian Labor Force	4.6%	8.7%	17.2%	0.3%	8.8%
Total Employed Civilian Force					
Occupation					
Managerial and professional	24.7%	10.4%	4.8%	41.1%	28.5%
Technical, sales and administration	33.8%	26.8%	9.3%	34.3%	43.7%
Service	17.6%	39.1%	35.9%	13.1%	14.6%
Farming, fishing, forestry	1.8%	1.0%	0.0%	1.1%	2.6%
Precision, craft, repair	11.3%	5.5%	7.9%	6.7%	4.2%
Operators, fabricators, laborers	10.9%	17.1%	24.9%	3.7%	6.4%
Commute to work					
Mean travel time in minutes	22.6	20.1	21.4	17.3	18.8

All figures are based on a 15 percent sample.

Source: U.S. Bureau of the Census, 1980 Summary Tape File 3-A

2.3 Characteristics of Existing City Projects in the Vicinity

The makai portion of the Chinatown sub-area contains five City residential projects. The following describes each project, based on information provided by resident and property managers:

* **Hale Pauahi** is the largest of these and contains rentals priced for low and moderate incomes, as well as for market range. Located at the corner of Maunakea and Beretania Streets, this project contains 396 units, of which 72 are three-bedroom units. There are 110 one-bedroom units and 214 two-bedroom units. Monthly rents for the lower priced units range from $400 (one-bedroom) to $610 (three-bedroom). Market rents range from $480 to $755. There is a small turnover averaging about four a month, and these occur mostly with the market units.

  People of various ages and ethnic backgrounds live in Hale Pauahi. The three-bedroom units house both families and unrelated individuals, up to a maximum of five people. Some of the problems arise from the diversity in ages; elderly residents often complain about the noise or behavior of the younger adults and children. The most frequent problems are related to property damage and nuisance.

* The **River Pauahi Apartments** is located nearby and fronts River Street. This four-story building contains 49 residential units and a convenience store. Eight of the units contain two bedrooms; the other are one-bedroom units. Tenants are mostly elderly Filipinos and Chinese and a few are handicapped; some older married couples live in the two-bedroom units. Monthly rents range from $660 to $721.

* Located on the mauka side of Pauahi Street, **Pauahi Hale** or **Pauahi Annex** is a four-story structure containing 78 units. All contain one bedroom, and there are group bathrooms and kitchens on each floor. Most of the residents are elderly.

* **Pauahi Kupuna Hale** is on the makai side of Pauahi Street. Its 48 units currently house 66 elderly residents. Seven ground floor units are designed for physically disabled people; all residents must be capable of independent living.

* **Winston Hale** is the oldest residential project in the area and is located at the corner of Hotel and River Streets. The structure contains seven commercial spaces at ground level and 94 studio units. The 137 men and women who currently live here are diverse in age and racial extraction.

In addition, the Chinatown Gateway is expected to open by the end of the year. That project has a target market similar to that of Smith-Maunakea, whereby 60 percent are targeting those whose incomes are less than 120 percent of the median income, and the remaining 40 percent of the units are market-priced. Based on the applications for the project, the demand for the lower-priced units greatly exceeds the supply, while few people were interested in the market units. There are 40 units for those whose incomes are up to 80 percent of the island's median; 513 applications were submitted. At the other extreme are the market units. Only 66 people applied for the 80 market-priced units.

Section 3

Major Changes

Without the Smith–Maunakea Project

3 MAJOR CHANGES WITHOUT THE SMITH-MAUNAKEA PROJECT

This section looks at what guides the changes in the study area, as well as identifies some community changes which may occur. This information indicates how the proposed Smith-Maunakea redevelopment relates to the expectations of the existing community and the likely changes this community will experience. Section 3.1 summarizes plans and guidelines in relation to the project site. Section 3.2 identifies construction projects and proposed changes in the study area, and Section 3.3 describes a likely future scenario of the study area without the Smith-Maunakea redevelopment.

3.1 Plans and Guidelines in Relation to the Project

The project site lies in the Primary Urban Center Development Plan area. The **Special Provisions for the Primary Urban Center** single out Downtown as a special area. Bounded by Nuuanu Stream, Vineyard Boulevard, Alakea Street and Honolulu Harbor, the Downtown Special Area includes the Financial, Kukui and Chinatown districts, as well as the Aloha Tower-Honolulu Harbor area.

Smith-Maunakea is in the Chinatown District, which is to be redeveloped with emphasis on historic preservation, architectural character and adaptive re-use, and with strengthening of the commercial and retail function (City and County of Honolulu, Special Provisions for the Primary Urban Center).

Honolulu's **Land Use Ordinance** brings together zoning requirements for the city as a whole and for special districts. The project site is in Precinct 5 of the Chinatown District, which was established to preserve the historic significance, architecture and characteristic uses of the area, and to meet the community's needs. Specific objectives also call for economic revitalization and compatibility between new developments and the existing character of the area.

According to the ordinance, City and County agencies are to consider three reports as "general guidelines" for development applications. Those reports are:

* *Chinatown, A Plan for Renewal* (Daniel, Mann, Johnson & Mendenhall, 1975). This document combines general planning considerations with a more specific plan for the Pauahi area. It states that development "should primarily satisfy the needs of those presently forming the Chinatown community" while providing for growth with minimal disruption. Guidelines, underlining the mixed-use character of the district, include:

  - increasing housing for young and old, and for all age groups,
  - construction of housing of varying heights, ranging from low- to high-rise, and
  - encouragement of mixed uses and activities in Chinatown.

* *Chinatown Historic Preservation Plan* (Aotani & Hartwell Associates, Inc., 1974). This plan identifies "treatment areas," forerunners to the "precincts" of the Chinatown Historic District ordinance. To meet general objectives, the authors emphasize both the importance of complementing existing structures and a flexible attitude toward new structures for this area:

  "... development control guidelines would address the scale of buildings, their contribution to streetscape, the treatment of ground floor facades, particularly Chinatown's dominance of small open front shops and sidewalk canopies; and the general compatibility of exterior design, arrangement, texture and materials. The guidelines should also be flexible so new development is encouraged and not overly restricted" (Aotani & Hartwell Associates, 1974, p. 44).

* *Guidelines for Change in Chinatown* (City and County of Honolulu, Department of Housing and Community Development, n.d.). This document sets forth standards developed by the Chinatown Design Review Advisory Committee. The standards are to be enforced in the Pauahi area, with compliance voluntary elsewhere.

  This document adds guidelines of two sorts: a set of design criteria, covering building height, scale, facades and materials for the three treatment areas, and a formula for calculating maximum building height in the Historic District.

The Smith-Maunakea project site is also just mauka of Chinatown Waterfront redevelopment proposed in the **Honolulu Waterfront Master Plan**. The plan singles out Piers 12 to 15, which are across Nimitz Highway, because they present an opportunity to create a unique style of development which captures the essence of historic waterfront. Pier 12, which is slightly makai-Diamond Head of the project site, has the potential for an interpretive center to serve as the focal point for walking historic tours. Piers 13 and 14, which are makai-Ewa of the project site, would be renovated to provide support facilities for commercial fishing vessels, and for the sale of fresh seafood. The fire station would be retained at Pier 15, and the remainder of the site would be cleared to provide open space.

Because of the space limitations at these piers, the master plan suggests that a portion of the waterfront parking needs be met in the mauka public parking facilities (such as the Smith-Maunakea garage); pedestrian bridges would be needed to facilitate mauka-makai crossings.

3.2 Changes In the Study Area

The urban landscape of the study area is changing daily. Construction activities have become integral to the study area environment, and proposed developments indicate an ongoing transformation of many individual sites and whole city blocks. This section summarizes these changes for an understanding of what is likely to happen in the study area independent of the Smith-Maunakea redevelopment.

3.2.1 Projects Under Construction

As of October 1990, the only construction project near the Smith-Maunakea project site is the **River-Nimitz Housing**, located at the corner of River Street and Nimitz Highway. The City and County of Honolulu is developing residential units, as well as retail spaces (Downtown Improvement Association, 1989a). Completed in April 1990, the **Maunakea Marketplace** fronts the Hotel Street Bus Mall and is located between River and Maunakea Streets. This low-rise complex contains retail spaces, restaurants and a food court (Information from marketing packet produced by The Kaulana Corporation and Gerell Management, Inc, not dated).

By comparison, numerous projects are under construction in the Downtown Sub-Area, as follows:

* **Chinatown Gateway Plaza and Park** is located at the corner of Hotel and Bethel Streets. Developed by the City and County of Honolulu, this project includes a 27-story residential tower containing 200 1-bedroom units. Forty percent of this rental project will be priced for people who can afford market rents. Another forty percent will be for people with gap group incomes, with the remaining 20 percent being for people with low and moderate incomes. A two-story commercial structure is also included.

* **Pan Pacific Plaza** is located on the Diamond Head side of Fort Street Mall. Being developed by the Daniels Company of California, this complex will offer 495,000 square feet of office space and is already pre-leasing with 60,000 - 80,000 square feet committed to First Interstate Bank. The project is scheduled for completion in 1991 (Grubb and Ellis/Locations, Inc., 1990; Downtown Improvement Association, 1989a).

* **Honolulu Park Place** is a residential fee simple condominium at the corner of Vineyard Boulevard and Nuuanu Avenue. The project is being developed by Honolulu Park Place Limited Partnership, an affiliate of Charles Pankow Builders, Ltd. The project is being marketed as an exclusive condominium, with a private health club, pool, an open deck, putting green, driving range and tennis

court. This 40-floor tower will contain 437 units and is expected to be ready for occupancy in late 1990 (Honolulu Park Place Limited Partnership, 1989).

* The State Office Tower is located on Beretania Street, on the Diamond Head side of Bishop Street. The structure is being developed by the Hemmeter Corporation, and will contain 160,000 square feet of office space which will be leased to the State (Downtown Improvement Association, 1989a).

* A 31-story office building containing 200,000 square feet of office space is planned for the former **Merchandise Mart** site, at the corner of Alakea and Hotel Streets (Grubb and Ellis/Locations, Inc., 1990).

* **Alii Place** is makai of the Merchandise Mart site, and construction for a 231,000 square foot office tower/retail complex has begun (Grubb and Ellis/Locations, Inc., 1990).

* The old **City Bank Building** is undergoing a $2 million face-lift (Grubb and Ellis/Locations, Inc., 1990).

3.2.2 Planned and Proposed Changes

Numerous other projects are envisioned for the study area, and these are in different stages in planning and obtaining necessary approvals. Proposed changes in the Chinatown sub-area include:

* The City and County of Honolulu is proposing the **Kekaulike Parking Lot Redevelopment** about a block mauka-Ewa of the project site. The redevelopment would encompass two blocks bounded by Hotel, Maunakea, King and River Street. Proposed are 145 rental units, 15,000 square feet of ground level commercial space, parking and a pedestrian mall. An EIS Preparation Notice was filed earlier this year (Office of Environmental Quality Control, August 8, 1990b).

* The City is also proposing 800 residential units at the **Foster Garden Estates** which is bounded by Nuuanu Avenue, Vineyard Boulevard, River Street, and Kukui Street (Downtown Improvement Association, 1989). Half of the units are expected to be rental units; the other half will be for sale. The project is in preliminary planning stages.

* Another City-initiated project is the redevelopment of the **Smith-Beretania** parking lot, which is bounded by Smith, Pauahi and Beretania Streets, as well as the Smith-Beretania residential

structure and commercial structures. Proposed uses include a park, parking structure, a day care center and City offices. An EIS is being prepared.

* Two existing residential structures are slated for redevelopment by the City. **Pauahi Hale, or Pauahi Annex**, currently a City rental project, would be converted into single-room occupancy. **Winston Hale** would be rehabilitated (City and County of Honolulu Department of Housing and Community Development, 1990).

Just Ewa of the study area is the site of **Park Place**, another residential project proposed by the City. The site is bounded by River Street, Nimitz Highway, Iwilei Road and King Street. Preliminary plans call for 422 units in a mix of market units and units priced for low and moderate incomes.

The following is a summary of proposals in the Downtown sub-area.

* **Pacific Nations Center** is the largest proposal for the study area. In the EIS for this project, a maximum development program for this site included a 350-foot residential tower, a 350-foot office tower, a 350-foot tower with small-scale luxury hotel and office space, and park/plaza space. Parking would be provided in a five-level underground parking structure, and the existing on-site electrical substation would be relocated (City Department of Housing and Community Development, 1989). The City is re-issuing a request for proposals.

* **Fort Street Mall** is currently planned for renovation which will accommodate increased use and reflect changes in properties adjacent to the mall (Spencer Mason Architects, 1989).

* The **Liberty Theater site** and the adjacent gas station have just been demolished. Consolidated Amusement Company is constructing a parking lot in a joint development of both parcels (Office of Environmental Quality Control, 1990).

* Another relatively large-scale proposal is the **Aloha Tower Project**, which is located in the vicinity of Piers 8 through 11. After a year-long competition which included proposals by five development teams, Aloha Tower Associates was awarded the project. Plans for this "festival" development include two 350-foot condominium towers, a seven-story 109-room hotel, an office tower with 340,000 square feet, a maritime facility and parking (Grubb and Ellis/Locations, Inc., 1990). Near the Aloha

Tower is an electricity generating plant which may be developed into a mixed-use project containing office, condominium and parking.

* Harbor Court Developers was selected by the City and County of Honolulu as the developer in the **Kaahumanu Parking Structure Redevelopment**, located at the makai end of Bethel Street. The mixed-use project combines retail commercial operations with a 19-story office tower, a 28-story apartment tower containing 120 units, and a six-story office/commercial mixed use building (R.M. Towill Corporation, 1990).

* Other proposals in the Downtown include an unnamed office project on the former **King Theater site**, and a **Campbell Estate Office Tower** along Hotel Street between Fort Street Mall and Bethel Street (Downtown Improvement Association, 1989).

3.2.3 Proposed Amendment to the Development Plan

Earlier this year, the City Department of Land Utilization requested an amendment to the Special Provisions of the Primary Urban Center Development Plan to change the maximum height limit in a portion of the Financial District downtown from 350 feet to 500 feet. This proposed amendment has been withdrawn from consideration. The land use and public facility amendments proposed for the Primary Urban Center Development Plan are all outside of the study area (City and County of Honolulu Department of General Planning, 1990b).

Formerly under independent consideration was the proposal to have the City buy the Perry Building located at the corner of Nuuanu Avenue and Hotel Streets. This was to have been a government building, but did not receive funding in the recent budget deliberations and is indefinitely on hold (personal communication with Ron Kodama, Planner, City Department of General Planning, October 10, 1990).

3.3 Likely Future of the Project Area Without the Smith-Maunakea Project

Based on an analysis of the existing community (Section 2) and current and potential development activity in the study area, the following is a likely scenario of the future study area without the Smith-Maunakea redevelopment:

* **Increase In Residential Population And Mix.** In 1989, an estimated 9,053 people lived in the study area. Currently, 727 new residential units are being built. As shown in *Table 7,* these units will bring the total housing count to 5,558 by early next year. Thus, in the near future, the population is expected to increase to almost 10,400 persons, independent of Smith-Maunakea.

Table 7
Estimate of Potential Residential Units and Residential Population for the Study Area

	Number of Residential Units	Potential Residential Population
1989 Estimate	4,831	9,053
Projects Under Construction		
Honolulu Park Place	437	804
Chinatown Gateway Plaza	200	368
River/Nimitz	90	166
Cumulative Subtotal	5,558	10,391
Planned and Proposed Projects		
Pacific Nations Center	494	909
Aloha Tower Redevelopment	270	497
Kaahumanu Parking Structure	122	224
Smith Maunakea	238	438
Kekaulike Maunakea	100	184
Foster Garden Estates	1,600	2,944
CUMULATIVE TOTAL	8,382	15,587
TOTAL WITHOUT PROJECT	8,144	15,149

Residential population is based on study area 1989 household size of 1.84 persons which excludes people living in group quarters.

If all of the planned and proposed residential projects are built, the study area's housing count could total 8,144 units. The study area long-range population is projected to reach 15,150 persons, if all current proposals (not including Smith-Maunakea redevelopment) are implemented.

The types and locations of residential development proposed for the study area indicate that the demographic differences between Downtown and Chinatown residents will continue both in the short- and long-term time frame. As the City increases rental units in the area, there will be more renters of the low and moderate income category, as well as more elderly people. People who can afford market rents will also live in Chinatown, and, except for the Honolulu Park Place mauka of Beretania Street, and planned sales units at Foster Garden Estates, no private homeownership is expected in Chinatown.

With the completion of current construction projects, the demographics of the future population of the Downtown sub-area will likely change to reflect a high owner occupancy rate, younger population, higher incomes, increased ethnic diversity, and higher education levels.

* **Continued Need For Resident-Oriented Facilities.** As more people live in the area, the demand and need for public services and facilities will continue. This is especially so with recreational facilities. Even though many residential complexes may contain on-site recreational facilities, the anticipated younger population will still need playgrounds, ball courts and recreational centers.

* **Continued Rehabilitation in the Chinatown Sub-area.** Chinatown is expected to undergo low-rise commercial redevelopment, mixed with high-density residential uses. The current efforts are primarily City-initiated. It is anticipated that, as Chinatown accommodates more residents, and as the area's physical characteristics and infrastructure improve, private landowners in the area will redevelop their properties or rehabilitate existing structures.

* **Continued Development Of Downtown As The Financial Center.** Honolulu retains the distinction of having the lowest downtown office vacancy rate in the nation. At the end of 1989, the vacancy rate was 3.7 percent, as compared to over 16 percent nationwide (Sylvester, 1990). The pressure for Downtown office development is expected to continue, even with the Kapiolani corridor office development activity. By upgrading currently underdeveloped land, these projects are expected to change the urban landscape and intensify human activity in the area.

* **Temporary Parking Problems.** As the City continues to develop sites containing public parking garages, there will be a shortage of parking spaces. These shortages are expected to be temporary, since the new structures reportedly will contain replacement parking stalls.

Section 4

Community Issues on the Smith–Maunakea Project

4 COMMUNITY ISSUES ON THE SMITH-MAUNAKEA PROJECT

This section explores potential community issues and concerns on the proposed Smith-Maunakea redevelopment. Section 4.1 identifies information sources used in this analysis. Section 4.2 extends the baseline data on the existing community by presenting issues and concerns independent of the proposed project. Section 4.3 identifies preliminary community issues on the proposed project, and this is followed by organizational positions on the Smith-Maunakea project in Section 4.4. Comments on the nature of these issues and concerns are presented in Section 4.5.

4.1 Sources of Information

Two sources of information were used in this analysis:

1. **Neighborhood Board minutes and Downtown Improvement Association newsletters.**

   The Neighborhood Board system is a formal mechanism for citizen input to public entities regarding islandwide City policies, specific community problems and other matters, and proposed changes. The types of issues addressed by a Neighborhood Board and subsequent actions often reflect values and concerns of the constituent population.

   To understand the values, concerns and issues of Downtown residents, this study examined the minutes of the Downtown Neighborhood Board No. 13 over a two-year period, from January 1988 through September 1990. Section 4.2.1 discusses issues addressed by this Board.

2. **Community Interviews.** Earthplan conducted interviews with people who (1) live, conduct business or own land near the project site, (2) have a regional interest in the proposed project, or (3) would be able to provide specific information on how the site might affect the neighboring community.

   These interviews were held to supplement information from printed sources of material regarding community needs and values, and, more importantly, to *identify community issues and concerns* relative to the proposed project. This study did not include a scientific poll, and does not quantify project support or opposition.

Thirty-eight people were interviewed during this study and the list is presented in *Table 10*. Each person was informed that input would be summarized in the Social Impact Assessment and that individual opinions would remain confidential. The source of project information was the environmental assessment prepared by the City and County of Honolulu on the project.

Section 4.3 provides more information on the profile of people interviewed.

4.2 General Community Issues and Concerns

4.2.1 Neighborhood Board Issues and Concerns

The Downtown Neighborhood Board No. 13 area is larger than the study area for this report. In 1980, the Neighborhood Board area population was 8,674, whereas the study area population was 5,926. Hence the study area accounted for just over two-thirds of the Neighborhood Board area constituents in 1980.

The Neighborhood Board area extends from River Street to the eastern boundary formed by Ward Avenue, and Beretania, Alapai, South Streets, Ala Moana Boulevard and Keawe Street. The H-1 Freeway and Honolulu Harbor form the mauka and makai boundaries.

The theme central to most of the Neighborhood Board discussions held over the last two years is the *need to create a more livable environment for residents in this high density and mixed-use community*. The Board strongly advocated more open space, more recreation areas, and more resident-oriented public services and facilities. In addition, the Board supported efforts which would *increase the safety and efficiency of Downtown vehicular and pedestrian systems.*

These themes were carried through in specific topics addressed, some of which are as follows:

- **Public facilities.** The Board advocated the improvement and retention of resident-oriented public facilities. The Board supported a new satellite City Hall. Members supported Central Intermediate School remaining open and opposed consolidation with Kawananakoa Intermediate School. The Board paid close attention to the library renovation, and supported efforts to temporarily use the NBC Exhibition Hall as a library.

Table 8
List of People Interviewed for this Study

Note: Those interviewed provided their perspectives on how the Smith-Maunakea project might affect the nearby and regional communities. They were not asked to represent the views of their organizations.

Name	Organization or Affiliation
Worth Austin	Business manager of Apcoa, Inc.
Alfonso Barayuga	Resident manager of Winston Hale
Robert Benson	Owner of Bushido Antiques, nearby business Member, Chinatown Merchants Association
Lane Brink	Member, Downtown Neighborhood Board Resident manager, Lunalilo Tower
Robyn Buntin	Owner, Robyn Buntin's Honolulu Gallery, Chinatown Gallery, Robyn Buntin's Jewelry Collection
Sergeant Cappo	Chief of Sector 5 (Beats 39 - 43), Honolulu Police Department
Lyla Ching	Acting manager of Pauahi Kupuna Hale
Clinton Ching	President of United Chinese Society
K. D. Chun	President and owner of C. Q. Yee Hop and Company, nearby business Member, Chinese Chamber of Commerce Member, Downtown Improvement Association
Gladys Doling	Member, Downtown Neighborhood Board
Linda Fong	Manager of Norwest Financial Corporation, nearby business

Name	Organization or Affiliation
Yamine Fong	Branch manager of Bank of Hawaii Market Branch, nearby business Member, Chinese Chamber of Commerce
Phyllis Fox	Executive Director, Historic Hawaii Foundation
Gary Gill	Council representative, Honolulu City Council
William Grant	Executive Director, Downtown Improvement Association
Watasu Harada	Owner of Garakuto Do, nearby business
Tom Hinckel	Resident manager of Hale Pauahi
Larry Ing	Columnist ("Rambling through Chinatown"), Downtown Planet
Eric Kloninger	Part owner of Kawahara and Schnack Buildings across Maunakea Street
Ed Kim	Resident manager of Pauahi Hale
Toraso Kurisu	Owner and manager of Aloha Antiques and Collectibles, nearby business
Ted Li	President, Association of Chinese from Vietnam, Laos and Cambodia
Warren Luke	Vice Chair of Hawaii National Bank, nearby business Member, Chinese Chamber of Commerce Member, Historic Hawaii Foundation
Wing Tek Lum	Secretary of Lum Yip Kee, Ltd. Investment and Real Estate Member, Chinese Chamber of Commerce
Gil Martin	Member, Downtown Neighborhood Board

Name	Organization or Affiliation
Lynn Matusow	Chair, Downtown Neighborhood Board
Andrew Rothstein	Vice Chair, Downtown Neighborhood Board
Tita Stack	Partner, McCandless Properties
Dr. Charles Sueishi	Member, Downtown Neighborhood Board
Norman Tam	Owner of Sigma Industries and Concord Imports, adjacent business
Satsurino Tamayo	Resident manager, River Pauahi Apartments
Lynn Tilton	Real estate broker for Maunakea Marketplace
Kemeth Uyeno	Branch manager, Central Pacific Bank King Street Branch, nearby business
Sun Hung Wong	Executive Director of Chinatown Merchants Association
Emery Wong	Account Executive for Loyalty Enterprises, and responsible for River Pauahi, Hale Pauahi and Kukui Gardens
Dave Yamamoto	Owner, Sandy's Restaurant and Lounge, adjacent business
Elvin Yamauchi	Owner, Paradise Produce Company and Building, adjacent business
Ronald Young	President, Chinese Chamber of Commerce

The Board objected to rezoning Kamalii Park to BMX-4, although it considered removing the objection if the site would be replaced in Block J as an active public recreation area. In a review of the Draft Environmental Impact Statement for Block J, the former Neighborhood Board Chair suggested various alternatives for including active recreational and entertainment spaces at Block J.

The Board reviewed plans for Fort Street Mall improvements and submitted recommendations designed to accommodate nearby businesses and mall users.

* **Proposed projects.** The Board reviewed numerous proposals which would bring change to Downtown and Chinatown, as well as to Kakaako. Many of these proposals were generated by the City and County of Honolulu and many included a residential element, as indicated in Section 3.2.2.

  Perhaps the best illustration of the framework for the Board's review of new projects is the response to the City Department of Housing and Community Development when City-proposed projects were presented in April 1989. The Board reiterated the need for the following:

  - the large need for more downtown parks, especially in light of the increase in residential population;

  - the need to encourage more affluent people to live in this area;

  - the possibility of using higher-priced living units in the waterfront area to help finance lower-priced units elsewhere;

  - the need for active recreational areas; and

  - the need to minimize displacement of small businesses;

  Similar comments were made regarding the Aloha Tower development, in June 1990 responses to the EIS Preparation Notice for the project.

* **Parking.** The Neighborhood Board strongly discouraged displacement of public parking because of the need to serve Downtown businesses and their clientele. The Board has expressed concern that many of the City-proposed projects are on existing public parking garages, and that simultaneous development of some of these sites will cause at least temporary displacement of parking.

* **500-foot building height.** Allowing 500-foot height limit on nine different parcels did not meet Board approval, since many felt it was too premature for making a decision at this time. Some felt that taller buildings did not necessarily guarantee more open space at ground level.

* **Facilities for homeless people.** The Board supported the Edwin Thomas Home for homeless families in January 1988; subsequent efforts to qualify or change that position were strong but unsuccessful. After further deliberation, the Board supported the project in May of this year provided that the applicant monitor the project closely.

  The Board also addressed the Aala Park Homeless Shelter, which is just outside the Downtown Neighborhood Board area. It was felt that public parks are scarce in the area, and shouldn't be used for "tent cities." Other concerns included policy precedence set by using public parks for this purpose and use of City funds.

The proposed Smith-Maunakea redevelopment was acted upon twice by the Downtown Neighborhood Board. On June 8, 1990, the Board opposed the City-State land exchange because members questioned the financial equity and the long-range open space needs of Kakaako. At the same meeting, Smith-Maunakea was discussed separately. Some Board members felt it was economically unwise to build this project on such valuable land; the motion to oppose the project failed, however.

4.2.2 Issues and Concerns of Other Organizations

There are a number of business-oriented organizations in Chinatown, including the Chinatown Merchants Association, the Chinese Chamber of Commerce, and the Downtown River Pauahi Merchants Association. They share a common goal of promoting and enhancing the business climate in Chinatown. These organizations tend to be loosely structured, except for the Chinese Chamber of Commerce, which is based in Chinatown and which contains 350 members.

The United Chinese Society and the Association for Chinese from Vietnam, Laos and Cambodia are culturally-oriented. Functioning as a coordinator for social events, the United Chinese Society is an umbrella organization for over 100 Chinese clubs and societies. The Association for Chinese from Vietnam, Laos and Cambodia was initiated to assist in-migrants and works to perpetuate their culture. Free organizational services range from job and housing referrals to translation services.

The Downtown Improvement Association (DIA) is a business organization dedicated to the development of Downtown as the State's premier business headquarters. The goals are to maintain a good Downtown business climate, promote employee satisfaction and encourage an adequate supply of office space and supporting services including parking, retail facilities and housing. The organization comprises 400 members.

None of these organizations have taken a position on the proposed project.

Recently the Historic Hawaii Foundation drafted a **Chinatown Community Plan**, with substantial input from Chinatown residents and businesses. Among other things, this plan recommends height controls which may involve the project site. The plan will be made available in the latter part of October.

4.3 Community Concerns About the Smith-Maunakea Redevelopment

4.3.1 Description of Those Interviewed

The 38 people interviewed for this project represented a cross section of interests regarding the Smith-Maunakea redevelopment. All of those interviewed lived in the study area, or conducted business or owned land near the project site or in Chinatown.

Those interviewed were asked to provide their perspectives on how the proposed project might affect the nearby uses and the regional community. They were not asked to represent the views of their organizations, although if the organization has taken a formal position, then they were asked to discuss these positions. Further, some of those interviewed were asked to provide information about their respective area of expertise (such as a public facility or the nature of their business), in addition to their perspective on project issues. The total does not equal 38 because some people belonged to more than one category. The following is a rough breakdown of these interests.

* **Downtown residents** included Downtown Neighborhood Board members and resident managers of Chinatown residential projects. Eleven study area residents were interviewed.

* The project site is located in an existing business district and is in the vicinity of numerous businesses. Sixteen individuals represented interests as **nearby businesses and landowners.**

* Sixteen of those interviewed had a **regional interest** in the project. Some were public officials and others were members of Chinatown/Downtown regional organizations, including the Chinese Merchants Association, the Chinese Chamber of Commerce, the Association of Chinese from Vietnam, Cambodia and Laos, the United Chinese Society and the Downtown Improvement Association.

The interviews were conducted for *issue identification*, and not to quantitatively assess support or opposition. Such quantitative information could be produced only through a poll or survey, neither of which were included in Earthplan's scope of work.

4.3.2 Summary of Issues and Concerns

Although those interviewed had distinct interests, there were no conflicts or competition between interests. Residents, business operators and those in regional organizations often expressed the same types of concerns, though the emphasis of their views varied.

Four general areas of concern were expressed:

1. *Policy implications* -- Informants questioned the City's role as developer. Some felt that the City should not be involved in development at all; others felt that only City participation in affordable housing development is acceptable. Those concerned about the commercial component of Smith-Maunakea did not like the City competing with the private landowners and shopkeepers. Also of issue is the City's ability to build up to 250 feet, whereas those right across the street had stricter height limitations. Further, some people felt that the City has a responsibility to retain the low-rise configuration of the area. As part of Chinatown, the project site is in the National Register of Historic Places, and people wanted assurances that the City would comply with decisions of the Council of Historic Places on the project.

2. *Implications for the Chinatown region* -- Almost all of those interviewed provided some perspective on how they thought the project would affect Chinatown. Parking was a frequent issue. People feared that the cumulative impact of temporary parking stall losses would hurt Chinatown businesses.

   For most, the housing component was viewed favorably because the type of housing proposed was consistent with existing Chinatown residences. Other people felt that this consistency was negative, because they did not want "more of the same." It was often felt that the project is inconsistent with making Chinatown into a stable community because it will not accommodate large families. Many felt that the sheer increase in population was good for business, although the lack of resident-oriented facilities worried them.

   The project's inconsistency with Chinatown's low-rise environment was often raised, and this was related to issues concerning height and views.

3. *The project's effect on nearby uses* -- In general, nearby business operators appreciated the long term effects of the project, such as bringing more people to the area, but were extremely concerned about the disruptions caused by construction. There were also apprehensions about (1) larger businesses leasing the commercial space and competing with the

existing small businesses and (2) a proliferation of small produce shops. Businesses abutting of the project site were concerned about the project's effect on their loading activities.

4. *On-site considerations* -- Strong security measures was viewed as a necessity. People questioned the use of the proposed recreational deck, and urged that such facilities not be considered as park substitutes.

Each area of concern is discussed in subsequent sections.

4.3.3 Policy Implications

Some informants from regional organizations felt that the City should not be in the development business. They felt that the City's "deep pockets" puts the private developer at a financial disadvantage, particularly regarding market housing and commercial spaces. It was pointed out that, by not having a strong profit motive, the City could well afford to under-price its private counterpart. This was unfair for commercial lessees of privately-owned lots, as well as for other landowners who would need to raise capital on their own.

A few felt that the project site is valuable real estate and should have been used by private enterprise for a profit-oriented use. The City should have sold the land and used the proceeds for affordable housing elsewhere.

The City's participation in affordable housing development was partially acceptable. Because of the low profit potential of low-priced units, it was felt that the private developers should not be expected to take a financial loss over a government responsibility.

Regional informants and some of the nearby businesses questioned the policy of exempting City properties from the Historic Core Precinct of the Chinatown Special District. They pointed out that building height limit of the historic precinct was restrictive, and suspected that the City "carved out" its own properties so that it doesn't need to comply. It was also pointed out that buildings on both the Ewa and Diamond Head side of the project site were subjected to height limits much stricter than that for Smith-Maunakea. Further, some people felt that the City has a moral responsibility to retain the low-rise and historic character of the area, even if its properties were outside the Historic Core Precinct.

Chinatown, including the Smith-Maunakea project site, is in the National Register of Historic Places. It was recommended that the City needs to follow the Section 106 process, whereby projects receiving federal funds are evaluated for their impact on the district's character. Some were wary that the City might try to bypass this mechanism.

4.3.4 Implications for the Chinatown Region

Almost all of those interviewed provided some perspective on how they thought the project would affect Chinatown. Parking in the Chinatown region was the most frequent issue. The value of public parking in Chinatown is that the typical small shop has no customer parking; business depend on customers who park at the public garages and lots. Any temporary loss in parking stalls was viewed as detrimental to Chinatown businesses. The Smith-Maunakea parking lot is well-used and the project was seen as a major contributor to the regional temporary parking shortage.

For most, the housing component was viewed favorably because the type of housing proposed was consistent with existing Chinatown residential projects. They liked the types of people who now lived in Chinatown and felt that residents in general contributed to the vitality of the area. They also felt that more people meant increased business.

Other people disliked the predominance of City-initiated and -managed housing in Chinatown. They preferred cultural and economic diversity and feared that many City projects created a community dominated by people of lower economic status.

Another concern focussed on the need for a stronger sense of community in Chinatown. Interviewees felt that families bring stability to a community; singles and young married couples tend to move as their households evolve. They felt that Smith-Maunakea should contain three-bedroom units to accommodate large families.

Of major concern to study area residents was the lack of resident-oriented recreational facilities. They pointed out that the City continues to develop residential projects in Chinatown, but makes very few provisions for active and passive recreational areas.

The project's inconsistency with Chinatown's low-rise environment was often raised. People felt that a 250-foot structure was inconsistent in an area where the tallest building contained five stories. Residents living mauka of the project site were concerned that their ocean view may be disrupted. There was also concern over how the project will look from Nimitz Highway; people warned against creating a "wall" by building right up to the street.

4.3.5 Effect on Nearby Uses

Nearby business operators and landowners generally felt that the proposed project will be an asset to the area because it would increase potential walk-in clients. Those depending on specialized clientele suspected that the Smith-Maunakea resident may not have the income to patronize antique shops, art galleries and collectible stores. Also some wanted to make sure that the City's applicant screening process will minimize disruptive residents.

A major concern regarding long-term project effects was the potential for the City commercial lessees to compete with nearby small produce stores. Business operators feared that, if too many of these stores were in the area, then there would be a saturation of similar vendors. Some also raised a concern that the City might offer below-market lease terms, thus causing unfair competition with existing businesses.

Another long-term concern was the circulation pattern and traffic. Many observed that Maunakea Street is often busy. Some suggested using Smith Street for loading and unloading; others suggested changing Maunakea Street into a one-way street in the makai direction.

Most of the nearby business concerns were related to construction. Parking was a primary concern for these businesses. Even though the shortage would only be temporary, it was pointed out that the smaller shops could easily go out of business if patronage declines over a few months.

Two abutting stores have back-service entrances that are accessible only through the Smith-Maunakea parking garage. Their owners were very concerned about maintaining some kind of service access during and after the construction period.

The noise and dust from construction activities were also of concern. Owners of the food-related establishments pointed out that, even though construction workers may increase business, many others will not want to dine or purchase food if there is construction occurring nearby. Also, some businesses felt that extra measures will be needed to protect their goods and artwork.

4.3.6 On-Site Considerations

Security was often mentioned as an on-site necessity. Resident managers of other residential projects said that security guards were a must, and that security cameras should scan the residential areas, the commercial area and the parking structure. Good lighting and minimal hidden spaces should also be part of the security plan. Nearby businesses also wanted to see the project site constantly monitored.

Some of the resident managers interviewed suggested that the City's contractors use good material and fixtures; for some structures, maintenance is an expensive problem.

Those who advocated more recreational parks in Chinatown felt that, although the proposed on-site recreational deck would be useful, it is not a substitute for ground-level parks.

Section 5

Potential Social Impacts of the Smith–Maunakea Project

5 POTENTIAL SOCIAL IMPACTS OF THE SMITH-MAUNAKEA PROJECT

This section identifies and analyzes potential social impacts of the Smith-Maunakea project. Section 5.1 presents population impacts. Section 5.2 identifies impacts on existing on-site uses. Section 5.3 discusses the impact on the character and uses of the nearby neighborhood and Section 5.4 evaluates impacts on the regional character. Project impacts on public services are presented in Section 5.5.

5.1 Resident Population Impacts

The proposed project is proposing 238 units ranging from studio to two-bedroom units. In 1989, the average household size for the study area was 1.84 persons, as shown on *Table 3*. Based on this household size the project is estimated to house a population of 438 persons.

As shown on *Table 7*, the study area will have an estimated population of 10,391 people when residential construction projects are completed by the end of the year. The Smith-Maunakea redevelopment would increase the near future population to an estimated 10,829 persons, and would account for four percent of the total population.

Relative to the long-range population, and assuming implementation of all proposed residential development, the proposed project will have a very small effect. If all of the proposed projects are implemented, the study area population is estimated at 15,587 persons. The Smith-Maunakea redevelopment would account for less than three percent of the total population.

The project is well within the City General Plan population guidelines for the Primary Urban Center, which call for between 450,775 to 497,751 persons by the year 2010 (based on State's Series M-K population projections) (Honolulu City Council, 1989a).

Proposed Mitigation

Because the sheer increase in residential population is not in itself adverse, no mitigation measures are recommended.

5.2 Impact on Existing On-Site Uses

Two major uses occupy the site. A three-story parking structure occupies the City-owned portion of the site. A two-story building containing a restaurant and a bar on the ground floor occupies the currently State-owned portion of the site. This section discusses how the proposed project will affect these uses.

5.2.1 Public Parking

Public parking is a major issue for study area residents and business operators. The City garages appeal to those who seek lower parking rates, or who visit establishments in different locations. Although many of the privately-owned parking structures offer public parking, their rates are higher or they require validation by on-site businesses. In Chinatown, the public parking areas are near Chinatown shops and markets; they allow patrons to park for low rates and circulate comfortably within a few blocks.

The Smith-Maunakea parking garage is valuable in this aspect. It is near markets, shops, banks and business services. Many of the nearby business operators interviewed for this study indicated that their patrons often park at this garage. The garage operator indicates that this lot is always filled during the weekdays, and this means from 7:30 A.M. to 4:30 P.M.

Although the public parking structures are a valuable public resource, they still represent underdevelopment in a highly urban area; the City's ownership of these lands facilitates redevelopment.

Table 9 shows that, until the some of the public parking lots underwent construction, the study area was served by 2,256 public parking stalls. Three lots are currently under construction: Alakea-Richards (Alii Place), Hotel-Bethel (Chinatown Gateway) and River-Nimitz (River-Nimitz Housing). This means that the current supply of public parking spaces is 374 spaces less than previous.

Even though redevelopment may eventually increase public parking stalls, the temporary shortage during construction could hurt businesses in the area. This is particularly so for businesses who validate their customers Smith-Maunakea parking stubs. Bank officials indicated that they currently do this.

Construction of the Smith-Maunakea complex is scheduled for a two-year period beginning September 1991 and ending in October 1993. Construction of four other parking lots would overlap Smith-Maunakea: Alakea-Richards, Smith-Beretania, Kekaulike and Kaahumanu. Between September 1991 and February 1992, all five of these parking lots would be closed, and the number of public parking stalls in the study area would drop to 1,160 stalls -- almost half the number of stalls previously available. If Smith-Maunakea were not implemented, then the parking stalls would be reduced to 1,460.

Table 9
Status of Study Area Public Parking

	Previous Public Stalls	Existing (10/90)	Proposed for Public Parking	Net Change	Possible use of un-used res. stalls	Est. Closure Period
Chinatown Gateway	80	0	75	-5	50	till 11/90
River-Nimitz	77	0	77	0		till 2/91
Smith-Beretania	129	129	500	371		9/91-3/93
Kekaulike	83	83	83	0	33	8/91-2/93
Smith-Maunakea	260	260	260	0	44	9/91-10/93
Alakea-Richards	217	0	268	51		till 3/92
Kaahumanu	407	407	462	55		3/91-3/93
Block J	206	206	208	2		indefinite
Kukui Plaza	600	600	600	0		none
Hale Pauahi	197	197	197	0	116	none
Total	2,256	1,882	2,730	474	243	

Source: (1)" Downtown Public Parking Inventory," a computer printout produced by the Department of Housing and Community Development, and dated November 1989; (2) Memo from Gail Kaito, Department of Housing and Community Development, to David Asato, Department of Transportation Services, dated September 24, 1990

Note: Since October 1990 (the first draft of this report) and July 1991 (final EIS publication), the City has revised its parking plan for Smith-Beretania. Smith-Beretania is being planned for 325 parking stalls.
The revised total parking supply is 2,555.

In the long-term time frame, the proposed project will retain the same number of public parking stalls. At the same time, the project will increase commercial space and add more visitors (to the on-site residents and shops). The project therefore does not provide for the potential increase in competition for parking.

Proposed Mitigation

The worst case scenario is the five-month period earlier identified, whereby five parking garages will be under construction. Two mitigation measures are recommended:

* The City should consider delaying some of the projects to minimize hardship on Chinatown patrons and businesses.

* If delay is not possible, then the City should explore special parking arrangements with private garages in the study area. For example, private garage operators could have reduced rates during certain times, such as weekends and weekday mornings. Another example is the use of "parking passes." The City and/or Chinatown merchants could sell inexpensive parking passes which would be usable in certain private garages.

Long term alternatives to the automobile, such as a more diverse public transportation system, will ultimately decrease dependency on public parking garages.

5.2.2 Entertainment and Eating Establishments

The State of Hawaii currently owns 5,793 square feet of land located in the makai portion of the site. This parcel is one of five City parcels in a land exchange between the State and the City. The City will transfer title of its portion of the Pohukaina School. The land exchange was not finalized as of this writing.

The State issued a revocable permit on the site, which means that the permittee has only a 30-day right to the property. Under the agreement, the permittee is prohibited from subletting, renting or assigning any interest in the permit premises. Further, for practical purposes, the permittee cannot borrow major funds on the property, since financial institutions require more than a 30-day tenure on the property (personal communication with Dean Uchida, Oahu District Land Agent, State Department of Land and Natural Resources, October 2, 1990).

A two-story building covers the entire site, and the total building area is estimated at 11,590 square feet. Two businesses, Minato Restaurant and Club Yoko, are operated by the permittees, Toyomi and Jeanie Iwata. The second floor is reportedly used for storage (letter from Sherman Hee, attorney, to James Detor, Land Management Administrator, Department of Land and Natural Resources, dated December 10, 1985).

The permittees are not displacees resulting from the proposed project, nor are they lessees who may have had a long-term right to the property. Rather, the permittees have a month-to-month permit which is revocable at the State's discretion.

Until the land exchange was arranged, the State intended to sell the land via public auction, and the permittees were informed of this. Further, the State has already informed the permittees of the land exchange, and has provided advanced notice of permit termination as part of the exchange (personal communication with Dean Uchida, Oahu District Land Agent, State Department of Land and Natural Resources, October 2, 1990; and letter to Toyomi and Jeanie Iwata from Dean Uchida dated June 4, 1990).

Proposed Mitigation

The proposed project will not directly cause the displacement of State permittees, and no mitigation is recommended.

5.3 Impact on Character and Uses of Immediate Neighborhood

5.3.1 Overview of Existing Uses

The project site is in the vicinity of a wide array of financial institutions, retail shops, restaurants and markets. The project site is "behind" or makai of three low-rise buildings which front King Street. At ground level, activities are dependent on walk-in traffic and include a restaurant and lounge, a produce market, a wholesale and retail outlet and a bank. The upper levels of these buildings are occupied mostly by professionals, such as accountants and tax consultants.

Mauka of King Street, between Smith and Maunakea Streets, are businesses which would face the Smith-Maunakea project. They include financial institutions, jewelry store, a small shopping mall with jewelry and antique stalls, and a clothing store. Second-floor businesses are service-oriented, such as hairdressing shops and accounting services.

Facing the project site at street level on the Maunakea Street side (between Nimitz Highway and King Street) are two art galleries, a jewelry shop, three antique shops, one wholesale and retail outlet, a wholesale meat company, a market, and a bank. In one building, the second floor is a rooming house with 18 boarders who share a kitchen and bathroom. Businesses above street level are typically service-oriented, including realty firms, financial services, travel agencies, a business college, security services, advertising firms, and consumer services.

On the Smith Street side of the project site is a bank and a credit card headquarters for another bank.

Finally, on the makai side of the project site, across Nimitz Highway, are Piers 13 and 14, which contain maritime uses, and Pier 15, which is the site of the Fireboat Station.

5.3.2 Project Impact

The immediate area is dominated by business activities. The addition of Smith-Maunakea to the area is anticipated to have the following impacts on these activities:

1. *Temporary shortage in parking spaces* -- As discussed in Section 5.2.1., nearby businesses would be negatively impacted by the temporary parking shortage during construction.

2. *Increased walk-in business* -- A number of the nearby businesses depend on walk-in customers. These include markets and food shops, restaurants and gift shops. The project will bring over 400 people into the area, and therefore increase business for those who depend on walk-ins. Some of the more specialized shops, such as antique shops and art galleries, may not experience an increase in business because of the disparity between the cost of goods and residents' incomes.

3. *Increased potential clientele for services and financial institutions* -- The additional population generated by the proposed project will increase the *potential* clientele for nearby professional and personal services and financial institutions. The extent to which this may happen is difficult to ascertain at this time. In many cases, the residents will be comfortable with their existing bank, travel agent, accountant, and so on, and will not change for convenience only.

4. *Possible changes in access to adjacent shops* -- The rear entrances for two establishments mauka of the project site are contiguous with the project site. Loading activities currently use the garage and the back doors; activities will be disrupted both during construction and when the new complex is completed, unless special provisions are made. These businesses are conducting such activities without permission nor is there any compensation involved. The King Street frontages for these businesses have no loading zones.

5. *Increased business competition* -- The project will add over 16,000 square feet of commercial space to the area. The new businesses may compete with existing establishments if they are

similar in nature. The City needs to minimize this competition by ensuring that project lessees are subject to prevailing market rents and terms.

6. *Complement waterfront development* -- Nimitz Highway is a formidable physical and psychological barrier between Chinatown and the waterfront, and existing conditions do not encourage mauka-makai circulation. With the proposed waterfront development, however, these conditions are expected to change. Project residents may want to visit the interpretive center at Pier 12, or the fish market at Piers 13 and 14, or the new park at Pier 15. Further, the Honolulu Waterfront Master Plan suggests that a portion of the waterfront parking needs be met in the mauka public parking facilities. Pedestrian bridges would be needed to facilitate mauka-makai crossings.

Proposed Mitigation

Parking-related mitigation is recommended in Section 5.2.1. The increase in walk-in business and increased potential clientele for services and financial institutions are considered positive impacts, and no mitigation is recommended.

The City has been working with adjacent shop owners to explore short- and long-term service access to their shops. These businesses may need to seek alternate access routes when redevelopment occurs.

The purpose of redevelopment is to stimulate and improve the existing environment, including existing businesses. Competition between nearby shops and future on-site commercial tenants should be minimized, and the City should (1) provide nearby shop owners opportunities to comment on the types of City tenants; (2) give nearby businesses a chance to relocate on-site; and (3) use fair market rates for new tenants.

The project will likely complement waterfront development and no mitigation measures are recommended.

5.4 Impact on Regional Character

The type of project proposed for Smith-Maunakea is consistent with other City-initiated projects in the study area. Basically these projects contain (1) a substantial portion for people with low and moderate incomes; (2) provisions for the elderly; (3) relatively small units; and (4) commercial space for lease. As shown in Section 2.3, Chinatown's existing residential makeup is the result of this type of development. Section 3 shows that this development trend is expected to continue in Chinatown. The effects of adding similar developments, such as the Smith-Maunakea project, on the regional character of the area are as follows:

1. *Increased number of affordable units in Chinatown* -- Housing is an islandwide issue and the proposed project will address housing need by increasing the supply of affordable rentals. At Hale Pauahi the waiting list for affordable units is estimated at two years, whereas the market units have a one-year waiting list. When applications for Chinatown Gateway were submitted, there were an average of 13 applications per affordable unit; for each market unit, there were only 0.8 applications per unit.

2. *Within the study area, residential units decrease in price/value as one moves Ewa* -- As shown in Section 2, the residential units in the Downtown sub-area command higher rents, and, except for the Honolulu Tower and the Honolulu Park Place mauka of Beretania Street, no homeownership exists in Chinatown. As discussed in Section 3.2.2., proposed residential units for the Downtown Sub-Area are expected to be upscale fee simple units, while Chinatown proposals focus on rentals for a 60 percent affordable/40 percent market mix. The only proposal offering homeownership is the Foster Garden Estate, which is still in very preliminary stages. Smith-Maunakea will be part of this development trend, and contribute to Chinatown's residential character.

3. *Continued economic disparity between Downtown and Chinatown* -- It was shown in Section 3.3 that, as the City increases rental units in the area, there will be more renters of the low and moderate income category, as well as more elderly people. Meanwhile, the Downtown demographics is expected to change to reflect a higher owner occupancy rate, younger population, higher incomes, increased ethnic diversity, and higher education levels.

4. *Potential for internal diversity and integration* -- Unlike many of the Chinatown residential projects containing mostly elderly people, Hale Pauahi houses a wide variety of people in terms of income, ethnic background, family structure and age. Although the proposed units will be smaller than those in Hale Pauahi, the Smith-Maunakea could have a comparable profile if similar marketing and management techniques are employed.

5. *Increased need for resident-oriented facilities* -- As more people live in the area, the demand and need for public services and facilities -- especially for recreation -- will continue. Even though many residential complexes may contain on-site recreational facilities, the anticipated younger population will still need playgrounds, ball courts and recreational centers.

Potential Mitigation

The project will have a positive impact on affordable housing and no mitigation is recommended.

It is recommended that, before the City proceeds on these many residential projects, policies and plans be formulated specifically on the desired residential character of Chinatown. These policies and plans should spell out a desired mix of residential units and types, and should discuss incentives for private development of such housing. Also recommended is a systemic approach for meeting the increasing need for public parks in the area. Chinatown residents and business operators should participate in formulating these policies and plans.

5.5 Public Services

5.5.1 Police Protection

The study area is in Beats 40 through 43 of District 1 of the Honolulu Police Department. The project site is in Beat 41.

The proposed project can be adequately served by existing police protection services and is not expected to negatively impact or strain such services.

The nearest police facility is the Downtown Substation at the corner of Nuuanu Avenue and Hotel Street. At any given time, a total of six to eight officers patrol the study area in Cushman vehicles, automobiles and on foot. The study area has no special or distinct crime problems, nor does it have any recent trends. Crime near the project site includes generalized drugs, thefts from cars in this parking garage, and fights. Further, the presence of residents does not seem to affect the types of crime in the area. The same crimes occurring near Smith-Maunakea are found near the populated Pauahi area [personal communication with Sergeant Cappo, Chief of Section 5 (Beats 39 to 43), Honolulu Police Department, October 10, 1990].

Proposed Mitigation

No adverse impacts are expected, so no mitigation is recommended.

5.5.2 Fire Protection

The proposed project can be served by existing fire protection services and is not expected to negatively impact such services.

The project site would be served by the Central Fire Station, which is an engine company. In addition to the Central Fire Station, the Kakaako and Kuakini Fire Stations, both of which are engine and ladder companies, respond to an initial fire alarm in the Downtown area. Backup can be provided by the Kalihi Kai and other fire stations in the perimeter of the area.

Proposed Mitigation

No adverse impacts are expected, so no mitigation is recommended.

5.5.3 Schools

Children at the Smith-Maunakea would attend three public schools serving this area.

Kindergartners through sixth graders would attend *Kaiulani Elementary School*, the capacity of which is 600 students. Approximately 500 students are currently enrolled. The proposed project is estimated to generate between 20 to 25 elementary-aged children, which is within capacity.

Intermediate school students would attend *Central Intermediate School*, the built capacity of which is 600 students. Approximately 290 students are attending this school. Smith-Maunakea is estimated to house between eight to twelve students who would attend Central Intermediate; the project could be adequately served by this facility.

High school students at Smith-Maunakea would attend *McKinley High School*, the capacity of which is 2,250 students. The current enrollment is 2,180. The proposed project would generate an estimated twelve to 15 students in this age group, and is expected to be adequately served by this facility (personal communication with Tom Saka, Demographics Specialist, State Department of Education, October 11, 1990).

Proposed Mitigation

No mitigation is required.

5.5.4 Parks and Recreation

The residents of Smith-Maunakea will have an on-site recreational deck for their use. In addition, the following recreational facilities are in the general vicinity (generally Ewa of the project site) and within reasonable walking distance:

* **Pauahi Community Service Facility**, a two-story, 6,000 square foot multi-purpose recreation center located on Pauahi Street near River Street;
* **Aala Park**, a 6.7-acre urban park just ewa of the study area in the Kalihi-Palama Neighborhood Board area; and
* **Beretania Community Park**, a 5.3 acre community park located just ewa of the study area in the Kalihi-Palama Neighborhood Board area.

Further away in the study area are the parks located in Downtown Sub-Area, including:

* **Kamalii Park**, a 0.68-acre triangular space bounded by Pali Highway and Beretania Street and containing benches and walkways;

* **Queen Emma Square**, a 0.56-acre rectangular space near St. Andrews Priory; and

* **Kamamalu Playground**, a neighborhood park mauka of Vineyard Boulevard, encompassing 5.3 acres, and containing basketball, tennis and volleyball courts, as well as a softball field and play equipment.

The study area also contains a number of **urban or mini parks**, including the Fort Street Mall Mini Park, the Wilcox Park, and the Chinatown Gateway Plaza.

In addition to the City park system, there are the private recreation decks for the enjoyment of on-site residents.

Inasmuch *as these existing facilities* are available for resident use, the overall park system in the study area has not kept pace with the existing and near future residential population of the study area. The Smith-Maunakea residents will experience a lack of outdoor recreational amenities, as follows:

1. Although the nearby large parks do not "belong" to the Kalihi-Palama residents, their service areas do not include Chinatown/Downtown for practical purposes. The Beretania Community Park is located within a residential community and serves residents of that area. Aala Park contains a temporary facility for homeless families. Smith-Maunakea and other Chinatown residents would need to compete for park space with these residents.

2. These active play areas and playgrounds are within walking distance, but are not easily accessible because of busy streets.

3. The Downtown urban or mini parks are part of the overall park inventory, but these are designed for the office environment, and not for resident-oriented recreation. These parks are paved with well-defined circulation patterns, and are not conducive to active play.

4. The area's population is expected to undergo major increases, but there is only one recreational possibility under serious consideration.

Land availability is a major constraint in increasing park space. Further, the cost of any available prime urban land is negatively impacts the feasibility of an inner city active park. Hence, providing for the regional recreational needs of the study area can only be addressed in a systemic planning approach.

Only one possibility is currently being planned for increasing resident-oriented park space in the study area. The Smith-Beretania parking lot and the surrounding area are being planned for a park, child care, and parking garage.

Most of the substantive recreational solutions are long range possibilities at best. The use of Central Intermediate School as an active park is being considered, but approval by the State Department of Education is needed. The Downtown Neighborhood Board has advocated the inclusion of active recreation areas in the Pacific Nations Center; the City is reissuing requests for proposals, so no details are available. The Neighborhood Board has also advocated the use of the Foster Garden Estates site for an active park.

Proposed Mitigation

By itself, the project requires no mitigation measures to offset impacts on recreation. From a regional standpoint, however, we recommend that the City formulate policies and plans for meeting the recreational needs of residents, particularly because the City is initiating numerous residential projects.

5.5.5 Health Care and Social Services

Presently, there are a number of health care or related facilities within a 2-mile distance from the project site. These include Queens Hospital, Straub Clinic, Kuakini Hospital, St. Francis Hospital and the City and County of Honolulu Central Fire Station. The facilities provide a full range of services, including 24-hour emergency service. With the existing circulation system, each of these facilities is only ten minutes of driving time from the project site.

Proposed Mitigation

No mitigation is required.

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Berna Cabacungan

Principal

Ms. Cabacungan is a **community planner** and **communications specialist.** She provides services in community development and planning, particularly in the areas of

Plan input and preparation,

Management of the community planning process, and

Synthesis of physical and social plan components to achieve a feasible and workable plan.

Specific products of her efforts include:

Social impact assessments,

Documents comprising planning, social and environmental studies, and

A working relationship with various community segments.

She has contributed these skills to a diversity of projects, including:

Regional and community plans
Resort complexes
Residential projects
Recreational facilities
Medical and long term care facilities
Energy alternatives, and
Public facilities.

Ms. Cabacungan often incorporates both the community dialogue and analysis products in planning and development projects. She designs and implements dialogue programs for projects which could benefit from community participation.

These programs often result in a working relationship between developers and communities. Through these programs, community issues and concerns are identified, and, with input from all concerned parties, often mitigated.

The information gathered during community dialogue is used in preparing studies submitted to public agencies in the public approval and permit processes. Ms. Cabacungan has prepared studies which were then incorporated in Environmental Impact Statements, Development Plan Assessments and Land Use Commission petitions.

Education	Modern English, Bachelor of Arts, College of Arts and Sciences, University of Hawaii, 1976
Professional Affiliation	American Planning Association International Association for Impact Assessment

Social Impact Assessments *

(Reference to "assistance in. . ." indicates that
Earthplan was a *sub-consultant* to an intermediary firm)

Bypass for Honoapiilani Highway: *Social impact assessment for Potential Residential Displacement* of three alternative bypass routes proposed by the State Department of Transportation in Lahaina, Maui.

Chinatown Gateway Plaza: *Social impact assessment* for a proposal of the City and County of Honolulu for a residential, commercial and park complex in Oahu's Chinatown

Circle K: Assistance in *social impact assessment* for a proposed convenience store in Keauhou, Kona

Diamond Head Racquet Club: *Social impact assessment* for a proposed tennis complex on 17 acres situated on a portion of Diamond Head

Ewa Marina, Increment I, Central Oahu: *Social impact factors* for rezoning application for 174.7 acres

Ewa Marina, Increment II, Central Oahu: *Social impact factors* for rezoning application for 444.6 acres

Fort DeRussy, Honolulu, Hawaii: *Manager of informant interviews for social impact assessment* for Army's proposal to redevelop the site to include a 400-room hotel, two parking structures, roadway realignment, recreational and entertainment facilities and relocation of the U.S. Army Reserves.

Hawaiian Riviera, Kau, Hawaii: Assistance in *social impact assessment* for the Environmental Impact Statement for a proposed 3,000-unit resort destination on 3,200 acres near South Point on the Big Island

Heeia Kea Development, Windward Oahu: *Social impact assessment* for Supplemental EIS for the residential development of 102 acres

Honolulu Convention Center: *Social impact assessment* for a Planned Review Use application for a multi-tower privately-funded convention center between Waikiki and the Ala Moana Shopping Center

Kohala Ranch, North Kohala, Hawaii: Assistance in *social impact assessment* for Land Use Petition for a proposed 3,300-unit residential community on 1,300 acres

Kuilima Resort, Kahuku, Oahu: Assistance in *social impact assessment* for the Environmental Impact Statement for proposed resort expansion

Mixed Use Project in Wahiawa: *Social impact assessment* for a 40-unit single family project with 100 units for the elderly proposed by the State Housing Finance and Development Corporation

Mokuleia Development, North Shore, Oahu: Community interface for *social impact assessment* for the Development Plan Amendment Request and the Environmental Impact Statement; and preparation of certain sections of the Environmental Impact Statement. Proposed project consisted of resort development on 1,100 acres

Ocean Thermal Energy Conversion (OTEC), Kahe, Oahu: Assistance in *social impact assessment* for Environmental Impact Statement for proposed 40-Megawatt OTEC plant on the Waianae Coast

Pacific Basin Conference Resort, Makaha, Oahu: *Social impact assessment* for Environmental Impact Statement for proposed 300-room executive conference resort on 23.5 acres

Pupukea Golf Course: Assistance in *social impact assessment* for two golf courses and residential development proposed by Ohbayashi Hawaii Corporation

Royal Kunia Phase II, Central Oahu: *Social impact assessment* for Environmental Impact Statement and Development Plan Amendment for a 2,400-unit residential community on 660 acres

Village Park Expansion, Central Oahu: Assistance in *social impact analysis* for Environmental Assessment for residential development on 690 acres

Waiola Estates, Central Oahu: *Demographic impacts* for planned residential development proposed by the City and County of Honolulu

Waiola Estates, Central Oahu: *Update on community issues and concerns* for modified planned community proposed by the City and County of Honolulu

West Loch: Assistance in the *social impact assessment* for a proposed residential development by the City and County of Honolulu

Planning Projects, Community Dialogue and Other Areas

Alexander Manor, Oahu: Research and writing for the *Business Plan* of a proposed 150-bed elderly care home

Bayview Golf Course Expansion: Assistance in preparation of environmental assessment and impact statement for an 18-hole championship golf course and upscale residential units

Ewa Marina Golf Course: *Report on planning, environmental and engineering considerations* for Ewa Marina Golf Course for use in the Petition for a Land Use Boundary Amendment

Kauai Beach Villas, Kauai: Facilitation of *community dialogue* for proposed resort on 33 acres

Haggai Institute at Mauna Lahilahi, Makaha, Oahu: Identification of community issues and concerns and recommendations for *community dialogue* to resolve issues for religious training facility on 14 acres

Heeia Kea Development, Windward Oahu: Assistance in facilitation of *community dialogue*, including coordinating relocation agreements for existing residents, for the development of 102 acres

Honolulu Waterfront Project: *Planning input regarding social impacts* in State comprehensive planning effort for the waterfront project area extending from Ala Moana Beach Park to Keehi Lagoon, including Sand Island

Honolulu Youth Sports Facility: *Feasibility study* for a multi-use sports complex of the City and County of Honolulu; includes community dialogue, site selection, facility concepts and recommended sports program

Honpa Hongwanji Pali Expansion, Oahu: Design and implementation of *community dialogue* program for proposed expansion of religious and educational facilities

Kawaihae Master Plan, Kawaihae, Hawaii: Assistance in preparing the *Development Plan and Environmental Assessment* for long range planning recommendations concerning 10,000 acres of the State Department of Hawaiian Home Lands

Kuilima Resort, Kahuku, Oahu: Assistance in facilitation of *community dialogue* for the proposed resort expansion and job training program

Leeward Job Study: Assistance in *employment study* conducted in conjunction with the proposed Final Increment of Mililani Town, Central Oahu

Mahukona Resort, North Kohala, Hawaii: Facilitation of *community dialogue* for proposed resort on 1,100 acres

Makaiwa Sanitary Landfill, Ewa, Oahu: Facilitation of *community dialogue* for a proposed privately-operated landfill

Mauli-ola, Central Oahu: *Certificate of Need* for the proposed comprehensive medical complex, including hospital, long-term care facility and medical office building

Mokuleia Development, North Shore, Oahu: Design and implementation of *community dialogue* program for a proposed resort development

Ocean Thermal Energy Conversion (OTEC), Kahe, Oahu: *Community dialogue* for proposed 40 Megawatt plant in Waianae

Pokai Bay Development, Waianae, Oahu: Identification of *social impacts* and recommendations for a *community dialogue* program

Small Wahiawa Residential Cluster, Central Oahu: Preparation of social impact, housing and public policy sections for the *Development Plan Amendment* for proposed 14-unit cluster

Village Park Expansion, Central Oahu: Facilitation of *community dialogue* for proposed 690-acre expansion

Waialua Golf Course, North Shore, Oahu: Coordination and assistance in preparation of *Environmental Impact Statement* for a 218-acre 18-hole championship golf course proposed by Oceanic Properties

Wailuku Police Station Relocation: *Environmental Assessment*

Waiola Estates, Central Oahu: *Development Plan Amendment Request* for 270-acre residential development proposed by Castle and Cooke

List Of Clients

Alexander Manor, Inc.

City and County of Honolulu
Department of Housing and Community Development
Department of Parks and Recreation

Community Resources, Inc.

Environmental Communications, Inc.

Finance Realty/Mahukona Properties

First Development, Inc.

Larry Fukunaga, Inc.

GACI, Inc.

GMP and Associates, Inc./Oahu Land Engineering Partners

Greatwest Hospitals, Inc.

Haggai Institute

Hawaii Kau Aina/ Hawaiian Palace Development

Hawaiian Dredging and Construction

State of Hawaii
Department of Transportation
Office of State Planning

Home Properties, Inc./ Honolulu Federal Savings and Loan, Inc.

Helber, Hastert and Kimura, Planners

Honpa Hongwanji Hawaii Betsuin

Kohala Ranch

Kuilima Development Company/Prudential Life Insurance Company

Tyrone Kusao, Inc.

Malama-Gentry Joint Venture, comprising Hawaiian Electric Industries and The Gentry Companies

Mitsunaga and Associates, Inc.

Mokuleia Development Company/ Northwestern Mutual Insurance

MSM and Associates, Inc.

The Myers Corporation

Oceanic Properties/Castle and Cooke, Inc.

Ocean Thermal Corporation

Pacific Atlas, Inc. (Hawaii)

Pacific Standard Life Insurance Company

U.S. Army Engineer District Honolulu

Waitec Development, Inc.

William E. Wanket, Inc.

Wilson Okamoto and Associates, Inc.

APPENDIX F.

Traffic Impact Assessment Report

Pacific Planning & Engineering, Inc.

TRAFFIC IMPACT ASSESSMENT REPORT

for

SMITH-MAUNAKEA HOUSING

Honolulu, Oahu, Hawaii

TMK 1-7-02: 3, 4 & 5

February 21, 1991

Prepared for:

William E Wanket Inc.

Prepared by:

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1221 Kapiolani Boulevard, Suite 740
Honolulu, Hawaii 96814

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EXECUTIVE SUMMARY

Pacific Planning & Engineering, Inc. (PPE) was engaged to undertake a traffic impact study to identify and assess future traffic impacts caused by the proposed Smith-Maunakea Housing project. This Report identifies and evaluates the probable impacts of traffic generated by the proposed development when completed and fully occupied in the year 1993.

Project Description

The City & County of Honolulu, Department of Housing and Community Development, is proposing to build the Smith-Maunakea Housing project in downtown Honolulu on the island of Oahu. The project is located on the block between Maunakea Street, Smith Street, King Street, and Nimitz Highway.

The project consists of 238 rental apartments, 16,000 square feet of commercial/office area and a 439 stall parking garage. The apartments will include 22 studios, 108 one-bedroom apartments, and 108 two-bedroom apartments. The commercial/office areas are expected to consist of restaurants and other businesses. Of the total 439 parking stalls, 260 will replace the stalls that currently exist in the municipal parking garage.

The project will have two driveways along Smith Street. One driveway will be used for the parking garage and the other for a service yard. Completion of construction and full occupancy of the project is expected by December of 1993.

Methodology

Analysis was conducted on Nimitz Highway, King Street, and four critical intersections to determine the relative impact of the proposed project on the local roadway system. The intersections studied were as follows:

- North King Street and Smith Street
- North King Street and Nuuanu Avenue
- North Nimitz Highway and Smith Street
- North Nimitz Highway and Nuuanu Avenue
- Smith Street and the Project Driveway

Traffic was forecasted at these intersections by:

- Increasing through traffic on Nimitz Highway using its historical growth rate, and
- Adding traffic generated by other planned/committed developments in the area that would impact the study intersections, including:
    * Pan Pacific Plaza/First Interstate Tower
    * Alii Place
    * Chinatown Gateway Plaza
    * River-Nimitz Housing
    * Honolulu Park Place Condominium
    * 1100 Alakea Plaza
    * Harbor Court
    * Kekaulike-Maunakea Housing
    * Airport Industrial Park Associates Warehouse/Office

The Report assesses the impact on each intersection by determining the *level-of-service* (LOS) for existing, 1993 forecast without the project, and 1993 forecast with the project traffic conditions.

Conclusions & Recommendations

The proposed Smith-Maunakea Housing project, when completed in 1993, will have a slight impact on traffic conditions.

Presently, traffic flow through the central business district is congested during the morning and afternoon peak hours. This is due to the limited capacity of the roadway system within the CBD and the relatively large number of vehicles circulating within the area. This condition is further complicated by buses stopping to drop off passengers, pedestrians, and cars stopping to pick up or drop off passengers in the travel lane.

Our analysis and field observations of King Street indicates that traffic is operating at or near capacity, LOS E and D during the morning and afternoon peak hours, respectively. The arterial analysis studied a segment of King Street in the vicinity of the project. The average speed to traverse this segment (which includes delays caused by stop lights, pedestrians, or other vehicles) was used to determine LOS.

Traffic flow along Nimitz Highway, in the vicinity of the project, is currently operating at LOS C and F in the eastbound and westbound directions, respectively. The major cause for the LOS F for the westbound traffic due to the downstream congestion as Nimitz Highway narrows from an eight lanes to six lanes beyond River Street.

LOS for arterial streets and signalized intersections are not directly comparable, since the first is based on speed and the last on seconds of delay. Signalized intersections decrease the average travel speed along arterial streets by stopping traffic on the major street to allow minor street traffic to enter or cross the arterial.

The signalized intersection analysis indicates that study intersections along King Street are presently operating overall at LOS B or better. This good LOS is probably due to the well synchronized traffic signal system along King Street. The intersections along Nimitz Highway are operating overall at LOS C or better.

Without the project by 1993, delays at intersections will increase, and average travel speeds along the arterial roads will decrease. King Street and Nimitz Highway will continue to operate with the same LOS as existing conditions. The LOS for some turning movements at the study intersections will drop to LOS C.

With the project, delays at intersections will increase slightly and average travel speeds will decrease slightly. The level-of-service for the intersection of Nimitz and Nuuanu will drop from LOS C to LOS D.

It is likely that the peak periods along Nimitz Highway and King Street will lengthen as the LOS at the study intersections deteriorates with increases in traffic resulting primarily from other projects scheduled for completion by 1993.

PROJECT DESCRIPTION

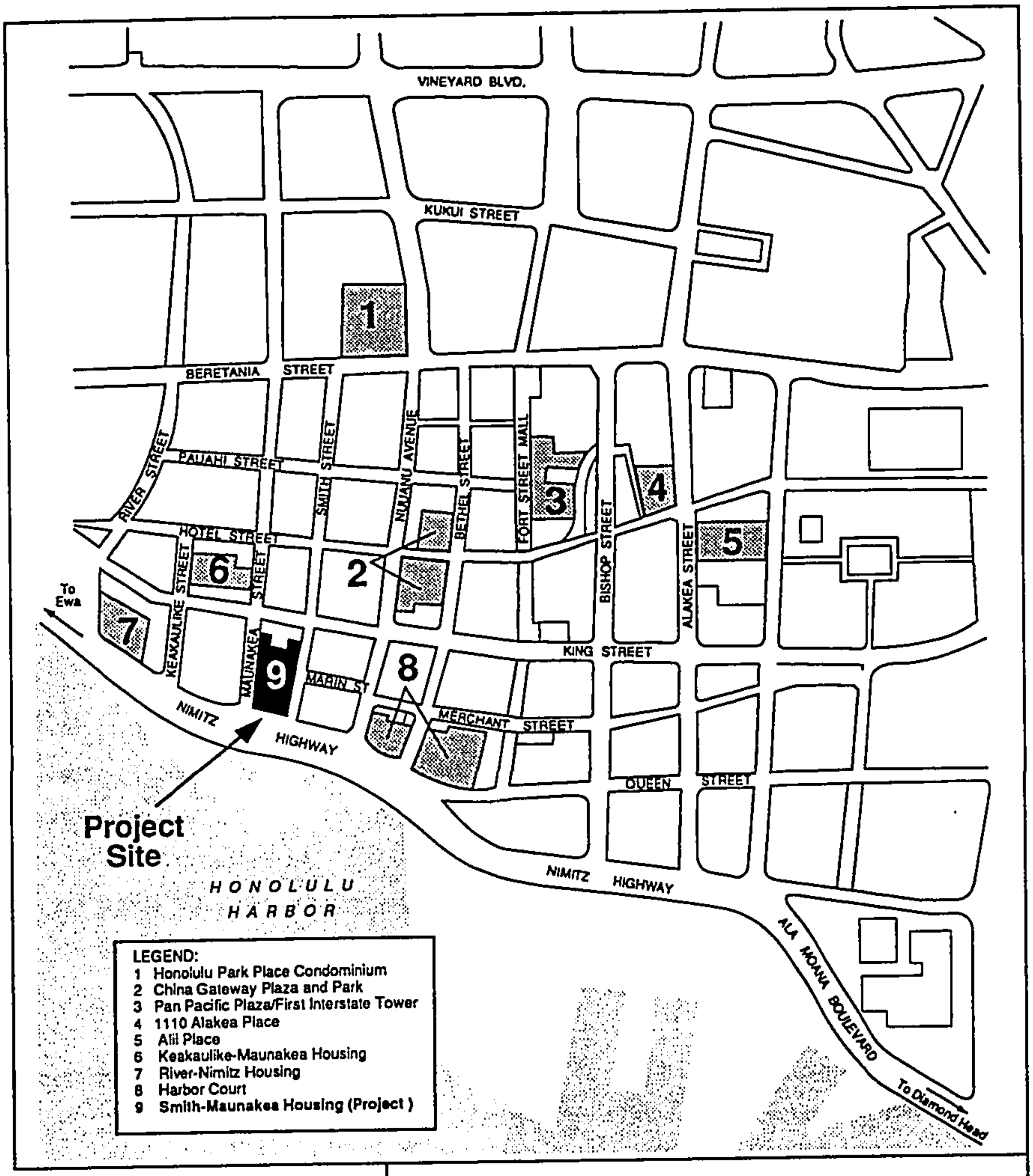
The City & County of Honolulu, Department of Housing and Community Development, is proposing to build the Smith-Maunakea Housing project in downtown Honolulu on the island of Oahu. Figure 1 shows the location of the project site and the surrounding roadway network.

Currently, the project site is being used as a municipal parking garage with 260 parking spaces and a two-story commercial structure. The garage has two entrances, one on Maunakea Street and the other on Smith Street, and one exit onto Smith Street. The existing land uses will be removed.

The project consists of 238 rental apartments, 16,000 square feet of commercial/office area and a 439 stall parking garage. The apartments will include 22 studios, 108 one-bedroom apartments, and 108 two-bedroom apartments. On the ground and second floors, the commercial areas are expected to consist of restaurants and other businesses. Of the total 439 parking stalls, 260 will replace the stalls that currently exist in the municipal parking garage.

The project will have two driveways along Smith Street. One driveway will be used for the parking garage and the other for a service yard. Figure 2 shows the site plan of the proposed development. Completion of construction and full occupancy of the project is expected by the December of 1993.

The market for this project is expected to be primarily local residents. The apartment units are expected to be rented by single occupants and newly-formed families with 25%-30% of the apartments by the elderly.



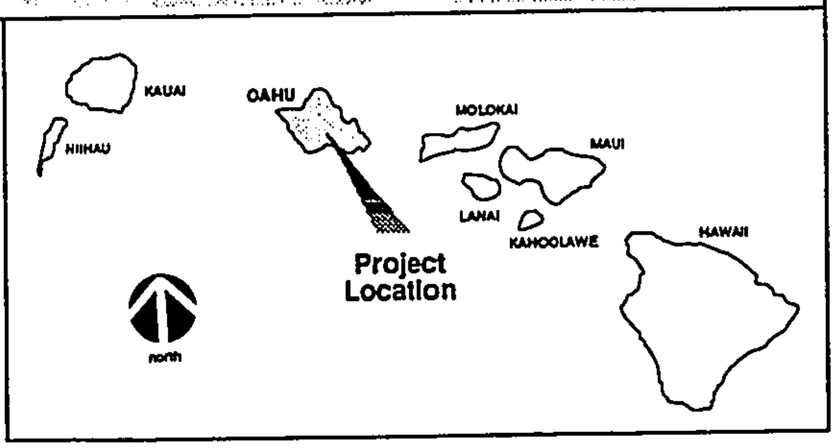


Figure 1. Project Location Map

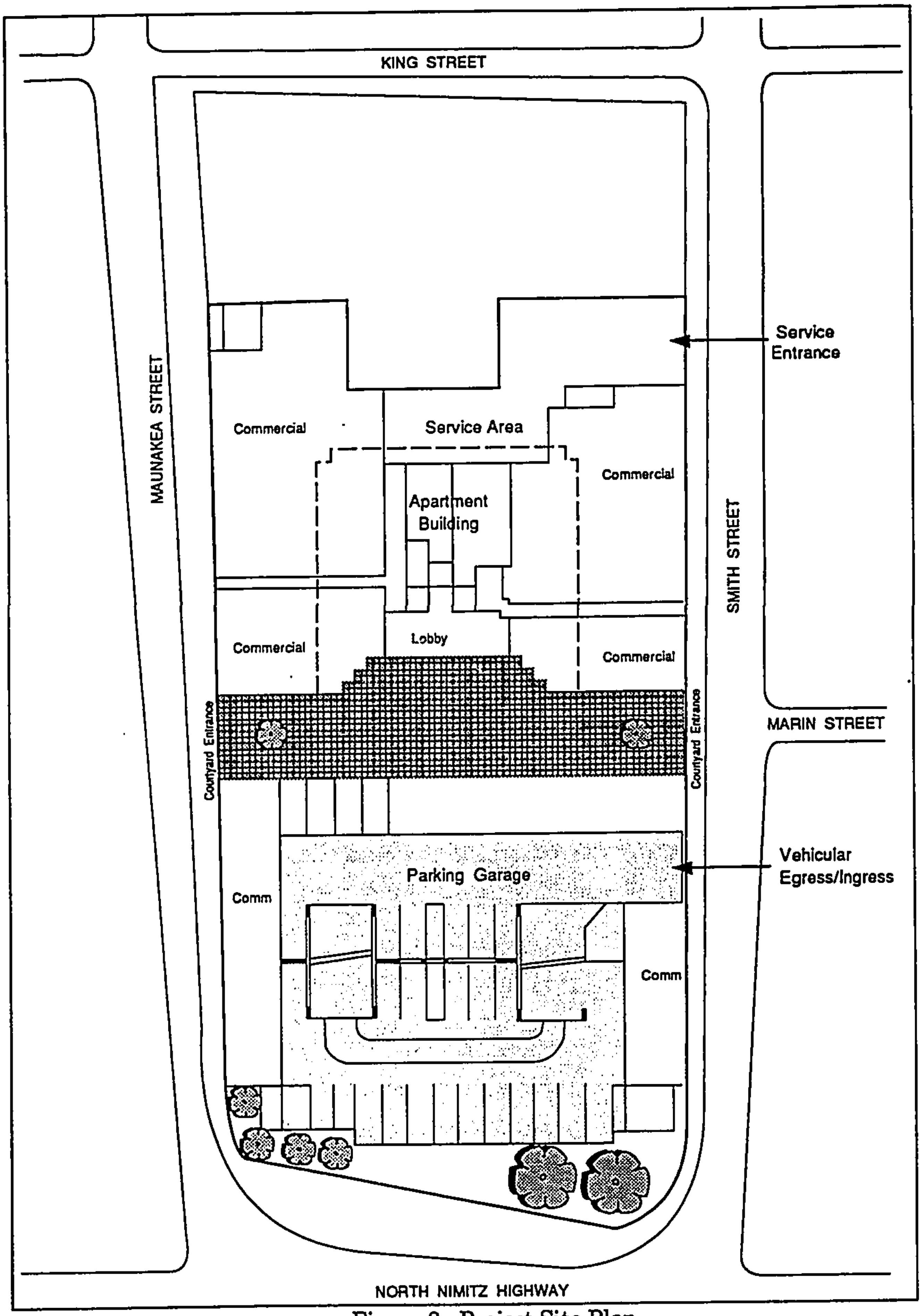


Figure 2. Project Site Plan

EXISTING CONDITIONS

An inventory of existing conditions was conducted to better understand the traffic impact of the proposed project. The review included the land uses in the area, roadway facilities, and existing traffic conditions.

Land Uses

The project site is located just outside and west of the Honolulu central business district (CBD). The CBD is generally bounded by Nimitz Highway, Richard Street, Beretania Street, and Bethel Street. The CBD has a wide variety of land uses including predominately offices, retail stores, banks, and restaurants. Many of the offices are located in high-rise buildings of over twenty stories. Parking is a premium in the CBD.

The project site is located in the historic Chinatown area. The density in this area is generally lower, buildings range from two to three stories with high-rise apartment buildings being the exception. The land uses in this area are generally the same as in the central business district except for a higher amount of residential uses.

Roadway Facilities

The roadway network in the area is a complex system of one-way streets. Figure 3 shows the roadway network in the downtown area. Nimitz Highway is a main arterial carrying through traffic. King Street is primarily a *downtown* street providing access to local business.

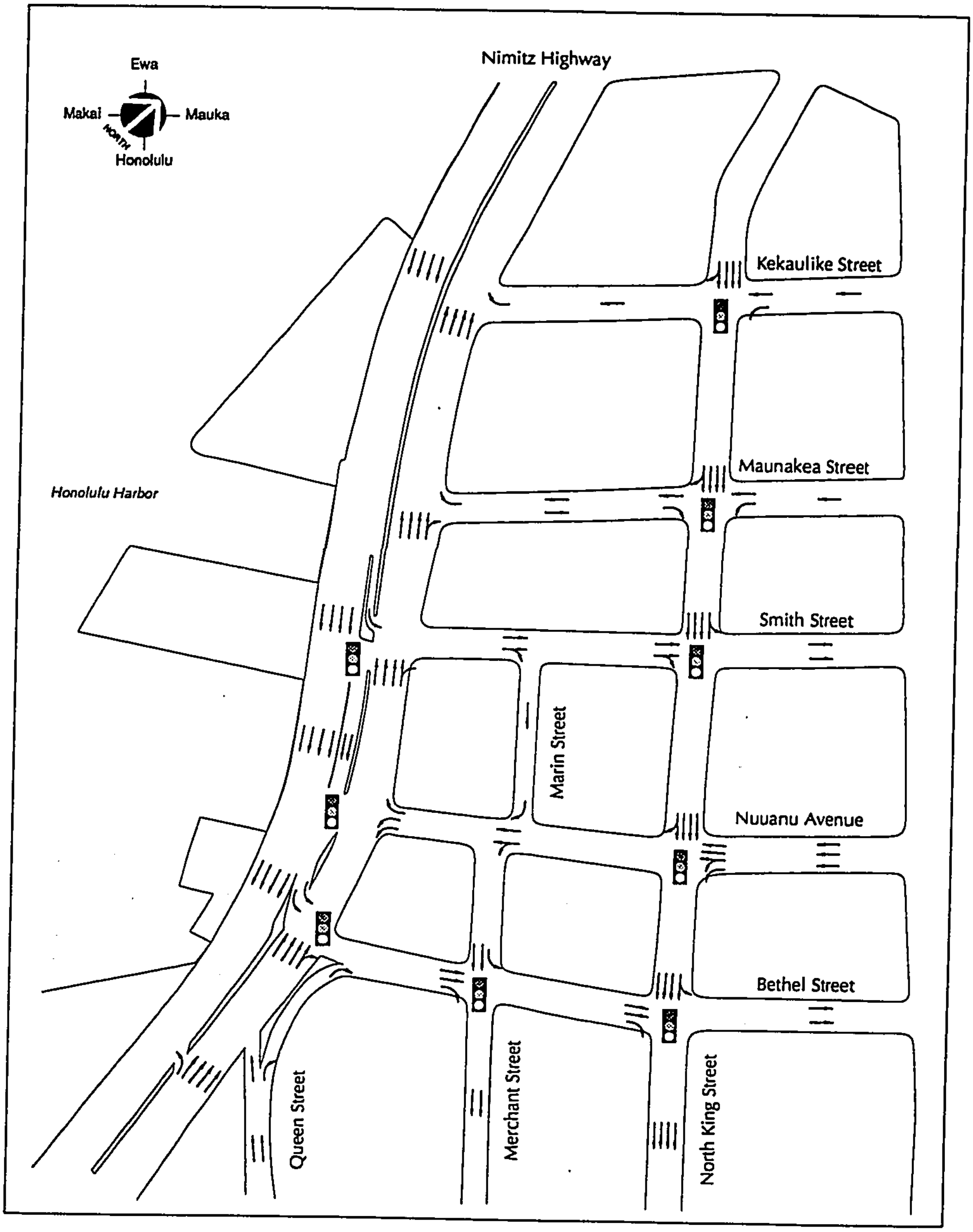


Figure 3. Roadway Network

Streets

Nimitz Highway is a State highway with 10 to 11 foot lanes in the project vicinity. Access to Nimitz is generally limited to minor street intersections. The posted speed limit on this highway is 35 miles per hour (mph).

King Street is a City & County road with 10 feet wide lanes in the vicinity of the project. There are bus stops along the makai side of the street. In this area, no on-street parking is allowed. The posted speed limit on this street is 25 mph.

Nuuanu and Smith Streets are one way streets in the project vicinity. Their lane widths vary from 8 to 10 foot wide lanes and on-street parking is allowed in certain areas. The speed limit on these streets is 25 mph.

Study Intersections

The traffic signals at intersections along King Street as well as Nimitz Highway are synchronized. All study intersections are signalized and the layouts are shown in Figure 3.

The synchronized traffic signal system along King Street is a two phase system. First, vehicles from all the side streets enter or cross King at the same time. Second, the through movement along King is released in succession starting from the upstream intersections and then the cycle starts again.

The synchronized system along Nimitz Highway is similar to King Street. It allows vehicles from all the side streets to enter Nimitz at the same time and then releases the through movements.

Traffic Conditions

A review of 1989 State Department of Transportation (DOT) traffic count data indicated that the weekday commuter peak hours along Nimitz Highway in the vicinity of the project occur between 7:00 to 8:00 in the morning and 3:45 to 4:45 in the afternoon. These peak hours were used to determine traffic impacts, since the project traffic would impact surrounding roads the most during these time periods.

Manual traffic counts were taken at the intersections of Nimitz Highway with Smith Street and Nuuanu Avenue and the intersections of King Street with Smith Street and Nuuanu Avenue on September 12, and 13, for the weekday morning and afternoon peak periods. These counts were used as the baseline condition upon which future estimated traffic volumes were added.

Figures 4 and 5 show the present volume of traffic at the study intersections for the observed peak hours. The manual traffic count data is summarized in Appendix B.

Observed Traffic Conditions

During the morning peak hour, King Street was operating at congested traffic conditions. Though congested, traffic flowed in a constant manner and there were no observed breakdowns in traffic flow. The ability of vehicles to select their own speed was impaired due to the presence of other vehicles. The ability of vehicles to maneuver within the traffic stream was also impaired due to the presence of other vehicles.

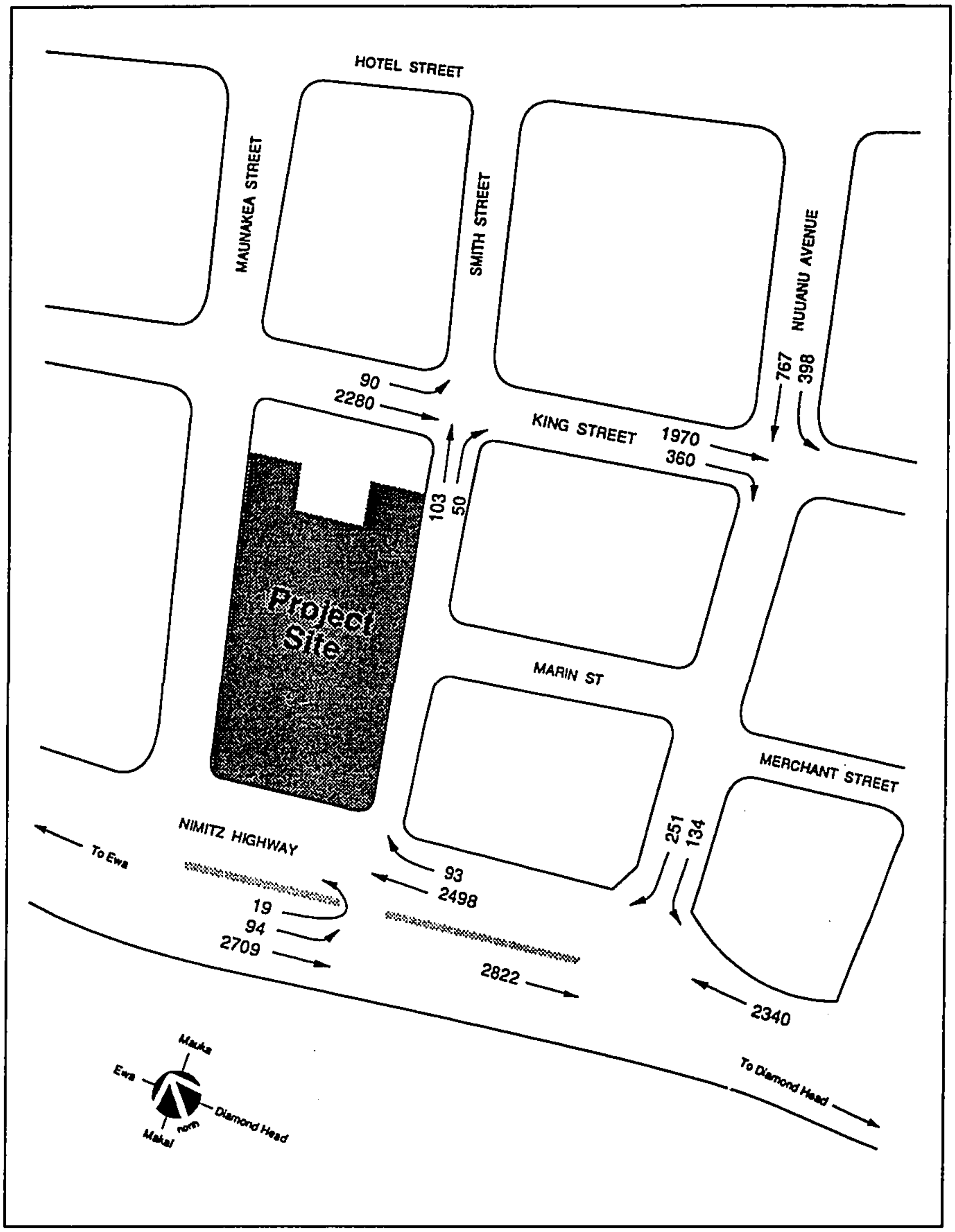


Figure 4. Existing Morning Peak Hour Volumes

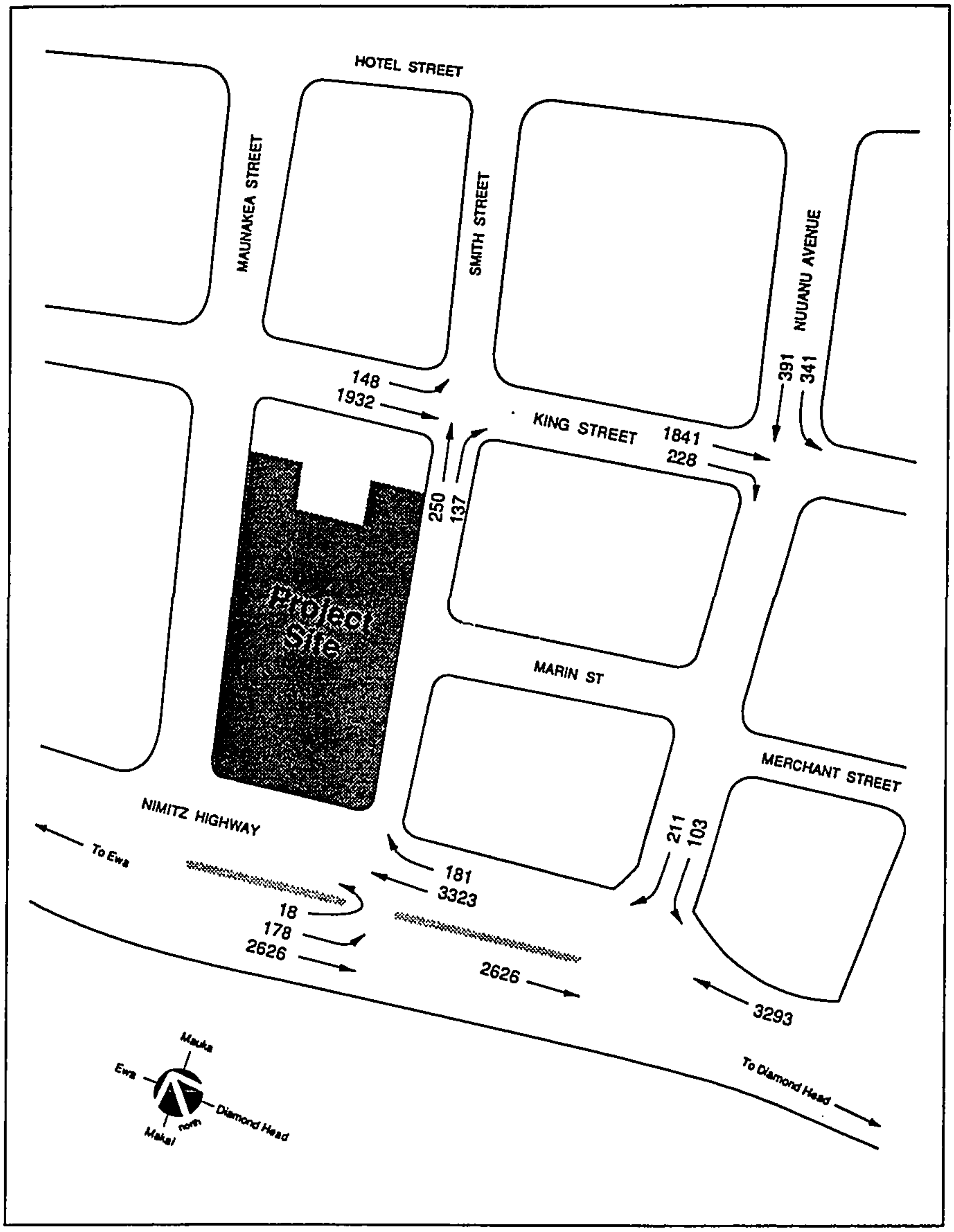


Figure 4. Existing Afternoon Peak Hour Volumes

The synchronized signal system operated very well resulting in minimal delays to vehicles along King Street. Field measurements of vehicle delay at the study intersections indicated from 3 to 9 seconds of stop-delay per vehicle.

Other factors that contributed to the congestion were drivers dropping off passengers and blocking the right lane, pedestrian traffic, and the volume of side street traffic, which filled the storage space between intersections.

During the afternoon peak hour, King Street was operating with the middle two lanes congested, the outer two lanes were less congested. Average running speed was slightly higher than the morning. As in the morning, the synchronized signal system operated very well resulting in minimal delays to vehicles along King Street. Measurements of average vehicle stop-delays at signalized intersections indicated about 3 seconds delay per vehicle.

During the morning and afternoon peak hours, Nimitz Highway operated with no observed breakdowns. The ability of vehicles to select their own speed was impaired due to the presence of other vehicles. The ability of vehicles to maneuver within the traffic stream was also impaired due to the presence of other vehicles. There were no passenger drop offs and very little pedestrian traffic near Nimitz Highway study intersections.

FUTURE CONDITIONS

Research of approved planned developments and improvements to transportation facilities was conducted to estimate future traffic conditions at the study intersections.

Land Uses

Traffic generated by the following approved developments, as shown in Table 1 below, will impact the study intersections by the year 1993:

Table 1. Future Developments

Name	Land Use
Pan Pacific Plaza	495,000 sq ft of office, bank, and retail use
Alii Place	325,000 sq ft of office retail uses
Chinatown Gateway Plaza	200 apartments & 30,000 sq ft of commercial use
River-Nimitz Housing	90 apartments & 9,000 sq ft of retail use
Honolulu Park Place	637 apartments
1100 Alakea Plaza	198,000 sq ft of office and retail uses
Harbor Court	37,600 sq ft of commercial use, 220,600 sq ft of office use, & 122 condominium units
Kekaulike-Maunakea Housing	132 apartments, 40,000 sq ft of retail, 258 public parking stalls
AIPA Warehouse	72,000 sq ft of office use and 324,000 sq ft of warehouse use

Roadway Facilities

Other than repaving on Nimitz Highway, there are no roadway improvements planned in the vicinity of the project for either King Street, Smith Street, Nuuanu Avenue, or North Nimitz Highway.

PROJECTED TRAFFIC CONDITIONS

Future traffic was forecasted for the without project and with project conditions. Traffic forecasts were made for 1993 when the project is expected to be completed.

Future Traffic Without Project

Future traffic without the project was forecasted by adding the following: (1) existing peak hour traffic volumes; (2) the increase in through-traffic; and (3) traffic generated by other developments that will be completed by 1993. The resultant forecast traffic without the project are shown in Figures 6 and 7 for the morning and afternoon peak hours.

Through-Traffic Growth along Nimitz Highway

Through-traffic is traffic without origin or destination near the project site. Nimitz Highway was increased for through traffic growth. King Street was not increased for through-traffic due to the congestion in the area and the majority of the traffic was assumed to be destined for the CBD.

The growth in through-traffic was estimated using historical data obtained from nearby DOT traffic count stations and linear regression analysis. Figure 8 shows the trend in traffic growth along Nimitz Highway over the past 7 years. The DOT data indicates that daily traffic has been increasing by about 1.5% annually.

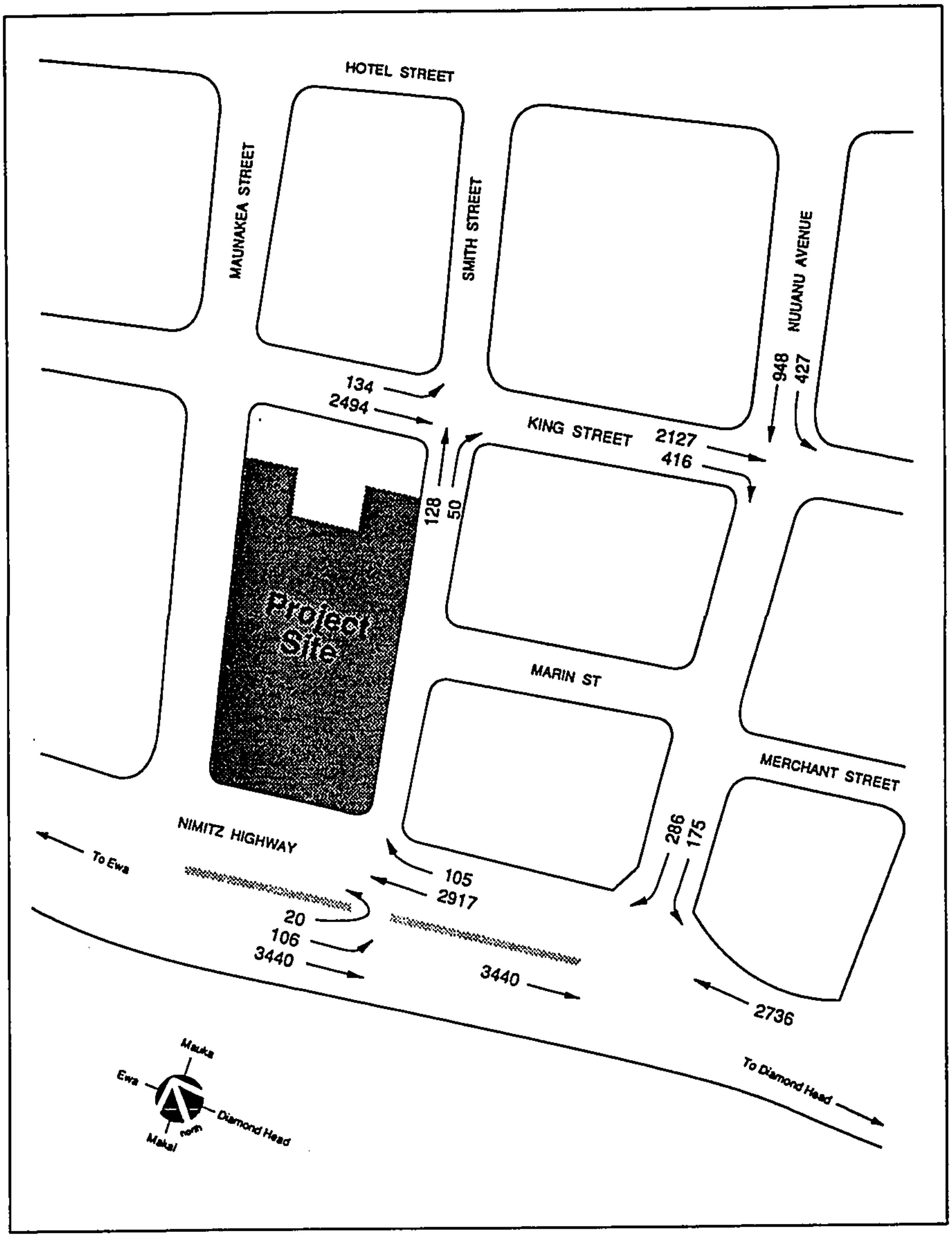


Figure 6. 1993 Morning Traffic Without Project

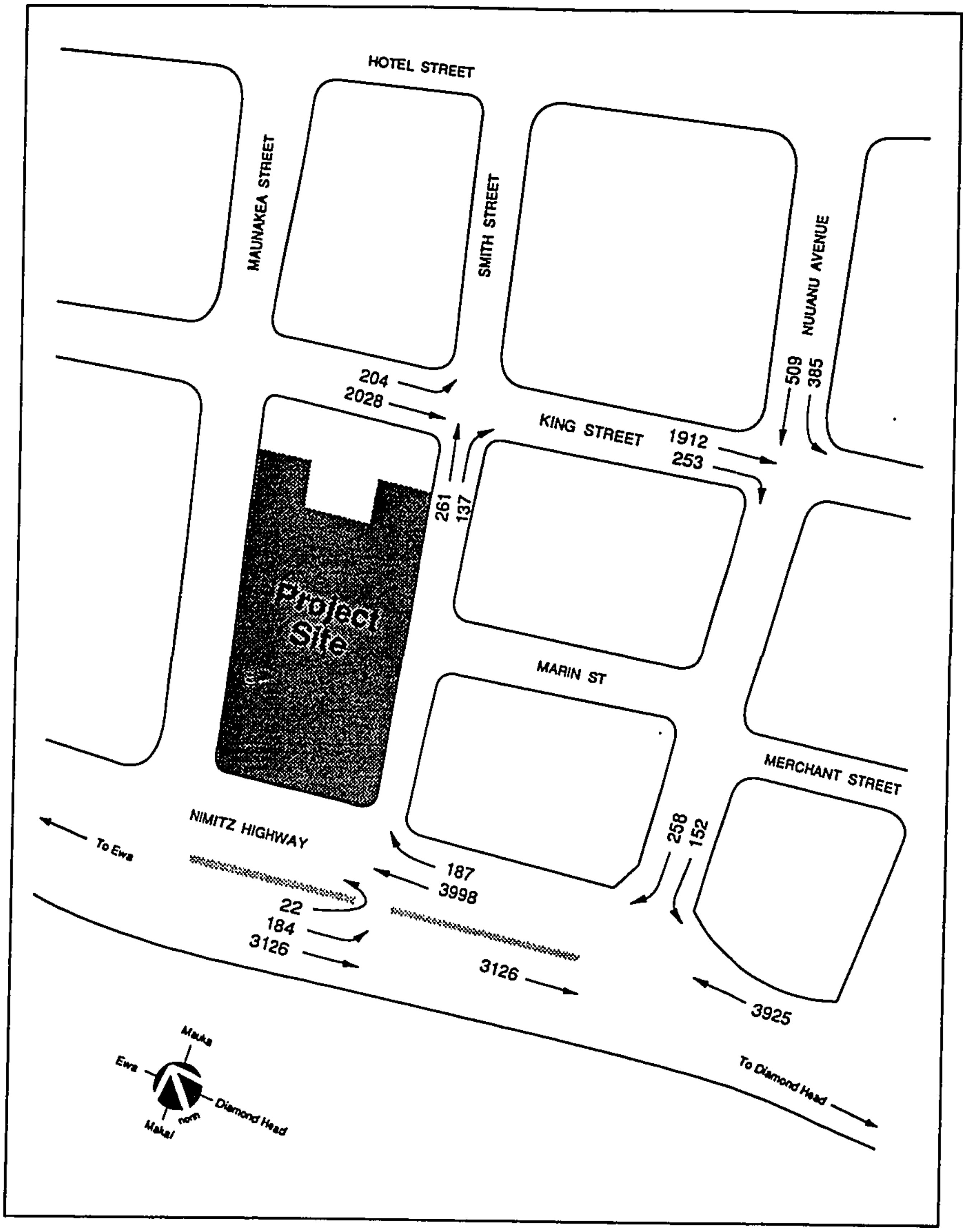


Figure 7. 1993 Afternoon Traffic Without Project

The growth rate on Nimitz Highway generally reflects traffic increases from developments beyond the immediate study area. This method of estimating future traffic based on past trends was deemed adequate because of the short term nature of the forecast (1990-1993). The existing peak hour through traffic along Nimitz Highway was increased by 4.5% (1.5% x 3 years).

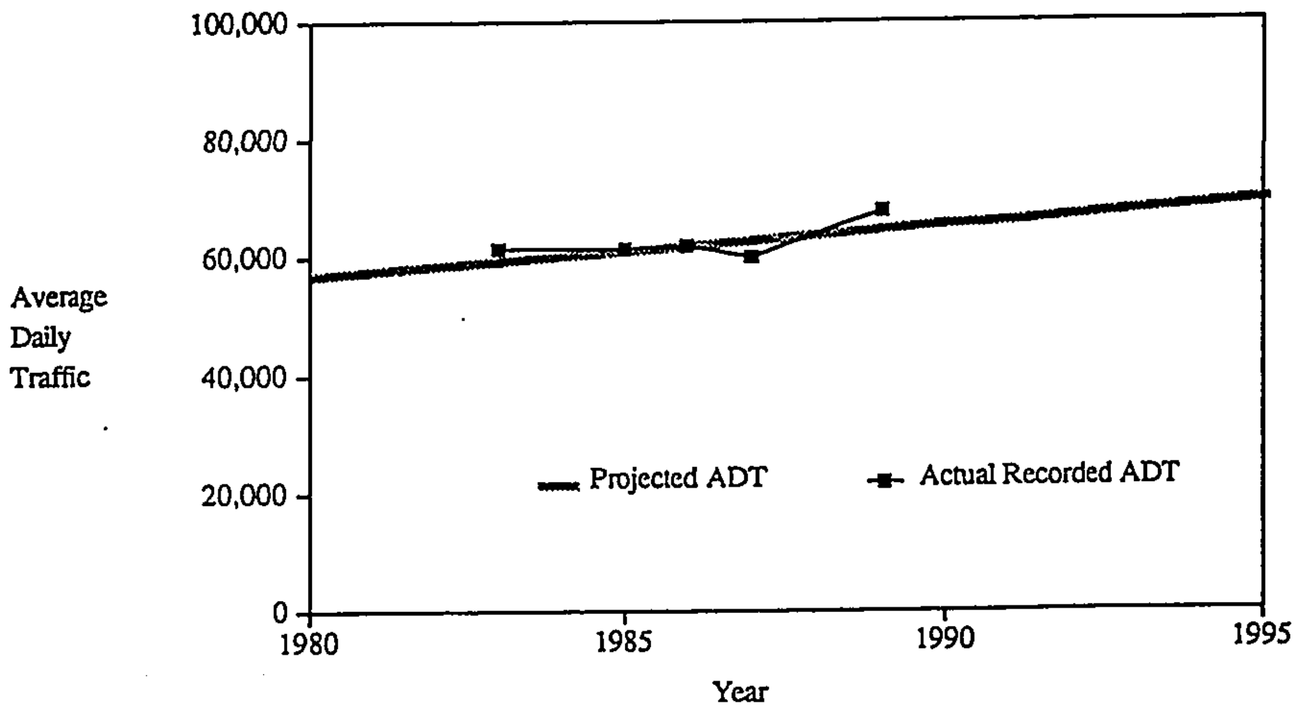


Figure 8. Historical Growth In Traffic Along Nimitz Highway

Traffic From Other Developments

The three-step procedure of trip generation, trip distribution and traffic assignment was used to estimate peak hour traffic from other proposed developments within the immediate area of the project.

The trip generation step estimates the number of trips that would be generated by the developments as shown in Table 1. The trips generated by each development are shown in Tables 2 and 3. The number of trips were estimated based on the amount of land uses for each project and data from the ITE Trip Generation Report[1] (Fourth Edition, 1987).

Since the downtown area contains many mixed land uses, the trip generation rates were reduced to account for the high number of trip purposes which can be satisfied within the downtown area. Trips generated by office and commercial related land uses were reduced by a factor of 90% and residential land uses were reduced by 70% due to the high probability that residents in the area will work within walking distances of their homes.

The trip distribution step assigns trips to their expected origins and destinations. Trip distribution for the other developments was based on the distribution of population and employment on Oahu. The trips were generally distributed as follows: 50% to/from the Pearl City direction (West), and 50% to/from Diamond Head (East).

The traffic assignment step assigns trips to a specific route on the roadway network that will take the driver from origin to destination. Traffic was assigned based on the shortest route or travel time from origins to destinations. Trips from downtown developments were generally assigned to the roadway network as follows: 1) 50% along H-1 Freeway/Vineyard, 2) 10% along Beretania, 3) 10% along King, and 4) 30% along Nimitz. Trips from the AIPA development were assigned as follows: 1) 50% along H-1 Freeway, 2) 50% along Nimitz Highway.

[1]Trip Generation Report, by the Institute Transportation Engineers, Fourth Edition, 1987

Table 2. Trip Generation for Weekday Morning Peak Hour

Land Use	Quantity	Units	Trip Rates Enter	Trip Rates Exit	Trips Enter	Trips Exit	Adjusted Trips Enter	Adjusted Trips Exit
Pan Pacific Plaza/First Interstate Tower								
Office	495	1000 Sq. Ft.	1.39	0.22	690	108	621	97
Alii Place								
Office	325	1000 Sq. Ft.	1.48	0.22	480	72	432	65
China Gateway Plaza								
Apartment	200	units	0.08	0.34	19	85	13	59
Commercial	30	1000 Sq. Ft	2.10	0.90	70	30	63	27
Public Parking	75	stalls	0.31	0.09	23	7	23	7
River-Nimitz Housing								
Apartment	90	units	0.10	0.44	9	40	6	28
Honolulu Park Place Condominium								
Condominium	637	units	0.06	0.27	41	173	29	121
1100 Alakea Plaza								
Office	198	1000 Sq. Ft.	1.59	0.24	314	47	283	42
Harbor Court								
Apartment	174	units	0.04	0.19	7	33	5	23
Office/Retail	220	1000 Sq. Ft.	2.10	0.61	462	134	415	121
Kekaulike-Maunakea Housing								
Apartment	132	units	0.10	0.43	13	57	9	40
Retail	40	1000 Sq. Ft.	1.98	0.30	79	12	71	11
Airport Industrial Park Associates Warehouse								
Office	72	1000 Sq. Ft.	1.82	0.76	131	55	131	55
Warehouse	324	1000 Sq. Ft.	0.44	0.06	141	20	141	20
TOTAL							2245	725

Table 3. Trip Generation for Weekday Afternoon Peak Hour (Continued)

Land Use	Quantity	Units	Trip Rates Enter	Trip Rates Exit	Trips Enter	Trips Exit	Adjusted Trips Enter	Adjusted Trips Exit
Pan Pacific Plaza/First Interstate Tower								
Office	495	1000 Sq. Ft.	0.24	1.26	119	623	107	561
Alii Place								
Office	325	1000 Sq. Ft.	0.26	1.35	84	440	76	396
China Gateway Plaza								
Apartment	200	units	0.46	0.22	93	44	65	31
Commercial	30	1000 Sq. Ft	6.73	7.03	202	211	182	190
Public Parking	75	stalls	0.11	0.17	8	13	8	13
River-Nimitz Housing								
Apartment	90	units	0.71	0.33	64	30	45	21
Honolulu Park Place Condominium								
Condominium	637	units	0.23	0.14	147	90	103	63
1100 Alakea Plaza								
Office	198	1000 Sq. Ft.	0.28	1.47	56	291	50	262
Harbor Court								
Apartment	174	units	0.16	0.10	28	17	20	12
Office/Retail	220	1000 Sq. Ft.	0.70	2.03	154	446	139	401
Kekaulike-Maunakea Housing								
Apartment	132	units	0.57	0.27	75	35	53	25
Retail	40	1000 Sq. Ft.	0.38	1.93	15	77	14	69
Airport Industrial Park Associates Warehouse								
Office	72	1000 Sq. Ft.	1.79	2.11	129	152	129	152
Warehouse	324	1000 Sq. Ft.	0.07	0.39	24	126	24	126
TOTAL							1015	2322

Traffic from Airport Activity

The increase in airport traffic along Nimitz Highway was estimated based on a report titled, "Honolulu International Airport Master Plan Traffic Analysis - Draft Report[2]". This study estimates that the airport will generate about 890 new inbound trips during the morning peak hour and 550 during the afternoon by 1995. Table 4 below shows the existing and forecast inbound traffic to the Honolulu International Airport (HIA). Over a five year period this represents an annual increase of about 5% during the morning peak hour and 5% during the afternoon peak hour.

Table 4. Existing and Forecast Inbound Traffic

Time Period	Morning Peak	Afternoon Peak
Existing 1990	3,300	2,650
Forecast 1995	4,190	3,200
Difference	890	550

Future traffic was estimated by increasing existing traffic volumes to/from the Airport by 15% (5% times 3 years) during the morning and afternoon peak hours. Tourist traffic was distributed to the resort areas. Other airport related traffic was distributed based on the distribution of population and employment on Oahu and information from the HIA Masterplan Traffic Analysis Report. Traffic was assigned based on the estimated shortest path or travel time from origins to destinations.

[2]Honolulu International Airport Masterplan Traffic Analysis - Draft Report", dated May 25, 1990 and revised August 10,1990, by Wilbur Smith Associates

Future Traffic With Project

Future traffic with project was forecasted by adding the without project traffic to the traffic generated by the proposed project. The resultant forecast traffic with project are shown in Figures 9 and 10 for the morning and afternoon peak hours.

The three step procedure of trip generation, trip distribution, and traffic assignment was used to estimate peak hour traffic from the proposed project.

The number of trips from the project was estimated based on the 16,000 square feet of commercial space, the 238 apartment units and data from the Trip Generation Report. The trips generated by the public parking was assumed to remain the same as the observed trips entering and exiting. Table 5 shows the trip rates derived from the trip generation data and the number of trips generated.

Table 5. Trip Generation for Smith-Maunakea Housing

Weekday Morning Peak Hour

Land Use	Quantity	Units	Trip Rates Enter	Trip Rates Exit	Trips Enter	Trips Exit
Public Parking	260	Stalls			44	13
Apartment	238	units	0.14	0.35	34	83
Commercial	16	1000 Sq. Ft	2.31	0.31	37	5
			TOTAL		115	101

Weekday Afternoon Peak Hour

Land Use	Quantity	Units	Trip Rates Enter	Trip Rates Exit	Trips Enter	Trips Exit
Public Parking	260	Stalls			19	38
Apartment	238	units	0.27	0.17	64	41
Commercial	16	1000 Sq. Ft	0.44	2.25	7	36
			TOTAL		90	115

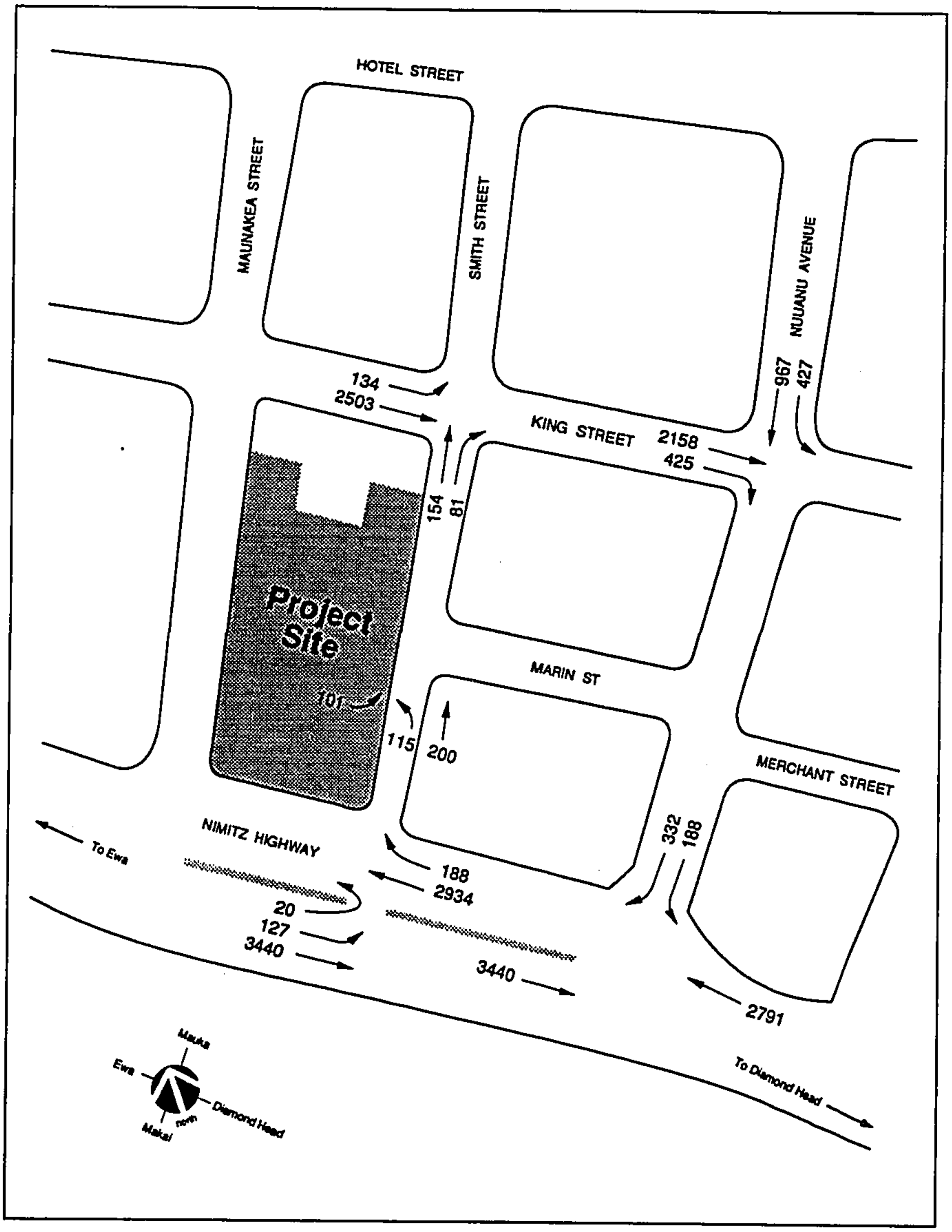


Figure 9. 1993 Morning Traffic With Project

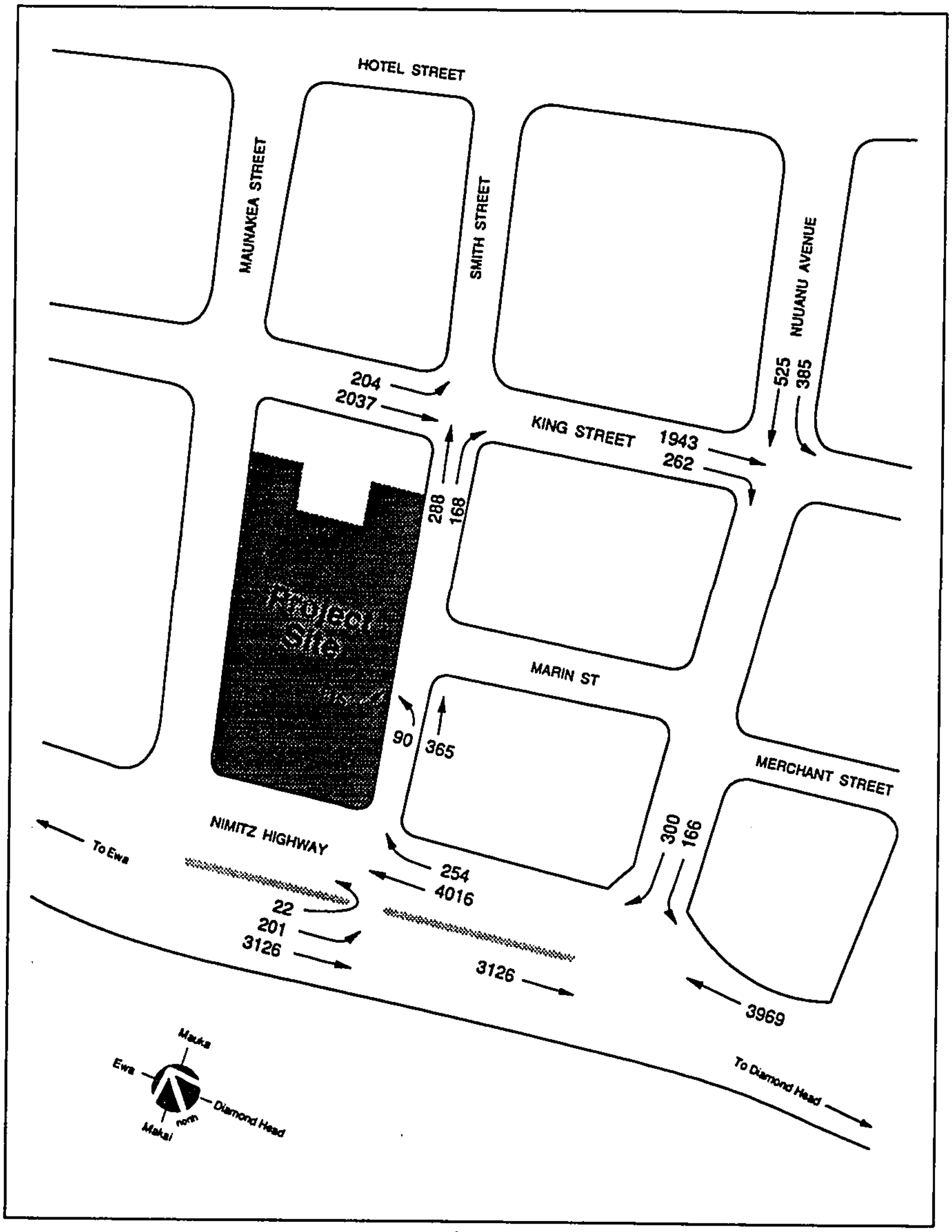


Figure 10. 1993 Afternoon Traffic With Project

Trip distribution for the project was generally based on the distribution of population and employment on Oahu as described in the trip distribution for other developments.

Trips generated by the project were assigned to the roadway network based on the shortest route or travel time from origins to destinations. The assignment of project traffic is shown in Figure 11.

Incremental Increase

Based upon the assignment of project traffic, the primary increases in traffic along Nimitz Highway are forecasted to occur for westbound drivers attempting right-turns onto Smith Street and for right-turns onto Nimitz from Nuuanu Avenue. On North King Street, the primary increases will occur for northbound drivers attempting right-turns onto Smith Street. Relatively minor additional traffic from the project will be added to the remaining movements at the study intersections. Table 6 shows the increase in traffic volumes by movements at the study intersections generated by the project.

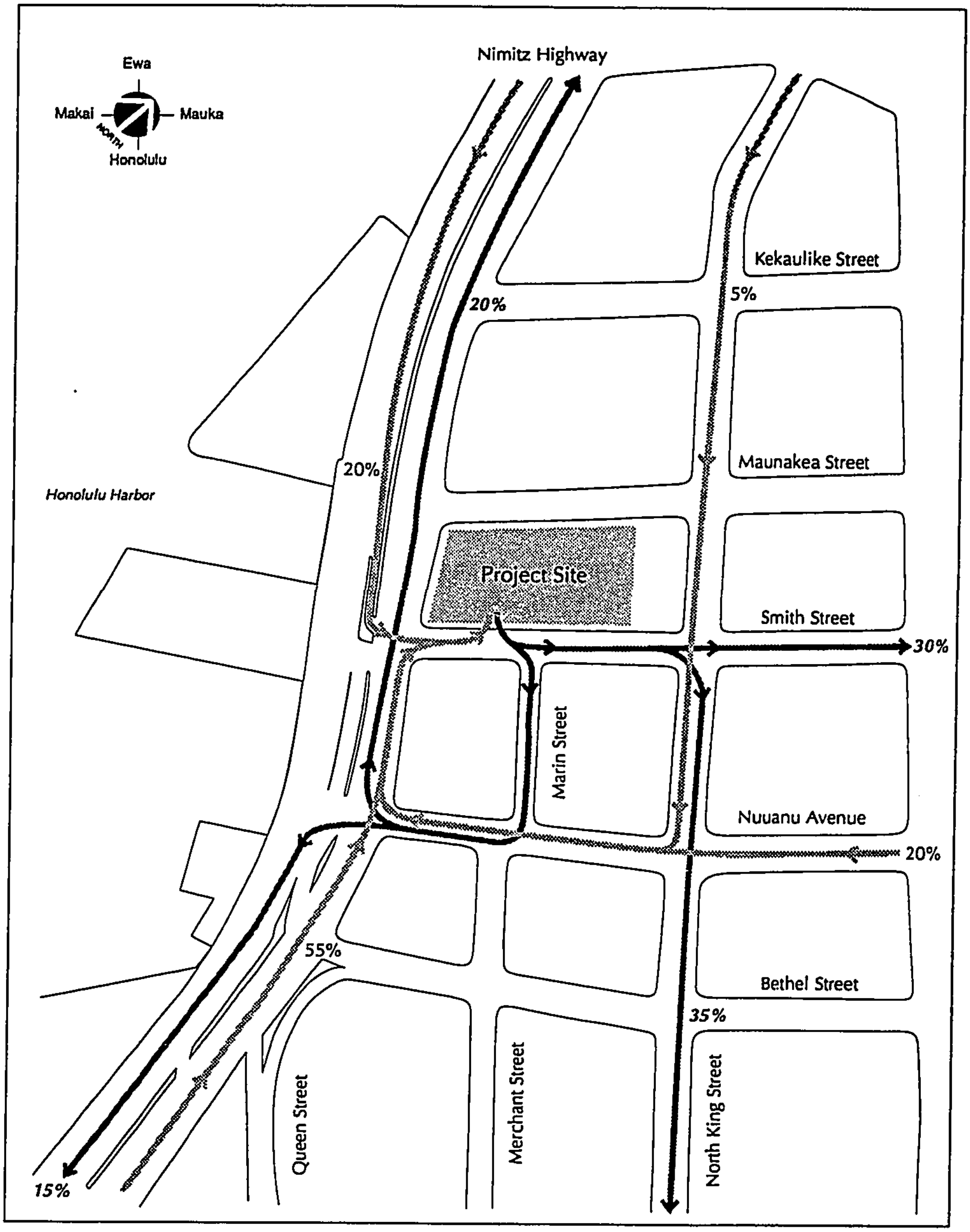


Figure 11. Assignment of Project Traffic

Table 6. Project Generated Traffic at Study Intersections
1993 Forecast Peak Hour Volumes

INTERSECTION		1993 Without Project AM	1993 Without Project PM	1993 With Project AM	1993 With Project PM	1993 Incremental Traffic AM	1993 Incremental Traffic PM
North King Street with Smith Street							
Eastbound	TH	2494	2028	2503	2037	9	9
Eastbound	LT	134	204	134	204	0	0
Northbound	TH	128	261	154	288	26	27
Northbound	RT	50	137	81	168	31	31
North King Street with Nuuanu Avenue							
Eastbound	TH	2127	1912	2158	1943	31	31
Eastbound	RT	416	253	423	262	7	9
Southbound	TH	948	509	967	525	19	16
Southbound	LT	427	385	427	385	0	0
North Nimitz Highway with Smith Street							
Eastbound	LT	126	206	147	223	21	17
Westbound	TH	2917	3998	2934	4016	17	18
Westbound	RT	105	187	188	254	83	67
North Nimitz Highway with Nuuanu Avenue							
Eastbound	TH	3440	3126	3440	3126	0	0
Westbound	TH	2736	3925	2791	3969	55	44
Southbound	LT	175	152	188	166	14	14
Southbound	RT	286	258	332	300	46	42

TRAFFIC IMPACTS ANALYSIS

Analyses were conducted on segments of Nimitz Highway and King Street, and four critical intersections to determine the relative impact of the proposed project on the local roadway system. Each road segment and intersection was analyzed for existing, 1993 forecasts without project, and 1993 forecast with project traffic conditions. Analysis for projected traffic conditions were based on the existing roadway network.

Analysis Methods

Nimitz Highway, King Street and the study intersections were analyzed using methods found in the Highway Capacity Manual[3].

Segments of Nimitz Highway and King Street were analyzed using methods for analyzing urban arterials. This method uses average travel speed (including delays at signals, etc.) to measure traffic operational conditions. Slower speeds indicate poor level-of-service (LOS).

The existing signalized intersections were analyzed using Operational Analysis and observed field measurements. Operational analysis uses the average delay per vehicle to measure traffic operational conditions. High delays per vehicle indicate poor LOS. Field measurements were taken to determine average delay in seconds per vehicle.

The project access was analyzed using unsignalized intersection analysis. This analysis method is based on the estimated number of vehicle

[3]Highway Capacity Manual, Special Report 209, dated 1985, by the Transportation Research Board

turning movements which could proceed through a conflicting traffic stream. The LOS is determined by the amount of vehicle reserve capacity available for a particular turning movement. The lower amount of reserve capacity indicates a poorer level of service.

LOS is divided into six categories ranging from LOS A to LOS F. A detailed definition of LOS for urban arterials, signalized intersections, and unsignalized intersections is given in Appendix A. LOS for arterial streets, signalized intersections, and unsignalized intersections are not directly comparable. The first is based on speed, the second on seconds of delay, and the third on reserve capacity. Signalized intersections decrease the average speed arterial streets by allowing stopping traffic on the major street to allow minor street traffic to enter or cross the arterial.

Analysis Results

The results of the analysis for the morning and afternoon peak hours generally indicate that:

- Presently, King Street and Nimitz Highway operate at LOS E or F.

- Even without the project there will be increased delays along King Street, Nimitz Highway and at the study intersections.

The results of the arterial analysis along King Street and Nimitz Highway is shown in Table 7, the signalized intersection analysis at the study intersections is shown in Table 8, and the unsignalized intersection analysis is shown in Table 9.

Table 7. Arterial Analysis of King Street and Nimitz Highway

Road Segment	1990 AM	1990 PM	1992 Without Project AM	1992 Without Project PM	1992 With Project AM	1992 With Project PM
KING STREET (Between Maunakea & Nuuanu Street)						
Eastbound	E	D	E	D	E	D
NIMITZ HIGHWAY (Between Maunakea & Fort Street)						
Eastbound	C	C	C	C	C	C
Westbound	E	F	E	F	E	F

Table 8. Existing Signalized Intersections - Operational Analysis

INTERSECTION	1990 AM	1990 PM	1992 Without Project AM	1992 Without Project PM	1992 With Project AM	1992 With Project PM
King & Smith						
Eastbound (King)	A	A	A	A	A	A
Avg. Veh. Delay (sec)	3.7	3.2	4.5	3.4	4.5	3.4
Northbound (Smith)	B	C	B	C	B	C
Avg. Veh. Delay (sec)	13.7	16.1	12.8	15.8	13.0	18.6
Overall Intersection LOS	A	B	A	B	B	B
Avg. Veh. Delay (sec)	4.4	5.4	4.9	5.3	5.1	6.0
King & Nuuanu						
Eastbound (King)	B	B	B	B	B	B
Avg. Veh. Delay (sec)	8.5	7.1	10.5	7.3	11.1	7.4
Southbound (Nuuanu)	C	B	C	B	D	B
Avg. Veh. Delay (sec)	15.7	13.1	24.8	13.2	26.2	13.2
Overall Intersection LOS	B	B	C	B	C	B
Avg. Veh. Delay (sec)	10.9	8.8	15.5	9.0	16.3	9.1

Table 8. Existing Signalized Intersections - Operational Analysis (Cont)

INTERSECTION	1990 AM	1990 PM	1992 Without Project AM	1992 Without Project PM	1992 With Project AM	1992 With Project PM
Nimitz & Smith						
Westbound (Nimitz)	A	B	A	B	A	C
Avg. Veh. Delay (sec)	4.3	7.3	3.4	14.1	3.6	16.1
Eastbound Left-turn(Nimitz)	E	E	E	E	E	E
Avg. Veh. Delay (sec)	41.9	54.7	47.2	49.4	50.9	59.5
Overall Intersection LOS	B	B	B	C	B	C
Avg. Veh. Delay (sec)	6.2	10.1	5.1	15.3	5.7	17.6
Nimitz & Nuuanu						
Westbound (Nimitz)	B	C	B	E	B	F
Avg. Veh. Delay (sec)	7.7	15.99	9.4	58.2	6.7	62.3
Eastbound (Nimitz)	A	A	B	B	B	B
Avg. Veh. Delay (sec)	4.4	4.7	6.6	5.1	9.5	5.1
Southbound (Nuuanu)	D	D	D	D	D	D
Avg. Veh. Delay (sec)	28.4	29.0	32.4	26.9	34.3	28.9
Overall Intersection LOS	B	B	B	C	B	D
Avg. Veh. Delay (sec)	7.7	11.8	9.5	34.2	10.0	36.5

Table 9. Unsignalized Intersection Analysis

INTERSECTION	1992 With Project AM	1992 With Project PM
Smith Street & Project Access Road		
Right Turn Exiting Project	A	B

Arterial Streets

King Street (Between Nuuanu Street and Maunakea Street)

- *Presently*, King Street is operating at LOS D or E.
- *By 1993 without project*, King Street will continue to operate at LOS E or better. The analysis indicates that average running speed will decrease.
- *By 1993 with project*, the LOS for King Street will continue to operate at LOS E or better. The analysis indicates that average running speed will decrease slightly.

Nimitz Highway (Between Fort Street Mall and River Street)

- *Presently*, Nimitz Highway is generally operating at LOS C and LOS F, in the eastbound and westbound directions, respectively.
- *By 1993 without project*, Nimitz Highway will continue to operate at the same LOS as existing. The analysis indicates that average speed will decrease slightly.
- *By 1993 with project*, Nimitz Highway will continue to operate at the same LOS as existing. The analysis indicates that average speed will decrease slightly.

Study Intersections

Intersection of King Street & Smith Street

- *Presently*, this intersection is operating overall at LOS B or better.
- *By 1993 without project*, the intersection will continue to operate at LOS B or better. The average delays per vehicle will increase slightly.
- *By 1993 with project*, the LOS for this intersection will continue

to operate at LOS B. The average delays per vehicle will increase slightly.

Intersection of King Street & Nuuanu Avenue

- *Presently*, this intersection is operating overall at LOS B.
- *By 1993 without project*, the intersection LOS will drop from LOS B to LOS C. Delays per vehicle will increase slightly.
- *By 1993 with project*, the intersection will continue to operate at LOS C or better. Delays per vehicle will increase slightly.

Intersection of Nimitz Highway & Smith Street

- *Presently*, this intersection is operating overall at LOS B. The eastbound left turn from Nimitz Highway into Smith Street is operating with long delays, LOS E (42 to 55 seconds average delay per vehicle).
- *By 1993 without project*, the intersection LOS will drop to LOS C, overall. The eastbound left turn from Nimitz Highway into Smith Street will continue to operate with long delays, LOS E (47 to 49 seconds).
- *By 1993 with project*, the intersection LOS will continue to operate at LOS C. The eastbound left turn from Nimitz Highway into Smith Street will continue to operate with long delays, LOS E (51 to 59 seconds).

Intersection of North Nimitz Highway & Nuuanu Avenue

- *Presently*, this intersection is operating overall at LOS B.
- *By 1993 without project*, the intersection LOS will drop to LOS C.
- *By 1993 with project*, the intersection LOS will drop to LOS.

Intersection of Smith Street & Project Access Road

- *By 1993 with project*, vehicles exiting the project access will experience little delays (LOS B) or better.

CONCLUSIONS AND RECOMMENDATIONS

The proposed Smith-Maunakea Housing project, when completed in 1993, will have a slight impact on traffic conditions.

Presently, traffic flow through the central business district is congested during the morning and afternoon peak hours. This is due to the limited capacity of the roadway system within the CBD and the relatively large number of vehicles circulating within the area. This condition is further complicated by buses stopping to drop off passengers, pedestrians, and cars stopping to pick up or drop off passengers in the travel lane.

Our analysis and field observations of King Street indicates that traffic is operating at or near capacity, LOS E and D during the morning and afternoon peak hours, respectively. The arterial analysis studied a segment of King Street in the vicinity of the project. The average speed to traverse this segment (which includes delays caused by stop lights, pedestrians, or other vehicles) was used to determine LOS.

Traffic flow along Nimitz Highway, in the vicinity of the project, is currently operating at LOS C and F in the eastbound and westbound directions, respectively. The major cause for the LOS F for the westbound traffic due to the downstream congestion as Nimitz Highway narrows from an eight lanes to six lanes beyond River Street.

LOS for arterial streets and signalized intersections are not directly comparable, since the first is based on speed and the last on seconds of delay. Signalized intersections decrease the average travel speed along arterial streets by stopping traffic on the major street to allow minor street traffic to enter or cross the arterial.

The signalized intersection analysis indicates that study intersections along King Street are presently operating overall at LOS B or better. This good LOS is probably due to the well synchronized traffic signal system along King Street. The intersections along Nimitz Highway are operating overall at LOS C or better.

Without the project by 1993, delays at intersections will increase, and average travel speeds along the arterial roads will decrease. King Street and Nimitz Highway will continue to operate with the same LOS as existing conditions. The LOS for some turning movements at the study intersections will drop to LOS C.

With the project, delays at intersections will increase slightly and average travel speeds will decrease slightly. The level-of-service for the intersection of Nimitz and Nuuanu will drop from LOS C to LOS D. Vehicles exiting the project access will experience little delays (LOS B) or better.

It is likely that the peak periods along Nimitz Highway and King Street will lengthen as the LOS at the study intersections deteriorates with increases in traffic resulting primarily from other projects scheduled for completion by 1993.

APPENDIX A

Definition of Level-of-Service

for

Signalized Intersections

and

Urban and Suburban Arterials

APPENDIX A

LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

The concept of level of service is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. A level of service definition generally describes these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. Six levels of service are defined for each type of facility for which analysis procedures are available. They are given letter designations, from A to F, with level-of-service A representing the best operating conditions and level-of-service F the worst.

Level of service for signalized intersections is defined in terms of delay. Delay is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. Specifically, level-of-service criteria are stated in terms of the average stopped delay per vehicle for a 15-minute analysis period.

Level-of-Service A describes operations with very low delay, i.e., less than 5.0 seconds per vehicle. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

Level-of-Service B describes operations with delay in the range of 5.1 to 15.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.

Level-of-Service C describes operations with delay in the range of 15.1 to 25.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.

Level-of-Service D describes operations with delay in the range of 25.1 to 40.0 seconds per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or a high v/c ratio (volume of cars to capacity of intersection). Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

Level-of-Service E describes operations with delay in the range of 40.1 to 60.0 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle length, and high v/c ratios. Individual cycle failures are frequent occurrences.

Level-of-Service F describes operations with delay in excess of 60.0 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

REFERENCE: Highway Capacity Manual (Special Report 209, 1985)

DEFINITION OF LEVEL-OF-SERVICE
FOR
URBAN AND SUBURBAN ARTERIALS

The arterial level of service is based on the *average travel speed* for all through-vehicles along the segment, section, or entire arterial roadway under consideration. The average travel speed is computed from the running time on the arterial segments and the intersection approach delay.

There is a distinct set of arterial level-of-service values established for each *arterial class*. These are based on the differing expectations drivers are judged to have for the different classes or arterial roadways. In general, the arterial levels of service are based on the smooth and efficient movement of the through traffic along an entire arterial roadway. Table A-1 shown below provides a description of average travel speed and level of service by each arterial class.

Table A-1. Arterial Level Of Service

Arterial Class	I	II	III
Range of Free Flow Speeds (mph)	45 to 35	35 to 30	35 to 25
Typical Free Flow Speed (mph)	40 mph	33 mph	27 mph
LEVEL OF SERVICE	AVERAGE TRAVEL SPEED (mph)		
A	≥ 35	≥ 30	≥ 25
B	≥ 28	≥ 24	≥ 19
C	≥ 22	≥ 18	≥ 13
D	≥ 17	≥ 14	≥ 9
E	≥ 13	≥ 10	≥ 7
F	< 13	< 10	< 7

For purposes of this study, North King Street was classified as an Class III arterial roadway and North Nimitz Highway a Class I arterial roadway. The classification of these roadways was determined based upon existing conditions and observed operations.

Description of Levels-of-Service

Level-of-service A describes primarily free flow-operations at average travel speeds usually about 90 percent of the free flow speed for the arterial class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Stopped delay at signalized intersections is minimal.

Level-of-service B represents reasonably unimpeded operations at average travel speeds usually about 70 percent of the free flow speed for the arterial class. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Drivers are not generally subject to appreciable tension.

Level-of-service C represents stable operations. However, ability to maneuver and change lanes in midblock locations may be more restricted than in LOS B, and longer queues and/or adverse signal coordination may contribute to lower average travel speeds of about 50 percent of the average free flow speed for the arterial class. Motorists will experience an appreciable tension while driving.

Level-of-service D borders on a range on which small increases in flow may cause substantial increases in approach delay and, hence, decreases in arterial speed. This may be due to adverse signal progression, inappropriate signal timing, high volumes, or some combination of these. Average travel speeds are about 40 percent of free flow speed.

Level-of-service E is characterized by significant approach delays and average travel speeds of one-third the free flow speed or lower. Such operations are caused by some combination or adverse progression, high signal density, extensive queuing at critical intersections, and inappropriate signal timing.

Level-of-service F characterizes arterial flow at extremely low speeds below one-third to one-quarter of the free flow speed. Intersection congestion is likely at critical signalized locations, with high approach delays resulting. Adverse progression is frequently a contributor to this condition.

REFERENCE: Highway Capacity Manual (Special Report 209, 1985)

APPENDIX B

Manual Traffic Count Data

APPENDIX B

MANUAL TRAFFIC COUNT DATA

Location: North King Street & Nuuanu Avenue
Date: September 12, 1990

	North King Street Eastbound		Nuuanu Avenue Southbound	
Time (am)	TH	RT	LT	TH
6:45-7:00	473	83	64	154
7:00-7:15	457	76	72	180
7:15-7:30	514	89	81	190
7:30-7:45	505	81	102	195
7:45-8:00	494	97	104	200
8:00-8:15	457	93	111	182
8:15-8:30	377	81	97	151
Peak Hour				
(7:15-8:15)	1970	360	398	767

	North King Street Eastbound		Nuuanu Avenue Southbound	
Time (pm)	TH	RT	LT	TH
3:15-3:30	334	40	73	75
3:30-3:45	400	43	78	84
3:45-4:00	394	38	62	72
4:00-4:15	445	49	72	89
4:15-4:30	494	48	74	75
4:30-4:45	449	83	100	118
4:45-5:00	453	48	95	109
5:00-5:15	429	55	98	83
5:15-5:30	411	34	102	81
Peak Hour				
(4:15-5:15)	1825	234	367	385

Location: North King Street & Smith Street

Date: September 12, 1990

Time (am)	North King Street Eastbound LT	North King Street Eastbound TH	Smith Street Northbound TH	Smith Street Northbound RT
6:45-7:00	15	536	16	20
7:00-7:15	19	517	22	16
7:15-7:30	20	593	25	10
7:30-7:45	28	571	20	15
7:45-8:00	21	572	31	19
8:00-8:15	21	544	27	6
8:15-8:30	31	437	26	21
Peak Hour (7:15-8:15)	90	2280	103	50

Time (pm)	North King Street Eastbound LT	North King Street Eastbound TH	Smith Street Northbound TH	Smith Street Northbound RT
3:15-3:30	35	356	40	18
3:30-3:45	33	412	36	31
3:45-4:00	23	409	43	23
4:00-4:15	38	461	60	33
4:15-4:30	35	512	54	30
4:30-4:45	35	493	66	39
4:45-5:00	40	466	70	35
5:00-5:15	35	445	49	39
5:15-5:30	37	424	54	21
Peak Hour (4:00-5:00)	148	1932	250	137

Location: North Nimitz Highway & Nuuanu Avenue
Date: September 12, 1990

	North Nimitz Highway		Nuuanu Avenue	
	Eastbound	Westbound	Southbound	
Time (am)	TH	TH	LT	RT
6:45-7:00	802	---	---	---
7:00-7:15	688	503	24	70
7:15-7:30	765	559	14	58
7:30-7:45	686	660	39	62
7:45-8:00	731	576	34	72
8:00-8:15	640	545	47	59
8:15-8:30	602	459	45	55
Peak Hour				
(7:15-8:15)	2822	2340	134	251

	North Nimitz Highway		Nuuanu Avenue	
	Eastbound	Westbound	Southbound	
Time (pm)	TH	TH	LT	RT
3:15-3:30	566	767	21	49
3:30-3:45	641	746	27	46
3:45-4:00	643	778	15	43
4:00-4:15	794	757	38	54
4:15-4:30	584	843	20	31
4:30-4:45	633	875	22	82
4:45-5:00	615	818	23	44
5:00-5:15	526	871	25	55
5:15-5:30	515	727	27	45
Peak Hour				
(4:00-5:00)	2626	3293	103	211

Location: North Nimitz Highway & Smith Street
Date: September 12, 1990

	North Nimitz Highway				
	Eastbound			Westbound	
Time (am)	UT	LT	TH	TH	RT
6:45-7:00	9	22	771	---	15
7:00-7:15	4	24	660	543	30
7:15-7:30	4	17	744	595	22
7:30-7:45	6	34	646	702	20
7:45-8:00	5	24	702	626	22
8:00-8:15	4	19	617	575	29
8:15-8:30	5	19	578	489	25
8:30-8:45	5	27	535	502	26
Peak Hour					
(7:00-8:00)	19	99	2752	2466	94

	North Nimitz Highway				
	Eastbound			Westbound	
Time (pm)	UT	LT	TH	TH	RT
3:15-3:30	4	17	566	788	28
3:30-3:45	5	31	641	760	32
3:45-4:00	5	37	643	771	50
4:00-4:15	2	56	794	777	34
4:15-4:30	6	45	584	839	35
4:30-4:45	10	32	633	897	60
4:45-5:00	0	45	615	810	52
5:00-5:15	6	35	526	887	39
5:15-5:30	1	34	515	737	35
Peak Hour					
(4:00-5:00)	18	178	2626	3323	181

Location: Project Site Entrances and Exit
Date: September 12, 1990

	Maunakea Street		Smith Street	
	Southbound	Northbound	Northbound	
Time (am)	Enter	Enter	Enter	Exit
6:45-7:00	5	0	2	0
7:00-7:15	4	2	4	0
7:15-7:30	1	0	4	1
7:30-7:45	4	0	0	3
7:45-8:00	6	0	3	3
8:00-8:15	21	0	5	6
8:15-8:30	12	1	11	6
8:30-8:45	25	0	7	9
Peak Hour (adjacent street)				
(7:15-8:15)	32	0	12	13

	Maunakea Street		Smith Street	
	Southbound	Northbound	Northbound	
Time (pm)	Enter	Enter	Enter	Exit
3:15-3:30	3	1	3	11
3:30-3:45	3	0	7	12
3:45-4:00	3	1	4	15
4:00-4:15	0	0	2	7
4:15-4:30	6	1	2	10
4:30-4:45	5	0	1	8
4:45-5:00	1	1	0	13
5:00-5:15	0	0	2	8
5:15-5:30	1	0	0	4
Peak Hour (Adjacent Street)				
(4:00-5:00)	12	2	5	38

PACIFIC PLANNING & ENGINEERING, INC.

COMPANY QUALIFICATIONS

JULY 1989

We provide planning and consultancy services to:

- Public Works Agencies
- Housing Agencies
- Transportation Departments
- Private Development Groups
- Major Facility Owners (Golf Courses, Major Resorts)
- Airports
- Airline Interests

We work closely with our clients to gain an understanding and appreciation of their needs beyond the bound report or design sheet. Our sensitivity to client needs arises from our experience in managing large public works departments. Our awareness of the pressures and nuances of management decision-making enables us to provide perspectives beyond the norm. Our understanding and working knowledge of agencies in planning and governance enable us to serve beyond the technical area.

Management Services

- Management Information Assistance
  - Rapid, Highly Focused Evaluations
  - Financial Analysis
  - Feasibility Studies
  - Organizational Assessments
- Planning and Design Team Management
- Construction Management
- Lease Negotiations
- Property Management Evaluations

Planning and Engineering Consultancy

- Assistance with Government Requirements
- Alternatives Analysis
- Traffic Impact Studies
- Traffic Engineering and Roadway Design
- Ground Transportation System Evaluations
- Facilities Planning

Personnel

The Principals of PPE, Inc. are Dr. Jonathan Shimada and Mr. Howard Abe. They have decades of experience and training in management and technical fields.

In managing the Hawaii Airports System for seven years, Dr. Jonathan Shimada has experience in:

-airport system management
-transportation planning consultancy
-traffic engineering and safety
-airport finance and budgeting
-lease and property management
-airline and retail concession operations
-ground transportation
-program planning and evaluation
-engineering administration
-media and public relations
-management and technical Workshops
-contract negotiations

He has a wide range of experience by having managed a large public works agency with a $120 million annual operating budget and over 800 employees. He has dealt with print and television reporters, small and large airport operators, State Legislature and County Governments, major retail businesses, protocol personnel, airlines, small businesses, ground transportation operators, special interest groups, and attorneys. This provides a strong and effective base for assisting those needing people and solutions who can deal effectively with technical problems, government agencies, and private enterprise. Dr. Shimada is well-known and respected in the world-wide system of airports, and particularly in the Pacific Basin.

Mr. Howard Abe's professional experience has been notable in its ever increasing management responsibilities. His management experiences, technical knowledge and field experience over three decades provide a strong and practical base. He is widely respected by the agencies he has served, and most significantly by government, media, private and community groups with whom he has worked. His awards and recognition are even more noteworthy when one considers they were given in the public service field of highways. He has received awards and recognition from such respected and diverse groups as:

-Maui Chamber of Commerce
-State Government
-Maui County
-Newspaper editors
-State legislators, mayors, and private citizens

His past achievements in his work represent abilities and knowledge which he will bring to bear in the most demanding and difficult planning/engineering situations.

PPE, Inc.--CLIENTS

Department of Housing and Community Development, City and County of Honolulu
Castle & Cooke
Queens' Development Corporation
Airport Operators Council International
The Estate of James Campbell
Hawaii Finance and Development Corporation, State of Hawaii
Princeville Development Corporation
Aloha Airlines
Japan Travel Bureau International
Department of Business and Economic Development, State of Hawaii
Department of Accounting and General Services, State of Hawaii
Signal Puako Corporation
R. M. Towill, Inc.
DHM, Inc.
Engineering Concepts, Inc.
Transcontinental Development Company
Department of Transportation
Aloha Tower Development Corporation

SAMPLING OF PROJECTS BY PPE, INC.

West Loch Estates
Kapolei Town Center
Signal Puako
Maui Palisades
Honoapiilani Apartments
UH Hilo Expansion
Queens' Medical Center
Waikiki Landmark
Lanai Airport Planning
Lanai Highway Planning
Princeville Airport
Waikiki Convention Center
Honolulu Waterfront Development Project
Lanai City Traffic Circulation
Waikoloa Expansion Project
State Filming Facility
Lihue/Puhi District Project
Ewa Regional Long-Range Transportation Plan
Aloha Stadium Master Plan Update
Honolulu International Airport Intra-Airport Transportation System

APPENDIX G.

Historic Building Impact Assessment

Architects Hawaii, Ltd.

HISTORIC BUILDING
IMPACT ASSESSMENT
FOR SMITH/MAUNAKEA
HOUSING PROJECT

City & County of Honolulu
TMK: 1-7-02, 3, 4, 5

Prepared by:
ARCHITECTS HAWAII, LTD.
March 19, 1991

TABLE OF CONTENTS

I. PROJECT SITE AND IMMEDIATE SURROUNDINGS:

The project site is located within the Chinatown district. In the immediate areas around the project site are several historic buildings which might be impacted by the construction of this project. Their respective locations are shown on Figure 1 with a key to the individual building names. None of the historic buildings discussed below are individually registered in the National Register of Historic Places.

A. HISTORIC BUILDINGS AND DISTRICT:

1. CHINATOWN DISTRICT:

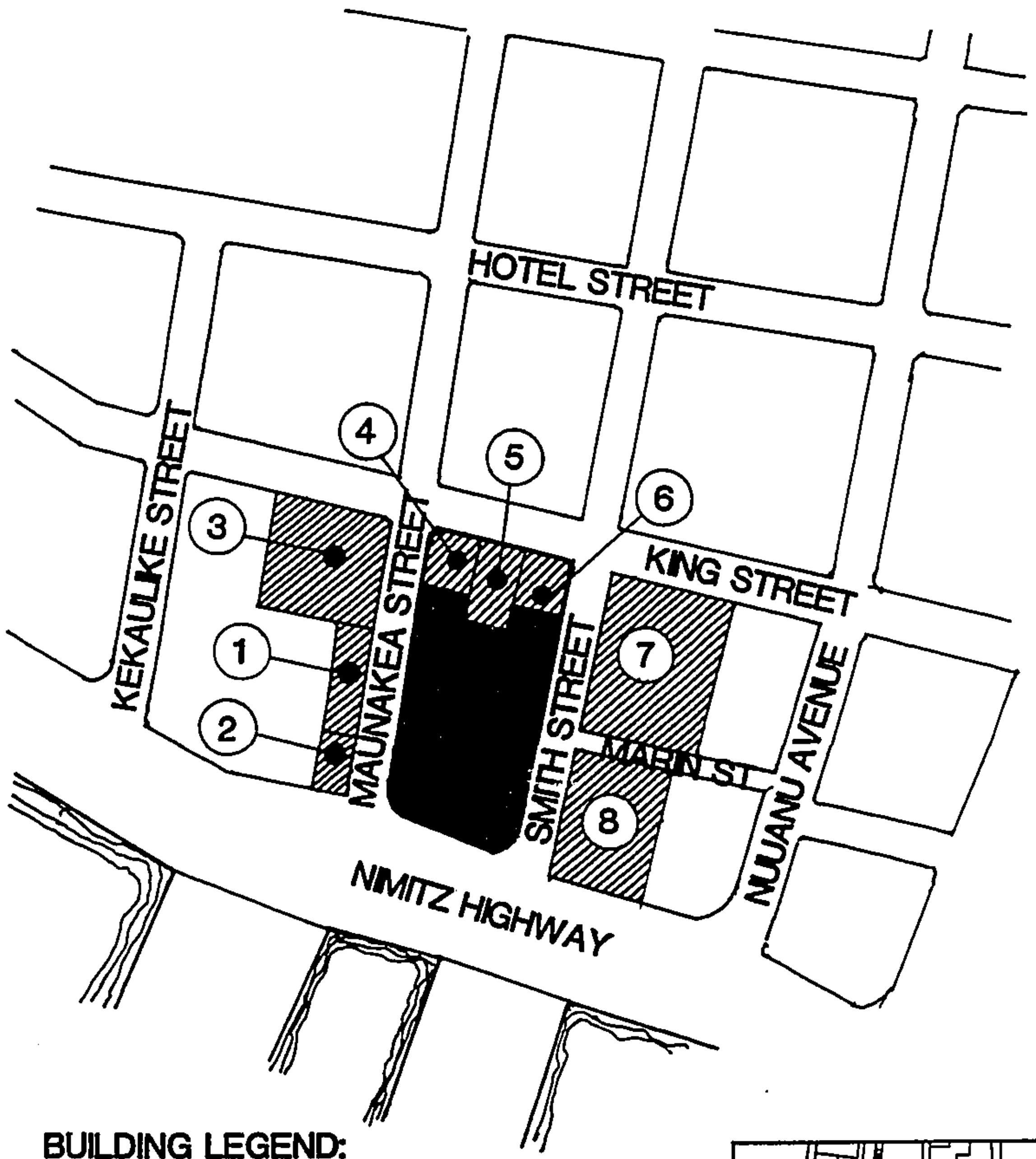
a. Description:

The Chinatown district is an area bounded by Beretania Street (Mauka side) River Street (Ewa side), Nuuanu Avenue (Diamond Head Side) and the Honolulu Harbor (Makai side).

The district is demarcated with two sets of boundaries, one defined by the National Register of Historic Places (NRHP) and the other, defined by the City and County of Honolulu. These boundaries are shown on Figure 2. The district was registered with the NRHP in 1973.

The Chinatown district is comprised of buildings of similar size, use, character, and period. Except for a few ones, most of the structures as they stand now were built in the early 1900's, right after the great fire of January 20, 1900. Several high rises in the mauka blocks were built after World War II. The buildings in the district are predominantly two and three-story structures sited to form continuous street facades. The typical functional pattern is commercial use in the ground level and residential use and small offices in the upper floors. This functional pattern is highly evident in the way the buildings facade were treated. Open storefront designs of large glass sheets and recessed double doors are extensively used in the ground level.

The older buildings in the district commonly used brick, lava rock walls, arched window openings, decorative parapets, corrugated metal awnings with decorative wood trims. Design details are very rich and expressed in the way masonry are arranged, the use of oriental motifs in roofs and window grilles and the introduction of classical forms such as pediments, pilasters, and friezes.



BUILDING LEGEND:

1. J.H. Schnack Building - 1915
2. M. Kawahara Buiulding - 1911
3. Yee Hop Plaza Building - 1964
4. Liberty Bank Buuilding - 1951
5. Goodwill Industries Building - 1895
6. Building name unknown - 1900
7. Hawaii National Bank Bldg. - 1989
8. Bankoh Annex Building - 1915

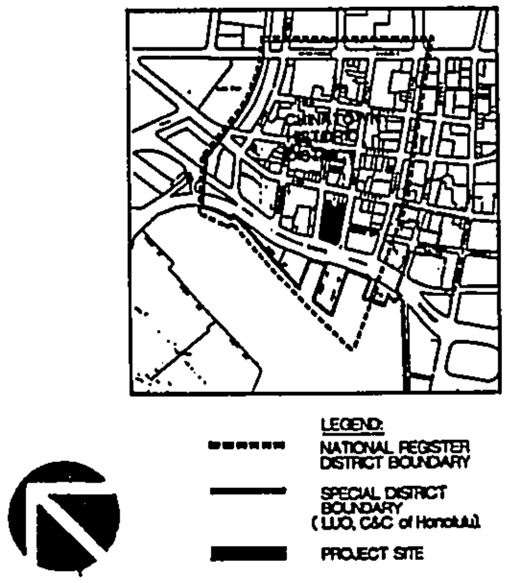
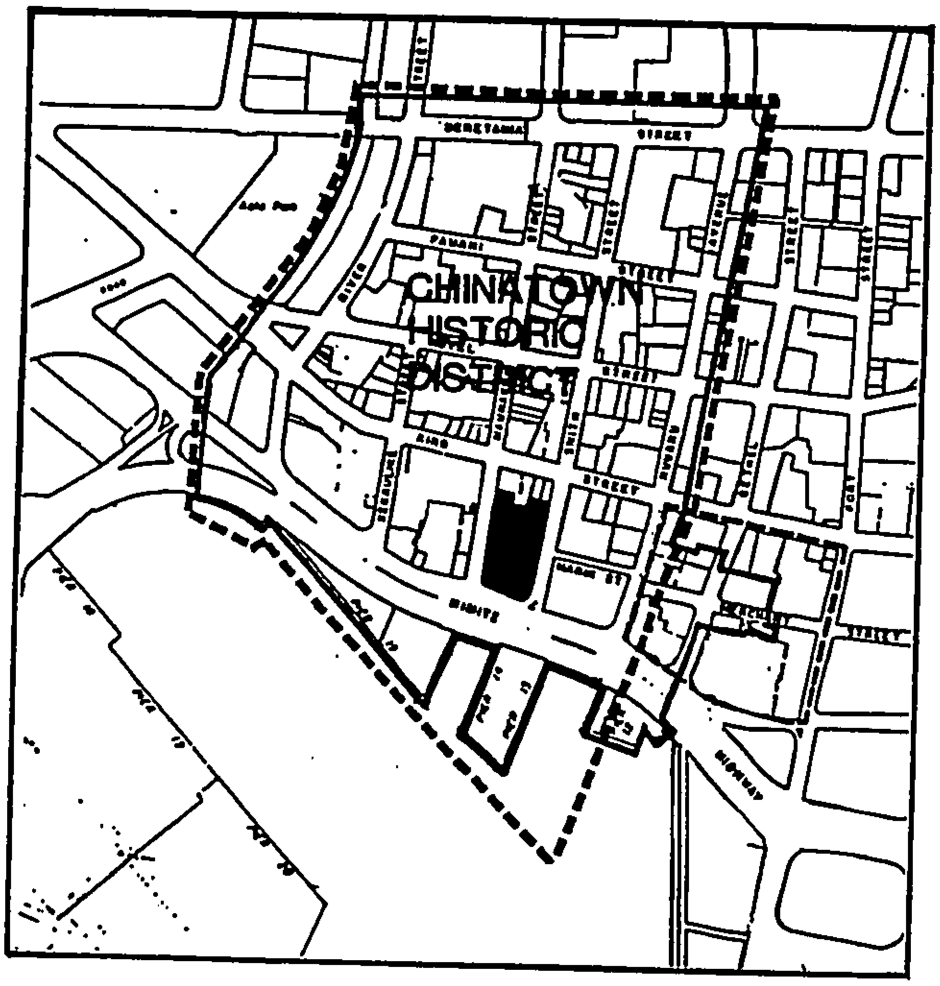


FIGURE 1 - LOCATION/VICINITY MAP



LEGEND:

NATIONAL REGISTER DISTRICT BOUNDARY

SPECIAL DISTRICT BOUNDARY (LUO, C&C of Honolulu).

PROJECT SITE

FIGURE 2 – HISTORIC DISTRICT BOUNDARY MAP

b. Significance:

In the annals of downtown Honolulu history, Chinatown is the first known location where large concentration of retail businesses got started. The Chinese started the early retail establishments followed suit by other ethnic groups. Chinatown's proximity to the harbor and the downtown commercial district made it the most logical place for immigrants to settle in. As early as the middle of the 19th century, the area between Nuuanu Avenue and Nuuanu stream was known as Chinatown. The streets then were winding and narrower until the first of the two great fires that devastated the area occurred in 1886, after which Chinatown was rebuilt with wider and straighter streets with structures still built mostly with wood. On January 20, 1900, the systematic burning of the blocks, implemented by the Territorial Government to control the bubonic plague in the area got out of control and destroyed nearly all of Chinatown. Again, the area was rebuilt but this time with brick and stone buildings. The extensive use of bricks and stones in the buildings were largely the reason for what we see now as a harmonious architectural grouping in almost the entire district of Chinatown.

2. I.H. SCHNACK BUILDING:

a. Description:

Built in 1915, this building is a two-story plaster/brick/wood structure, approximately 29 feet high. The street level is comprised of small retail spaces with multi-panel glass exterior and accessed individually through recessed doorways. The second floor is used for rental accommodations. The most dominant character of this building are the wide columns spaced approximately 18' O.C. that extends from the ground and then capped by a continuous frieze at the top. The facade is an isolated one in the block but the use of decorative details in the parapet enlivens the surface of the building. The building's color is basically off-white. Doorways at the second floor leading to the residential units are framed with bright blue colored trims and jambs, apparently, a change from the original white. The style of this building can best be described as somewhat evocative of the Italian Renaissance period. (See Figures 3 and 4).

b. Significance:

The buildings historical and preservation values are considered very high though the structure itself is sub-standard. This condition did not diminish the importance of this building in the Chinatown historic district. It is one of the most significant and beautiful structures in the district.

3. M. KAWAHARA BUILDING:

a. Description:

Built in 1911, this building is a 2-story brick, wood, and steel building, approximately 26 ft. high. The building is currently being used as a gallery at the ground level and small offices at the second level. It has recently undergone a major renovation that improved somewhat the over-all condition of the building.

b. Significance:

Under the Chinatown Historic Preservation Plan (CHPP), the building has a very high preservation and visual values and its facade relates well to the adjoining Schnack Building in scale and material usage. (See Figures 3 & 4).

4. YEE HOP PLAZA BUILDING:

a. Description:

Built in 1965, this 4-story concrete and aluminum building is one of the earlier buildings in this area done in the modern style. A distinct feature of this building was the treatment of the exterior ground floor columns with traditional chinese scrolls and building ornamentations. The building is currently being occupied by a restaurant and a bank in the ground floor and offices in the upper floors.

b. Significance:

Under the CHPP, it has a medium architectural value. Its facade grouping is considered negative and has no preservation value.

Figure 3 - J.S. Schnack Building, right
M. Kawahara Building, left

Figure 4 - M. Kawahara Building, left
J.S. Schnack Building, right

5. LIBERTY BANK BUILDING:

a. Description:

Built in 1951, this building is a 4-story concrete structure. Designed by Vladimir Ossipof, the facade of this building is known for the intricate arrangement of the concrete brick facing of the first third height of the building. Strip windows punctuate the simple King and Maunakea Street facade, glass on King street and aluminum lowers on Maunakea Street. Another notable feature of this building is the decorative round concrete pilasters sheathed in stainless steel cover located in the main entrance. (See Figure 5).

b. Significance:

The Owners of this building have no plans in the future to demolish this building. Under the CHPP, this building has very high historical and visual value. It represents one of the earlier buildings in Chinatown designed in the modern style.

6. GOODWILL INDUSTRIES BUILDING:

a. Description:

Built in 1895, this building is a 2-story wood, and masonry building, approximately 36 feet high. The building is now housing a produce market at the ground and small offices at the second floor. During the last 20 years, the building has undergone several cosmetic works (repainting, new storefront and signage, etc.) and some electrical and plumbing. The building's service entry is located in the back and is currently using the mauka portion of the existing parking garage ground floor as approach area to the produce market's service entry.

b. Significance:

Under the CHPP, the building has a medium preservation value. The facade of the building is isolated, i.e., it does not relate to any of the buildings adjacent to it, either in scale or materials.

7. HAWAII NATIONAL BANK BUILDING:

a. Description:

Completed in November of 1989, this massive 5-story concrete structure was designed by Robert Sarnoff of Missouri. The structure is volumetric in forms and employed a lot of deep recesses in its facade. It's over-all character is more sympathetic with the architecture of buildings within the central business district rather than with Chinatown's. (See Figure 8).

b. Significance:

This building being new was not included in the CHPP building analysis.

8. BANKOH ANNEX BUILDING:

a. Description:

Built in 1915, this very simple four-story concrete, steel and masonry building was originally called the Honolulu Ironworks and owned by the Peach Family. It was leased to Bankoh in the early 1970's and was later purchased by the bank in 1983. In 1972, Bankoh commissioned the architectural office of Ty Sutton to renovate the interiors of the building and to do some face-lifting in the exterior facade of the structure. Currently, a new structure is being planned by the bank to replace this building. (See Figure 8).

b. Significance:

With its honest simplicity, the building over the years has become a landmark. Under the CHPP building survey, this structure has a very high preservation, historical as well as visual values.

9. BUILDING (NAME UNKNOWN):

a. Description:

Built in 1900, this two-story masonry structure is currently being used for retail in the ground floor and for small offices in the second floor. Like many of the Chinatown buildings, this structure has a metal awning in its street frontages. This building, at its present condition needs rehabilitation. (See Figure 6)

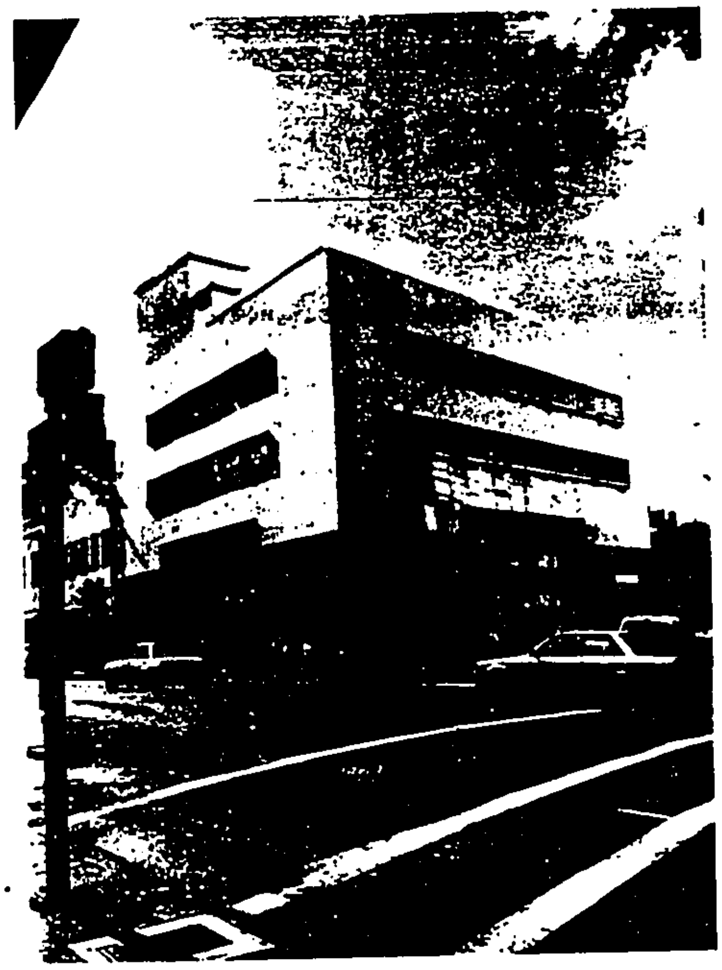


Figure 5 - Liberty Bank Bldg.
cr. N. King and
Maunakea Streets

Figure 6 - No Name Bldg., left; Goodwill Industries Bldg., middle; Liberty Bank Bldg., right

Figure 7 - Yee Hop Plaza
corner of King and
Maunakea Streets

Figure 8 - Hawaii National
Bank, middle;
BOH Annex, right

b. Significance:

The building's remarkably simple exterior recall some of the simplicity of design generated during the latter part of the Italian Renaissance. Under the CHPP, this building has a very high historical, visual and preservation values.

II. IMPACTS AND MITIGATION MEASURES ON HISTORIC BUILDINGS AND DISTRICTS:

A. CURRENT GOVERNMENTAL PRESERVATION POLICIES:

The Chinatown district falls under the purview of several federal, state, and county laws, regulations and policies regarding the protection of historic buildings and the district itself. Since this project does not require federal funds or permits, the main federal regulations in this area, known as 36 CFR 800, which implements the provisions of the 1966 National Historic Preservation Act as amended and of Executive Order 11593 ("Protection and Enhancement of the Cultural Environment") will not apply.

The State of Hawaii implements Chapter 6E of the Hawaii Revised statutes, also known as the "Historic Preservation" law. The state also adopted the Hawaii State Plan and State Historic Preservation Functional Plan. Currently being undertaken by the Historic sites Section of the Department of Land and Natural Resources is the promulgation of administrative rules to implement the laws and policies relating to historic preservation.

The City & County of Honolulu, has its own preservation policies, incorporated in the city's General Plan. They are as follows:

1. Identify, and to the extent possible, preserve and restore buildings, sites, and areas of cultural, historic, and archeological significance; and

2. Cooperate with State and Federal Governments in developing and implementing a comprehensive program.

The City Council established by resolution a "comprehensive Historic Preservation Review Policy to help preserve the City's historic and Archaeological Properties" purposely to accomplish the above-mentioned policies. This resolution outlines a six-step review process for any project that alters the land of any historic property undertaken by a City agency or that requires a City permit. The steps are as follows:

a) Identify any historic and archeological properties likely to be affected by a development project,

b) Evaluate the significance of the historic and archeological properties involved,

c) Assess the impact of the development project on significant historic and archeological properties,

d) Submit the assessment to the Historic Sites section [of DLNR] for review and concurrence, and that section is to consult with the office of Hawaiian Affairs when Native Hawaiian properties are involved.

e) Prepare a plan, in consultation with Historic sites section, and that section is to consult with the Office of Hawaiian Affairs when Native Hawaiian properties are involved, to mitigate the impact of the development project on any significant historic and archaeological properties, and

f) Implement the mitigation plan.

In addition to the above, the section of the Land Use Ordinance relating to the Chinatown Special District also contains the following policy on historic preservation:

- Preserve and restore, and to the extent possible, buildings and sites of historic, cultural, and/or architectural significance, nd encourage new development which is compatible with and complements these buildings and sites, primarily through building materials and finishes, architectural detailing, and provisions for pedestrian amenities, such as storefront windows and historic signage details.

  Also, stated in the City and County's Development Plan Special Provisions for the Primary Urban Center" are urban design principals and controls to regulate "prominent views of historically and architecturally significant urban areas, places and buildings, such as... Chinatown." More specific guidelines has been set for the Downtown area, which includes Chinatown. It calls for preserving and enhancing where feasible views from public streets and thoroughfares to the Aloha Tower and Honolulu Harbor.

All of the above mentioned policies are used in assessing the impacts of the proposed project to the various historic buildings listed and identified in Figure 1.

III. POTENTIAL DESIGN IMPACTS AND MITIGATION MEASURES:

The project is comprised of an apartment tower, a two-story portion along Maunakea and Smith Streets, a 5-story parking structure and two levels of basement parking. (See Figures 9, 10, & 11).

In the middle of the project site is a landscaped mall aligned with Marin Street. This alignment was done primarily to serve as a visual extension of Marin Street. This mall will be lined with commercial areas on both sides, in addition to being the main access to the apartment tower. This area is primarily intended to be a "People's" place.

The facade of the 2-story portion of the project was designed purposely to emulate the facade of the existing J.H. Schnack Building, which is considered, historically, one of the most significant structures in Chinatown. The parking garage facade will be treated the same way as reflected on the conceptual elevations along Nimitz Highway. (See Figure 11).

The apartment tower is the only part of the project that is somewhat different in character from the historic district and to mitigate its lost linkage to the district, the facade is provided with lots of shadow casting elements including eyebrows, recesses, and lanais.

The other feature extensively used in this project is the continuous metal awning, an element present in almost all the buildings of similar scale, in Chinatown. Its use in all three sides of the exterior of the building is intended to effectively relate the project to the prevailing character of the district, in general and its immediate surroundings, in particular. Another feature introduced in this project are the articulated stair towers. They were designed to echo the character of some of the old (Aloha Tower) and recent projects (Maunakea Market Place) in the district. The capping of the stair towers with metal hip roofs gave the designers the opportunity to relate the apartment tower to the over-all scheme by capping the apartment tower with the same roof style and material as the rest of the project.

IV. POTENTIAL IMPACTS AND MITIGATION MEASURES DURING CONSTRUCTION:

The project is comprised of a two-story structure on each street frontages (Smith and Maunakea Streets) with commercial spaces at ground level and studio apartments at the second level, a 5-story parking structure, two levels of basement parking and a residential tower. In essence, the project can be described as a four-component project. For these reasons, potential impacts of each part would vary from one another and their respective mitigation measures will be discussed separately following every impact presented.

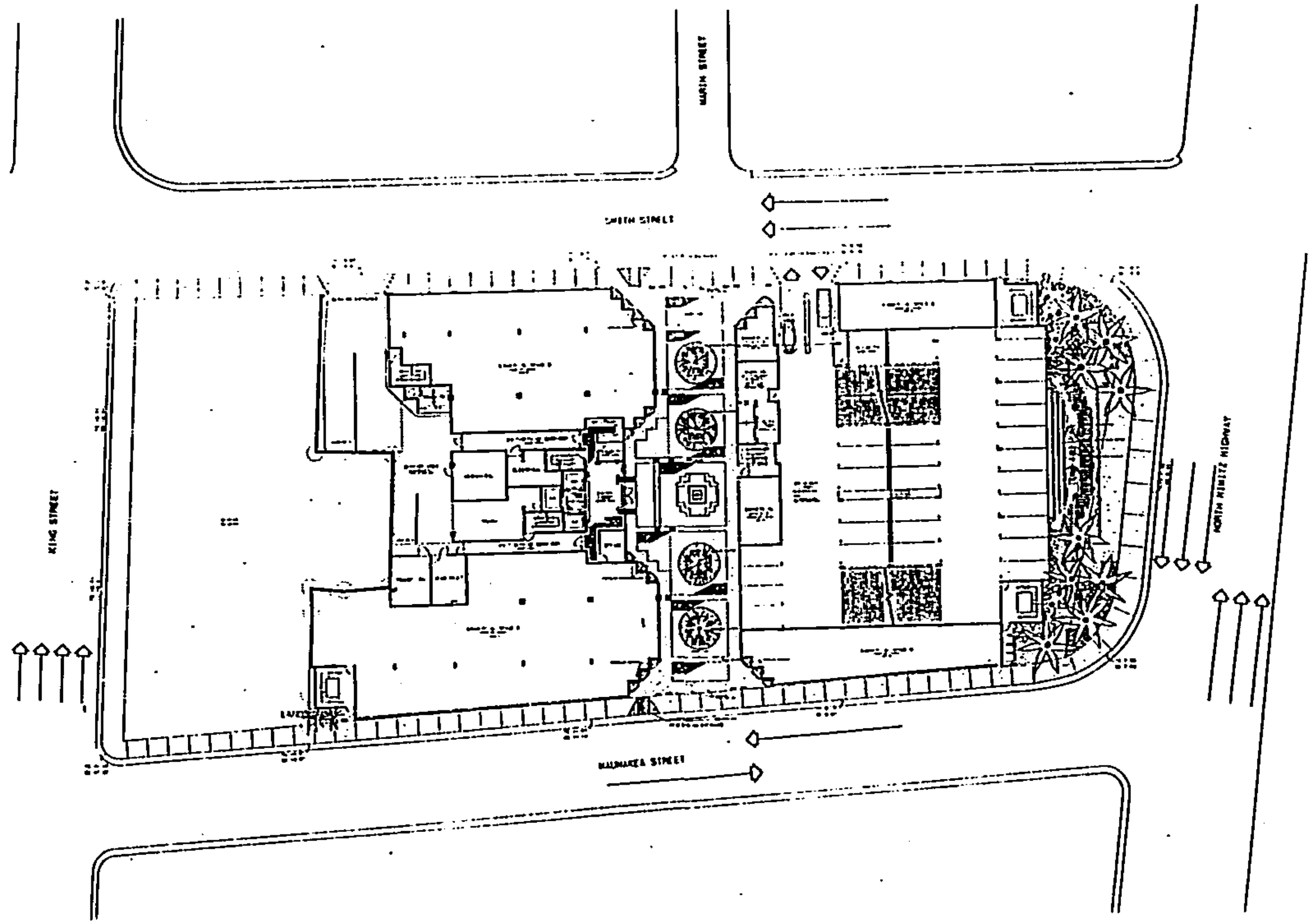
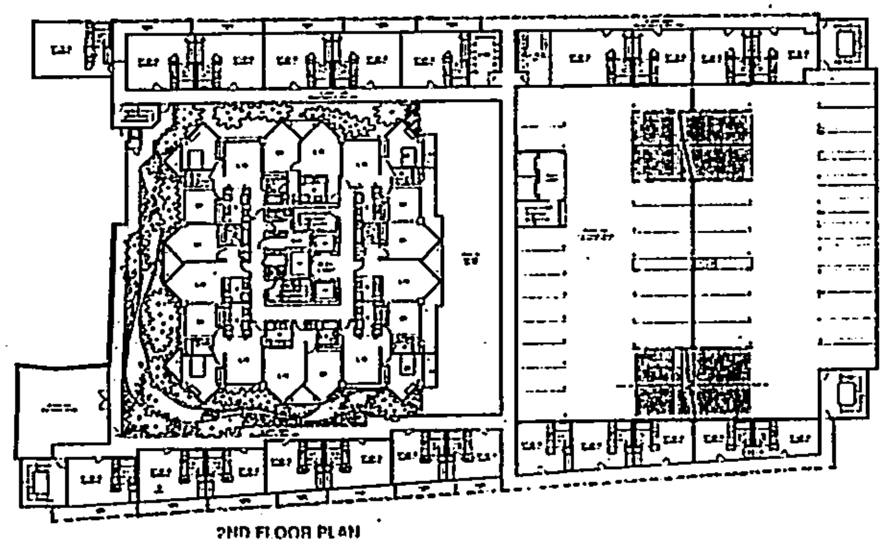


FIGURE 9. FLOOR PLAN
Source: AHL SD-37, dated 12/14/1990



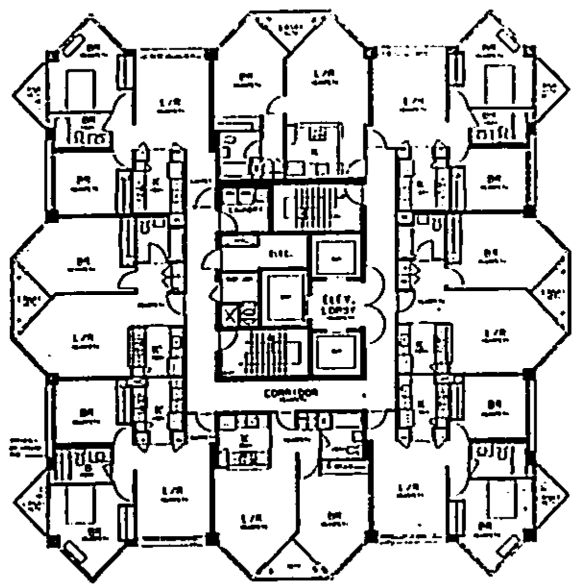


FIGURE 10. FLOOR PLANS
Source: AHL SD-37, dated 12/14/1990

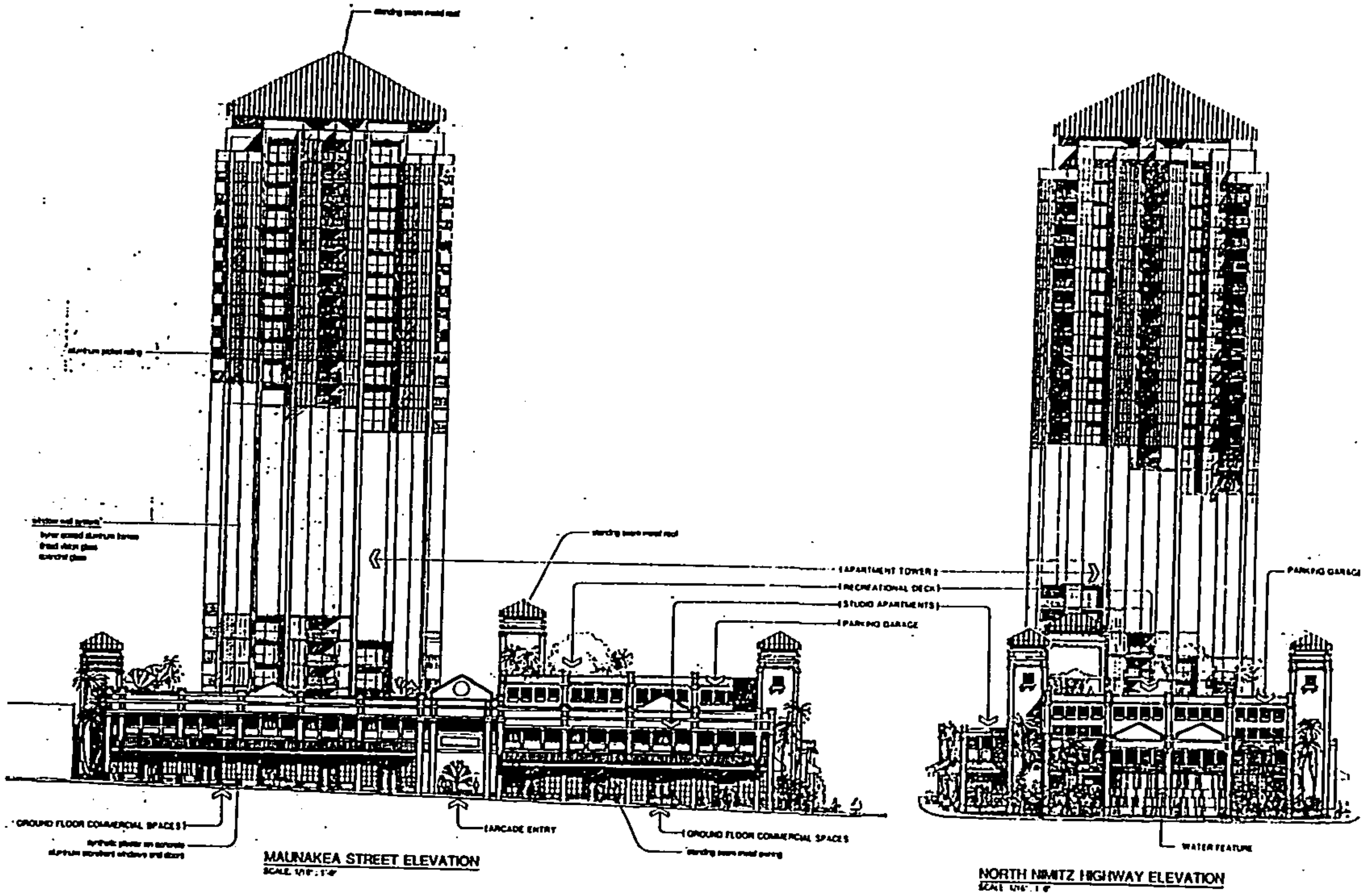


FIGURE 11. BUILDING ELEVATIONS
Source: AHL SD-22, Revised 12/7/1990

The following is a discussion of the various activities that will be encountered during construction of the various components of this project as mentioned above and the mitigating measures to be undertaken to address any adverse impacts that these activities might cause.

A. BASEMENT PARKING:

Construction of this part of the project would involve the following major activities that may expose the adjacent historic buildings to potential damage:

1. Basement Excavation Dewatering:

Considered to be the activity that would most likely cause damage in nearby buildings, pumping to dewater the excavated area could result in the lowering of the watertable in the immediate area, and cause ground settlement and cracking in nearby buildings.

The dewatering process should be done cautiously and strictly monitored before, during and after construction so that appropriate mitigating measures can be undertaken in case any of the above mentioned impacts result from the dewatering activity. Monitoring will include photo documentation of the buildings (See Figure 1) located adjacent to and immediately around the project site.

2. Excavation:

The mauka end of the site is adjacent to the three lots facing King Street. During excavation, the buildings in these lots are proned to settlement problems.

To reduce the potential damage to the surrounding utility lines, streets and buildings, an adequately designed and properly constructed excavation support system will be required. This requirement will be incorporated in the construction documents. A preferred alternative will be to make the Contractor responsible for the actual design of the excavation systems. The reason for this is that the Contractor will be continuously present on the site and will have the best opportunity to observe any changing conditions during excavation and construction, such as unforseen subsoils, unsuitable construction sequences or techniques, etc., which might affect the excavation stability and ultimately endanger the buildings and utilities immediately around the project site.

Should it be disclosed ruing the initial stage of excavation that the buildings adjacent to the mauka portion of the project site are not bearing on the competent upper coral formation, underpinning these buildings may be required.

B. TWO-STORY STRUCTURE, FIVE-STORY PARKING STRUCTURE AND THE APARTMENT TOWER

Construction of these parts of the building would involve the following activities that could subject the adjacent historic buildings to potential damage:

1. Pile Foundation:

The foundation recommended by the Structural Engineer for the project is pile foundation. This type of foundation could cause excessive ground-borne vibration to be transmitted to buildings adjacent to and in the immediate vicinity of the project site and made them susceptible to cracking. The driving of the piles for the apartment tower would take the longest and would have the most impact as far as contributing to the potential damage of nearby buildings.

To avoid structural damage cause by ground-borne vibrations, impact drivers will not be used. Predrilling the upper hard surface will be recommended.

2. Dust:

During construction, dust will settle on nearby buildings and could damage building materials. This concern will be apparent right at the start of construction (during the demolition of the existing parking garage and the two-story structure in the makai section of the project site) through the final cleaning of the construction site.

This impact can be mitigated by cleaning the historic buildings in the area after construction is completed. This could be achieved by either using brushes or water-pressure washing. The Contractor will also be required to implement their own on-site dust control as an additional mitigating measure.

NOTE:

a. For items A.1, A.2, and B.1 above, it will be recommended that a geotechnical engineer be retained during construction to provide geotechnical engineering services for the project. This is to make sure that compliance to all the safety precautionary measures are met.

b. Traffic, noise, and parking impacts are discussed in separate sections of the EIS.

SOURCES:

1. CHINATOWN REVITALIZATION PLAN, prepared for the City & County of Honolulu, Peat, Marwick, Mitchell & Co., July 1981.

2. CHINATOWN HISTORIC PRESERVATION PLAN, prepared for the Department of Housing and Community Development, City & County of Honolulu by Aotani & Hartwell Associates, Inc., Honolulu, Hawaii, 1974.

3. LAND USE ORDINANCE, Department of Land Utilization City & County of Honolulu, April 1989.

4. BUILDING OWNERS INTERVIEW:

   a. Bankoh
   b. Hawaii National Bank
   c. Liberty Bank
   d. Yee Hop Plaza

5. PRELIMINARY GEOTECHNICAL ENGINEERING EXPLORATION
   Smith/Maunakea Housing
   Honolulu, Oahu, Hawaii
   W.O. 2560-00 November 29, 1990

   Prepared By:
   C.W. ASSOCIATES, INC.
   DBA GEOLABS HAWAII

FIRM BACKGROUND

Architects Hawaii, Ltd. was founded in Honolulu in 1946 by Cyril W. Lemmon and Douglas Freeth. Long known as one of the largest, most qualified design firms in the Pacific, AHL has extensive experience on hotel, resort, recreational, residential, hospitality, healthcare, institutional, commercial, and office projects.

Responsiveness, sound business practice, and a high level of design quality have contributed to the success of the firm, with satisfied public and private clients and numerous design awards to its credit. AHL is continuously ranked among the top 50 architectural firms in the United States.

While the use of modern technology at AHL such as computer-aided design and drafting hardware, overlay drafting systems and sophisticated reprographics equipment is essential, it is the philosophy of AHL that individuals, not systems, control the design process. AHL designers understand the diverse requirements of government agencies, users, builders and developers.

At AHL we strive to protect the natural and historic environment and to maintain uniqueness while ensuring that additions to the built environment foster the health and well being of its inhabitants.

RECOGNITION

Architects Hawaii has received 21 Design Awards from the Hawaii Society/American Institute of Architects. The firm has been nationally recognized for design excellence by the American Hospital Association, American Association of School Administrators, U.S. Army Corps of Engineers, and Progressive Architecture magazine. Engineering News Record magazine has consistently ranked the firm in the "Top 500" among design professionals throughout the United States.

ALEX WEINSTEIN, A.I.A.

Position	Principal
Education	Master of Architecture, 1948 Massachusetts Institute of Technology B.S. Architectural Engineering, 1943 Iowa State University
Architects Hawaii Experience	Joining Architects Hawaii in 1969, Mr. Weinstein has world-wide experience in a variety of projects including condominiums, resort hotels, office buildings, health facilities, educational facilities, and government buildings.

Directing the planning, designing, and management of highrise luxury condominiums, Mr. Weinstein's projects have received recognition in numerous publications and over forty international, national and local design awards.

Relevant project experience includes:

Principal-In-Charge

- Nauru Tower (404 Piikoi Phase I), Luxury Condominium, 307 Units
- Plaza Landmark Condominium
- Hale Kamaole Condominium
- Kahana Villa
- Kailua Market Place
- Kailua Center
- Waialae Professional Center
- Kalakaua Low-Rent Housing
- Kamaole Sands
- Kapiolani Plaza Shopping Center
- Kapiolani Shopping Center
- Waimaha Housing

- Queen's Medical Center, Radiation Therapy Facility
- Alterations to Dole Packaged Food Company
- Cancer Research Center of Hawaii

<u>Project Manager</u>
- Waikiki Landmark, Luxury Condominium, 189 Units

<u>Project Architect</u>
- Castle Memorial Hospital, Phase II
- Grosvenor Center
- Hale Koa Hotel, Fort DeRussy
- Pacific Trade Center

Previous Experience

22 Years

Principal
Steele, Weinstein and Associates, Architects
Omaha, Nebraska, 1955-1969

Partner
Steele, Sandham and Weinstein, Architects
Omaha, Nebraska, 1949-1955

Designer
D. Robbins and Associates, Architects
Omaha, Nebraska, 1948-1949

Registration

NCARB	1953
Nebraska	1953
Iowa	1959
Texas	1967
Georgia	1968
Virginia	1968
Oregon	1968
Pennsylvania	1968
Hawaii	1969

Current Memberships and Affiliations

Honolulu Kiwanis Club
Oahu Country Club
Plaza Club
American Institute of Architects
Boy Scouts of America, Aloha Council Pacific & Asian Affairs Council
Honolulu Committee on Foreign Relations
Development Association of Hawaii
Jewish Federation of Hawaii

ROBERTO B. YUMOL, A.I.A.

Position	Associate
Education	Bachelor of Science in Architecture, 1969 Mapua Institute of Technology Manila, Philippines
Architects Hawaii Experience	Mr. Yumol joined Architects Hawaii in 1980. Working as a project manager and designer, he has participated in condominium, resort hotel, office building, medical facility projects, and storage facility projects.

Relevant project experience includes:

Project Architect/Manager/Designer

- Waialae Professional Center
- Kona Surf Convention Center
- Sheraton Kauai Hotel (Oceanfront)
- Liliuokalani Gardens Condominium
- Smith/Maunakea Housing
- Tokai University Pacific Center
- Kapiolani Community College, Ft. Ruger
- Kaiser Skilled Nursing Facility
- QDC - Laundry/Warehouse Project

PREVIOUS EXPERIENCE **1968 - 1980**	Associate Project Manager/Designer Niels Stoermer & Associates 1978-1980
	Associate Project Manager/Designer Armando Q. Rollolazo, AIA 1975-1978
	Job Captain/Designer Village Architects & Associates Corp. 1975

	Project Architect Philippine Airlines 1972-1974
	Project Architect C. F. Agbayani & Associates
REGISTRATION	Hawaii, 1987 Philippines, 1970
CURRENT MEMBERSHIP AND AFFILIATIONS	American Institute of Architects Philippine Institute of Architects

APPENDIX H

Preliminary Geotechnical Engineering Exploration

Geolabs - Hawaii

PRELIMINARY GEOTECHNICAL ENGINEERING EXPLORATION
SMITH/MAUNAKEA HOUSING
HONOLULU, OAHU, HAWAII

W.O. 2560-00 NOVEMBER 29, 1990

FOR

ARCHITECTS HAWAII Ltd.

C.W. ASSOCIATES INC.
DBA GEOLABS-HAWAII
2006 KALIHI STREET
HONOLULU, HAWAII 96819

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PRELIMINARY GEOTECHNICAL ENGINEERING EXPLORATION

SMITH/MAUNAKEA HOUSING

HONOLULU, OAHU, HAWAII

W.O. 2560-00 NOVEMBER 29, 1990

SUMMARY OF FINDINGS AND RECOMMENDATIONS

The preliminary borings generally indicated competent coralline limestone from near the ground surface extending down to between elevation 0 and -10.0 feet Mean Sea Level (MSL). The subsoils then grade to medium dense coral detritus and alluvial deposits. Densely packed basalt boulders and cobbles with silty sand were encountered from approximately elevation -100 feet MSL to about elevation -145 feet MSL in Boring No. 3. A basalt formation was encountered in Boring No. 2 at about elevation -120 feet MSL.

Basement excavation ranging from 12 to 18 feet deep adjacent to the surrounding streets and buildings is anticipated. A properly designed and installed support system such as soldier piles and lagging with tiebacks or rakers could be utilized to provide excavation support to greatly reduce the potential damage to the surrounding buildings, streets, and utility lines. Underpinning of the adjacent structures may be required.

It is our opinion that the project site may be cut down to approximately elevation 3.0 feet MSL during initial grading to facilitate pile driving operations. At this level machinery and equipment for pile driving may operate above the groundwater level.

Pile foundations consisting of 16-1/2-inch octagonal prestressed concrete piles with an allowable bearing capacity of 100 tons may be used to support the proposed high-rise tower and parking structures. Based on the results of our preliminary borings it is estimated that pile lengths on the order of 110 feet below elevation 3.0 feet MSL may be required.

The text of this report should be referred to for detailed and special design recommendations.

GEOLABS-HAWAII

It is recommended that when the two-story parking structure currently occupying the site is removed, additional borings be performed to confirm or provide the basis for revising the recommendations given in this report.

INTRODUCTION

This report presents the results of our preliminary geotechnical engineering exploration performed for the proposed Smith/Maunakea Housing project in downtown Honolulu, on the island of Oahu, Hawaii. The general location of the site and its vicinity is shown on the Project Location Map, Plate 1. The exploration was performed in accordance with our proposal dated August 2, 1990.

This report summarizes our findings from the preliminary field exploration, and our geotechnical engineering recommendations were derived from our analyses based on the data obtained during the exploration. These recommendations are intended for design input and are not intended for final construction bidding or estimation purposes.

PROJECT CONSIDERATIONS

The proposed Smith/Maunakea Housing Project involves the construction of a 28-story high-rise tower, approximately 78 square feet in plan and an adjacent 6-story parking structure. Two levels of basement parking are planned below the entire site.

Excavations up to about 18 feet deep below the existing grade and immediately adjacent to existing streets and buildings are anticipated. Based on the preliminary plans provided us, the finish floors have been set at elevations -1.0 to -4.0 feet MSL at the mauka area and -9.0 feet MSL at the makai portion. Excavation support and a dewatering system will be required during construction of the basement.

PURPOSE AND SCOPE

The purpose of this preliminary exploration was to obtain an overview of the subsurface soil conditions at the project site in order to develop a generalized soil/rock data set for the formulation of preliminary geotechnical engineering recommendations pertinent to basement excavation, shoring, retaining walls, dewatering, and foundation design of the project.

The work was performed in accordance with our proposal to Architects Hawaii, Ltd., dated August 2, 1990. The scope of work was limited to the following:

1. Review of available soils and geologic information pertinent to the project site and its vicinity;

2. Reconnaissance of the project site and vicinity to make visual observations of the site conditions;

3. Drilling and sampling four (4) borings to depths of 121.5 to 146.5 feet below the existing ground surface;

4. Laboratory testing of selected samples obtained during the field exploration to determine the classification and engineering properties of the materials encountered;

5. Engineering analyses of the field and laboratory data for the purpose of developing basement excavation, shoring, retaining walls, dewatering, and foundation design recommendations; and

6. Preparation of this report presenting the findings and design recommendations.

Detailed descriptions of our field exploration and laboratory testing are presented in the appendices of this report.

SITE DESCRIPTION

The project site is located in the downtown area of Honolulu on the island of Oahu. The site is bound by Maunakea Street to the north, Nimitz Highway to the west, and Smith Street to the south. To the east along King Street, the site is bounded by existing 2- to 3-story buildings.

The site is occupied by an existing 2-story municipal parking structure. The terrain of the site gently slopes down from mauka to makai with elevations ranging from approximately 16.5 feet MSL to 8.0 feet MSL.

SUBSURFACE CONDITIONS

The exploration program consisted of drilling and sampling four (4) borings to depths ranging from 121.5 to 146.5 feet below the existing ground surface along the perimeter of the parking structure. The approximate locations of the borings are shown on the Site Plan, Plate 2.

Subsoil Conditions

Below the asphalt concrete pavement, the borings encountered competent coralline limestone near the surface. At Boring Nos. 3 and 4 (makai portion of the site), about 4 to 7 feet of fill was also encountered below the surface pavements.

The upper hard coral formation generally extends between elevation 0.0 and -10.0 feet MSL and then grades to medium dense coral detritus materials. Alluvial deposits consisting of clayey silt and sand were generally encountered between elevation -50 and -70 feet MSL.

Old alluvium consisting of sand and basalt gravel and cobbles were encountered at about elevation -80 feet MSL. Densely packed basalt boulders and cobbles with silty sand were encountered from approximately elevation -100 feet MSL. In Boring No. 2, a basalt formation was encountered at elevation -120 feet MSL, but not in the other borings.

Detailed descriptions of the materials encountered are presented on the Boring Logs, Plates A-1.1 through A-4.4. Laboratory testing was performed on selected samples obtained. The test results are presented in Appendix B.

<u>Groundwater Level</u>

The groundwater levels in the borings were checked at different times during our field exploration. The observed in-situ groundwater level varied between elevation -1.7 to -6.5 feet MSL.

Based on our previous experience in the general area, the groundwater level has generally been between elevation 0.0 and 2.0 feet MSL. It is our opinion that the relatively lower groundwater level observed during the field exploration for this project could have been caused by water pumping in the adjacent neighborhood. For the basement structure project planning and design, we believe that the in-situ groundwater level should be assumed to occur at approximately elevation 2.0 feet MSL.

Due to the proximity of the site to the ocean, it is anticipated that the in-situ groundwater level will fluctuate with tidal changes, rainfall, and other factors at different times.

DISCUSSION AND RECOMMENDATIONS

General

It is our opinion that the proposed project is feasible from a geotechnical engineering point of view. It appears that the underlying medium dense coral detritus deposits cannot provide adequate foundation support without inducing excessive settlements under the proposed 28-story tower structure. Therefore, deep pile foundations embedded in the bouldery old alluvium or basalt formation are recommended to provide foundation support of the project.

Based on the conceptual plans provided to us, the construction of the basement parking structure will involve excavation down to elevations of -1.0 feet MSL (mauka) to -9.0 feet MSL (makai). Also, the excavation will abut the surrounding streets and buildings. Adequately designed and properly implemented shoring and dewatering systems will be required for the basement construction.

Additional Exploration Program

Due to the presence of the potentiallly significant archeological structures below the existing parking structure, the current exploration was limited to four (4) borings at the perimeter of the site. It is our opinion that the available boring information is representative of the subsoil conditions at the site and that it is sufficient for the development of preliminary foundation recommendations. However, we feel that additional borings should be drilled after demolition of the existing parking structure and/or removal of the archeological structures. The additional boring data are required to further evaluate the extent of the competent upper coral formation and suitable pile bearing strata, which may affect the estimated pile lengths and predrill depths.

Site Grading

Site grading involving excavation up to about 13 to 18 feet below the existing ground surface is anticipated for the basement construction. It is our understanding that the finish lower basement floor at the mauka area has been set at elevations ranging from -1.0 to -4.0 feet MSL. At the makai portion, for an area of about 150 feet x 60 feet, the finish floor will be at about elevation -9.0 feet MSL.

Site Preparation

At the on-set of earthwork, the area within the contract grading limits should be cleared of vegetation, rubbish, old footings and pavements, and other deleterious materials. The resulting grub and spoil material should be disposed of properly off-site.

It is anticipated that the site will be excavated during the initial grading. We feel that the project site may be excavated down to about elevation 3.0 feet during initial grading for pile driving operations so that the machinery and equipment may operate above the groundwater level at high tide. After pile driving, the contractor may complete the remaining site excavation and shoring prior to pile caps and basement construction.

Alternatively, the site may be roughly cut down to finish floor level, i.e., elevations -1.0 to -9.0 feet, prior to pile driving with continuous dewatering operation. In this way, some savings on the pile lengths may be anticipated. However, there is always a risk of flooding the piling equipment should the dewatering system fail to function properly, and this risk should be clearly understood as the contractor's responsibility.

Basement Excavation

Based on the information provided to us, two levels of basement parking are planned on the mauka side (King Street) and two and one-half levels at the makai side (Nimitz Highway) of the site.

It is anticipated that the mauka area of the site will be excavated down to elevations of -1.0 to -4.0 feet MSL for the finish floor. At the makai portion, for an area of about 150 feet x 60 feet, the finish floor will be at an elevation of -9.0 feet MSL. The anticipated maximum cut is on the order of 18 feet below the existing grade.

Based on the preliminary boring data, very hard excavation requiring hoerams or chipping may be anticipated for cuts into the upper coral formation. This may be particularly true for the upper five (5) to roughly ten (10) feet of the coral.

Fill Material

It is our opinion that the on-site excavated coral material may be used as fill material provided that the materials are processed down to relatively well-graded six (6) inches minus size.

The excavated on-site coral material is not suitable for use as fill under water level due to the excessive amount of fines. For backfill under water level, self-compacting clean granular material such as No. 3B Fine gravel (ASTM C 33, No. 67) is recommended to a minimum level of 12 inches above the highest anticipated groundwater level.

Fill Placement and Compaction Requirements

No major fill placement is anticipated for the project. The fill/backfill should be placed in horizontal loose level lifts up to maximum 10 inches thick and compacted to a minimum of 90% of its maximum dry density as determined by ASTM Test Method D 1557-78.

All fill or backfill below the water level should consist of clean granular material such as No. 3B Fine gravel (ASTM C 33 No. 67) recommended above. This material is generally self-compacting. Additional densification may be obtained by use of a vibratory compactor on the final level of the material.

Shoring

The excavation for the underground structure will abut the adjacent Nimitz Highway, Maunakea Street, Smith Street, and the existing buildings on King Street. An adequately designed and properly constructed excavation support system will be needed to reduce the potential damage to the surrounding utility lines, streets and buildings by earth movements toward the open excavation.

Based on the preliminary borings, the upper hard coral may obstruct sheet pile penetration. It is our opinion that a support system consisting of soldier piles and lagging with temporary tiebacks or rakers could be adopted to provide support of the excavation. The use of horizontal bracing or struts inside the excavation does not appear practical because of the anticipated wide excavation.

Generally, the soldier piles should consist of wide-flange steel beams, and heavy timbers should be used for lagging. The actual design of the soldier pile and lagging system or other appropriate type of excavation support systems should be left to the contractor.

The soldier piles should generally be installed at no more than eight (8) feet on centers in predrilled holes extending a minimum of eight (8) feet below the bottom of the excavation. The bottom eight (8) feet of the predrilled holes should be backfilled with tremie concrete after placement of the soldier piles.

For preliminary design of the excavation support system, the apparent lateral earth pressure diagram presented on Plate 3 may be used as a guide.

Tiebacks

A tieback is a structural system which uses an anchor embedded in the ground to secure a tendon which applies a lateral force on a retaining structure. Tiebacks have been employed primarily for temporary excavations generally utilizing soldier piles with lagging for soil retention. It should be noted that the use of tiebacks would require permission from the owners of the adjacent properties.

Tiebacks are advantageous since they are external to the excavation and permanent construction may proceed without hinderance from internal bracing. A schematic sketch of the tieback-support system is presented on Plate 4.

Excavations supported by tiebacks usually experience less movement than those supported by raker-braced walls. This is because the tiebacks are installed from the temporary ground surface, and excavation does not proceed below a given anchor level until the anchors for that level are installed.

At this time, there are a number of different tieback systems available for consideration, including drilled and grouted anchors, deadman anchors and helical anchors. It is recommended that the contractor retain a specialty subcontractor or a structural engineering consultant to aid in selecting an appropriate tieback system and to design the overall excavation support for the project.

Rakers

Alternatively, a raker-supported soldier pile system may be considered to provide temporary support for the excavation sidewalls. It should be understood that rakers are acceptable but are less preferable than tiebacks. This is because the excavation in front of the lagging wall will have to proceed prior to positioning the rakers. As a result, raker-braced excavations usually experience greater lateral movements at the top than tieback-support systems. In addition, the rakers project into the excavation and cause interference with construction of the permanent structures.

If the raker system is selected for excavation support, it is recommended that the following raker installation procedures be followed and extreme care be exercised to reduce the ground movements during excavation.

In the raker-support system, excavations in the central portion of the site may proceed first, leaving temporary "berms" around the anticipated excavation boundary (see Plate 5). In order to reduce potential ground movements, the berms should then be trenched for the installation of rakers. The first set of rakers should be installed as early as practicable. As the berms are removed gradually, the second set of rakers should then be placed by "trenching in ". Additional sets of rakers, as necessary, may be installed by following the same procedure.

We strongly recommend that the contractor retain a competent structural engineering consultant to design and to coordinate the implementation of the excavation support system.

Shoring Construction Precautions

The soldier piles and timber lagging with either tieback or raker systems must comply with all applicable safety requirements. The adequacy and safety of the excavation support should be made the sole responsibility of the contractor. His representative, who should be continuously present on site, will have the best opportunity to observe any changing conditions during excavation and construction, such as unforeseen subsoils, unsuitable construction sequences or techniques, etc., which might affect the excavation stability.

Since lateral supports are installed as excavation proceeds, movements will inevitably occur due to changes in stress on the excavation sidewalls during excavation. Even with the best construction procedures, the excavation will proceed ahead of support installation. The further excavation proceeds before the next level of support is installed, the greater is the potential for lateral ground movements.

Therefore, it is important to realize that the excavation supports should be installed as early as practicable, particularly if rakers are to be adopted. The vertical and horizontal ground movements outside the excavation should be monitored periodically .

It is also recommended that a damage survey of all the existing buildings and structures adjacent to the project site be conducted. The survey should include photographs and records of the cracks and existing conditions prior to the commencement of construction.

Underpinning

The project site is bounded by existing 2- to 3-story buildings along King Street. Underpinning the adjacent buildings may be required should it be disclosed during the initial stage of construction that the existing neighboring foundations are not bearing on the competent upper coral formation.

Pile Foundations

Based on the preliminary exploration data, it appears that the underlying medium dense coral detritus deposits cannot provide adequate foundation support without inducing excessive settlements under the proposed 28-story tower structure. Therefore, deep pile foundations embedded in the bouldery old alluvium or basalt formation are recommended for foundation support of the project.

Since the finish grades may vary from elevation -1.0 to -9.0 feet MSL, it is our opinion that the project site may be cut down to approximately elevation 3.0 feet MSL during initial grading. This is to allow the machinery and pile driving equipment to operate above the groundwater level for pile driving.

Pile Capacities

Sixteen and one-half inch (16-1/2 inch) octagonal prestressed concrete piles with an allowable vertical pile capacity of 100 tons per pile may be used. The piles may develop the bearing capacity by a combination of friction/adhesion between the surrounding reef detritus and pile shafts and end-bearing on the underlying bouldery alluvium or basalt formation. A minimum pile spacing of four (4) feet on centers is recommended.

An allowable lateral pile capacity of up to 12 kips per pile may be used in the design provided that the predrilled holes are properly backfilled as recommended under the Predrilling & Backfilling section.

An allowable uplift capacity of 30 kips per pile may be used.

Pile Lengths

Based on the preliminary exploration results, estimated pile lengths may vary from about 105 to 115 feet below elevation 3.0 feet MSL. For the initial construction cost estimate, an average pile length of about 110 feet may be used. It is anticipated that two (2) sections of pile and a splice can will be needed to obtain the 110-foot pile length. The top pile section should be a minimum of 50 feet long to provide the uplift capacity.

The above pile lengths are for initial cost estimation purposes. The actual production pile lengths should be determined after completion of a test pile program.

Pile Driving Criteria

The piles should be driven with a hammer capable of delivering a minimum rated energy of about 30,000-foot pounds. The hammer should be equipped with an energy-level control so that driving within the loose deposits may be controlled at a reduced energy to minimize the development of tensile stresses within the piles, which could cause damage (cracking) to the piles.

Additional pile driving criteria are as follows:

1. The driving process should be continuous without interruption for each pile. A pile may be rejected or its design capacity modified when the driving process is interrupted for more than four (4) hours.

2. During easy driving (when the pile tip is still within the loose sandy soil), the hammer stroke should be carefully controlled (reduced energy) so that excessive tensile stresses are not induced in the pile.

3. The pile driving may be terminated when the blow counts steadily increase with depth and reach 9 blows per inch for the last three inches, or when aggregated blow counts are 120 blows for the last foot.

Predrilling & Backfilling

The preliminary borings indicated that the upper competent coral formation extends down to between elevation 0.0 and -10.0 feet MSL. At elevation 3.0 feet MSL, some hard coral is anticipated and may obstruct pile penetration.

Therefore, fifteen (15) feet of predrill from elevation +3.0 feet is recommended at each pile location. This would facilitate pile driving in the erratic coral environment and assure plumbness of the piles. The predrilled holes should have a minimum diameter of 20 inches for 16-1/2-inch octagonal piles. The required predrill depth may be verified and/or modified by additional exploration after demolition of the existing parking structure and prior to test pile program.

The predrilled holes may be filled with cuttings from the drilling after placement of the piles.

The above recommended predrill depth should be verified and may be revised after the test pile program.

Test Pile Program

A test pile program should be undertaken to fulfill the following objectives:

1. To examine the driveability of piles with the use of the selected hammer.

2. To more accurately determine production pile order lengths and to further verify/delineate different areas with different production pile lengths.

3. To help evaluate and modify, if necessary, the predrill depths and driving criteria.

To achieve these objectives, we recommend that the test pile program should consist of a minimum of 10 percent of the total number of piles as indicator piles for the project. The test piles may be incorporated into the actual foundation system later.

When the final foundation plan is available, the project geotechnical engineer should be consulted for selection of the test pile locations. The test piles should be cast 10 feet longer than the estimated pile lengths. Also, the test pile program should provide flexibility by allowing for addition of or relocation of the test piles as deemed necessary to suit the conditions encountered during the test pile driving.

A number of splice cans should be made available at the site during the test pile driving period. Splice cans may be fabricated with 1/4-inch thick high grade steel and should be at least 5 feet long.

As a part of the test pile driving program, a minimum of one (1) pile load test should be budgeted. The selected test pile should be load-tested to twice the allowable load capacity in accordance with ASTM Test Method D 1143.

The test piles should be driven with the same hammer which will be used for production pile driving. The test pile program should be conducted under close and continuous field observation of the project geotechnical engineer who will determine when piles may be stopped, and provide guidance should additional measures be required due to unforeseen driving conditions.

During the test pile driving period, the geotechnical engineer may select to redrive (retap) certain piles to evaluate the soil set-up (freeze) effect on pile capacity.

The geotechnical engineer should be consulted to evaluate the final pile bearing capacity and production pile lengths based on the results of the test pile driving and the pile load test.

Retaining Walls

The perimeter walls of the basement parking level and the elevator pits will be subjected to lateral earth loads and groundwater pressures. The walls will be non-yielding members. The guidelines for design of the retaining walls are as follows:

1. For lateral earth pressures, the following values may be used:

Above elevation 2.0 feet MSL (above groundwater level)	-	40 p.s.f. equivalent fluid pressure per foot of depth

Below elevation 2.0 feet MSL (below groundwater level)	-	85 p.s.f. equivalent fluid pressure per foot of depth

2. For lateral resistance design, a passive earth resistance of 140 p.s.f. per foot of depth (below groundwater level) may be used for wall grade beams and pile caps in addition to lateral pile capacity. A base friction factor of 0.40 may also be used to determine the resistance against sliding of the walls.

3. Backfill directly behind the retaining walls should consist of granular, non-expansive material, such as select on-site excavated coral material, select borrow or No. 3B Fine gravel (ASTM C 33 No. 67B) to minimize excessive compactive effort required. The upper 12 inches of backfill should consist of non-expansive impervious material to reduce water infiltration behind the walls.

4. A subsurface waterproofing and drainage system should be utilized behind the walls to protect against build-up of hydrostatic pressure.

Slab-On-Grade

It is anticipated that concrete on-grade slabs will be utilized for the basement floors of the parking structure. These slabs will support vehicular traffic and, therefore, function as rigid concrete pavements.

For the design of these rigid pavements, we recommend the following sections:

6-Inch (Min) Portland Cement Concrete
2-Inch (Min) Waterproofing Mud Slab
8-Inch (Min) Total Pavement Thickness

To account for buoyancy effect on the basement floor during construction, it appears that the basement slab, pile caps, and grade beams may be designed as one structural unit in order to mobilize the uplift pile capacity. The concrete pour for the basement slab, pile caps, and grade beams could be placed monolithically.

Because of the high uplift water pressures below the basement slabs and around the lower basement walls, it is critical that proper waterproofing be done for the basement construction. Special attention should be given to the details of waterproofing between and along the connections between the vertical basement walls and the horizontal bearing surface on the grade beam/pile cap members during construction to reduce potential leakage.

<u>Construction Dewatering</u>

Dewatering is anticipated for the basement excavation and construction. Based on the preliminary plans provided, the mauka area of the site will be excavated down to elevation -1.0 to -4.0 feet MSL for the finish floor. The makai portion, for an area of about 150 feet x 60 feet, the finish floor will be at about elevation -9.0 feet MSL.

Assuming in-situ groundwater level at about elevation 1.0 to 2.0 feet MSL, the required maximum depth of dewatering is on the order of 10 to 11 feet for an area of about 150 feet x 60 feet. Based on the preliminary borings, the required dewatering appears to be achievable with proper dewatering methods.

It should be understood that "dewatering" does not merely suggest the installation of a pumping unit and pumping water out of the excavation. "Dewatering" means any systems required to lower the groundwater level and to exclude it from the excavation to permit construction under dry conditions.

These systems may include, but are not limited to, well pumping, grouting, cut-off walls, tremie plugs or any combination of the above and/or other possible methods. The method and equipment to be used for the dewatering operations should be the choice of the contractor, within practical limits and safety considerations. Regardless of the method used, dewatering operations should be done continuously and without pumping out soil fines (pumping clear water only).

Utility Trench

Construction of new utility lines is anticipated for the project. A granular bedding consisting of six (6) inches of No. 3B Fine gravel (ASTM C 33 No. 67B) is recommended under the pipes.

Granular materials should be used for trench backfill. The backfill up to about one (1) foot above the pipes should be lightly tamped to reduce the possibility of damaging the pipes.

The upper portion of the trench backfill from the level one (1) foot above the pipes to the finish grade should be placed in maximum 10-inch horizontal loose lifts, mechanically compacted to a minimum of 90% compaction as determined by ASTM Test Method D 1557-78 to protect against potential future ground subsidence.

Design Review

Plans and specifications for the proposed construction should be forwarded to the geotechnical engineer for review and written comments prior to construction. This review is needed to determine adherence to the earthwork and foundation recommendations given herein. If this review is not made, the geotechnical engineer cannot assume responsibility for misinterpretation of the recommendations.

Construction Monitoring

It is recommended that the geotechnical engineer be retained to provide geotechnical engineering services during site grading, excavation, and test pile and production pile driving of the project. This is to observe compliance with the recommendations, design concepts, or specifications and to allow design changes in the event that subsurface conditions differ from that anticipated prior to start of construction. The recommendations given in this report are contingent upon such observations.

Any imported material required should be non-expansive, tested and approved by the geotechnical engineer prior to hauling to the site.

If actual exposed rock/soil conditions encountered during construction are different from those assumed or considered in this report, then appropriate modifications to the design should be made.

LIMITATIONS

The analyses and recommendations submitted in this report are based in part upon information obtained from field borings. Variations of conditions between the field data collection points may occur; and the nature and extent of these variations may not become evident until construction. If variations then appear evident, it will be necessary to reevaluate the recommendations given in this report.

The locations of the field data collection points were approximately determined by taping from objects indicated on the topographic map (undated) transmitted by Architects Hawaii, Ltd. Elevations of the field data collection points were interpreted from the same map. The physical location and the elevation of the field data collection points should be considered accurate only to the degree implied by the method used.

The stratification lines shown in graphic representations of the field data points depict the approximate boundaries between soil types, and, as such, may denote a gradual transition.

Water level data from the field data collection points was collected at the times given on the graphic representations and/or in the text of this report. This data has been reviewed and interpretations made in the formulation of this report. However, it must be noted that fluctuation may occur due to variation in rainfall, tides, temperature and other factors.

This report has been prepared for the exclusive use of Architects Hawaii, Ltd. and its consultants for specific application to the proposed Smith/Maunakea Housing Project in accordance with generally accepted geotechnical engineering principles and practices. No other warranty, expressed or implied, is made.

This report has been prepared solely for the purpose of providing preliminary design evaluation of the proposed project. Therefore, this report may not contain sufficient data, or the proper information, for use in contract bid estimation. A contractor wishing to bid on this project is urged to retain a competent geotechnical engineer to assist in the interpretation of this report and/or in the performance of additional site specific exploration for bid estimating purposes.

The owner/client should be aware that unanticipated soil conditions are commonly encountered. Unforeseen soil conditions, such as perched groundwater, soft deposits, hard layers or cavities, may occur in localized areas and may require additional probing or corrections in the field (which may result in construction delays) to attain a properly constructed project. Therefore, sufficient contingency fund is thus recommended to accommodate these possible extra costs.

The following appendices and plates are attached and complete this report:

Appendix A	-	Field Exploration
Plates A-1.1 thru A-4.4	-	Boring Logs
Appendix B	-	Laboratory Testing
Plates B-1 and B-2	-	Laboratory Test Data
Plate 1	-	Project Location Map
Plate 2	-	Site Plan
Plate 3	-	Apparent Lateral Pressure Diagram
Plate 4	-	Schematic Sketch of Tieback-Support System
Plate 5	-	Schematic Sketch of Raker-Support System

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Respectfully submitted,

C.W. ASSOCIATES INC.
dba **GEOLABS-HAWAII**

By Clayton S. Mimura
Clayton S. Mimura, P.E.

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APPENDIX A

Field Exploration

The subsurface conditions at the site were explored by drilling and sampling four (4) borings to depths of 121.5 to 146.5 feet below the existing ground surface at the approximate locations shown on the Site Plan, Plate 2. The borings were drilled using truck-mounted equipment.

The materials encountered were classified by visual and textural examination in the field by our geologist, who continuously monitored the drilling operations. These classifications were further reviewed by visual inspection and testing in the laboratory. All soils were classified in general conformance with the Unified Soil Classification System. A graphic presentation of the materials encountered are presented on the Boring Logs, Plates A-1.1 through A-4.4.

Soil samples were obtained from the borings by driving a standard penetration sampler with a 140-pound hammer falling 30 inches. The blow counts to drive the sampler the last 12 inches are shown on the Boring Logs at the appropriate sample depths.

Core samples were obtained by an HQ wireline core barrel. The core recovery and rock quality designation (RQD) values are shown on the Boring Logs at the appropriate sample depths.

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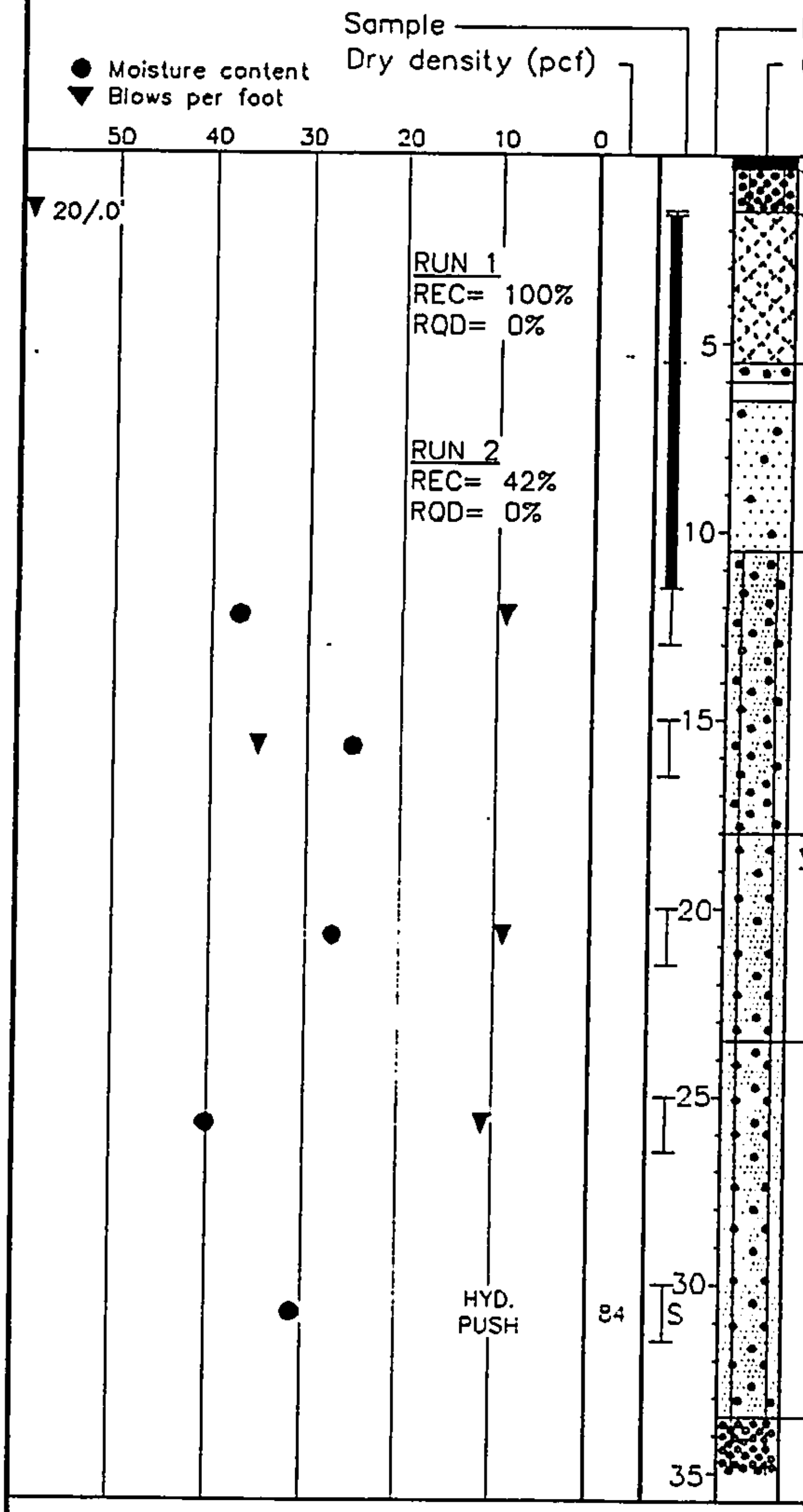
BORING 1

Surface elevation 13.0'±*



SOIL DESCRIPTION	USC
3.5-INCH ASPHALT CONCRETE	
TAN/WHITE SILTY CORAL GRAVEL	GM
TAN/WHITE CORALLINE LIMESTONE, HARD (CORAL REEF)	
TANNISH WHITE CORAL DEBRIS WITH SAND, WEAKLY CEMENTED, MEDIUM DENSE VOID AT 6.0 TO 6.5 FT. GRADES TO LOOSE	
TANNISH WHITE SILTY CORAL SAND AND GRAVEL, LOOSE, MOIST (REEF DETRITUS) GRADES TO DENSE	SM
⊽ GRAYISH WHITE SILTY CORAL SAND WITH GRAVEL, LOOSE	SP-SM
TAN SILTY TO CLAYEY CORAL SAND WITH GRAVEL, MEDIUM DENSE	SM/SC
TAN SILTY CORAL GRAVEL AND SAND, LOOSE	GM

LEGEND

- I 2.0" O.D. split-spoon sample
- II Undisturbed ring sample
- Disturbed ring sample
- Core sample
- Is Shelby tube sample
- P Sampler pushed

- Plastic limit
- Liquid limit
- Natural water content
- ⊽ Water level
- T Torvane Shear (psf)
- FV Field Vane Shear (psf)
- Driving energy: 140 lb. wt., 30" drop

BORING LOG

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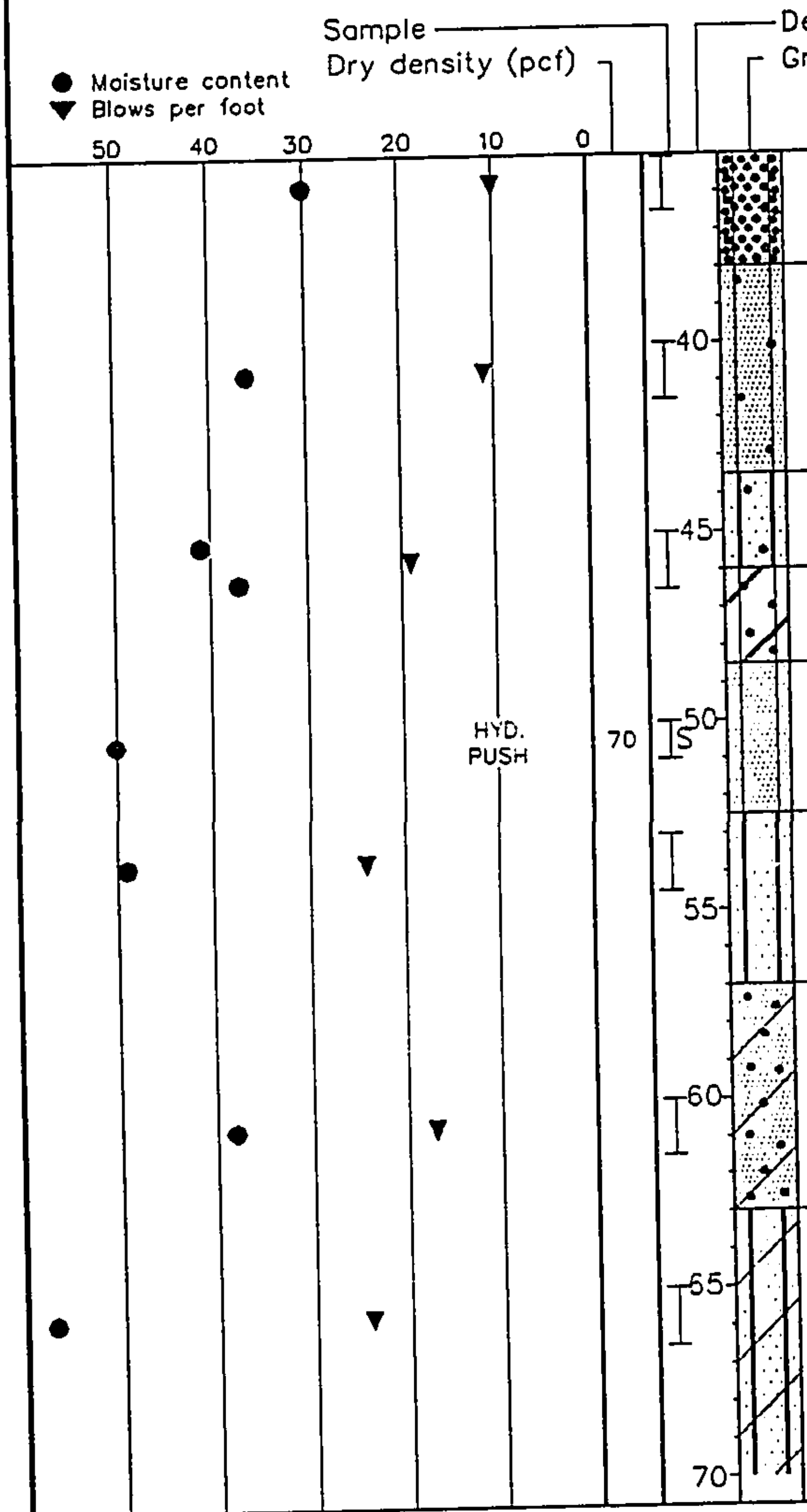
PLATE A-1.1

BORING 1 (CONTINUED)

Surface elevation



SOIL DESCRIPTION	USC
TAN SILTY CORAL GRAVEL AND SAND, LOOSE	GM
TAN SILTY FINE CORAL SAND WITH SOME GRAVEL, MEDIUM DENSE	SM
LIGHT BROWN SANDY SILT WITH TRACES OF GRAVEL, VERY STIFF	ML/SM
BROWN SILTY CLAY WITH SOME CORAL GRAVEL AND SHELLS, VERY STIFF	MH
DARK BROWN SILTY SAND, MEDIUM DENSE	SM
BROWN FINE SANDY SILT/SILTY FINE SAND, VERY STIFF	SM/MH
BROWN WITH WHITE CLAYEY CORAL SAND WITH GRAVEL, MEDIUM DENSE	SC
BROWN CLAYEY SILT WITH SOME VERY FINE SAND, VERY STIFF (ALLUVIUM)	MH

LEGEND

- I 2.0" O.D. split-spoon sample
- II Undisturbed ring sample
- Disturbed ring sample
- Core sample
- Is Shelby tube sample
- P Sampler pushed
- Plastic limit
- Liquid limit
- Natural water content
- ∇ Water level
- T Torvane Shear (psf)
- FV Field Vane Shear (psf)
- Driving energy: 140 lb. wt., 30" drop

BORING LOG

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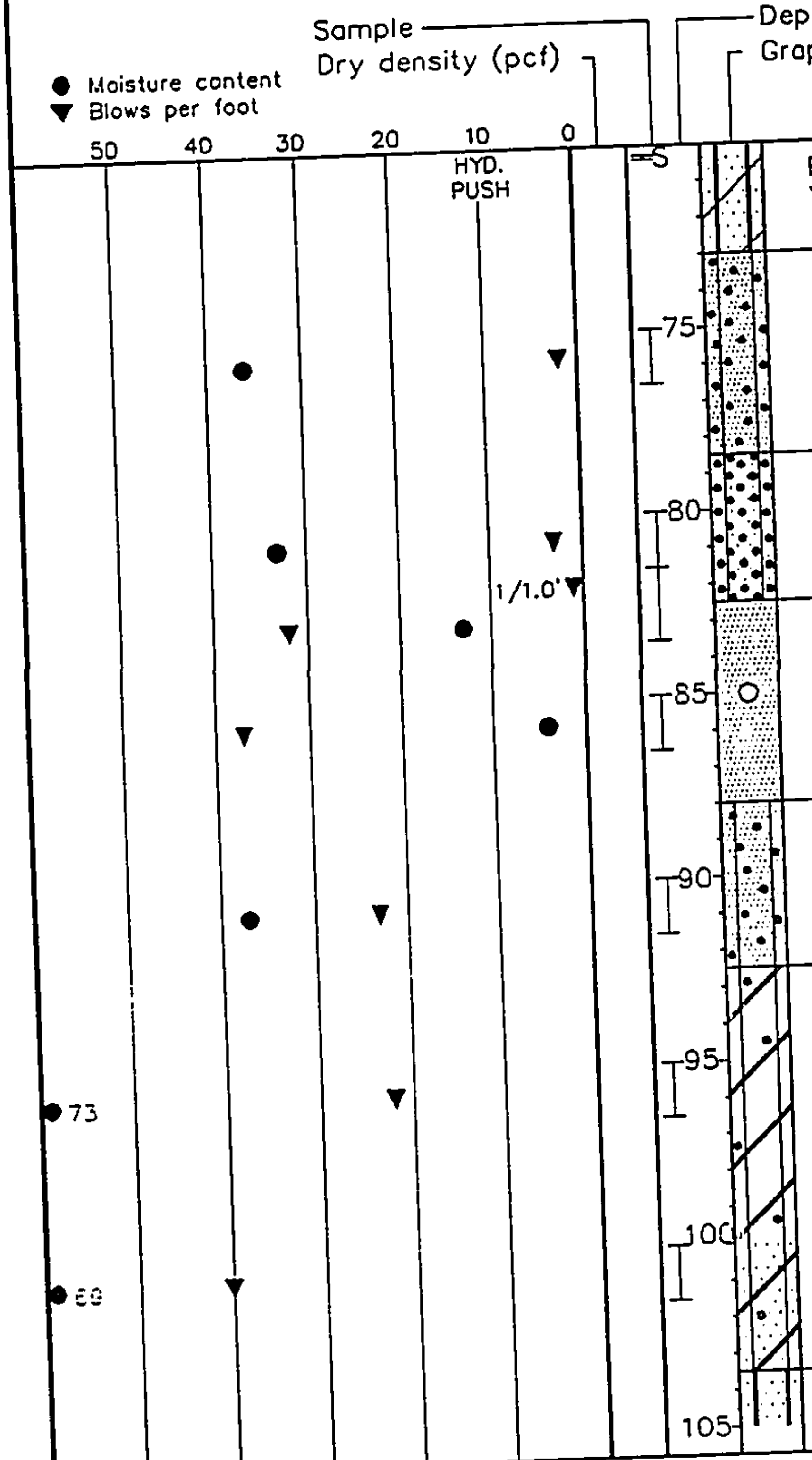
PLATE A-1.2

BORING 1 (CONTINUED)



Surface elevation

SOIL DESCRIPTION	USC
BROWN CLAYEY SILT WITH SOME VERY FINE SAND, VERY STIFF	MH
LIGHT BROWN SILTY CORAL SAND WITH GRAVEL, LOOSE (REEF DETRITUS)	SM
BROWN SILTY CORAL GRAVEL AND SAND, VERY LOOSE	GM
TAN CEMENTED CORAL SAND, DENSE BASALT COBBLE (EASY DRILLING FROM 85.0 TO 90.0 FT.)	SM
TAN SILTY CORAL SAND AND GRAVEL, MEDIUM DENSE	SM
BROWN SILTY CLAY WITH TRACES OF GRAVEL, VERY STIFF GRADES WITH FINE SAND, HARD	MH
BROWN FINE SANDY TO CLAYEY SILT, VERY STIFF	MH

LEGEND

- 2.0" O.D. split-spoon sample
- Undisturbed ring sample
- Disturbed ring sample
- Core sample
- Shelby tube sample
- P Sampler pushed

Plastic limit
Liquid limit
Natural water content
Water level
T Torvane Shear (psf)
FV Field Vane Shear (psf)
Driving energy: 140 lb. wt., 30" drop

BORING LOG

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PLATE A-1.3

BORING 1 (CONTINUED)

Sample — Dry density (pcf) — Depth (feet) — Graph — Surface elevation

● Moisture content
▼ Blows per foot

50 40 30 20 10 0

Field data	Depth (feet)	SOIL DESCRIPTION	USC
● 71; ▼		BROWN FINE SANDY TO CLAYEY SILT, VERY STIFF	MH
▼ 80/.3'; ●; ▼21/.5'; ●	110	BROWN SILTY SAND WITH BASALT GRAVEL, VERY DENSE	SM
RUN 3 REC= 100% ROD= 75%		BASALT COBBLES AND BOULDERS IN A SILTY SAND MATRIX, VERY DENSE (OLD ALLUVIUM)	
RUN 4 REC= 60% ROD= 0%	115	BASALT GRAVEL AND COBBLES WITH SAND (OLD ALLUVIUM) GRADES WITH BROWN CLAY	
RUN 5 REC= 100% ROD= 50% RUN 6 REC= 100% ROD= 62%	120 125 130	GRAY VESICULAR BASALT, CLOSELY FRACTURED, HARD (AA) GRADES TO MODERATELY FRACTURED, VERY HARD AT 123.0 FT. GRADES TO WIDELY FRACTURED	

BORING TERMINATED AT 130.0 FEET ON AUGUST 31, 1990

GROUNDWATER LEVEL AT:

DEPTH	HOURS	DATE
19.5 FT	0830	09/01/90
19.5 FT	1400	09/01/90
19.3 FT	0730	09/04/90
19.0 FT	0820	09/06/90
19.0 FT	1000	09/07/90
18.9 FT	0830	09/17/90

LEGEND

- I 2.0" O.D. split–spoon sample
- II Undisturbed ring sample
- Disturbed ring sample
- I Core sample
- Shelby tube sample
- P Sampler pushed

Plastic limit
Liquid limit
Natural water content
▽ Water level
T Torvane Shear (psf)
FV Field Vane Shear (psf)
Driving energy: 140 lb. wt., 30" drop

BORING LOG

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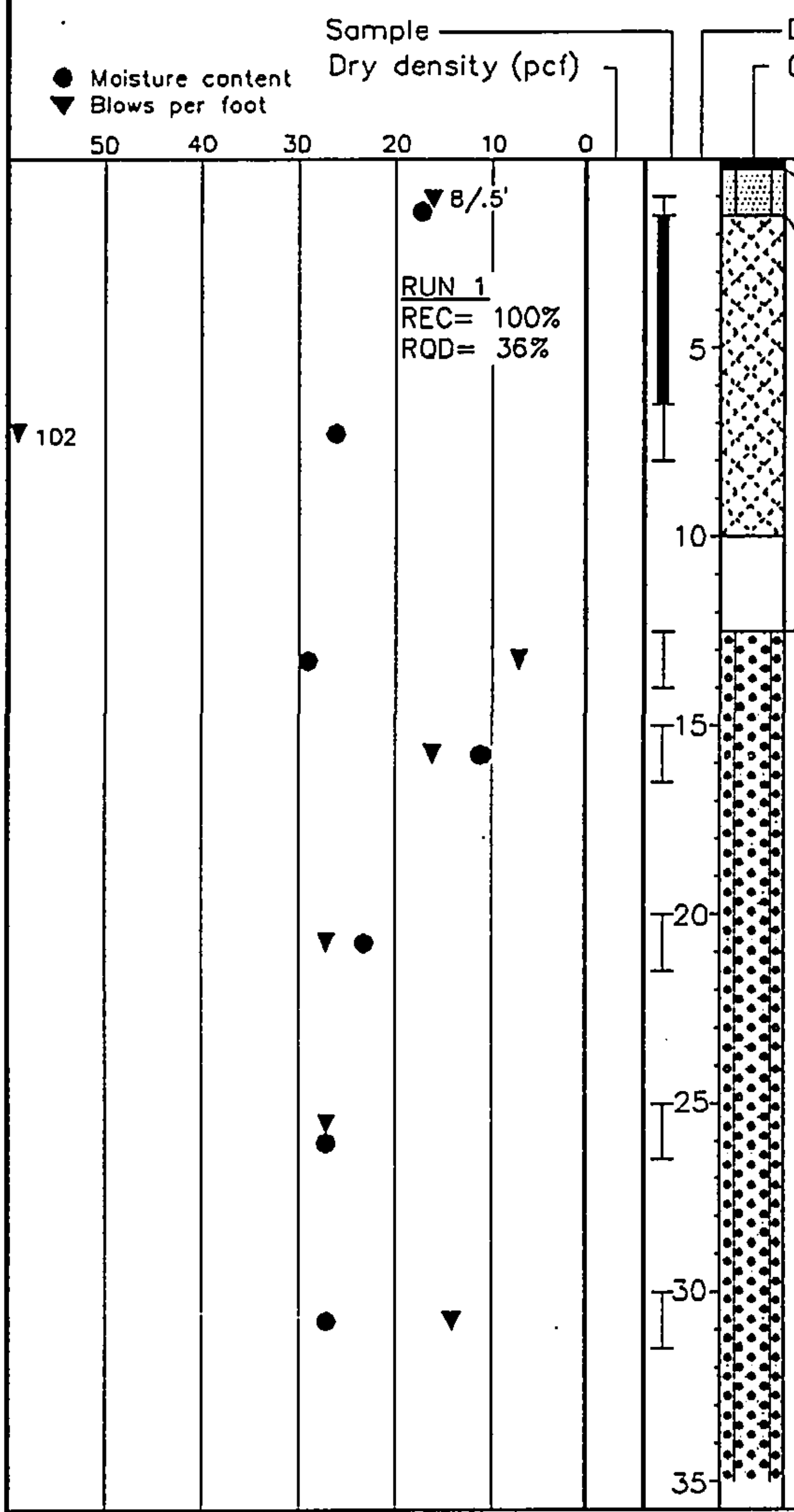
PLATE A–1.4

BORING 2

Surface elevation 14.0'±



SOIL DESCRIPTION	USC
3.0-INCH ASPHALT CONCRETE	
DARK BROWN SILTY SAND, MEDIUM DENSE (FILL)	SM
TAN CORALLINE LIMESTONE, WELL CEMENTED, HARD (CORAL REEF)	
GRADES TO MODERATELY CEMENTED	
CAVITY	
GRAYISH TAN SANDY GRAVEL WITH SILT, MEDIUM DENSE, MOIST (REEF DETRITUS)	GP-GM
GRADES WITH MORE SILT	GM

LEGEND

- 2.0" O.D. split-spoon sample
- Undisturbed ring sample
- Disturbed ring sample
- Core sample
- Shelby tube sample
- P Sampler pushed

- Plastic limit
- Liquid limit
- Natural water content
- Water level
- T Torvane Shear (psf)
- FV Field Vane Shear (psf)
- Driving energy: 140 lb. wt., 30" drop

BORING LOG

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PLATE A-2.1

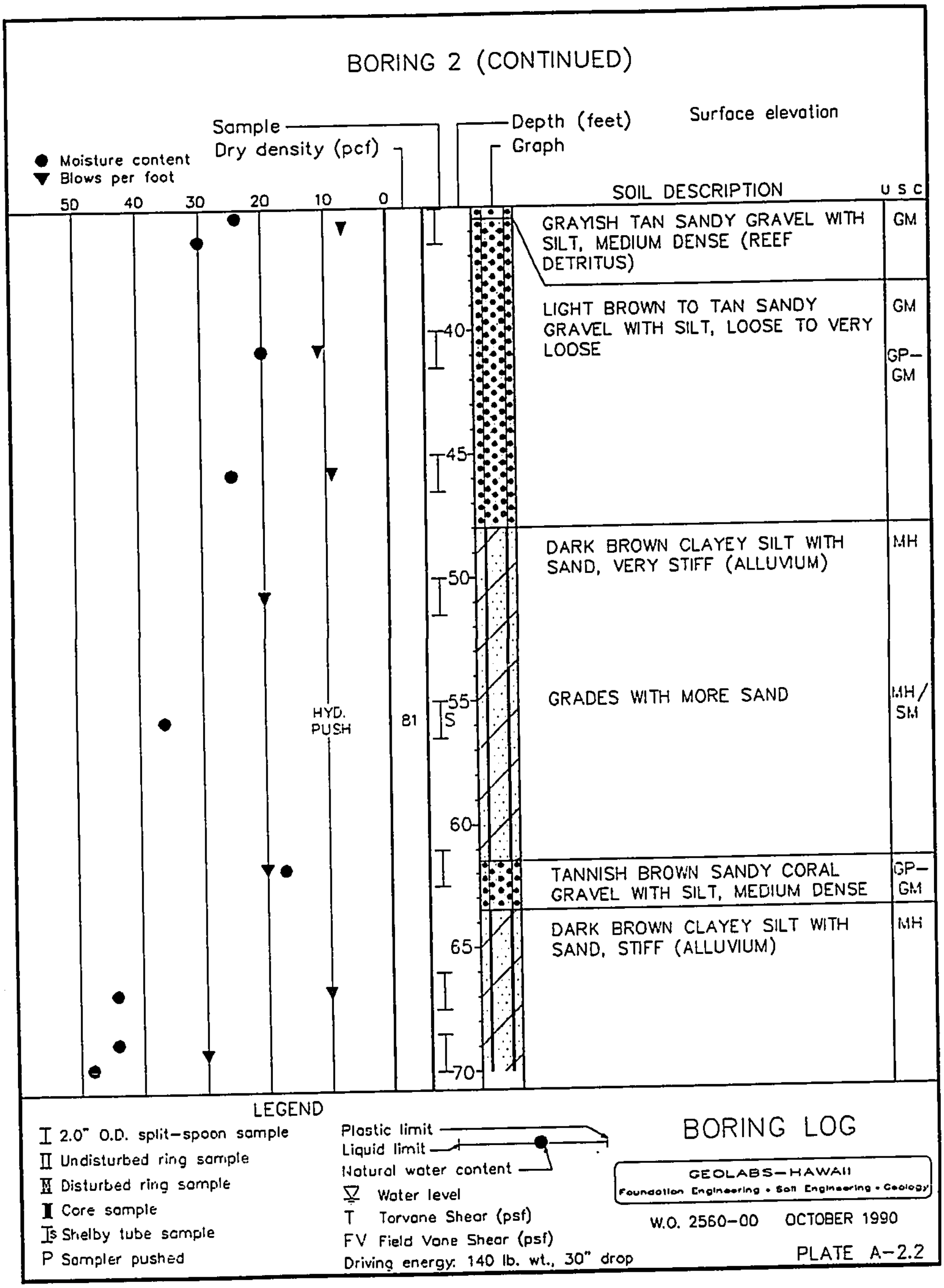
BORING 2 (CONTINUED)
Sample
Dry density (pcf)
Depth (feet)
Graph
Surface elevation
● Moisture content
▼ Blows per foot
50 40 30 20 10 0
SOIL DESCRIPTION
USC
GRAYISH TAN SANDY GRAVEL WITH SILT, MEDIUM DENSE (REEF DETRITUS)
GM
LIGHT BROWN TO TAN SANDY GRAVEL WITH SILT, LOOSE TO VERY LOOSE
GM
GP-GM
40
45
DARK BROWN CLAYEY SILT WITH SAND, VERY STIFF (ALLUVIUM)
MH
50
GRADES WITH MORE SAND
MH/SM
HYD. PUSH
81
55
S
60
TANNISH BROWN SANDY CORAL GRAVEL WITH SILT, MEDIUM DENSE
GP-GM
DARK BROWN CLAYEY SILT WITH SAND, STIFF (ALLUVIUM)
MH
65
70
LEGEND
I 2.0" O.D. split-spoon sample
II Undisturbed ring sample
Disturbed ring sample
Core sample
Shelby tube sample
P Sampler pushed
Plastic limit
Liquid limit
Natural water content
Water level
T Torvane Shear (psf)
FV Field Vane Shear (psf)
Driving energy: 140 lb. wt., 30" drop
BORING LOG
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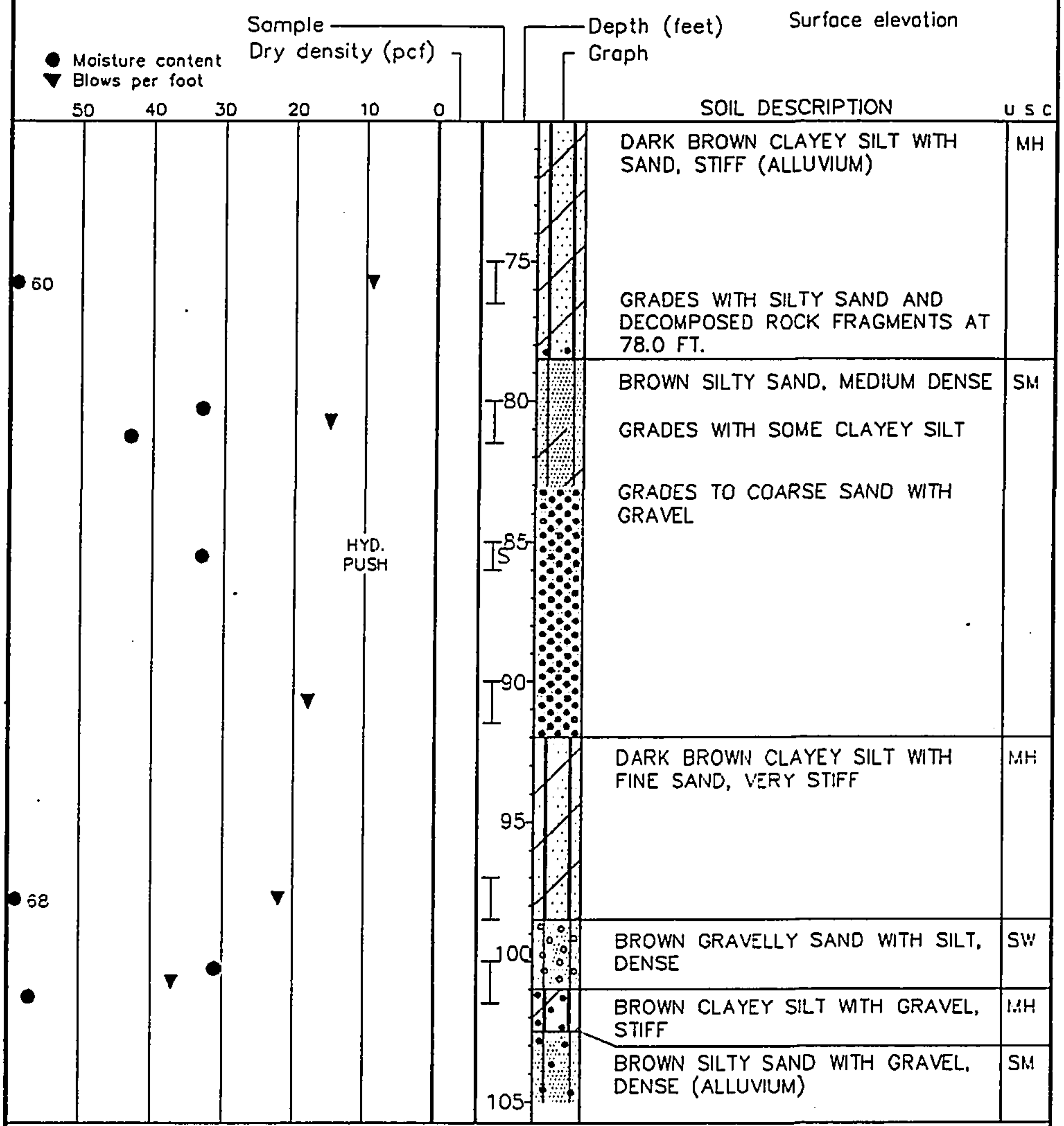
PLATE A-2.2

BORING 2 (CONTINUED)



LEGEND

- I 2.0" O.D. split-spoon sample
- II Undisturbed ring sample
- Disturbed ring sample
- Core sample
- Is Shelby tube sample
- P Sampler pushed

Plastic limit
Liquid limit
Natural water content
∇ Water level
T Torvane Shear (psf)
FV Field Vane Shear (psf)
Driving energy: 140 lb. wt., 30" drop

BORING LOG

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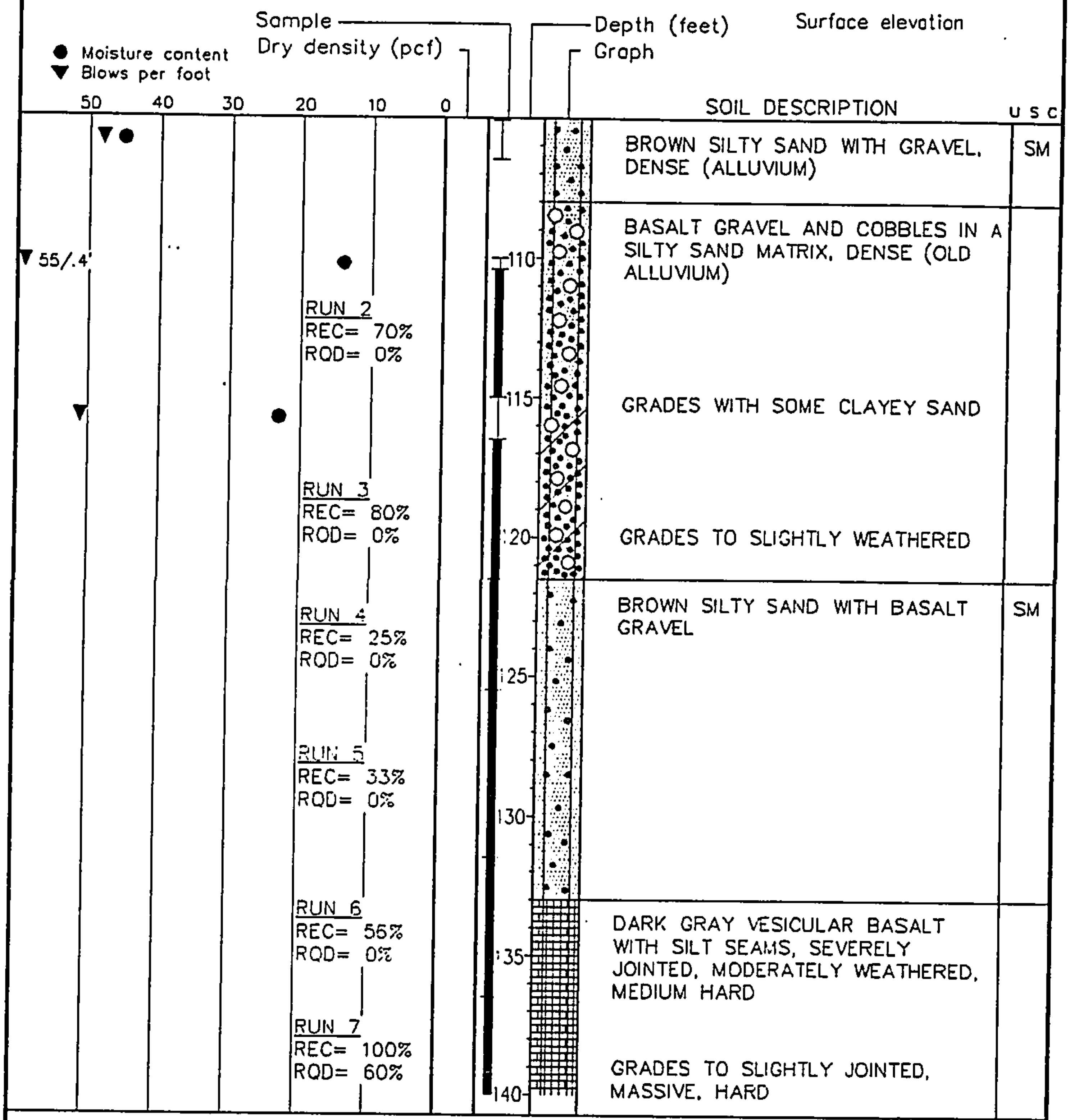
PLATE A-2.3

BORING 2 (CONTINUED)



LEGEND

2.0" O.D. split-spoon sample
Undisturbed ring sample
Disturbed ring sample
Core sample
Shelby tube sample
P Sampler pushed

Plastic limit
Liquid limit
Natural water content
Water level
T Torvane Shear (psf)
FV Field Vane Shear (psf)
Driving energy: 140 lb. wt., 30" drop

BORING LOG

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Foundation Engineering • Soil Engineering • Geology

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PLATE A-2.4

BORING 2 (CONTINUED)

Sample
Dry density (pcf)
Depth (feet)
Graph
Surface elevation

● Moisture content
▼ Blows per foot

50 40 30 20 10 0

SOIL DESCRIPTION | USC

RUN 8
REC= 84%
RQD= 68%

145

DARK GRAY VESICULAR BASALT WITH SILT SEAMS, SLIGHTLY JOINTED, MASSIVE, HARD

GRADES WITH VUGS AT 142.0 FT.

BORING TERMINATED AT 146.5 FEET ON SEPTEMBER 6, 1990

150

GROUNDWATER LEVEL AT:

DEPTH	HOURS	DATE
15.7 FT	1005	09/07/90

LEGEND

- I 2.0" O.D. split–spoon sample
- II Undisturbed ring sample
- Disturbed ring sample
- Core sample
- Ts Shelby tube sample
- P Sampler pushed

Plastic limit
Liquid limit
Natural water content
∇ Water level
T Torvane Shear (psf)
FV Field Vane Shear (psf)
Driving energy: 140 lb. wt., 30" drop

BORING LOG

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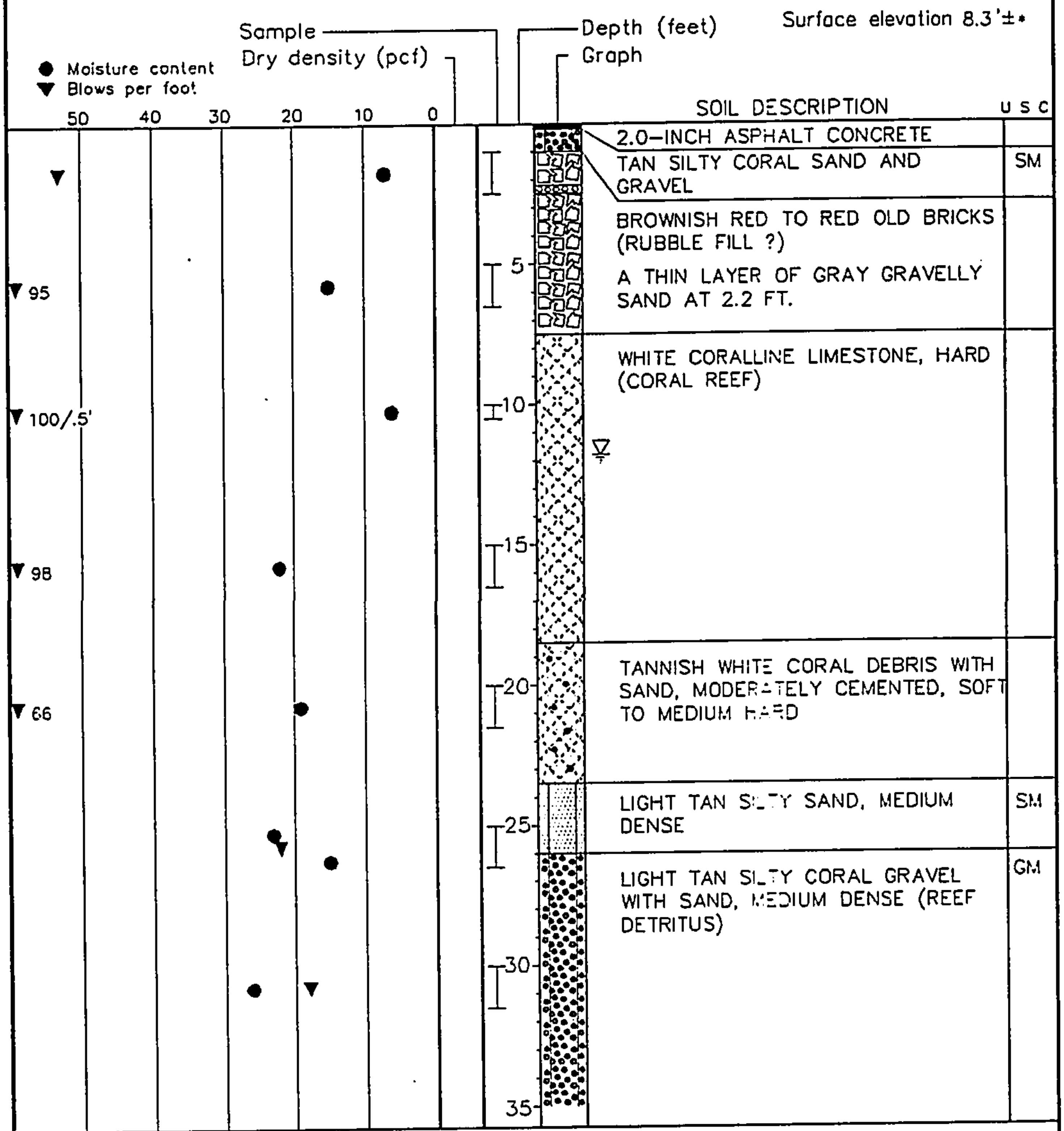
W.O. 2560–00 OCTOBER 1990

PLATE A–2.5

BORING 3



LEGEND

- I 2.0" O.D. split-spoon sample
- Undisturbed ring sample
- Disturbed ring sample
- Core sample
- Ts Shelby tube sample
- P Sampler pushed

Plastic limit
Liquid limit
Natural water content
∇ Water level
T Torvane Shear (psf)
FV Field Vane Shear (psf)
Driving energy: 140 lb. wt., 30" drop

BORING LOG

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PLATE A-3.1

BORING 3 (CONTINUED)

● Moisture content
▼ Blows per foot

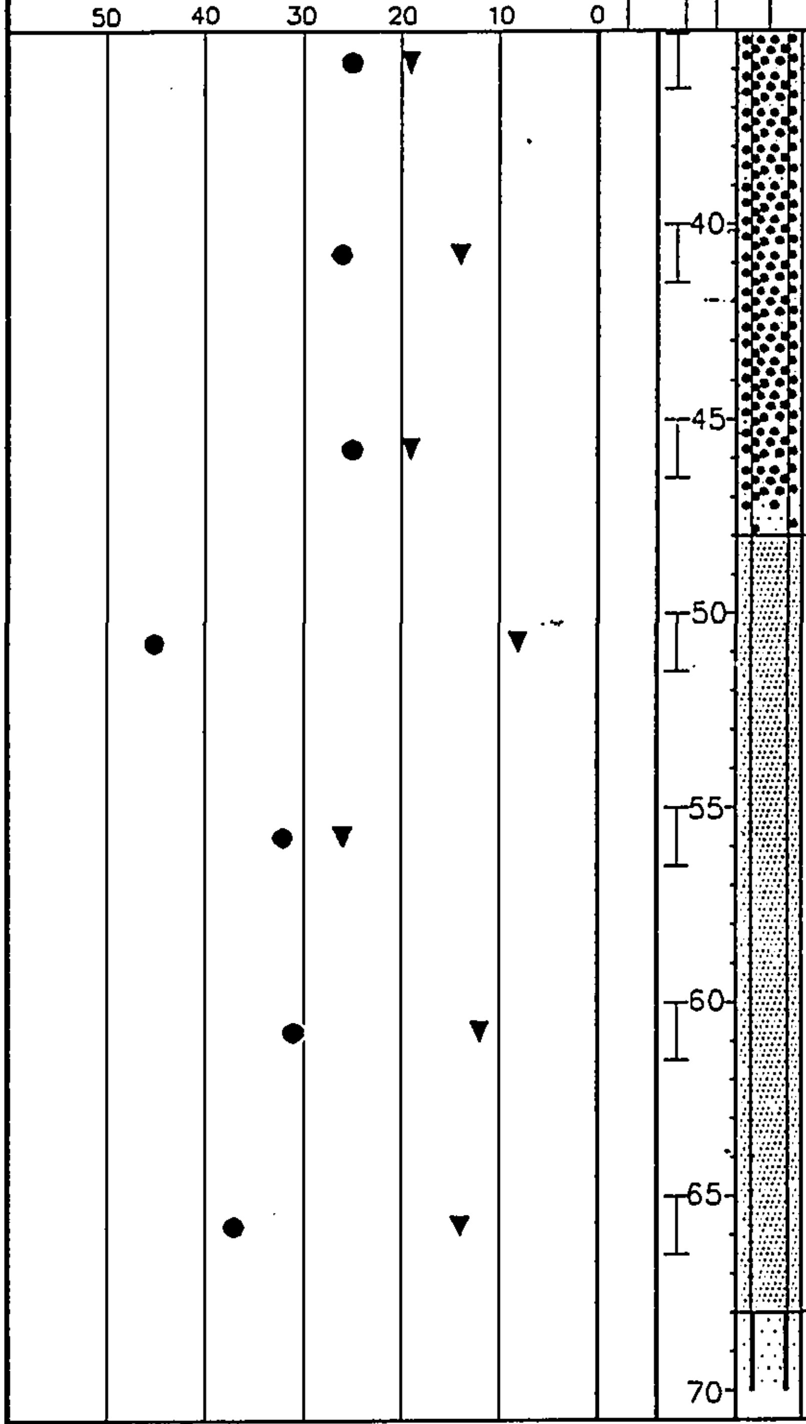
Sample

Dry density (pcf)

Depth (feet)

Graph

Surface elevation



SOIL DESCRIPTION	USC
LIGHT TAN SILTY CORAL GRAVEL WITH SAND, MEDIUM DENSE	GM
GRADES WITH MORE SILT AND LESS GRAVEL AT 47.0 FT.	
TAN SILTY CORAL SAND, LOOSE	SM
GRADES TO MEDIUM DENSE	
BROWN SANDY SILT TO SILTY FINE SAND, MEDIUM STIFF TO STIFF (ALLUVIUM)	MH

LEGEND

- I 2.0" O.D. split-spoon sample
- II Undisturbed ring sample
- Disturbed ring sample
- Core sample
- Is Shelby tube sample
- P Sampler pushed

Plastic limit

Liquid limit

Natural water content

Water level

T Torvane Shear (psf)

FV Field Vane Shear (psf)

Driving energy: 140 lb. wt., 30" drop

BORING LOG

GEOLABS—HAWAII

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W.O. 2560-00 OCTOBER 1990

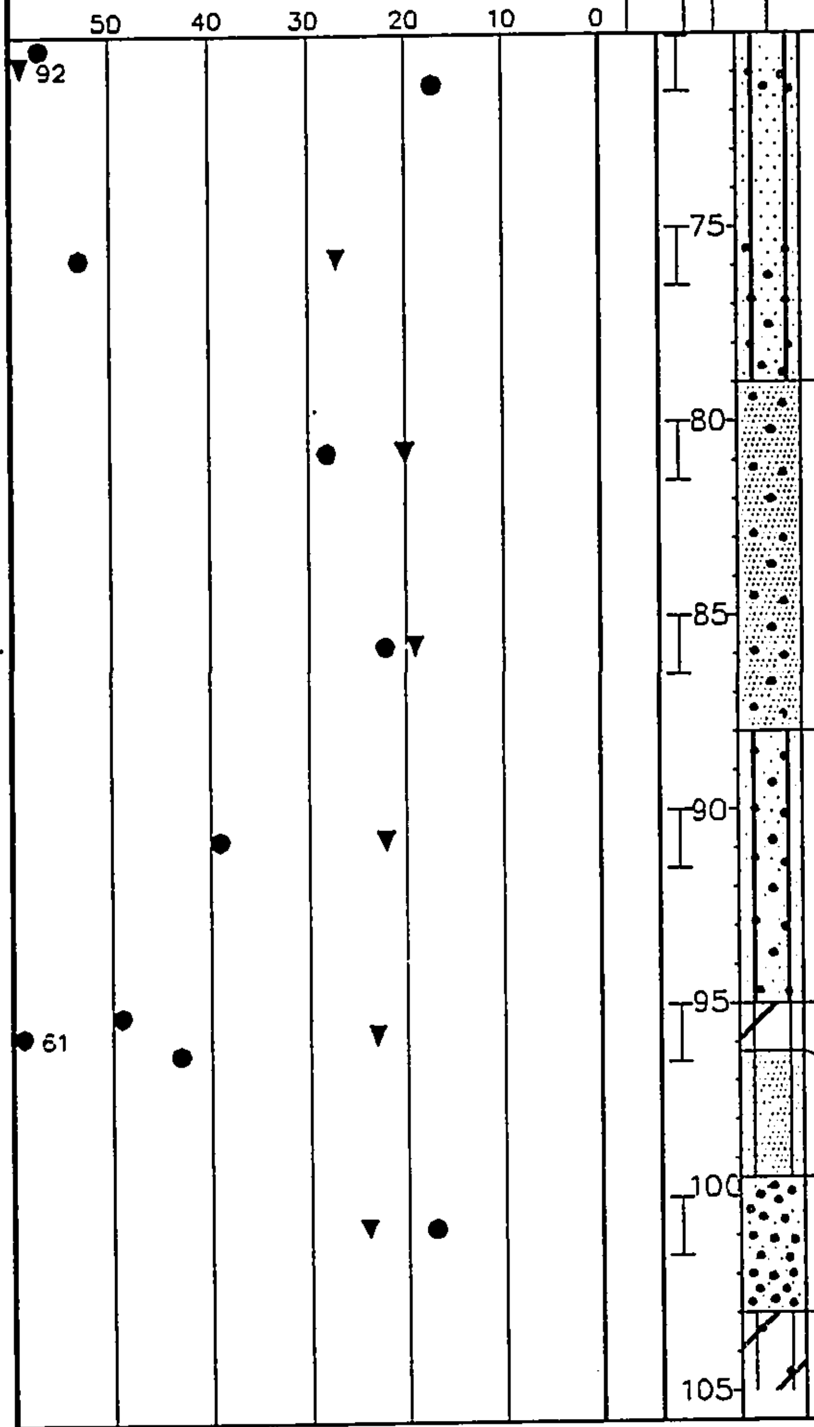
PLATE A-3.2

BORING 3 (CONTINUED)

● Moisture content
▼ Blows per foot

Sample
Dry density (pcf)
Depth (feet)
Graph

Surface elevation



SOIL DESCRIPTION	USC
BROWN SANDY SILT TO SILTY FINE SAND, MEDIUM STIFF TO STIFF (ALLUVIUM) ENCOUNTERED BROWN DECOMPOSED ROCK FRAGMENTS AT 71.0 FT. GRADES WITH FRIABLE, DECOMPOSED BASALT GRAVEL	MH
TAN CORAL SAND WITH GRAVEL, MEDIUM DENSE	SP–SM
DARK TAN SANDY SILT WITH FRIABLE DECOMPOSED CORAL GRAVEL, VERY STIFF (ALLUVIUM)	SM/MH
BROWN SILTY CLAY, STIFF	MH/CH
DARK BROWN SILTY SAND, MEDIUM DENSE	SM
MOTTLED BROWN AND GRAY BASALT GRAVEL WITH SAND, MEDIUM DENSE (ALLUVIUM)	GP
BROWN SILTY CLAY WITH SOME GRAVEL, STIFF (ALLUVIUM)	MH

LEGEND

- 2.0" O.D. split-spoon sample
- Undisturbed ring sample
- Disturbed ring sample
- Core sample
- Shelby tube sample
- P Sampler pushed

Plastic limit
Liquid limit
Natural water content
Water level
T Torvane Shear (psf)
FV Field Vane Shear (psf)
Driving energy: 140 lb. wt., 30" drop

BORING LOG

GEOLABS–HAWAII
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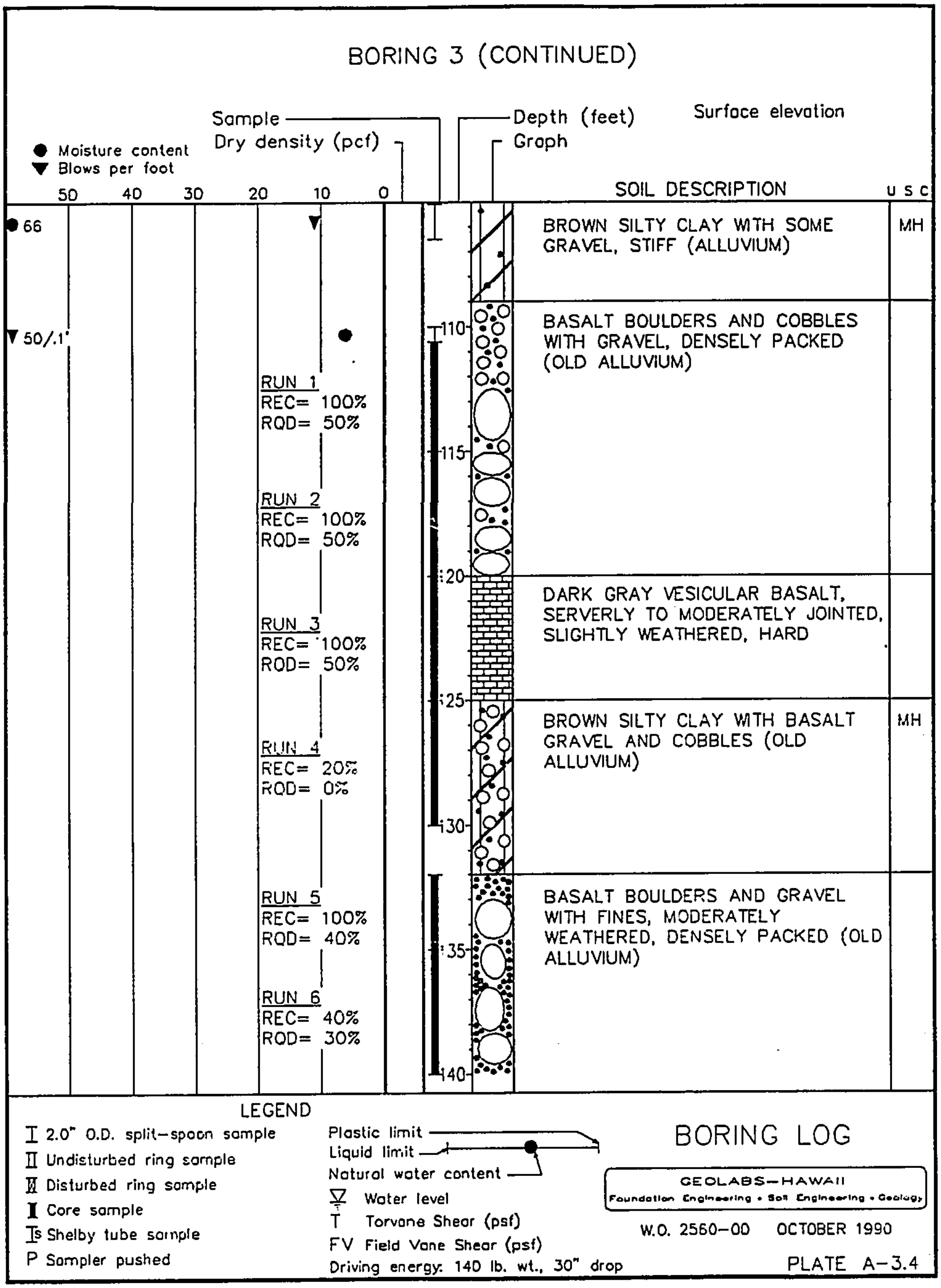
PLATE A–3.3


BORING 3 (CONTINUED)
Sample
Dry density (pcf)
Depth (feet)
Graph
Surface elevation
Moisture content
Blows per foot
50 40 30 20 10 0
SOIL DESCRIPTION
USC
66
50/.1"
RUN 1
REC= 100%
RQD= 50%
RUN 2
REC= 100%
RQD= 50%
RUN 3
REC= 100%
RQD= 50%
RUN 4
REC= 20%
RQD= 0%
RUN 5
REC= 100%
RQD= 40%
RUN 6
REC= 40%
RQD= 30%
110
115
120
125
130
135
140
BROWN SILTY CLAY WITH SOME GRAVEL, STIFF (ALLUVIUM)
MH
BASALT BOULDERS AND COBBLES WITH GRAVEL, DENSELY PACKED (OLD ALLUVIUM)
DARK GRAY VESICULAR BASALT, SERVERLY TO MODERATELY JOINTED, SLIGHTLY WEATHERED, HARD
BROWN SILTY CLAY WITH BASALT GRAVEL AND COBBLES (OLD ALLUVIUM)
MH
BASALT BOULDERS AND GRAVEL WITH FINES, MODERATELY WEATHERED, DENSELY PACKED (OLD ALLUVIUM)
LEGEND
2.0" O.D. split-spoon sample
Undisturbed ring sample
Disturbed ring sample
Core sample
Shelby tube sample
P Sampler pushed
Plastic limit
Liquid limit
Natural water content
Water level
T Torvane Shear (psf)
FV Field Vane Shear (psf)
Driving energy: 140 lb. wt., 30" drop
BORING LOG
GEOLABS-HAWAII
Foundation Engineering • Soil Engineering • Geology
W.O. 2560-00 OCTOBER 1990
PLATE A-3.4

BORING 3 (CONTINUED)

● Moisture content
▼ Blows per foot

50 40 30 20 10 0

Sample
Dry density (pcf)
Depth (feet)
Graph
Surface elevation

Depth (feet)	SOIL DESCRIPTION	USC
	BASALT BOULDERS AND GRAVEL WITH FINES, DENSELY PACKED, MODERATELY WEATHERED (OLD ALLUVIUM)	
145		
150		
155	BORING TERMINATED AT 153.0 FEET ON SEPTEMBER 19, 1990	

RUN 7
REC= 85%
RQD= 64%

RUN 8
REC= 90%
RQD= 25%

GROUNDWATER LEVEL AT:

DEPTH	HOURS	DATE
11.8 FT	0730	09/20/90

LEGEND

I 2.0" O.D. split-spoon sample
II Undisturbed ring sample
Disturbed ring sample
Core sample
Is Shelby tube sample
P Sampler pushed

Plastic limit
Liquid limit
Natural water content
Water level
T Torvane Shear (psf)
FV Field Vane Shear (psf)
Driving energy: 140 lb. wt., 30" drop

BORING LOG

GEOLABS—HAWAII
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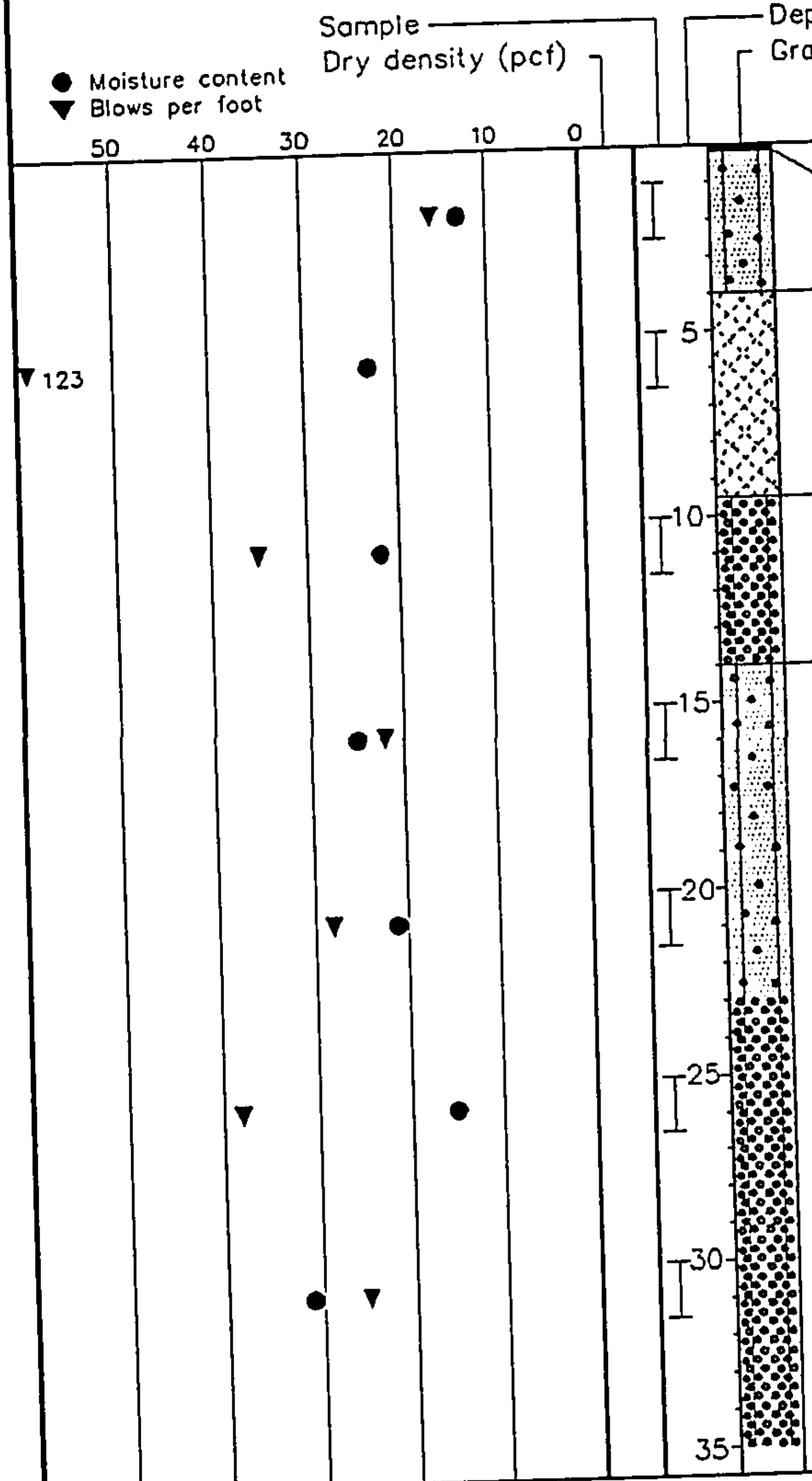
W.O. 2560-00 OCTOBER 1990

PLATE A-3.5

BORING 4

Surface elevation 9.0'±



SOIL DESCRIPTION	USC
2.0-INCH ASPHALT CONCRETE	
DARK BROWN SILTY SAND WITH CORAL GRAVEL, MEDIUM DENSE, DAMP (FILL)	SM
LIGHT TAN CORALLINE LIMESTONE, MODERATELY CEMENTED, SOFT TO MEDIUM HARD, MOIST (CORAL REEF)	
LIGHT TAN SILTY CORAL GRAVEL WITH SAND, MEDIUM DENSE, MOIST	GM
TAN SILTY CORAL SAND WITH GRAVEL, MEDIUM DENSE (REEF DETRITUS) GRADES WITH MORE GRAVEL GRADES TO DENSE GRADES TO MEDIUM DENSE	SM

LEGEND

- I 2.0" O.D. split-spoon sample
- II Undisturbed ring sample
- Disturbed ring sample
- Core sample
- Ts Shelby tube sample
- P Sampler pushed

Plastic limit
Liquid limit
Natural water content
∇ Water level
T Torvane Shear (psf)
FV Field Vane Shear (psf)
Driving energy: 140 lb. wt., 30" drop

BORING LOG

GEOLABS-HAWAII
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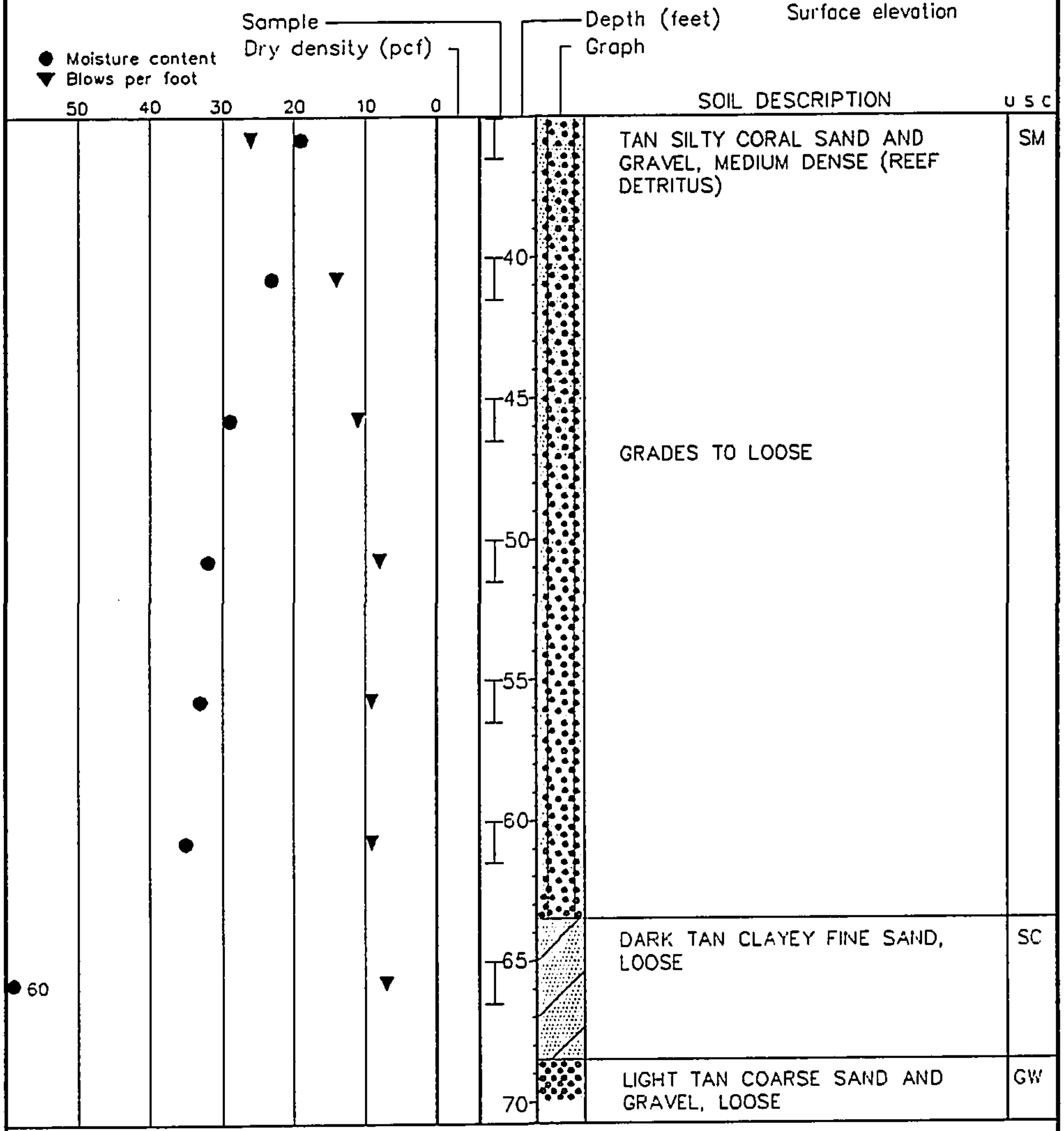
W.O. 2560-00 OCTOBER 1990

PLATE A-4.1

BORING 4 (CONTINUED)



LEGEND

I 2.0" O.D. split-spoon sample
II Undisturbed ring sample
Disturbed ring sample
Core sample
Ts Shelby tube sample
P Sampler pushed

Plastic limit
Liquid limit
Natural water content
Water level
T Torvane Shear (psf)
FV Field Vane Shear (psf)
Driving energy: 140 lb. wt., 30" drop

BORING LOG

GEOLABS—HAWAII
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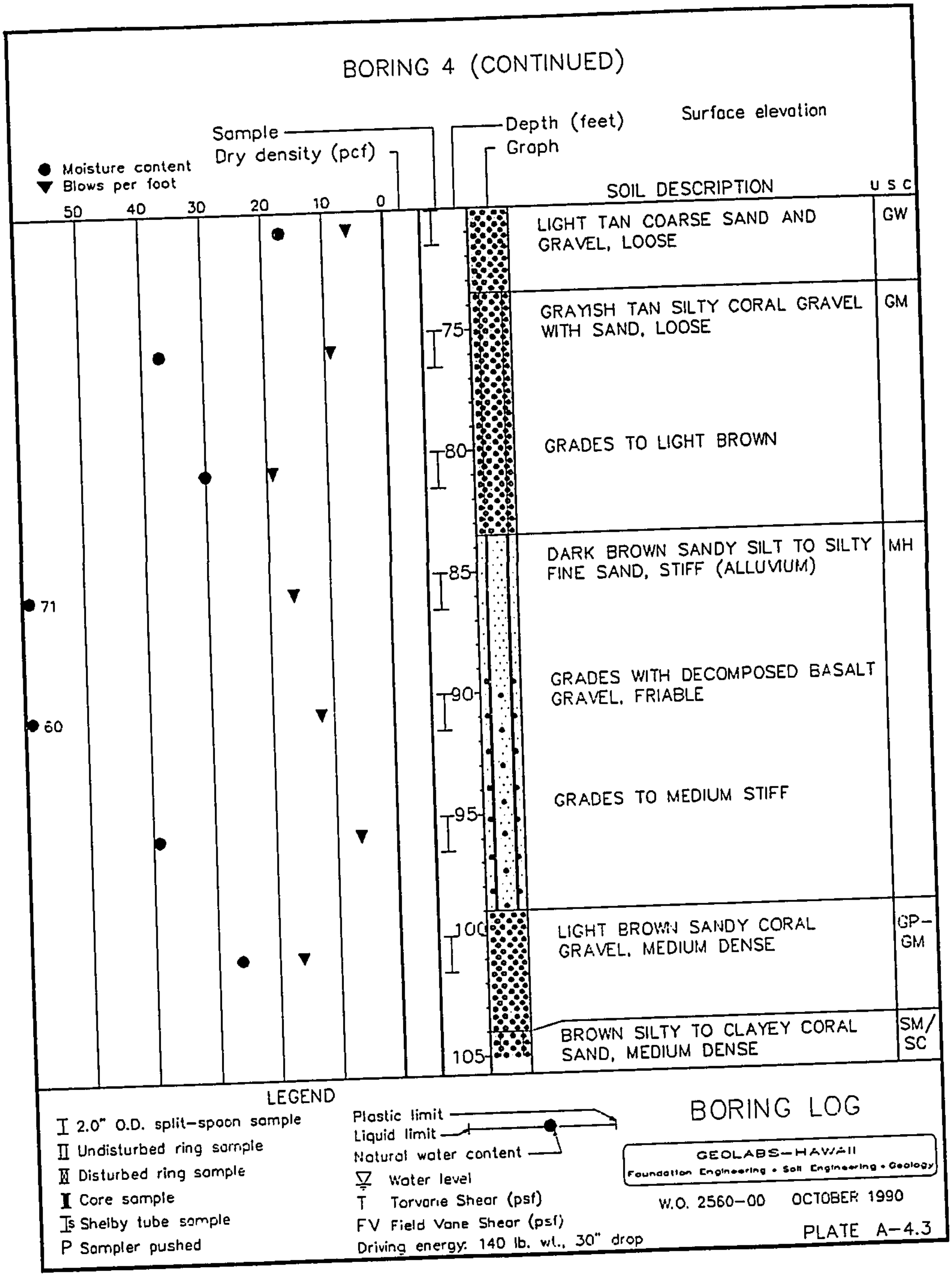
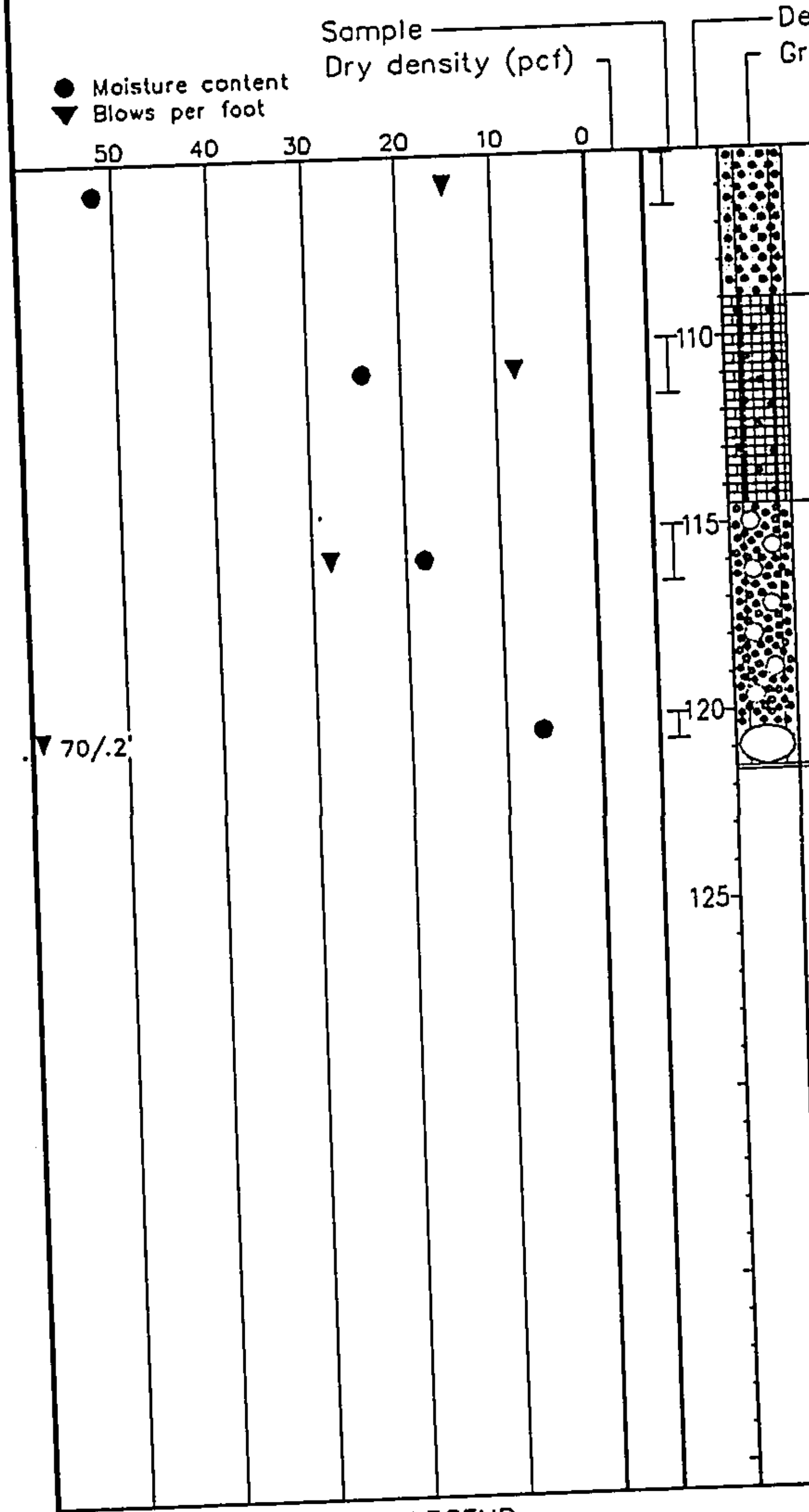
W.O. 2560-00 OCTOBER 1990

PLATE A-4.2


BORING 4 (CONTINUED)
Sample
Dry density (pcf)
Depth (feet)
Graph
Surface elevation
Moisture content
Blows per foot
50 40 30 20 10 0
SOIL DESCRIPTION
USC
LIGHT TAN COARSE SAND AND GRAVEL, LOOSE
GW
75
GRAYISH TAN SILTY CORAL GRAVEL WITH SAND, LOOSE
GM
80
GRADES TO LIGHT BROWN
85
71
DARK BROWN SANDY SILT TO SILTY FINE SAND, STIFF (ALLUVIUM)
MH
90
60
GRADES WITH DECOMPOSED BASALT GRAVEL, FRIABLE
95
GRADES TO MEDIUM STIFF
100
LIGHT BROWN SANDY CORAL GRAVEL, MEDIUM DENSE
GP-GM
105
BROWN SILTY TO CLAYEY CORAL SAND, MEDIUM DENSE
SM/SC
LEGEND
2.0" O.D. split-spoon sample
Undisturbed ring sample
Disturbed ring sample
Core sample
Shelby tube sample
P Sampler pushed
Plastic limit
Liquid limit
Natural water content
Water level
T Torvane Shear (psf)
FV Field Vane Shear (psf)
Driving energy: 140 lb. wt., 30" drop
BORING LOG
GEOLABS-HAWAII
Foundation Engineering • Soil Engineering • Geology
W.O. 2560-00
OCTOBER 1990
PLATE A-4.3

BORING 4 (CONTINUED)



Surface elevation

SOIL DESCRIPTION	USC
BROWN SILTY TO CLAYEY CORAL SAND, MEDIUM DENSE	SM/SC
BROWN SANDY SILT TO SILTY SAND WITH BASALT AND CORAL GRAVEL, LOOSE	SM/ML
DARK GRAY BASALT GRAVEL AND COBBLES IN A SILTY SAND MATRIX, MEDIUM DENSE (OLD ALLUVIUM)	
BASALT BOULDERS (?)	

BORING TERMINATED AT 121.5 FEET ON SEPTEMBER 21, 1990

GROUNDWATER NOT MEASURED

LEGEND

- 2.0" O.D. split-spoon sample
- Undisturbed ring sample
- Disturbed ring sample
- Core sample
- Shelby tube sample
- P Sampler pushed

- Plastic limit
- Liquid limit
- Natural water content
- Water level
- T Torvane Shear (psf)
- FV Field Vane Shear (psf)
- Driving energy: 140 lb. wt., 30" drop

BORING LOG

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W.O. 2560–00 OCTOBER 1990

PLATE A–4.4

APPENDIX B

Laboratory Testing

Moisture content and unit weight determinations were performed on selected samples as an aid in the classification and evaluation of soil properties. The results of these tests are presented on the Boring Logs, at the appropriate sample depths on Plates A-1 through A-4.4.

Ten (10) sieve analysis tests were performed to study the gradation distribution characteristics of the subsoils. The test results are summarized on Plates B-1 and B-2.

W.O. 2560-00 NOVEMBER 1990

(C:\wp51\data\jill\jk - 256000.app)

SUMMARY OF LABORATORY TEST RESULTS

LOCATION	B-1	B-1	B-2	B-2	B-2
SAMPLE NO.	SS-3	SS-18	SS-4	SS-7	SS-18
DEPTH BELOW SURFACE (FEET)	15.0-16.5	90.0-91.5	15.0-16.5	30.0-31.5	85.0-86.0
DESCRIPTION	TANNISH WHITE SILTY SAND W/ GRAVEL	TAN SILTY SAND	GRAYISH TAN SANDY GRAVEL	GRAYISH TAN SILTY GRAVEL	BROWN SILTY SAND
GRADING ANALYSIS (% Passing) Sieve					
2-1/2"					
2"					
1-1/2"				100	
1"	100		100	91	
3/4"	95	100	86	83	100
#4	67	71	35	53	87
#10	51	57	26	43	76
#20	42	51	21	37	70
#40	36	47	18	34	66
#100	26	39	13	27	53
#200	21	32	11	24	27
ATTERBERG LIMITS					
Air Dried or Natural					
Liquid Limit					
Plastic Limit					
Plasticity Index					
UNIFIED SOIL CLASSIFICATION	SM	SM	GP-GM	GM	SM
SAND EQUIVALENT, %					
EXPANSION AND CBR TESTS (Surcharge - 51 P.S.F.)					
Molding Moisture Content %					
Molding Dry Density, P.C.F.					
Swell Upon Saturation, %					
CBR at 0.1" Penetration					
COMPACTION TEST (Test Designation)					
Dry to Wet or Wet to Dry					
Max. Dry Density (P.C.F.)					
Optimum Moisture (%)					
UNCONFINED COMPRESSION (K.S.F.)					
REMARKS					

W.O. 2560-00 DATE: NOVEMBER 1990 PLATE B-1

GEOLABS-HAWAII

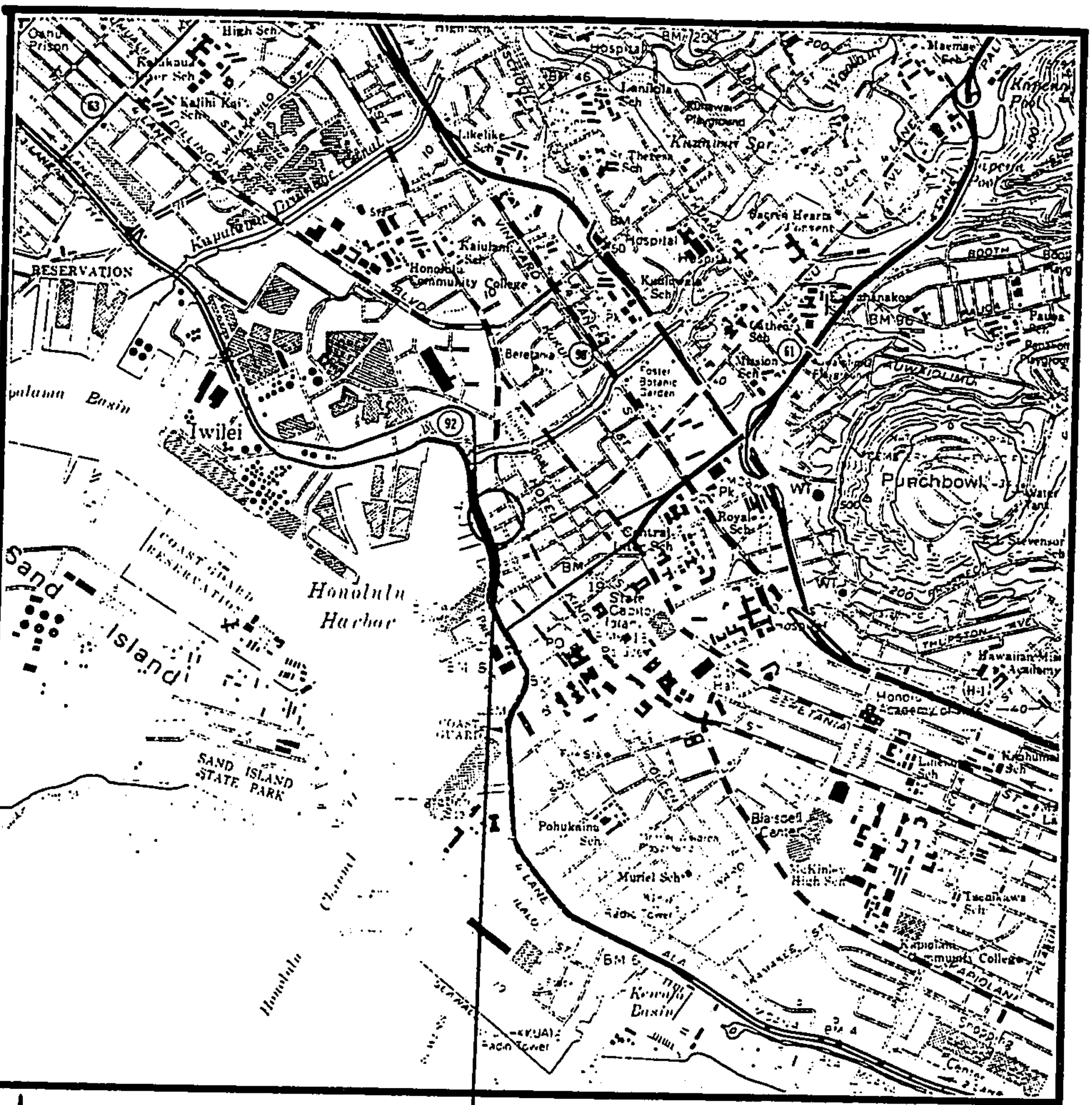
SUMMARY OF LABORATORY TEST RESULTS

LOCATION	B-3	B-3	B-4	B-4	B-4
SAMPLE NO.	SS-7	SS-19	SS-3	SS-4	SS-7
DEPTH BELOW SURFACE (FEET)	30.0-31.5	90.0-91.5	10.0-11.5	15.0-16.5	30.0-31.5
DESCRIPTION	TAN SILTY GRAVEL	TAN SANDY SILT	TAN SILTY GRAVEL	TAN SILTY SAND	TAN SILTY SAND
GRADING ANALYSIS					
(% Passing) Sieve					
2-1/2"					
2"					
1-1/2"	100			100	
1"	91		100	93	100
3/4"	88	100	91	86	98
#4	41	88	60	65	61
#10	29	80	47	52	44
#20	23	74	39	42	32
#40	20	70	34	34	26
#100	17	64	26	23	19
#200	15	51	23	19	15
ATTERBERG LIMITS					
Air Dried or Natural					
Liquid Limit					
Plastic Limit					
Plasticity Index					
UNIFIED SOIL CLASSIFICATION	GM	SM/MH	GM	SM	SM
SAND EQUIVALENT, %					
EXPANSION AND CBR TESTS					
(Surcharge - 51 P.S.F.)					
Molding Moisture Content %					
Molding Dry Density, P.C.F.					
Swell Upon Saturation, %					
CBR at 0.1" Penetration					
COMPACTION TEST					
(Test Designation)					
Dry to Wet or Wet to Dry					
Max. Dry Density (P.C.F.)					
Optimum Moisture (%)					
UNCONFINED COMPRESSION (K.S.F.)					

REMARKS

W.O. 2560-00 DATE: NOVEMBER 1990 PLATE B-2

GEOLABS-HAWAII



GENERAL PROJECT LOCATION

N

PROJECT LOCATION MAP

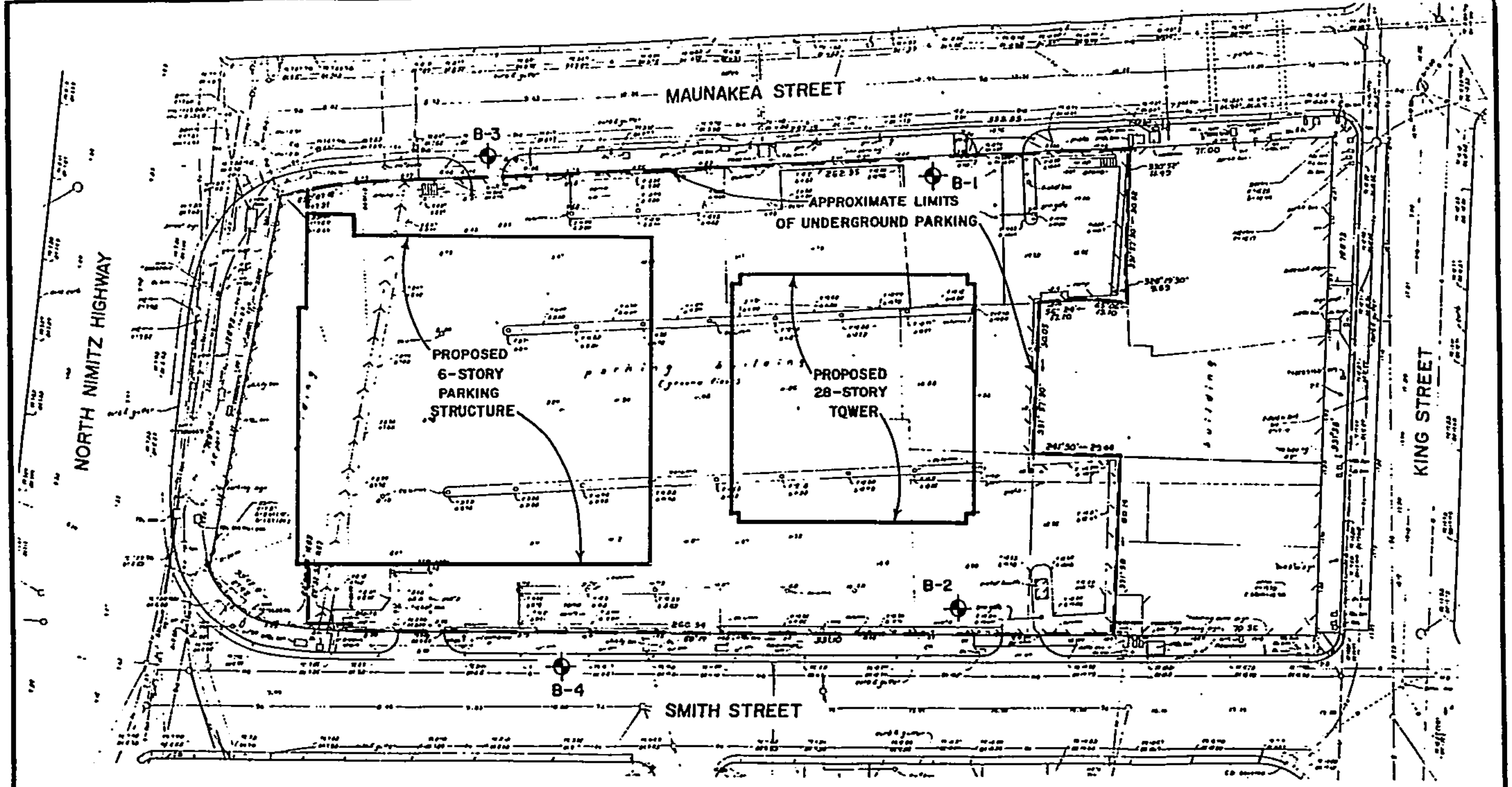
SMITH/MAUNAKEA HOUSING
HONOLULU, OAHU, HAWAII

REFERENCE: U.S.G.S. QUADRANGLE MAP;
HONOLULU, OAHU, HAWAII (1983)

PLATE 1

GEOLABS-HAWAII
Foundation & Soil Engineering · Geology

DATE	DRAWN BY
OCTOBER 1990	SKK
SCALE	W.O.
1" = 2,000'	2560-00



LEGEND:

APPROXIMATE BORING LOCATION

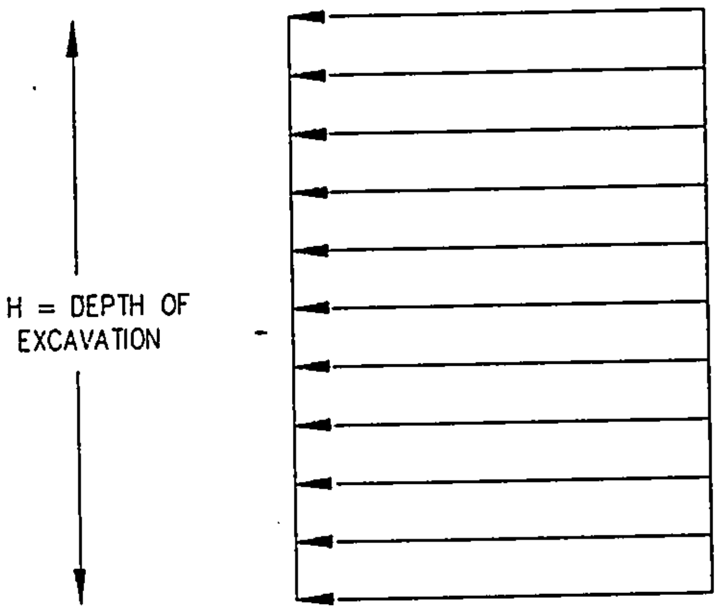
REFERENCE: "TOPOGRAPHIC MAP" (UNDATED) BY ARCHITECTS HAWAII LTD. TRANSMITTED ON OCTOBER 5, 1990.

SITE PLAN

SMITH/MAUNAKEA HOUSING
HONOLULU, OAHU, HAWAII

PLATE 2

GEOLABS-HAWAII Foundation & Soil Engineering · Geology	
DATE OCTOBER 1990	DCM
SCALE 1/32"=1'-0"	2560-00



25H P.S.F. (FOR EXCAVATION ALONG BUILDINGS ON KING STREET)

17H P.S.F. (FOR EXCAVATION ALONG NIMITZ HIGHWAY, SMITH AND MAUNAKEA STREETS)

PLATE 3

APPARENT LATERAL PRESSURE DIAGRAM FOR EXCAVATION SUPPORT DESIGN

GEOLABS—HAWAII
Foundation & Soil Engineering · Geology

DATE NOVEMBER 1990	W.O. 2560-00

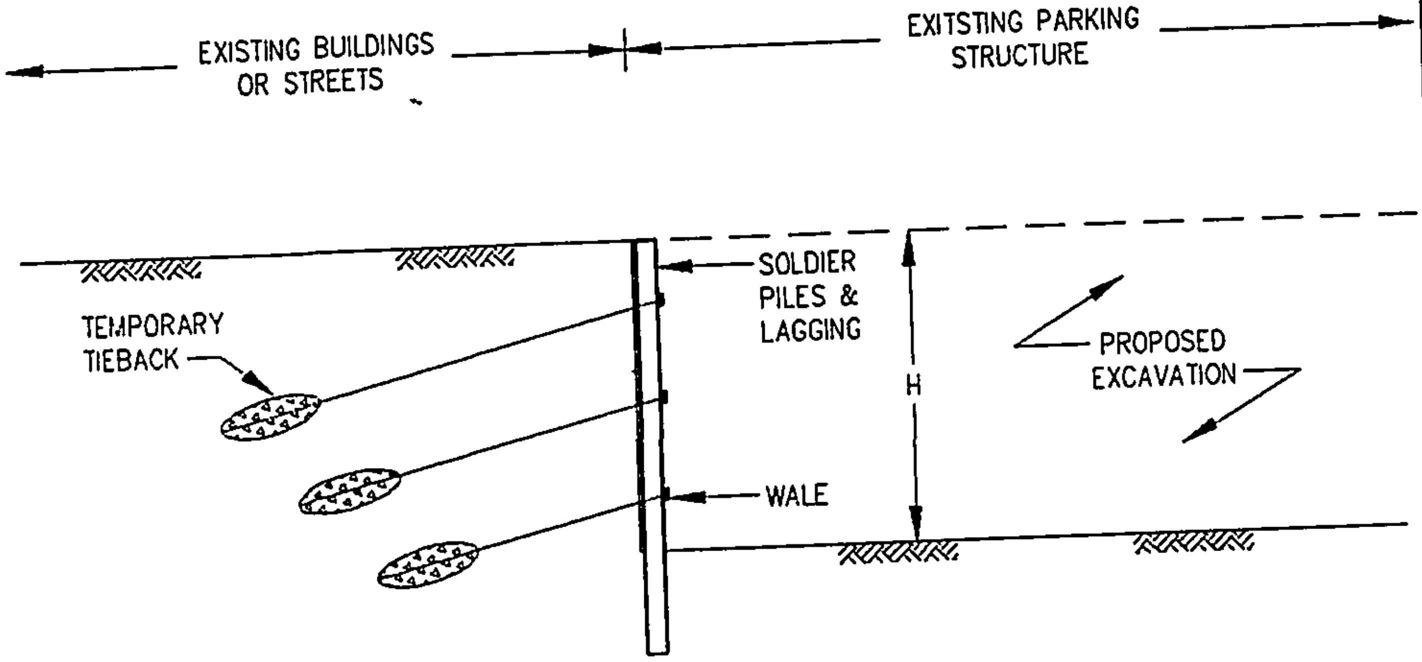
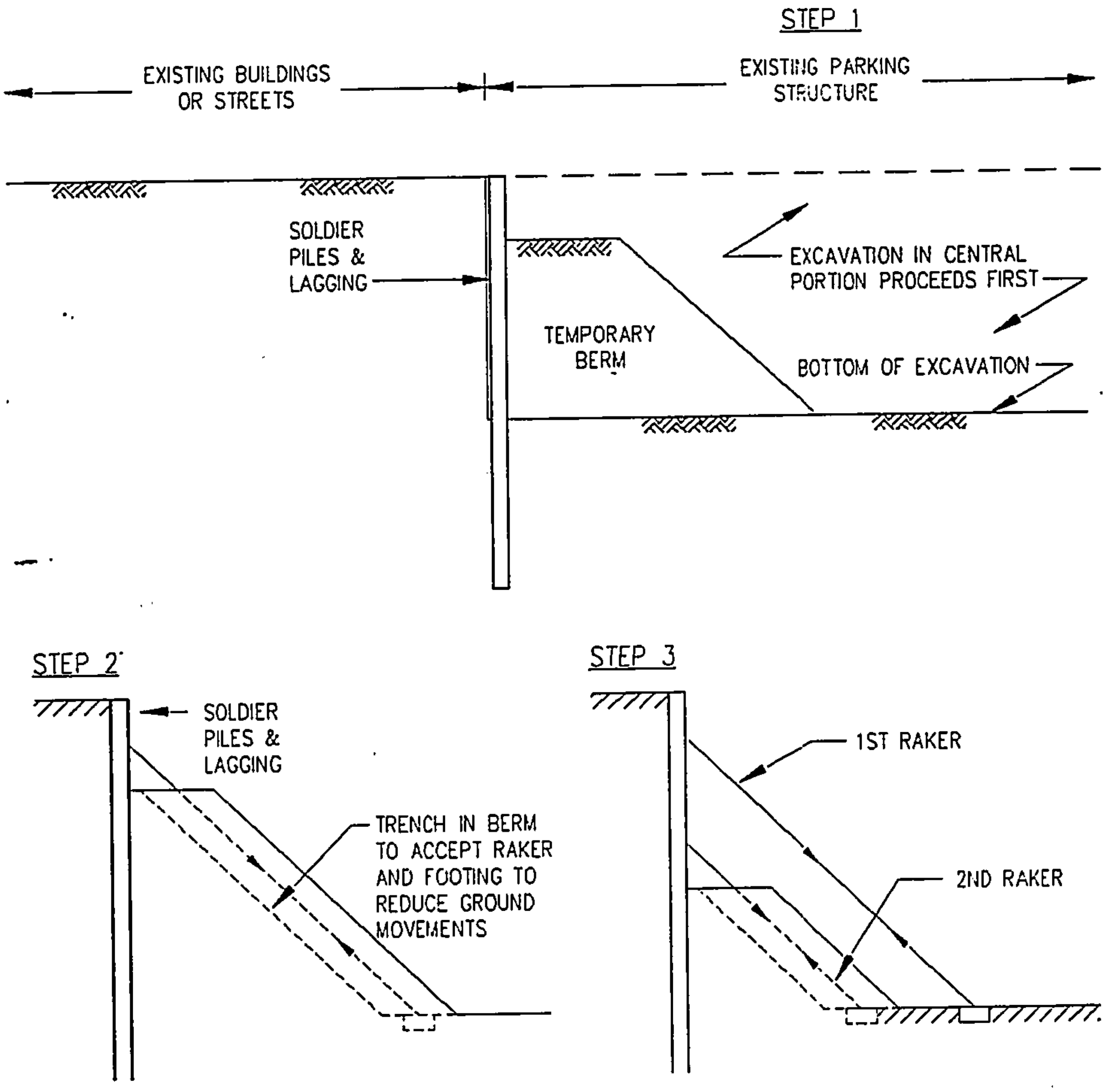


PLATE 4

TIEBACK-SUPPORT SYSTEM

GEOLABS-HAWAII
Foundation & Soil Engineering · Geology

DATE NOVEMBER 1990 | W.O. 2560-00



PLACEMENT OF RAKER STRUTS

PLATE 5

RAKER-SUPPORT SYSTEM	
GEOLABS–HAWAII Foundation & Soil Engineering · Geology	
DATE NOVEMBER 1990	W.O. 2560-00

CW ASSOCIATES, INC. dba
GEOLABS-HAWAII
Geology Soils and Foundation Engineering

INTRODUCTION

We are pleased to take this opportunity to acquaint you with our firm and its capabilities in environmental drilling and related services. We consider ourselves to be a full service firm and provide a wide variety of services, e.g., exploration services, monitoring - installations, instrumentation, consultation and geophysical services.

C.W. Associates Inc. dba Geolabs-Hawaii is a Hawaii based, small business and minority owned corporation which was established in 1975. In 1975, the principals of the firm acquired the physical assets and equipment of Geolabs-Hawaii, Inc. (a division of Sernco) which had been providing geologic and soils engineering services in Hawaii since 1968. Since then, we have been providing our services continuously throughout Hawaii and the Pacific Basin.

The principals of our firm were former managers of Geolabs-Hawaii, Inc. and project managers from other geotechnical engineering firms. We have served a wide range of clients, such as the U.S. Navy, Army Corps of Engineers, State of Hawaii, various counties and municipalities, Dillingham Land Corp., Amfac Property Corp., etc. We have also provided services to numerous other clients, including architects, engineers, developers, contractors and government agencies.

Our services include subsurface boring, offshore boring, monitoring well and piezometer installation, sample retrieval, field and laboratory testing, instrumentation, geophysical surveys and analyses of results. We are prepared to provide you and

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Telex: 7431732 GEOHI • Facsimile: 847-1749 • Phone: (808)841-5064

your consulting team the services for design and installation of a monitoring program and to assist with professional consultation.

The attached 254 Forms give a summary of some of the projects on which we have provided services for during the last five years.

ORGANIZATION AND STAFF

Geolabs-Hawaii has a staff of qualified, experienced personnel to perform drilling, geophysics, engineering and testing services.

The organization is headed by Mr. Bob Y.K. Wong, president, who has worked in Hawaii, the Pacific Basin and the Far East for a great number of years. An active member of the Association of Soil and Foundation Engineers (ASFE), he establishes high standards of professional quality in our programs and ensures that current and innovative methods are implemented into our geotechnical engineering practice.

Mr. Clayton S. Mimura, P.E., our vice president, has over fifteen years of experience in geotechnical engineering in Hawaii and the Pacific. Mr. Mimura holds a Master's Degree from the University of Illinois, one of the nation's top schools in the field of geotechnical engineering. He serves as our Chief Engineer and technical director.

Our senior staff in the geology division includes Mr. Dayton E. Fraim, project engineering geologist and hydrogeologist, who has extensive knowledge and experience with engineering geology and hydrology in Hawaii. Mr. Fraim holds a Bachelor's degree in Geology and Geophysics from the University of Hawaii-Manoa and has actively continued his education since graduation. He assists in the administrative operations of our firm and serves as our Diving Officer/Health and

Safety Coordinator. He is also responsible for managing our environmental and groundwater related work.

Brief resumes of our key personnel are attached for your information.

SUPPORT FACILITIES

Drilling Services

Geolabs-Hawaii has in-house drilling capabilities which allow us to provide cost savings and scheduling flexibility without the time delay which frequently results from subcontracting the drilling services to outside contractors.

This capability includes fifteen drill rigs. We have seven truck-mounted rotary hydraulic rigs; a CME 75, two CME 55s, a CME 45B, two Mobile B-34s, two Mobile B-53s, and a Mobile B-80 with drilling capacities up to 200 feet of augers and over 600 feet of core drilling tools. For less accessible conditions, we have a trailer-mounted Versa-Drill 1200, two Diedrich D-25 skid rigs, one Christensen CMC-100 skid rig, two Concore portable drill rigs and a Mobile Minuteman. Several of our rigs can be made aircraft-ready for shipment to remote locations by MAC Flight. We can also mobilize for off-shore borings for inaccessible locations by helicopters and into buildings. All of our rigs are equipped to obtain soil and rock samples for laboratory testing.

We have a wide variety of sampling equipment, such as 2- and 3-inch O.D. drive samplers, thin wall samplers, a Denision core barrel, NQ and HQ wireline systems, NW and 4-inch double tube core barrels and, HMLC and NMLC triple tube core barrels. We also have development pumps, submersible pumps, water samplers and bailers which can be used in boreholes down to 2 inches in size for sampling, testing and evaluation.

Through our in-house drilling division, we can provide contract drilling for monitoring wells, observation wells, injection wells and water wells. We can also provide contracting services for pressure grouting for ground stabilization and grout curtains to limit movement of groundwater.

We have experience with a wide range of drilling methods including rotary; air rotary, air percussion and auger. Our inventory of hollow stem augers includes inside diameters of 3-1/4, 4-1/4 and 6-5/8 inches.

Our drillers have a combined experience of over sixty years of drilling in Hawaii and the Pacific. They can select the proper drilling equipment and tools to expedite the explorations and well installations rapidly and efficiently while obtaining the maximum amount of information.

We provide environmental drilling services for investigations of sites which are potentially contaminated with hazardous or toxic substances. We can provide drilling crews which have completed the 40 hours of safety training required by 49 CFR 1910.120 and maintain medical surveillance on all of our drilling personnel. We have provided environmental drilling and sampling services on many of the U.S. Navy environmental projects in the recent past.

Geolabs-Hawaii also has a great deal of experience in the field of offshore borings and investigations. We have completed many different offshore explorations for projects such as the Honouliuli Sewer Outfall, the Ala Moana Force Main Harbor Channel Crossing, Maalaea Small Boat Harbor, Kikiaola Small Boat Harbor, Honolulu Harbor Pier 52 Extension and Pier Improvement projects within the Pearl Harbor Naval Submarine Base.

We are also highly experienced in mobilizations to remote and/or difficult sites using helicopters or other methods, such as our work on various portions of the H-3 Freeway project. This project involved the lifting of equipment over seven (7) miles of forest to the drill sites and the drilling of both vertical and angle borings to depths of 300 feet or more using air/foam drilling. Several of our drill rigs can be made aircraft ready for transport by cargo planes to remote military bases such as Johnston Atoll, Midway Island and Kwajalein.

We also conducted drilling operations in confined spaces, such as the inside of buildings with overhead clearances of less than 10 feet.

Testing Services

Geolabs-Hawaii has the capability to provide a complete range of both geotechnical laboratory. We provide testing for soils, aggregate, concrete, masonry and asphalt paving materials. The tests are performed in accordance with ASTM, AASHTO and Military Standard procedures. Specialized tests can be developed for unusual conditions and project specifications.

If desired, we can arrange for analytical laboratory services through subcontractors.

Special Services

Geolabs-Hawaii also offers many other services, such as groundwater instrumentation and geophysical surveys.

We can also provide geophysical surveys through the use of our EG&G Geometrics 12-channel signal enhancement exploration seismograph (Model ES-1225).

GEOLABS-HAWAII

A Bison 1575C single channel seismograph, a R-40 Strata Scout resistivity meter and a SIR-3 ground penetrating radar (GPR). We have access, through subconsultants, to proton magnetometer, electromagnetic, sonar and sub-bottom profiling techniques and equipment.

Our GPR system includes antenna frequencies of 100 mHz and 500 mHz, giving penetration ranges of up to 40 feet. We have used the system for locating cavities, profiling subsurface conditions and for locating buried objects such as storage tanks.

We are including, in the Appendix, photographs of some of our past projects to illustrate applications of our services.

If you have any questions regarding our services or any aspect of your future projects, please feel free to contact the undersigned.

We thank you for allowing us this opportunity of introducing ourselves and look forward to establishing a prosperous professional relationship with you.

Respectfully submitted,

C.W. ASSOCIATES INC.
dba **GEOLABS-HAWAII**

By Bob Y.K. Wong
Bob Y.K. Wong, P.E.
President

BYKW:as

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CW ASSOCIATES, INC. dba

GEOLABS-HAWAII

Geology Soils and Foundation Engineering

BOB Y.K. WONG

President

EDUCATION

Bachelor of Science in Civil Engineering, University of Hawaii, 1965
Soil Mechanics & Foundation Engineering Graduate Study, University of Hawaii, 1966

Specialty Conference on Engineering and Construction in Tropical and Residual Soils, 1982.

Soil & Rock Grouting Course, University of Missouri-Rolla, 1982.

Value Engineering Workshop, Society of American Value Engineers, 1983.

Geological Engineering Short Course, The Geological Engineering Foundation, Berkeley, California, 1984.

Guidelines for Use & Interpretation of the Electronic Cone Penetration Test, University of British Columbia, 1984.

International Conference on Deep Foundations, Deep Foundation Institute, Beijing, China, 1986.

Geotechnical Engineering of Land Disposal Systems, University of Wisconsin - Madison, 1987.

Soil Stabilization of Pavement Subbase and the Enhancement of Asphalt Concrete with Additives, University of Wisconsin - Madison, 1987.

PROFESSIONAL ORGANIZATIONS

Structural Engineers Association of Hawaii
Association of Soil and Foundation Engineers
American Society of Testing and Materials
American Consulting Engineers Council

2006 Kalihi Street • Honolulu, Hawaii 96819
Telex: 7431732 GEOHI • Facsimile: 847-1749 • Phone: (808)841-5064

PROFESSIONAL REGISTRATION

State of Hawaii - Registered Civil Engineer, 1975

PROFESSIONAL EXPERIENCE

1975 to Present: **President of Geolabs-Hawaii.** Oversees all aspects of the company's Hawaii and Pacific Basin operations. Maintains administrative and quality control/management of geotechnical projects and personnel, including material testing, quality control projects and drilling operations. Chief executive officer of the Corporation. Responsible for primary market development and direct marketing. Lead person for client contact, liason and relations. Overall control of contractural agreements and relationships. Maintains overall control over company purchasing and expenditures.

1973 to 1975: **Vice-President and Manager, Geolabs-Hawaii Inc. (a Sernco Subsidiary) Honolulu, Hawaii.** Responsible for business development, public relations with new and existing clients, prepared proposal and scope of work for soil investigation which included multi-story highrise structures, subdivision site development, public works consisting of sewage treatment plant site, sewer outfalls, sewer construction, pier extension, etc.

1971 to 1972: **Turner (East Asia) Ltd., Hong Kong. Foundation Construction Engineer for Turner Construction** (S.E. Asia) in Hong Kong for the First National City Bank of New York building. Project involved monitoring of deep basement excavation, dewatering, excavation shoring and large diameter caissons.

1966 to 1971: **Project Engineer, Walter Lum & Associates, Honolulu, Hawaii.** Project Engineer in charge of soil exploration and foundation investigation; coordinated and supervised field exploratory drilling operations, laboratory tests; summarized and analyzed for foundation design and construction. Various high-rise structures, marina and hillside subdivision sites in all the Hawaiian Islands.

1966 to 1966:	**Field Engineer, Dames & Moore, Honolulu, Hawaii.** Field Engineer involved with field work, such as site reconnaissance and logging of bore holes.
1965 to 1966:	**Soil Engineering Technician, Dames & Moore, Honolulu, Hawaii.**

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CW ASSOCIATES, INC. dba
GEOLABS-HAWAII
Geology Soils and Foundation Engineering

CLAYTON S. MIMURA

Vice-President

EDUCATION

Bachelor of Science in Civil Engineering, University of Hawaii, 1971
Master of Science in Soil Mechanics and Foundation Engineering, University of Illinois, 1972

Embankment Dams Course, University of Missouri-Rolla, 1973

Soil & Rock Instrumentation Course, University of Missouri-Rolla, 1982

Measurement of Modeling of Clay Behavior for Foundation Design Course, MIT, 1985

Soil Dynamics and Foundation Engineering Course, University of Missouri-Rolla, 1987

Underground Storage Tank Management, Leak Detection and Corrective Action, January 1990

PROFESSIONAL ORGANIZATIONS

American Society of Civil Engineers
International Society of Soil Mechanics and Foundation Engineering

PROFESSIONAL REGISTRATION

State of Hawaii - Registered Civil Engineer, 1975

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PROFESSIONAL EXPERIENCE

1978 to Present: **Principal Engineer, Geolabs-Hawaii.** Responsible for project management of geotechnical investigations and subsequent field observations/quality control testing during construction of projects.

Project experience extends throughout the Hawaiian Islands and include Guam and the Philippines.

Previous projects include high rise structures utilizing spread footing, mat and deep foundations; antenna foundations, waterfront structures including piers, bulkheads, dolphins and bridges; tunnels; subdivision development requiring soft ground stabilization; slope stability evaluation and pavement design for heavy aircrafts.

Partial List of Projects:

1) **Investigation of the Manoa Valley Earth Movements** where borings, seismic surveys, piezometers and slope indicators were utilized to determine the cause of earth movements and possible remedial measures.

2) **Causeway from Naval Station to Ford Island** which involved a bridge structure across Pearl Harbor supported by large cylindrical piles.

3) **A New Hangar at Cubi Point Naval Air Station,** Philippines, which involved a large 80-foot cut into residual soil/tuff in an area with high seismic potential and severe monsoon rains.

4) **Soft Ground Stabilization** of a large marsh area requiring geotextile stabilization, vertical drains, surcharge fill and soil instrumentation to monitor stability during fill construction.

1972 to 1978: **Project Engineer, Walter Lum Associates, Honolulu, Hawaii.** Directed soil investigations for residential subdivisions, highrise structures, bridges, highways, sewer and drain lines, reservoirs and harbor facilities in Hawaii. Supervised drilling, laboratory soil testing, field instrumentation and field quality control operations.

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APPENDIX I

Civil Engineering Report

Richard M. Sato & Associates, Inc..

CIVIL ENGINEERING REPORT

FOR THE

SMITH-MAUNAKEA HOUSING

HONOLULU, OAHU, HAWAII

TMK: 1-7-2: 3, 4, AND 5

FEBRUARY 1991

PREPARED BY:

RICHARD M. SATO & ASSOCIATES, INC.
2046 South King Street
Honolulu, Hawaii 96826-2219

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LIST OF FIGURES

I. INTRODUCTION

Project Location: Smith-Maunakea Housing, as shown on Figure 1, is located north of Nimitz Highway between Maunakea Street and Smith Street. The project site is currently occupied by the municipal parking structure.

Description of Proposed Development: The proposed development is for an apartment and commercial mixed-use complex with 234 apartment units and approximately 14,000 square feet for commercial use.

Purpose of Report: The purpose of this report is to assess the adequacy of the existing infrastructure elements, namely water system, sewer system, and drainage system and to determine the infrastructure improvements necessary to support this project.

II. WATER SYSTEM

Existing Supply and Distribution: The existing water system consists of 12-inch and 8-inch mains along Nimitz Highway, 12-inch main along Maunakea Street, 12-inch main along King Street, and 8-inch main along Smith Street. See Figure 2.

Requirements for Development: The projected water demand for the proposed development was determined using the criteria in the Water System Standards - Volume I (1985) of the Board of Water Supply is summarized below.

ESTIMATED WATER DEMAND

1. Residential Tower (238 Units)	71,400 gallons per day
2. Commercial Space (16,164 sq. ft.)	1,940 gallons per day
TOTAL	73,340 gallons per day

FIRE FLOW REQUIREMENTS

1. Flow	3,000 gallons per day
2. Duration	2 hours

Required Improvements/Upgrades: Based on these projected water demands, the Board of Water Supply (BWS) has confirmed that the current water system serving the area is inadequate to serve the proposed development. Therefore, a new 12-inch water main on Smith Street, approximately 450 linear feet, will be required by the BWS.

III. SEWER SYSTEM

Existing System: The existing municipal sewer system serving the project area consists of an 8-inch sewer line along King Street, an 8-inch sewer line along Maunakea Street, a 28-inch sewer line along Nimitz Highway, and a 6-inch sewer line along Smith Street. The approximate locations of the existing sewer lines are shown on Figure 3.

Requirements for Development: The estimated wastewater flows were determined using the criteria in the Design Standards of the Division of Wastewater Management, Volume I (February 1984) and are summarized below.

ESTIMATED WASTEWATER FLOW (Average Daily)

1.	Residential Tower (238 Units)	53,300 gallons per day
2.	Commercial Space (16,164 sq. ft.)	8,900 gallons per day
	TOTAL	62,200 gallons per day

Required Improvements/Upgrades: The Division of Wastewater Management, City and County of Honolulu, has determined that the existing 28-inch sewer main along Nimitz Highway is inadequate to serve this estimated wastewater flow. The Division of Wastewater Management has indicated that the reconstruction of the Nimitz Highway sewer is tentatively scheduled for fiscal year 1993. Actual location will be determined by the Division of Wastewater Management.

IV. STORM DRAINAGE SYSTEM

Existing System: The existing drainage system consists of an 18-inch drain line along King Street, an 18-inch drain line along Maunakea Street, and two 24-inch drain lines across Nimitz Highway and to the harbor. The existing catch basins are at the corners of Smith and Nimitz, Maunakea and Nimitz, and Maunakea and King. See Figure 4.

Requirements for Development: The estimated storm water runoff were determined using the criteria in the Storm Drainage Standards of the Department of Public Works (May 1988) and is summarized below.

ESTIMATED SURFACE RUNOFF

Entire Project Site	5.2 cubic feet per second

Required Improvements/Upgrades: According to the Department of Public Works, the drainage system along Maunakea Street was found to be overtaxed. Therefore, the drainage system from the project shall be connected to the existing Smith Street system.

V. SUMMARY

In summary, an inventory of the existing water, sewer, and drainage systems have been compiled and is shown on Figures 2 through 4.

The water system has been found to be inadequate along Smith Street and will require a new 12-inch water main. The remainder of the water system is adequate for the project.

The existing sewer system has been found to be inadequate along Nimitz Highway and will require reconstruction and upgrading. This work is tentatively scheduled for fiscal year 1993 by the Division of Wastewater Management.

The drainage system along Smith Street has been found to be adequate to serve this project. The drainage system from the project will be connected to this system.

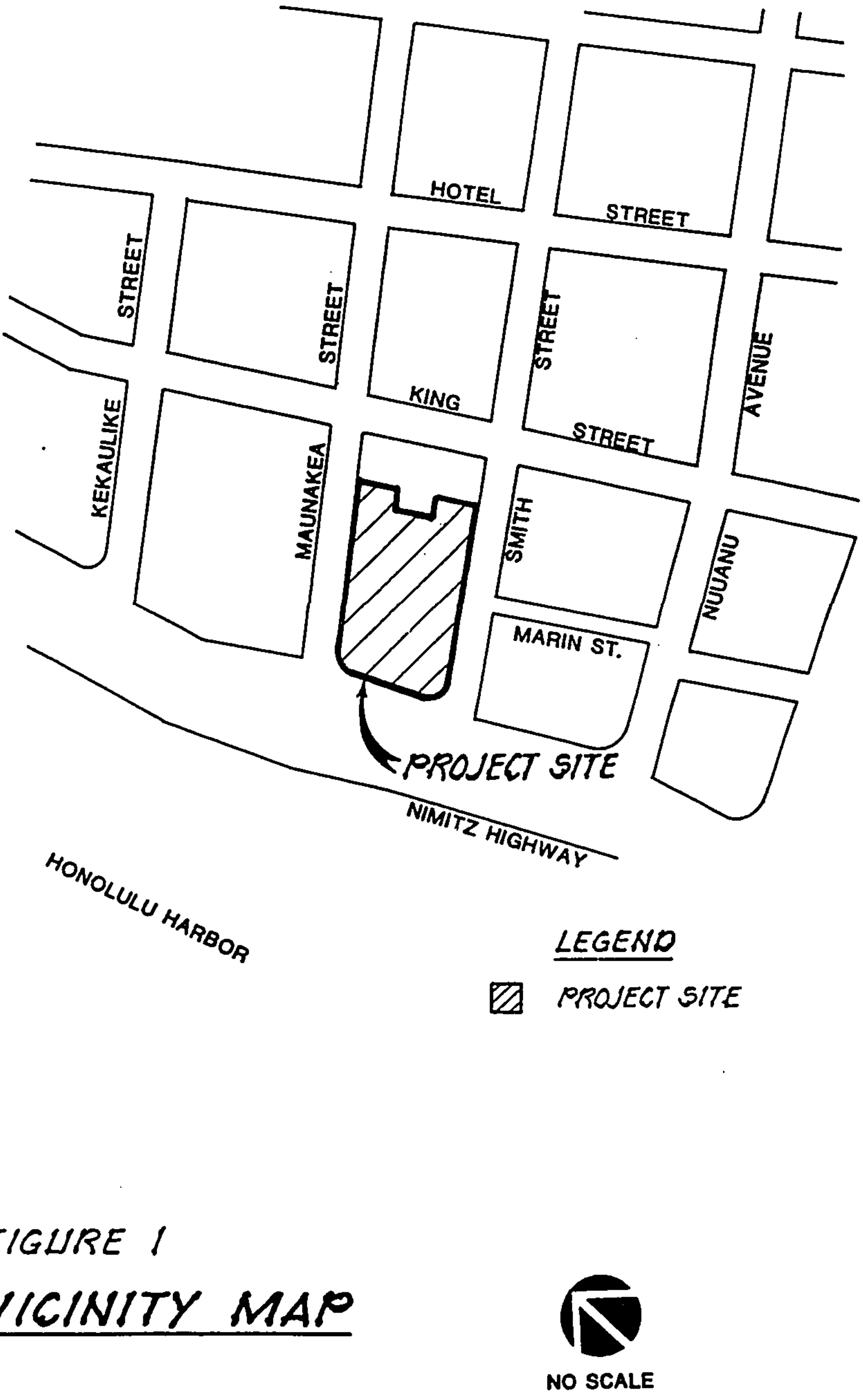

FIGURE 1

VICINITY MAP

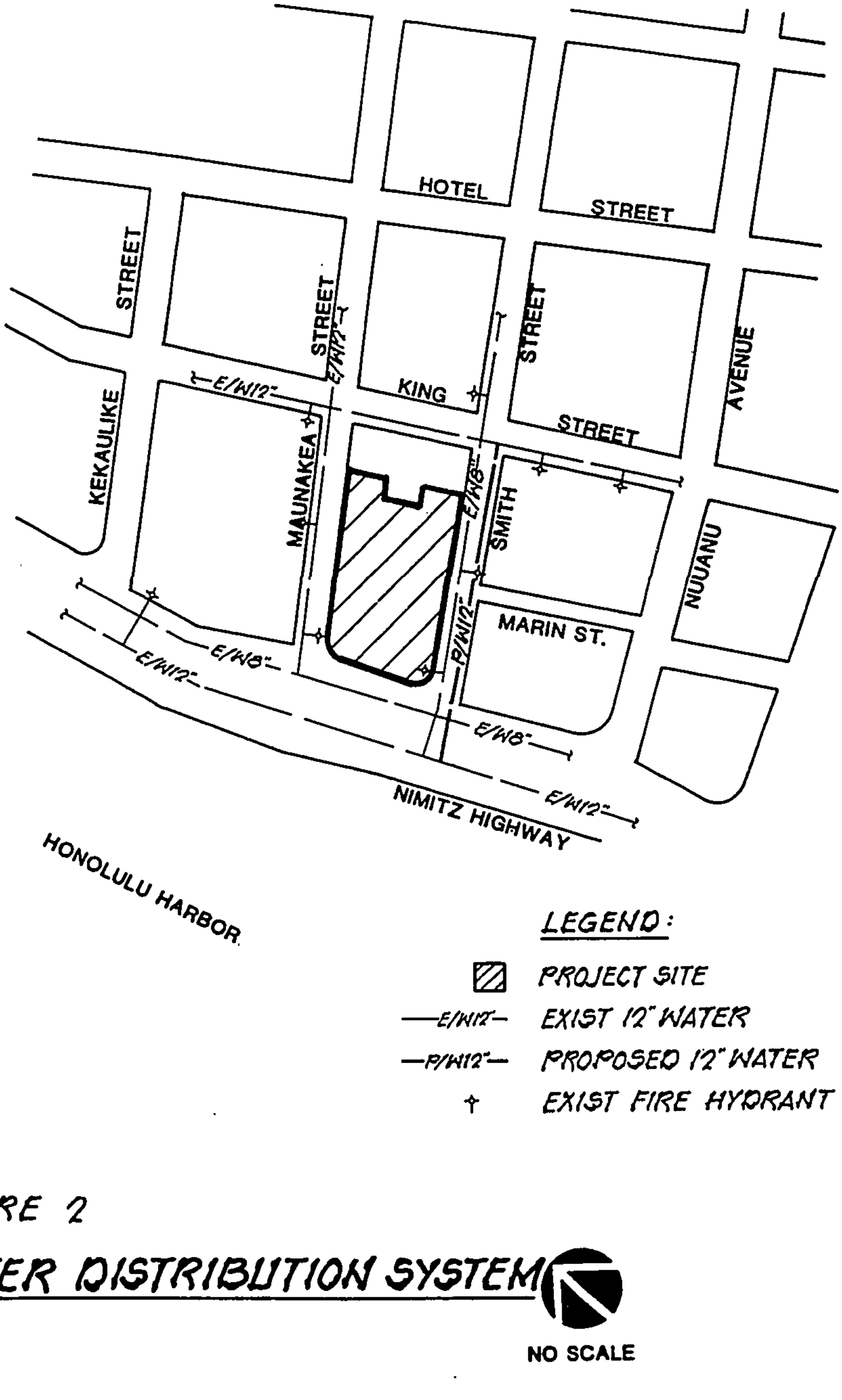

FIGURE 2

WATER DISTRIBUTION SYSTEM

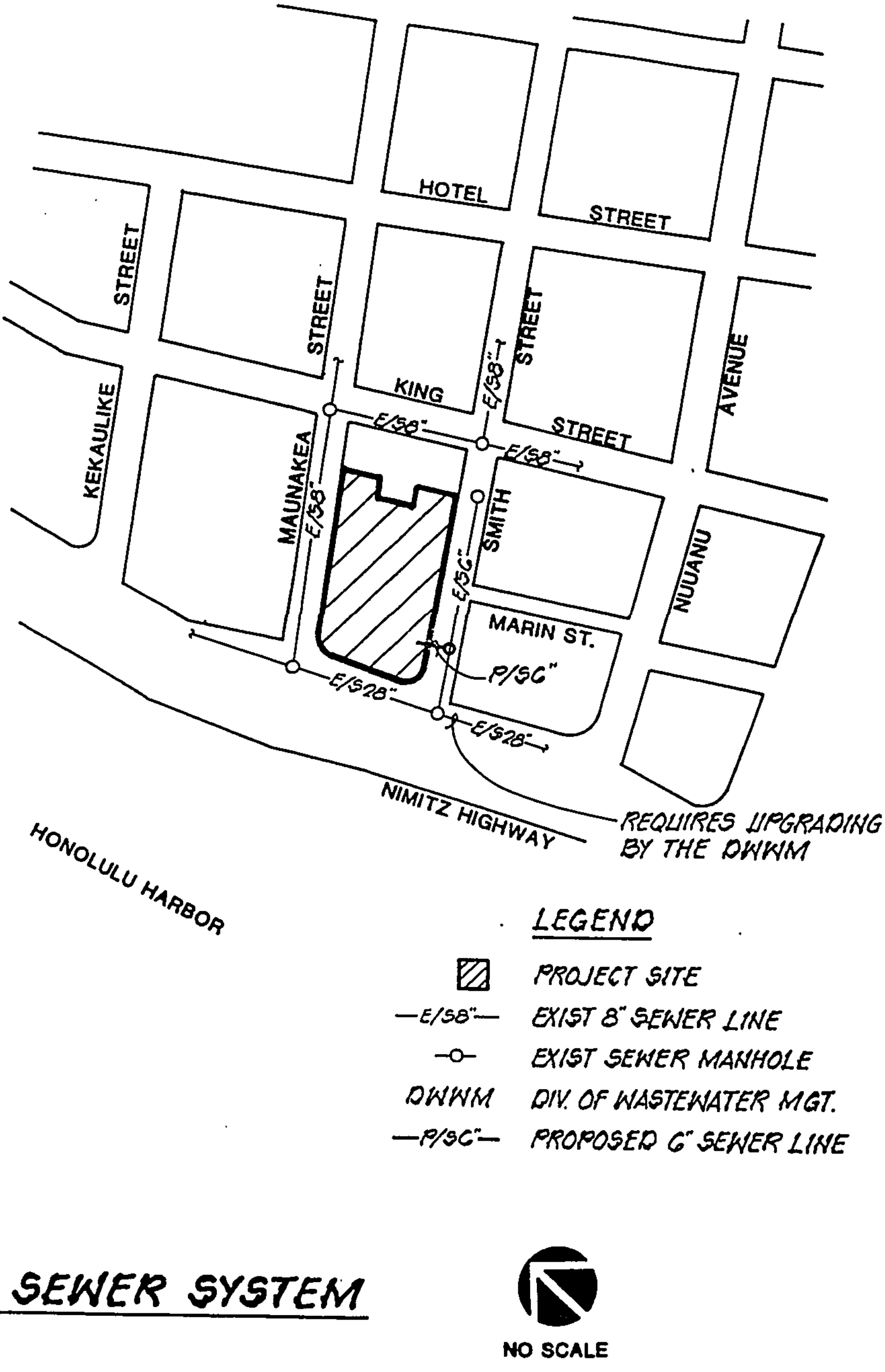

FIGURE 3

SANITARY SEWER SYSTEM

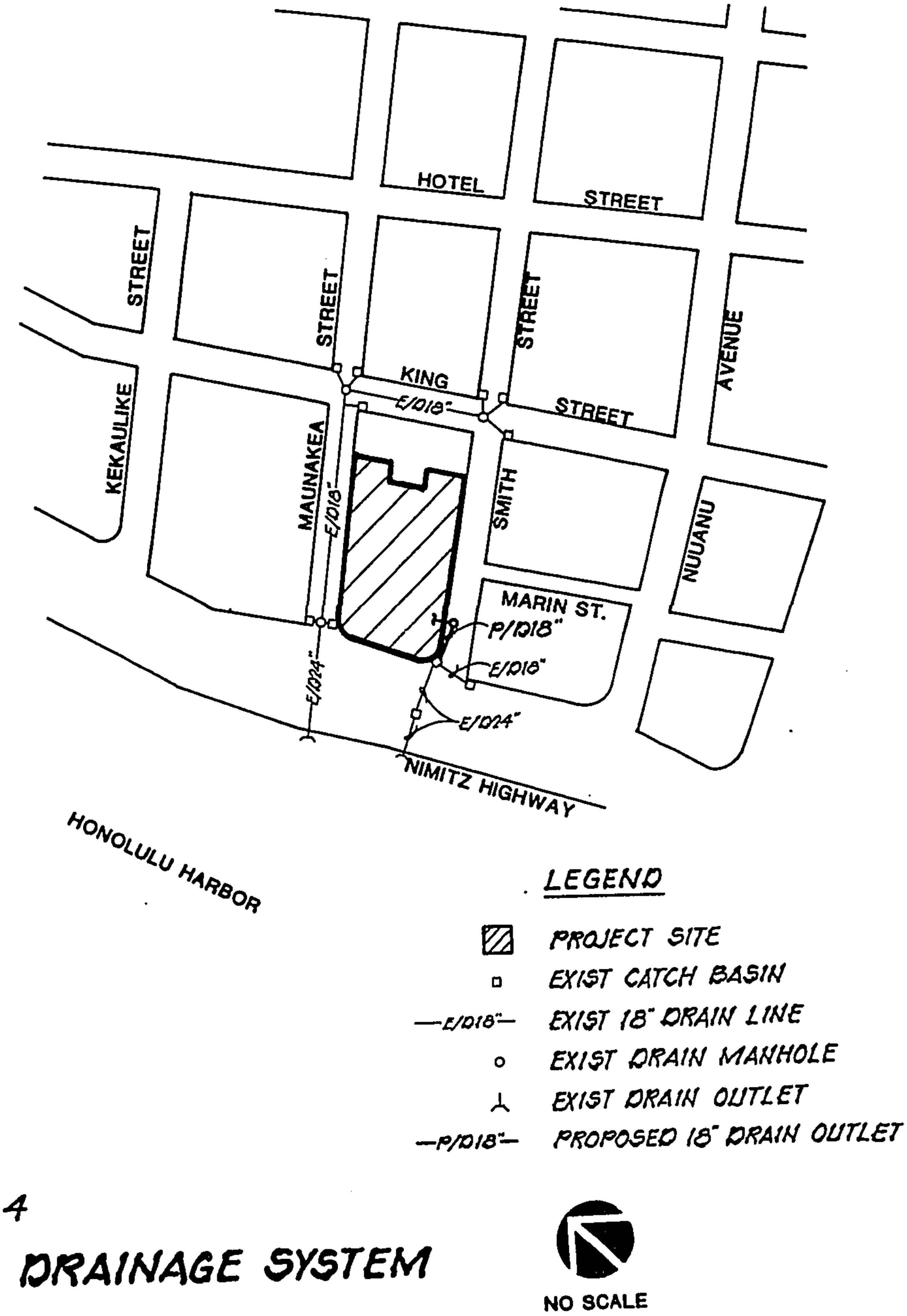

FIGURE 4

STORM DRAINAGE SYSTEM

RICHARD M. SATO & ASSOCIATES, INC.

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RICHARD M. SATO & ASSOCIATES, INC., a minority-owned small business enterprise, offers consulting services in both civil and structural engineering. Services include research of existing plans, field investigation, preparation of construction drawings and specifications, field observations, feasibility and master plan studies, analyses of existing structures, environmental studies and investigations, cost estimates, and construction inspection services.

Our civil engineers have experience in highway and roadway improvements; water, sewage and drainage systems; waterfront, airport and educational facilities; sitework for residential subdivisions, resort condominiums; environmental assessments; hydrological, feasibility and master plan studies; and planning services.

Our structural engineers have experience in high and low rise buildings (offices, condominiums, apartments); industrial, governmental and religious facilities; bridges, waterfront and airport type facilities; and water and sewage treatment structures. Our staff of structural engineers have diversified background in structural materials such as reinforced, prestressed and post-tensioned concrete, concrete block masonry, structural steel, light gage steel, prefabricated metal buildings, glue-laminated and heavy timber.

Our firm has successfully managed and coordinated major projects and have worked with consultants of various disciplines.

To expedite and aid in the analyses of civil and structural projects, we utilize our own computer systems which have computer aided drafting and design, word processing, and records management capabilities.

With our firm's past experience as prime consultant and subconsultant, and our constant demand for quality and improvement in our work, we believe we have the capabilities to provide needed services to complete projects within budget and time constraints.

RICHARD M. SATO & ASSOCIATES, INC.

CONSULTING ENGINEERS
CIVIL & STRUCTURAL

DANIEL S. MIYASATO
Vice President

Education: University of Hawaii, B.S.C.E., 1969

Professional
Registration: Hawaii/1973/Civil Engineer

Professional Affiliations: Chi Epsilon
American Society of Civil Engineers

Mr. Miyasato has wide experience in civil engineering projects. He is in charge of all civil engineering projects, including scheduling of manpower and workload, contract negotiation, supervision of staff, client liaison, preparation of preliminary to final design documents, specification, and cost estimates.

Mr. Miyasato's experience has involved sitework including grading, paving, underground utilities for various condominium and townhouse projects, single family residential subdivisions, and airport and educational facilities.

Projects in which he has had major responsibility include:

* **Kaloko Subdivision Roadway** - Civil Design

* **Kahului Airport Runway 2-20 and Emergency Road** - civil design, grading, drainage and resurfacing.

* **Keahole Airport South Ramp and Ground Transportation Lease Lots** - civil design, grading, drainage and utilities.

* **Waikiki Landmark** - civil design, grading, drainage and utilities.

* **Honolulu International Airport South Ramp and Lagoon Drive, Phase III** - civil design, grading, dranage and utilities.

* **Kalialinui Gulch Improvements (Alahao Street Bridge) Kahului Airport** - civil design, drainage.

* **Hina-Lani Street Extension** - civil design, Traffic Impact Study.

APPENDIX J

View Assessment

Michael S. Chu

VIEW ASSESSMENT

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FIGURES

VIEW ASSESSMENT

prepared by: Michael S. Chu, Land Architect
March 1991

1. Purpose of Assessment

The purpose of this assessment is to evaluate the proposed Smith/Maunakea Housing project as proposed by the City and County of Honolulu, with regards to potential impacts which would effect existing visual/scenic resources, open space resources and/or other important urban design characteristics of the area; and to identify possible design measures which may mitigate undesirable impacts.

2. Background

The site of the proposed Smith/Maunakea Housing project is located in urban Honolulu within the Chinatown Special District[1]. In 1973, Chinatown was designated as a National Historic District by the National Registration of Historic Places. Pursuant to this designation, the City and County adopted the Chinatown Special District Ordinance which sets forth special land use controls for the district. Certain land use controls and precincts configurations for the Chinatown District were amended in 1989. Most significant were the revised building height limits along Nimitz highway which are staggered from 80 feet at the Ewa end (River Street) to 250 feet from Maunakea to Bethel Street.

Preceding the adoption of the Chinatown Special District Ordinance, several federally financed planning studies were conducted to include Chinatown, a Plan for Renewal[2] and Chinatown Historic Preservation Plan[3]. As planning studies, they serve as useful guidance documents and contain the technical and background data culminating in Section 7.60, The Chinatown District, of the Land Use Ordinance.

This assessment takes into account both state and county policies, a review of the previous Chinatown studies, a review of architectural plans as prepared by Architects Hawaii, Ltd. and inspections of the site and its surrounding environment.

1 Chinatown Special District, City and County Ordinance No. 89-52
2 Chinatown, A Plan for Renewal, by Daniel, Mann, Johnson & Mendenhall, for the City and County of Honolulu
3 Chinatown Historic Preservation Plan, Aotani & Hartwell Assoc. Inc. 1974, for the City and County of Honolulu

3. Existing Conditions

3.1 Location

The Smith/Maunakea Housing project is located in the Primary Urban Center, within the makai precinct of the Chinatown District (see Figure 5). The Makai Precinct is in a linear configuration consisting of approximately six city blocks paralleling Nimitz Highway between River and Bethel Street. Its mauka boundary is staggered laterally across at mid-block, further emphasizing the linear nature of the precinct.

The Smith/Maunakea project site is centrally located within the makai precinct. It fronts Nimitz Highway between Smith Street and Maunakea Street. It extends from Nimitz Highway to the irregular mauka boundary. The proposed project will occupy most of the city block described above with the excèption of the 3 smaller parcels abutting North King Street.

3.2 Visual Description of the General Environment

In the Makai Precinct, several older lowrise structures, as well as a scattering of newer or remodeled buildings which have infilled the area, can be found. Most of the architectural significance associated with Chinatown (e.g. historic/architectural value, and facade groups[4]) lies outside the Makai Precinct, however certain isolated resources are found in the immediate vicinity of the project site. They include:

> Maunakea Street- J.H. Schnack Building and the M. Kawahara Building located along the Ewa side of Maunakea Street. While not identified as a significant facade grouping, both buildings are considered to hold historic/architectural value. The narrowness of the street limits visibility of these two buildings.
>
> The Yee Hop Plaza Building located at the corner of King and Maunakea Streets is a distinct and highly visible building oriented towards King Street. It has medium architectural value. Its facade grouping is considered negative and has no preservation value.
>
> King Street- The Goodwill Industries Building and an unamed building at the corner of King and Smith Streets are listed as having historic/architectural value and are isolated examples of period architecture. There is high visibility of these two building from the King Street intersection.
>
> The Liberty Bank Building was one of the earlier buildings erected in Chinatown utilizing a modern design style. It is considered to have high historic and visual value. Similar to other buildings along King Street, visibility of this structure is high.

[4] Chinatown Historic Preservation Plan, Aotani & Hartwell Assoc. Inc. 1974, for the City and County of Honolulu

Smith Street- The Bankoh Annex Building located between Smith and Nuuanu Avenue has limited historic/architectural value. It is highly visible as it abuts three public streets, however it has little visual relationship to the project site as the Smith Street facade is essentially a solid wall along the edge of the sidewalk.

Unlike the Historic Core Precinct of Chinatown, the resources listed above occur in relative isolation and do not contribute towards establishing a visual theme within the Makai Precinct. However as isolated resources they do provide a linkage from this fringe area to the central Historic Core Precinct of the District.

Visual resources of a non-structural nature relating to the Makai Precinct include the following:

View of Honolulu Harbor- The Makai Precinct parallels Nimitz Highway and unobstructed views of the harbor can be seen from all points along its makai edge.

Mauka/Makai View Corridor- The Maunakea Street right-of-way provides a narrow view corridor of Honolulu Harbor[5] (see Figure 8, Photo G).

Nimitz Highway- The roadway view from Nimitz Highway near piers 16-18 approaching Chinatown (see Figure 7, *Photo* C) is a recognized visual/urban design resource[6]. This lateral view captures Honolulu Harbor in juxtaposition to the building masses of Chinatown and the downtown areas and is a prime urban waterfront scene.

Off Site Views- The distant mauka view from Sand Island Park towards the Chinatown/downtown skyline[7] (see Figure 7, Photo A).

Urban design considerations which relate to the visual quality and character of the Makai Precinct include the following:

The quality of the streetscape is of prime importance in considering the pedestrian's visual experience of the proposed development and its relationship to Chinatown. Elements of the streetscape which provide pedestrian scale (signage, storefronts, awnings, pedestrian pathways, landscape planting, etc.) at the ground level are essential in assimilating new development into the District.

Urban design considerations which relate to the visual quality and character of the Chinatown and Financial Districts include the following:

Figure 7, Photo A illustrates the waterfront skyline which descends in an Ewa direction from the Financial District (building heights of 350 feet) to Nuuanu

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5 Chinatown Historic Preservation Plan, Aotani & Hartwell Assoc. Inc. 1974, for the City and County of Honolulu

6 Oahu Coastal View Study, DLU, 1987; Chinatown, A Plan for Renewal, by Daniel, Mann, Johnson & Mendenhall, for the City and County of Honolulu

7 Oahu Coastal View Study, DLU, 1987

Stream (building heights of 80 feet). This descending "height envelope" is a dramatic urban design feature that punctuates downtown as the crescendo of urban activity in Honolulu. The tapering of heights towards the Nuuanu Stream direction adds visual form to the skyline and exposes views of the Koolau ridgeline in the background.

3.3 Description of the Site

The project site consist of 3 separate TMK parcels totaling 44,677 sf.

TMK	SIZE	OWNER	EXISTING USE
1-7-02: 3	5793 SF	State of Hawaii	Business Commercial
1-7-02: 4	16,939 SF	City and County	Parking Garage
1-7-02: 5	4624 SF	City and County	Parking Garage

The parking garage (TMK: 1-7-02: 3 and 4) is a three level concrete structure operated by the City and County of Honolulu. Although it is in sound condition, it contains no unique architectural or historic value. The parking garage utilizes the entire parcel. Except for the sidewalk areas within the Smith and Maunakea Street rights-of-way, no open space or landscaping is provided at ground level.

According to the Chinatown Historic Preservation Plan, the 2 story commercial structure fronting Nimitz Highway (TMK: 1-7-02: 5) holds "some historic/architectural value" but rehabilitation is "questionable" and preservation value is "medium". It provides no setbacks from Smith or Maunakea Street but is setback from Nimitz Highway providing a narrow front yard. This yard area, however, is paved and normally utilized for vehicular parking. There are no pedestrian or visual amenities associated with this parcel.

The narrow makai view corridor along the Maunakea Street right-of-way extends back into the Chinatown District and diminishes near Hotel Street. There are no noteworthy mauka views from the site or adjacent streets.

4. Applicable Plans, Policies and Ordinances

4.1 Hawaii State Plan (HRS Chapter 226)

The Hawaii State Plan, recognizing the need to "...provide for wise use of Hawaii's resources and to guide the future development of the State," identifies several Goals, Objectives, Policies and Priorities for the State. Those which are relevant to this report are as follows:

SEC.226-12 Objectives and policies for the physical environment - scenic, natural beauty, and historic resources
(a) Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawaii's scenic assets, natural beauty, and multicultural/historic resources.
(b) To achieve the scenic, natural beauty, and historic resources objective, it shall be the policy of this State to:

(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage.

4.2 General Plan, City and County of Honolulu

The Oahu General Plan contains several broad statements related to visual impact within the context of the built environment and urban design. Consideration of the Smith/Maunakea Housing project relative to the Oahu General Plan are embodied within the following:

Physical Development and Urban Design
Objective D- To create and maintain attractive, meaningful, and stimulating environments throughout Oahu.

- Policy 4- Require the consideration of urban-design principles in all development projects.
- Policy 6- Provide special design standards and controls that will allow more compact development and intensive use of lands in the Primary Urban Center.

Objective E- To promote and enhance the social and physical character of Oahu's older towns and neighborhoods.

- Policy 1- Encourage new construction to complement the ethnic qualities of the older communities of Oahu.

4.3 Development Plans, Common Provisions

The common provisions for all of Oahu's Development Plan Areas include the following relevant general urban design principles and controls (Section 32-1.4):

(1) Public Views
Public views include views along streets and highways, mauka-makai view corridors, panoramic and significant landmark views from public places, views of natural features, heritage resources and other landmarks, and view corridors between significant landmarks.

Such public views shall be protected by appropriate building heights, setbacks, design and siting controls established in the CZC. These controls shall be determined by the particular needs of each view and applied to public streets and to both public and private structures.

The design and siting of all structures shall reflect the need to maintain and enhance available views of significant landmarks. No development shall be permitted that will block important public views.

(3) Vehicular and Pedestrian Routes

Landscaping shall be provided along major vehicular arterials and collector streets as a means to increase the general attractiveness of the community and the enjoyment of vehicular travel for visitors and residents.

4.4 Development Plan, Primary Urban Center

The Special Provisions for the Primary Urban Center (PUC) provides several policy statements regarding views and urban design that are pertinent to the Smith/Maunakea Housing site. These statements include the following:

> (2) Public Views
> In order to promote pleasing and attractive urban living environments, and to protect and enhance the remaining natural environment of urban areas, view of landmarks and the natural environment from public places may be identified and protected by the Department of Land Utilization. Important views to be protected include, but are not limited to the following:
>
> > Prominent views of historically and architecturally significant urban areas, places and buildings, such as the Hawaii Capital Complex, Thomas Square, Academy of Arts, and Chinatown area.

The DP also singles out the Nimitz/Ala Moana Corridor as a Special Area. Policies for this corridor are provided in the following DP statements:

> This vehicular corridor includes Nimitz Highway and Ala Moana Blvd. from the Honolulu International Airport to Kalakaua Ave. in Waikiki. The corridor deserves special consideration because of its special function as the major ingress and egress route of visitors and as a major thoroughfare for residents.
>
> > (A) The preservation and enhancement of views from this corridor shall be the major determinant of development controls along this corridor.
> >
> > (B) Appropriate measure to enhance the attractiveness of this corridor and the public and private responsibilities to implement and maintain such improvements shall be adopted.

4.5 Land Use Ordinance

The Land Use Ordinance (LUO) through its inclusion of the Chinatown Special District requires a design review and the issuance of a Special District Permit by the Department of Land Utilization The stated objectives of the LUO for Chinatown are as follows:

Specific objectives of the Chinatown District are as follows:

A. To preserve and enhance the historic architecture and human scale of development.

B. To preserve and enhance the ethnic pattern of social and human activities and uses.

C. To insure that new developments in Chinatown are compatible with the character of the area and with existing structures of historic and architectural significance.

D. To economically revitalize and improve the attractiveness of the Chinatown area.

E. To promote the health, safety and welfare of the residents, including their satisfactory relocation in compliance with applicable HUD relocation rules and regulations.
F. To insure proper maintenance of buildings with significant historic, architectural and cultural values.

There are no objectives that directly address the preservation of public views or vistas. Rather the concern for views may be linked to the urban design directives to include "human scale" and "compatibility with the character of the area".

The Chinatown, A Plan for Renewal and the Chinatown Historic Preservation Plan studies provide the only graphic documentation of important view corridors within the district.

5. Proposed Actions

5.1 General Description

The intent of the proposed Smith/Maunakea Housing project is to demolish the existing public parking garage and the smaller commercial structures along Nimitz Highway, consolidate the 3 parcels and construct a mixed-use structure at the site. The proposed development will be approximately 250 ft. in height topped with a metal roof extending an additional 31.5 feet in height. The overall height of the tower will be 281'-6".

The development will contain approximately 238 residential units, approximately 16,000 square feet of commercial space at the street level, and approximately 439 parking stalls of which 260 parking stalls will be for public use.

The project is designed with a highrise tower located on the mauka portion of the site and a multi-level parking garage which will cover most of the site. At the mauka portions of the site, the garage will be submerged two levels below grade and will be the foundation for the residential tower. The parking garage at the makai portion of the site will also be submerged 2 levels below grade with an additional five levels above grade.

No setbacks along Smith Street or Maunakea Street is provided. Leasable commercial space (store frontage) at the street level is provided which will screen the garage structure at street level. A wide (25+ feet) landscape buffer is provided along Nimitz Highway and will contain earth mounds, palms and other shrubbery designed to screen the facade of the garage. In addition, a vertical water feature is proposed along the face of the parking garage. This feature is intended to enhance the visual quality of the Nimitz Highway environment.

The square shaped residential tower will be centered towards the rear third of the site. A pedestrian arcade will penetrate the site at the ground level and will separate the tower from the five levels of parking at Nimitz Highway. The arcade is aligned with Marin Street and will contain limited commercial space, interior landscaping and entry lobby facilities for the tower. The arcade feature will provide a pedestrian route through the site connecting Marin Street with Maunakea Street.

Substantial articulation along the streetscape facade is proposed to include storefront treatments at the ground level, balconies, spandrel walls, windows, entry details, towers, etc. (see Figures 13 and 14). The delineation of these features are reflective and sympathetic to urban design characteristics that are presently found in Chinatown (e.g. continuous facade treatment and pedestrian scale) and along the Honolulu waterfront (e.g. Mediterranean style reminiscent of the Aloha Tower). Particularly noteworthy is the repetitive use of the towers at the corners of the parking garage structure which provides visually balance, harmony and distinction to an otherwise massive building form. Equally noteworthy is the use of the peaked metal roofs on top of the lower towers and the main tower.

The peaked roof on the main tower exceeds the building height of the district by 31.5 feet however it contains no floor area and is used to screen mechanical equipment located on the roof. Under these conditions, utilization of such enclosures (beyond the allowable building height) is permissible. In certain Special Districts (such as the Waikiki Special District) this penetration is permitted up to 12 feet in height. The Chinatown Special District and the LUO does not establish a specific limitation.

The 31.5 foot extension above the established building height limit represents a 12.6% increase in the overall height of the structure. Other encroachments include a 6 to 7 foot projection of the tower facade (at Maunakea and Smith Street) into the required setback (40 ft.) and a height setback encroachment (parking garage structure) along Nimitz Highway.

6. Impacts and Mitigations

Short Term Impacts

• Short term visual impacts will include the demolition of the site, grading and other activities generally associated with building construction. Impacts to the environment include dust, traffic congestion due to construction vehicles, the visibility of the construction crane and a general disruption to the site will occur for a period equal to construction schedule.

Mitigation- These impacts are temporary. Re-routing/closing of traffic lanes will be reviewed by the Department of Transportation Services prior to permit approval. Standards conditions for dust control will be applied for all grading and demolition work.

Long Term Impacts

• The initial impact of the proposed action will be the elimination of one lowrise commercial structure and a parking garage within the fringe of the Chinatown Historic Core, and the addition of a highrise structure in its place, thus altering the lowrise character that currently exists.

Mitigation- Concern for altering the lowrise character of the district is not applicable to certain areas within the Makai Precinct (250 ft. ht. limit) and the Mauka Precinct (200 ft. ht. limit). Retention of the lowrise character of Chinatown will be preserved by the 40 ft. height limit established for the Historic Core Precinct and 80 ft. ht. limit established for the Ewa end of the Makai Precinct.

A public hearing and a design review by the DLU Design Advisory Committee will be required.

• Visual impacts will effect surrounding highrise office buildings in the financial district of Honolulu. Private panoramic views overlooking Chinatown and the Honolulu Harbor may be partially obscured as a result of the proposed development.

Mitigation- While the construction of the tower may encroach into existing views from adjacent highrise structures, such views are not within the public domain.

Principal public views include the makai view corridor along Maunakea Street (see Figure 8, Photos G &H), roadway views from Nimitz Highway (see Figure 8, Photo C) and pedestrian views from the street level. The design of a slender tower located towards the middle of the site will minimize encroachment/impact into these view corridors.

• Certain portions of the proposed project encroaches allowable building envelope.(overall height limits and setback requirements). The impact of these encroachments may adversely affect the visual/urban design quality as established by the LUO.

Discussion- The primary urban design principles relating to the visual quality of this portion of Chinatown are the architectural details that instill the sense of a pedestrian environment and that are sympathetic to the design vocabulary of the district; and the established building heights which are intended to create a descending skyline along the Honolulu waterfront.

Substantial architectural embellishment is proposed along the ground level and parking garage structure. This articulation will have a positive effect in achieving the desired urban design/visual quality for the area. The height and setback encroachments do not occur at the ground level and it is likely that such encroachments will not be noticeable by the pedestrian or from the immediate street environment.

Visual awareness of such encroachment may be experienced from a distant, such as from Sand Island Park or the vicinity of piers 17,18,19.. Based on the viewing distance and surrounding structures, the 6 to 7 foot encroachment into the setback may not be highly perceptible nor will it adversely effect the view corridor at Maunakea Street.

The 31.5 foot encroachment (peaked roof) into the building height limit will be visually noticeable. Design justification may be argued as the encroachment is used to screen rooftop mechanical equipment and contains no floor area; is reflective of the architectural theme at the ground level; and is visually preferable to a flat roof form.

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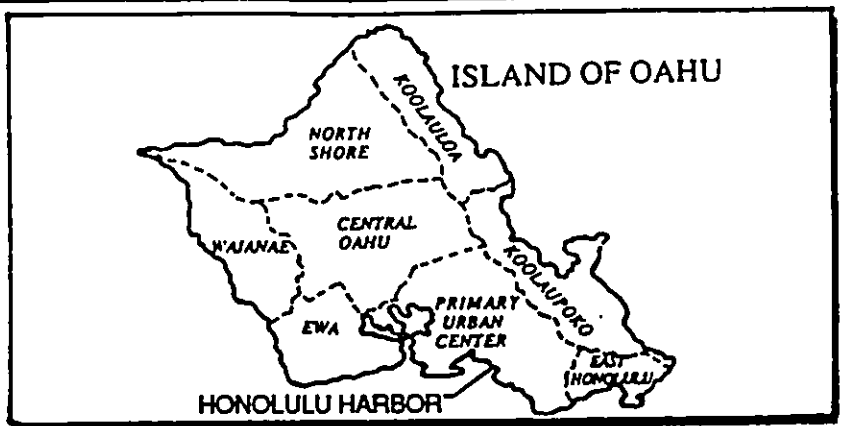
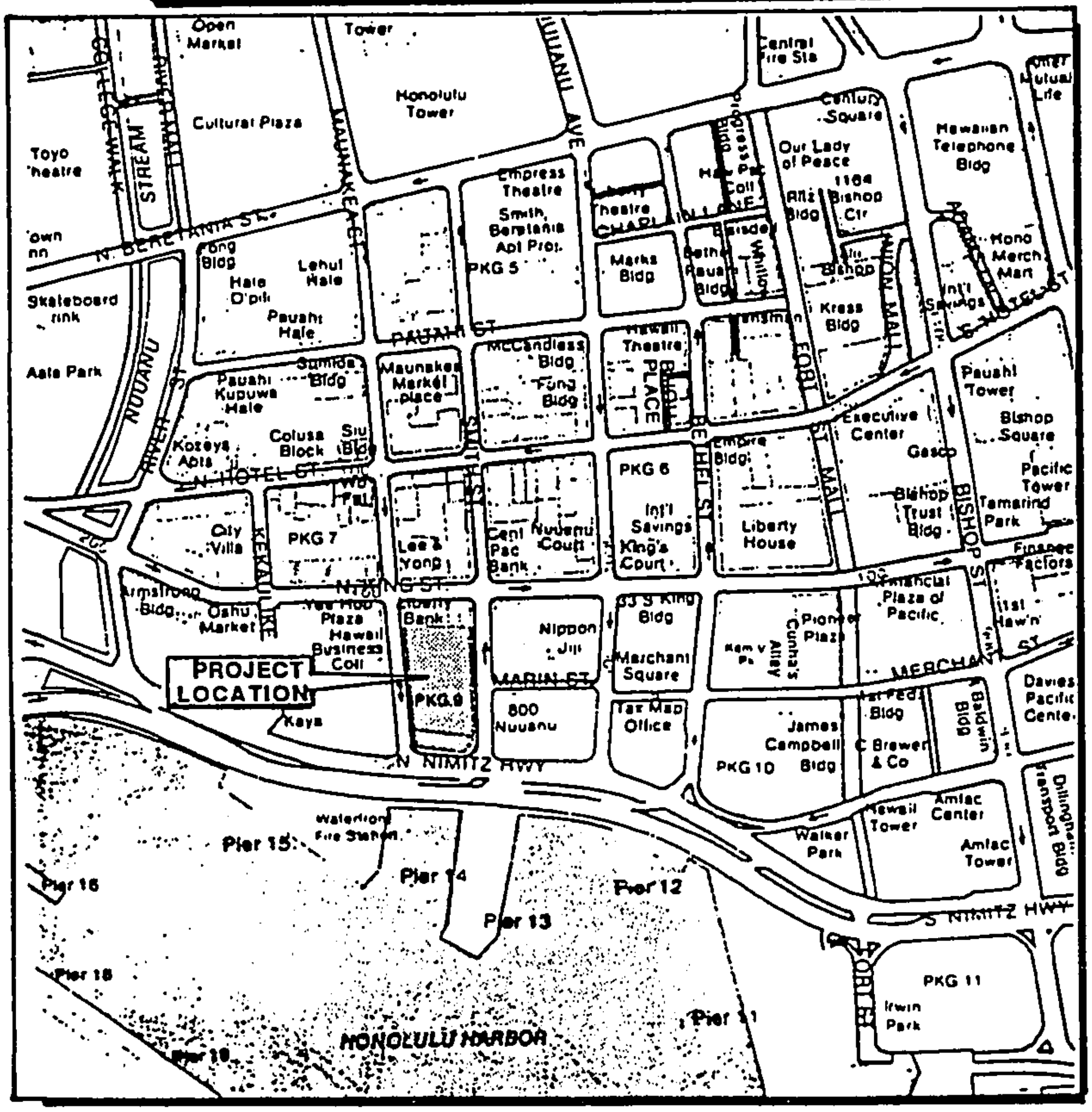
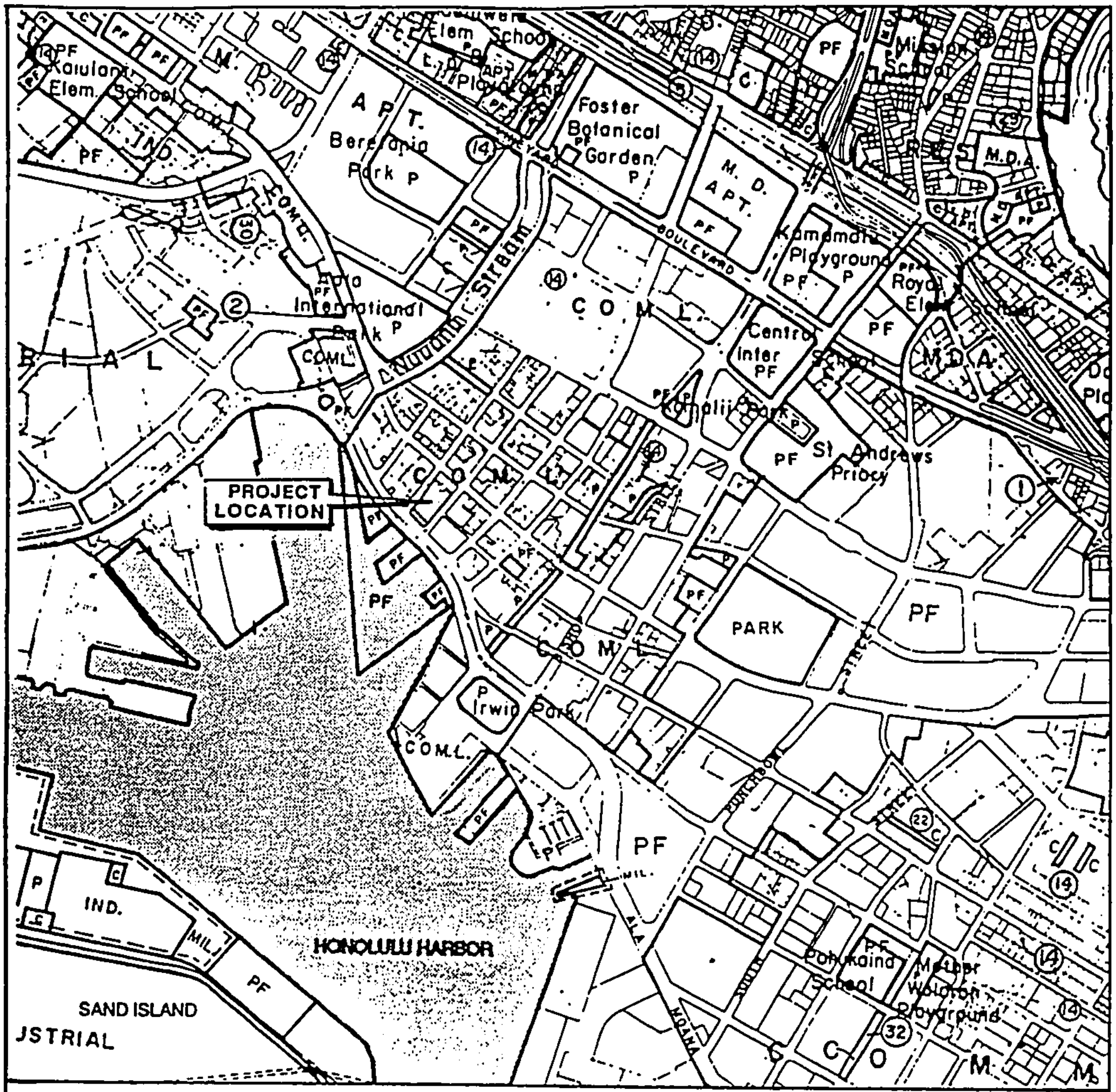




SMITH /MAUNAKEA HOUSING
Regional and Project Location Maps

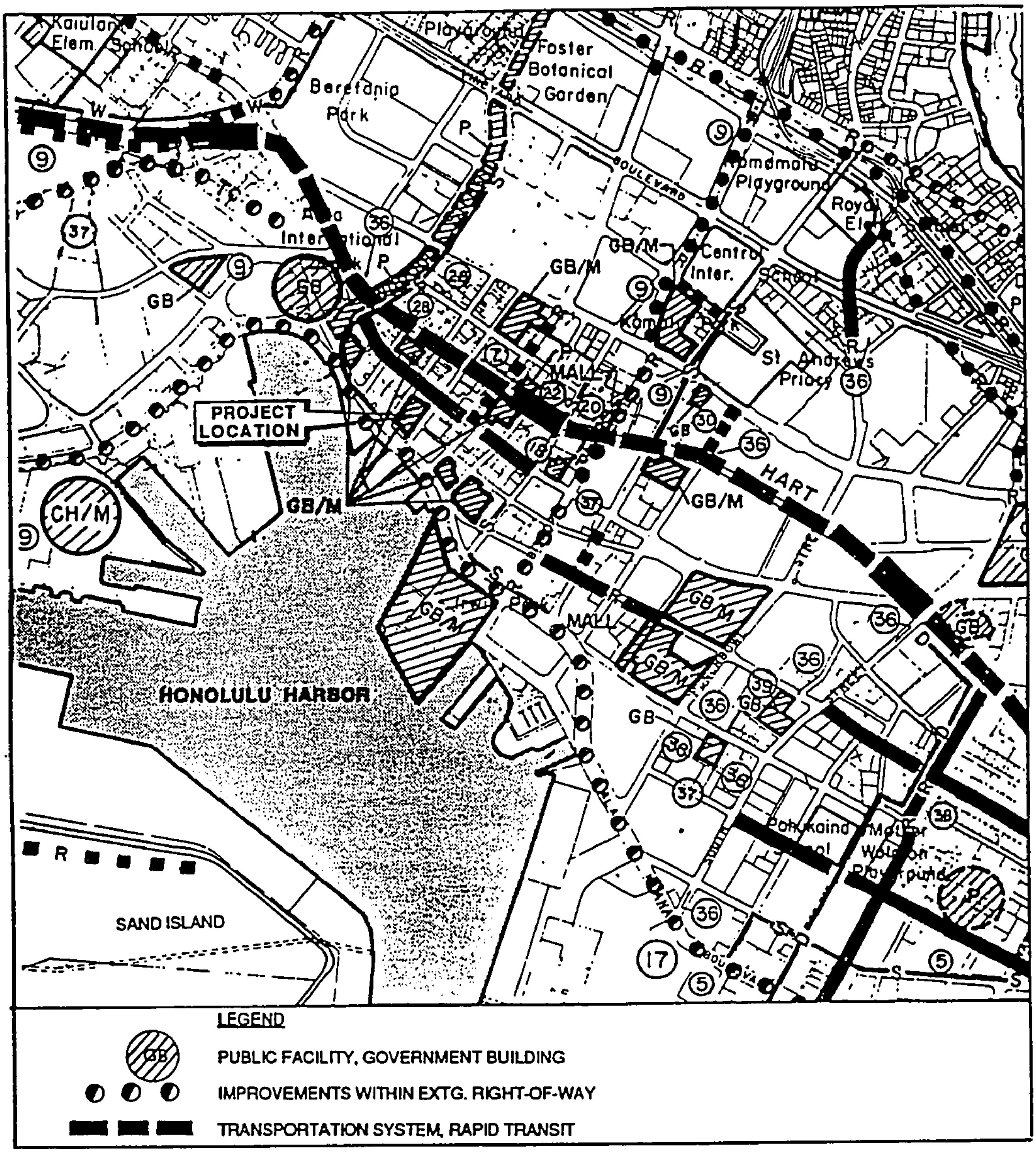
FIGURE 1



NORTH

SMITH /MAUNAKEA HOUSING
Primary Urban Center Land Use Map

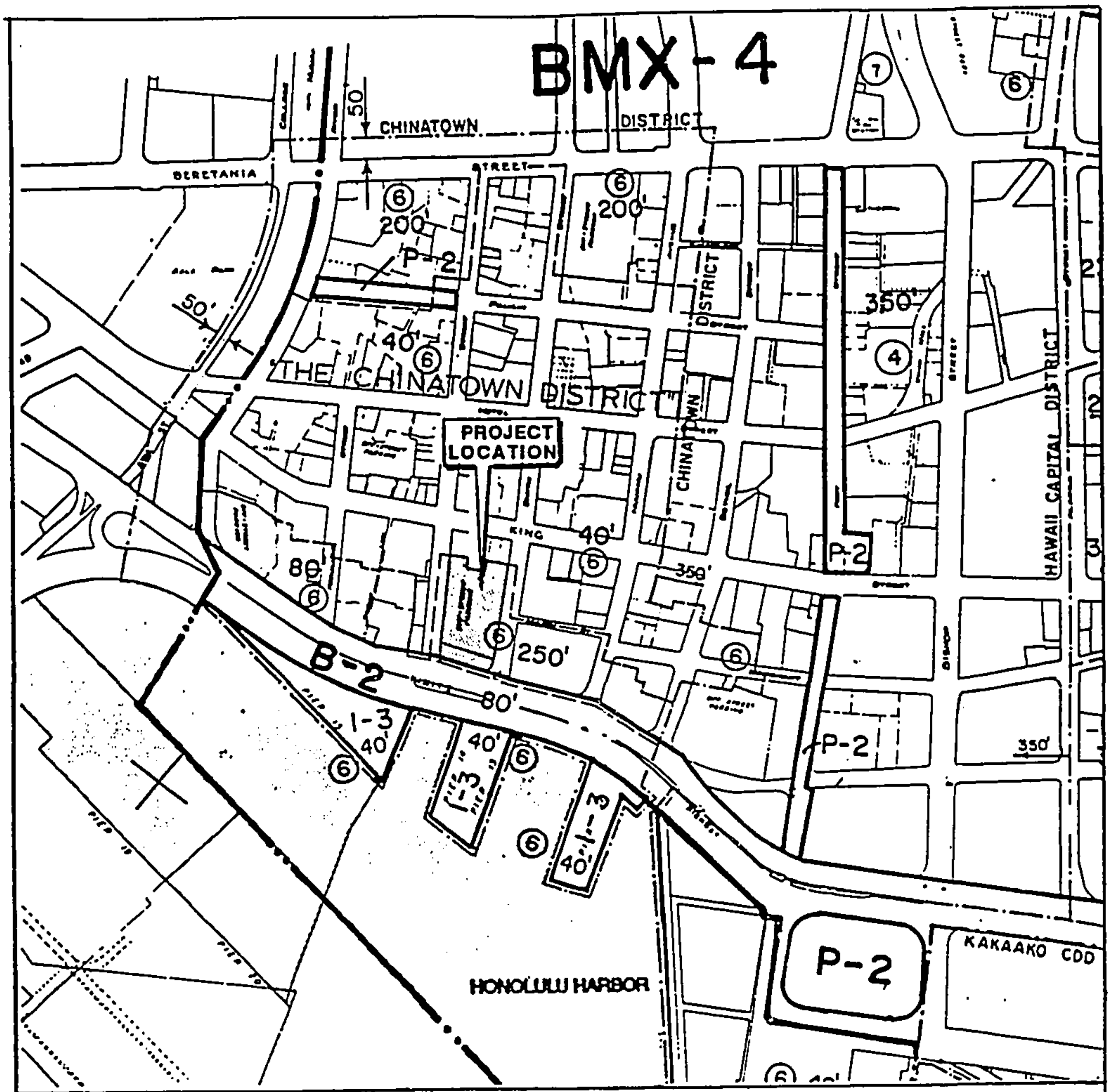
FIGURE 2



NORTH

SMITH /MAUNAKEA HOUSING
Primary Urban Center Public Facilities Map

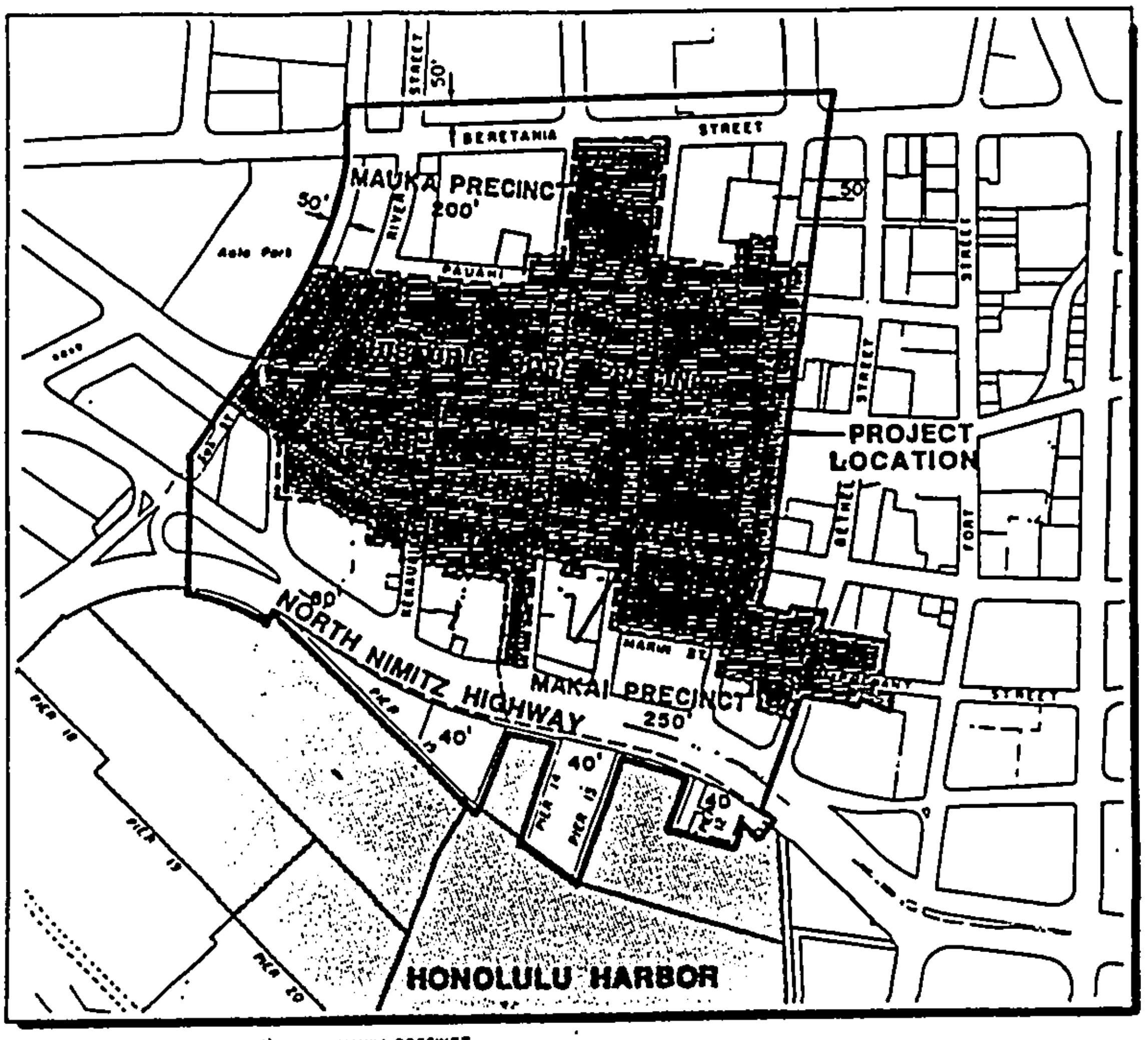
FIGURE 3

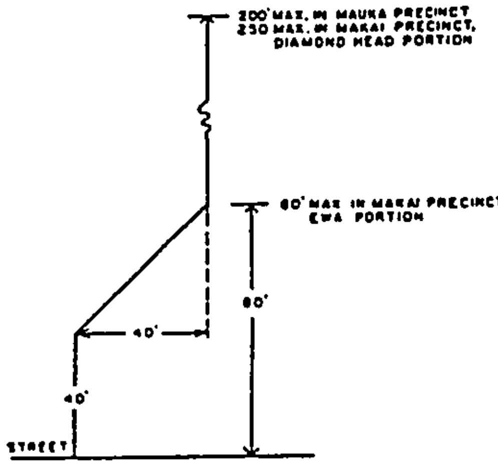


NORTH

SMITH/MAUNAKEA HOUSING
Zoning

FIGURE 4





HEIGHT SETBACK FOR MAUKA AND MAKAI PRECINCTS

CHINATOWN SPECIAL DISTRICT

PRECINCT BOUNDARIES
AND HEIGHT LIMITS

NORTH

150 200
200 100 0 400
SCALE IN FEET

LEGEND:

DISTRICT BOUNDARY

PRECINCT BOUNDARY

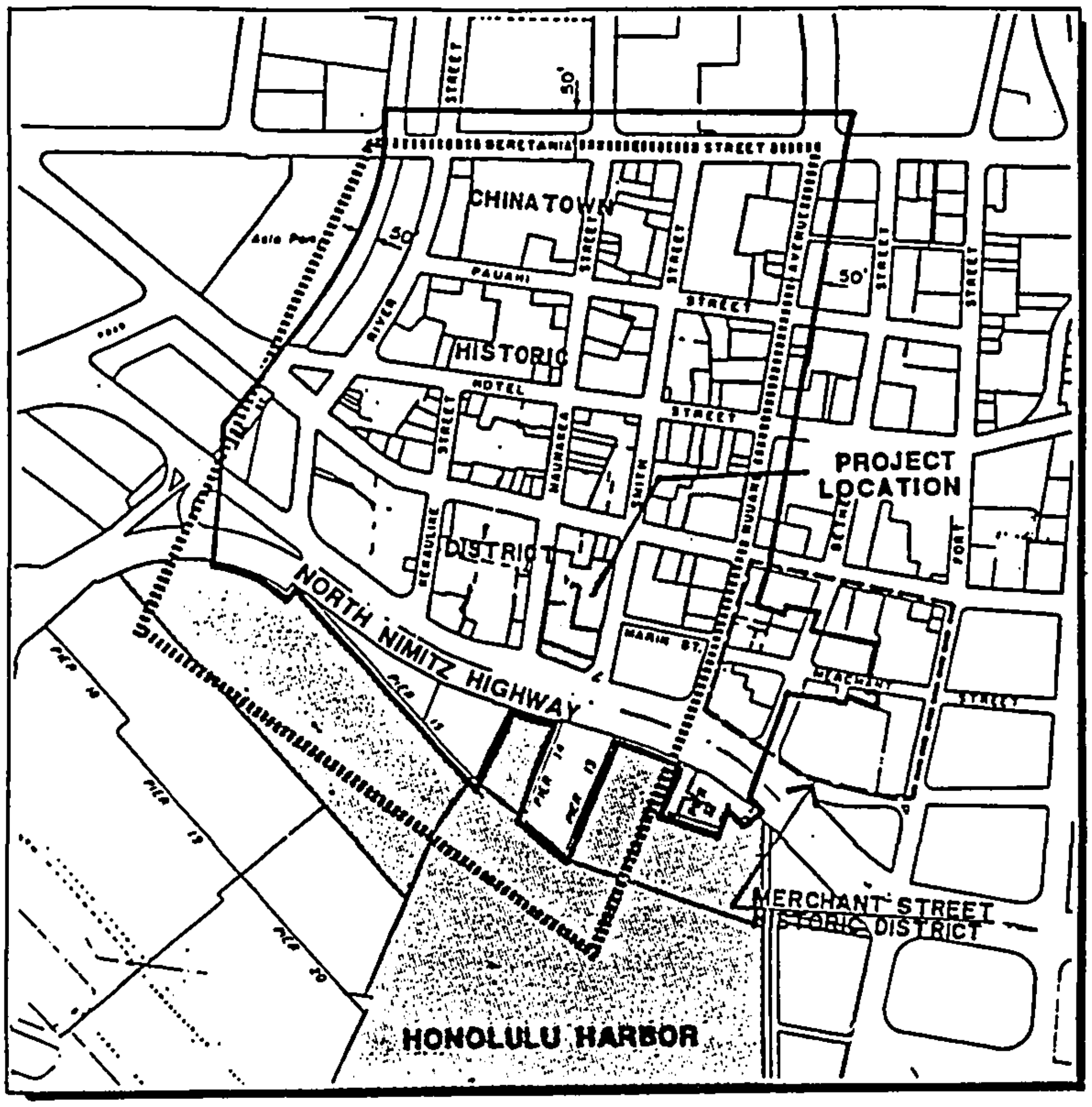
ORD. NO. 89-52
EFF. DATE: 4/18/89

EXHIBIT 9

4/89

SMITH/MAUNAKEA HOUSING
Land Use Ordinance, Chinatown Special District Map

FIGURE 5



NORTH

100 0 400
200 200
SCALE IN FEET

CHINATOWN SPECIAL DISTRICT
REGISTERED HISTORIC AREAS

LEGEND:
DISTRICT BOUNDARY
CHINATOWN
MERCHANT ST.

ORD. NO. 89-52
EFF. DATE: 4/18/89

EXHIBIT 10

4/89

SMITH/MAUNAKEA HOUSING
Land Use Ordinance,
Chinatown Special District Map

FIGURE 6

PHOTO A

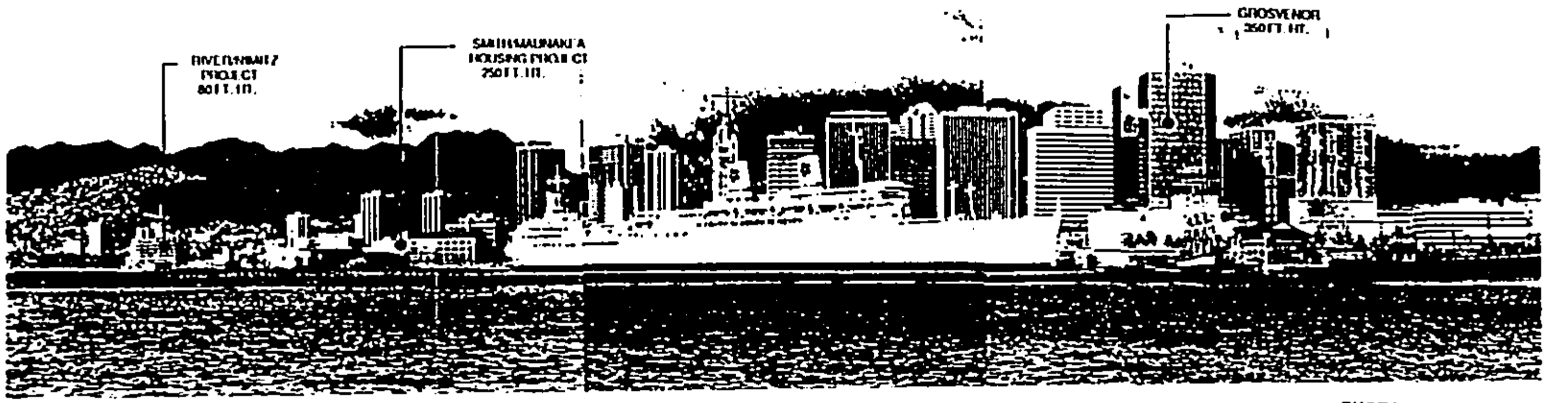


PHOTO B

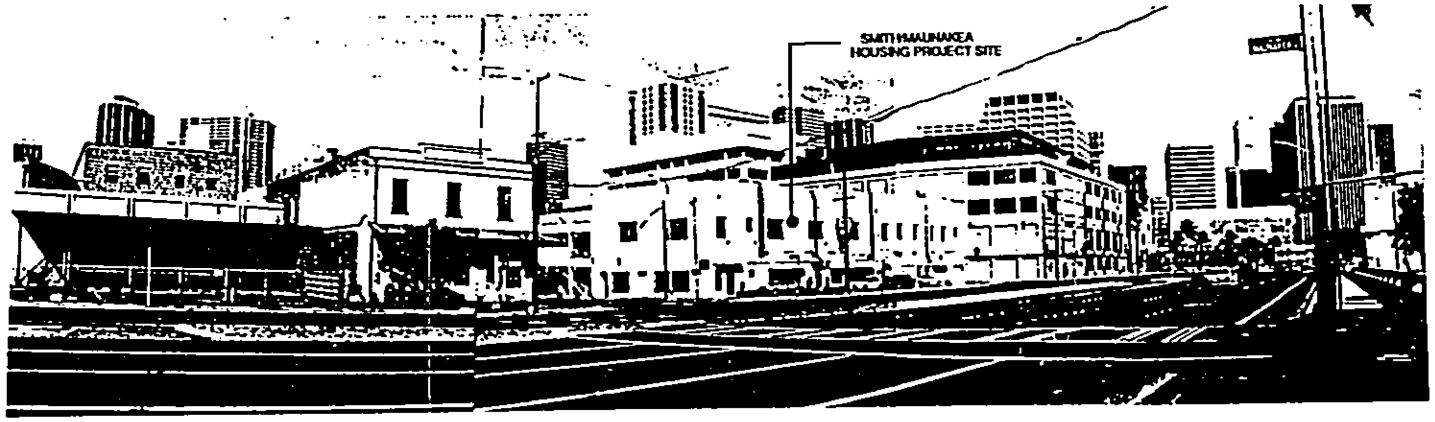


PHOTO C

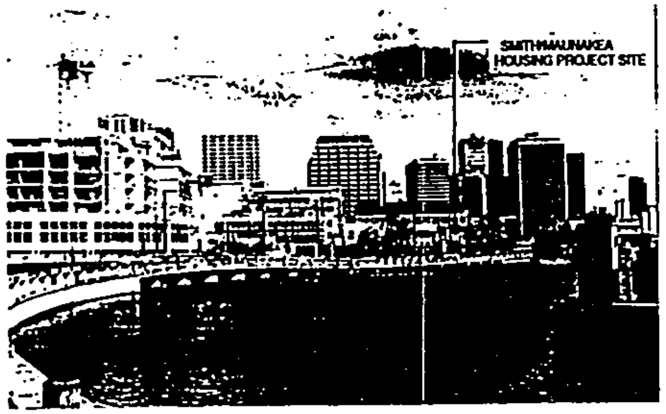


Photo A: Distant mauka view from Sand Island Park showing overall skyline fronting Honolulu Harbor. Building heights in the downtown area are 350 ft. (Grosvenor) and descend to 80 ft. at the River/Nimitz Housing project (under construction)

Photo B: View of project site from Nimitz Highway.

Photo C: Lateral view along Honolulu Harbor from Nimitz Highway.

FIGURE 7 Site Photos

PHOTO D

PHOTO E

Photo D: Present streetscape conditions at project site fronting Nimitz Highway.

Photo E: View of project site at King and Smith Street. Lowrise buildings along King Street to remain with development occurring behind.

Photo F: View of project site from King and Maunakea Street. Lowrise buildings along King Street to remain with development occurring behind.

Photo G: Makai view corridor along Maunakea Street as seen near King Street crossing.

Photo H: Makai view corridor along Maunakea Street as seen near Hotel Street crossing.

Photo I: No makai views available at Smith Street.

Photo J: No mauka views available at Smith Street.

PHOTO F

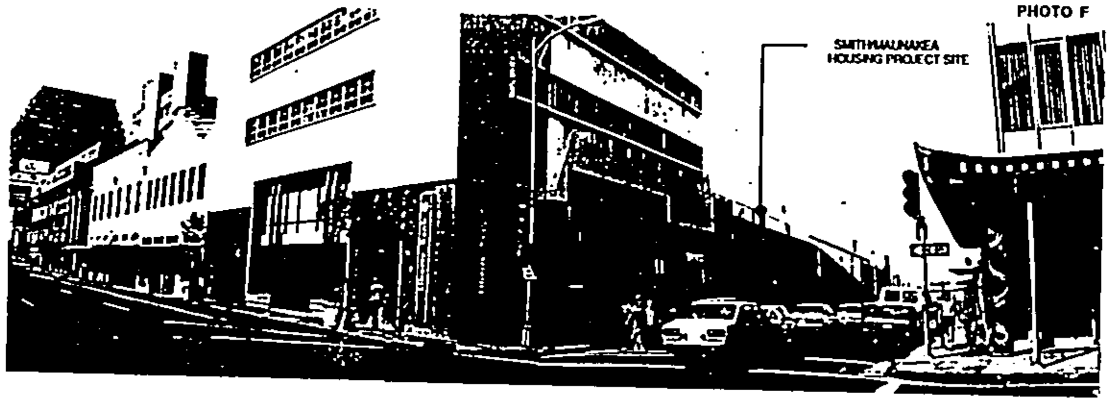


PHOTO G

PHOTO H

PHOTO I

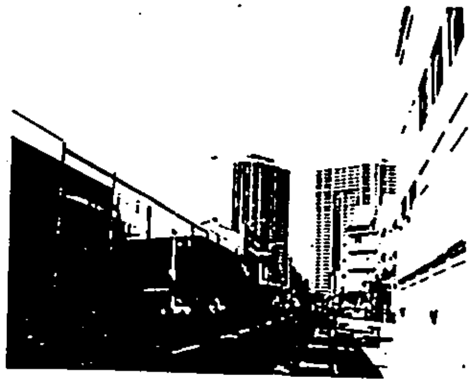


PHOTO J

FIGURE 8 Site Photos

FIGURE 9
GROUND FLOOR PLAN
PREPARED BY: ARCHITECTS HAWAII

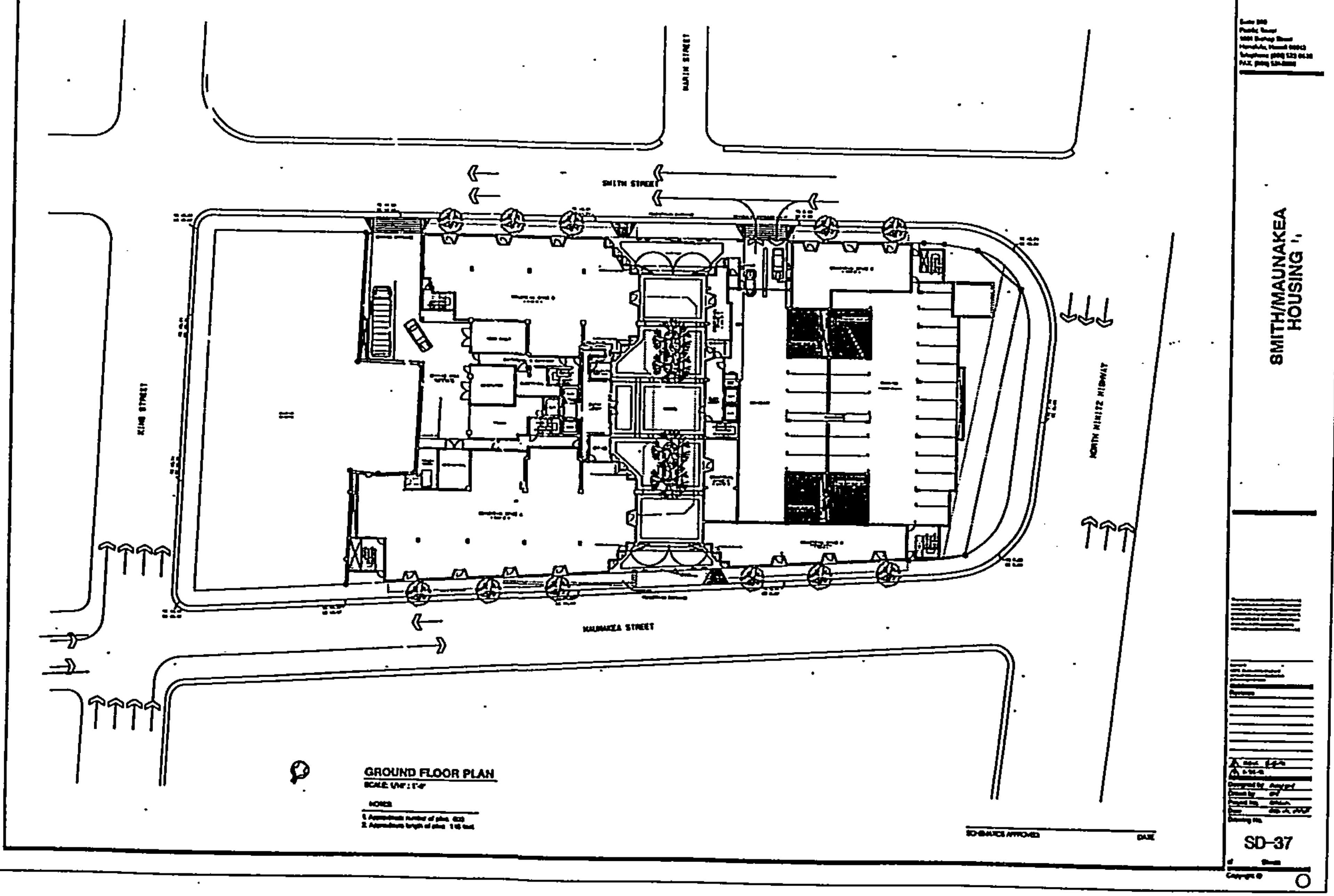


FIGURE 10
BASEMENT PLAN
PREPARED BY: ARCHITECTS HAWAII

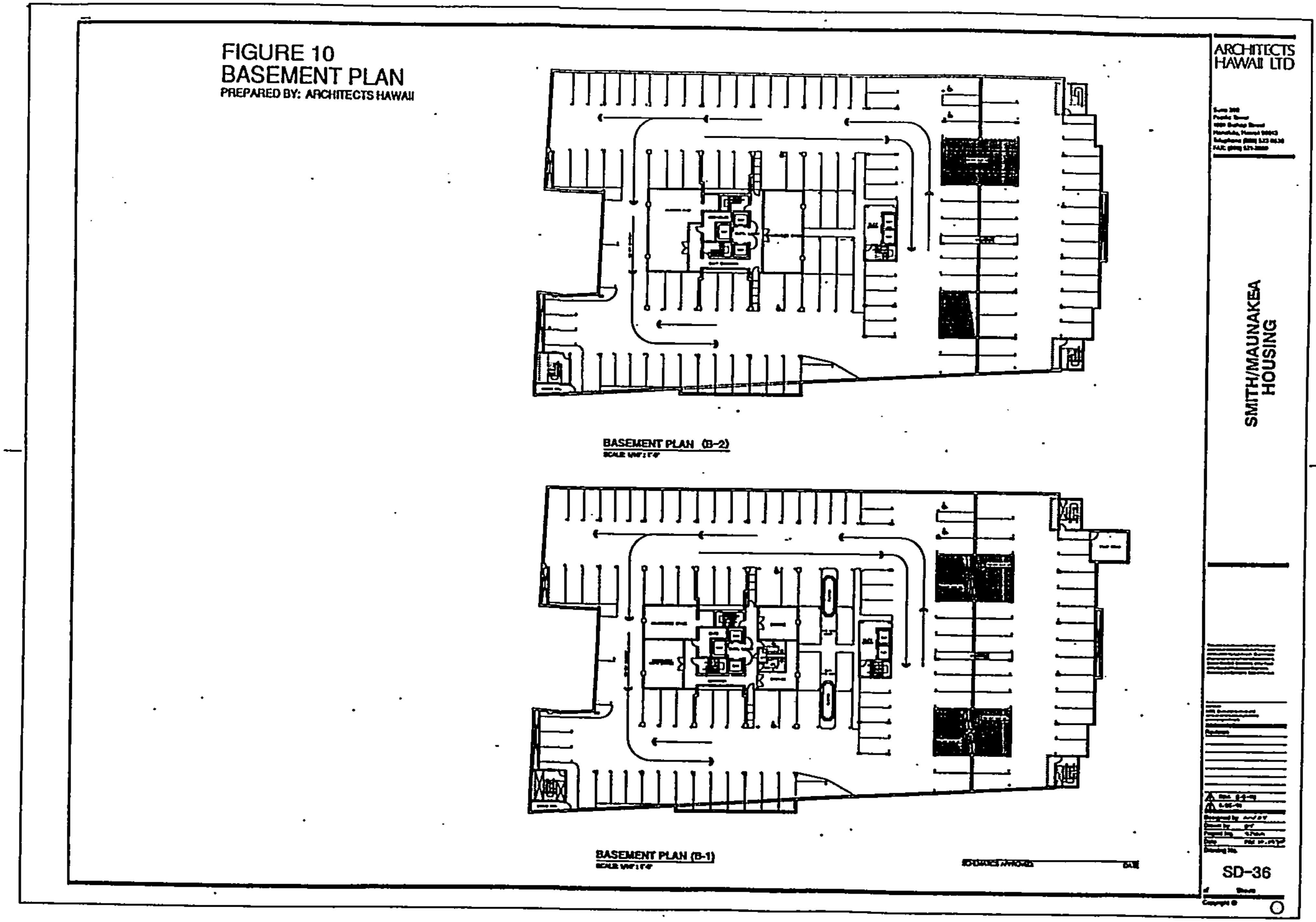


FIGURE 11
TYP. FLR. PLAN, 2ND FLOOR & RECREATION DECK PLAN

PREPARED BY: ARCHITECTS HAWAII

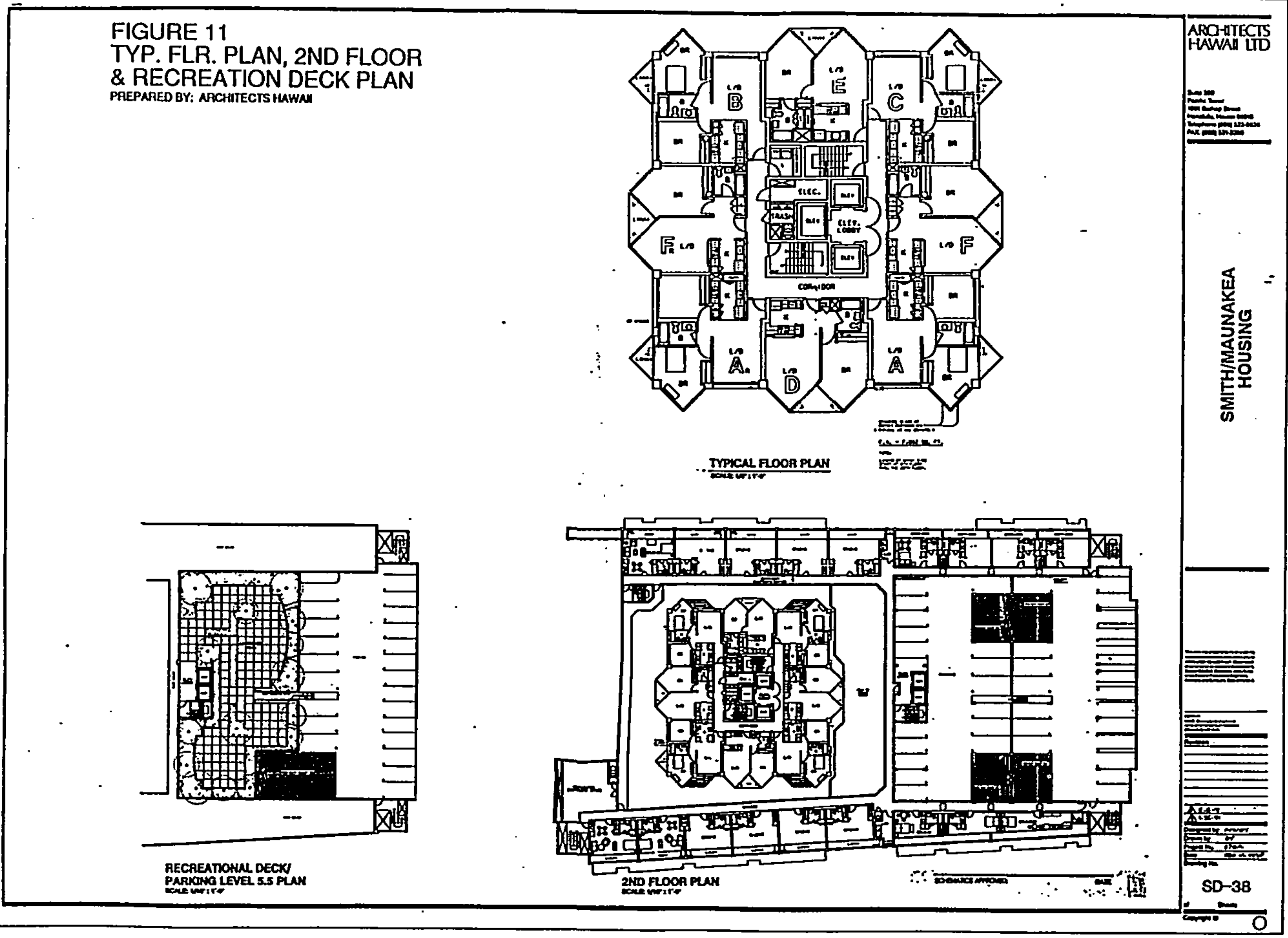
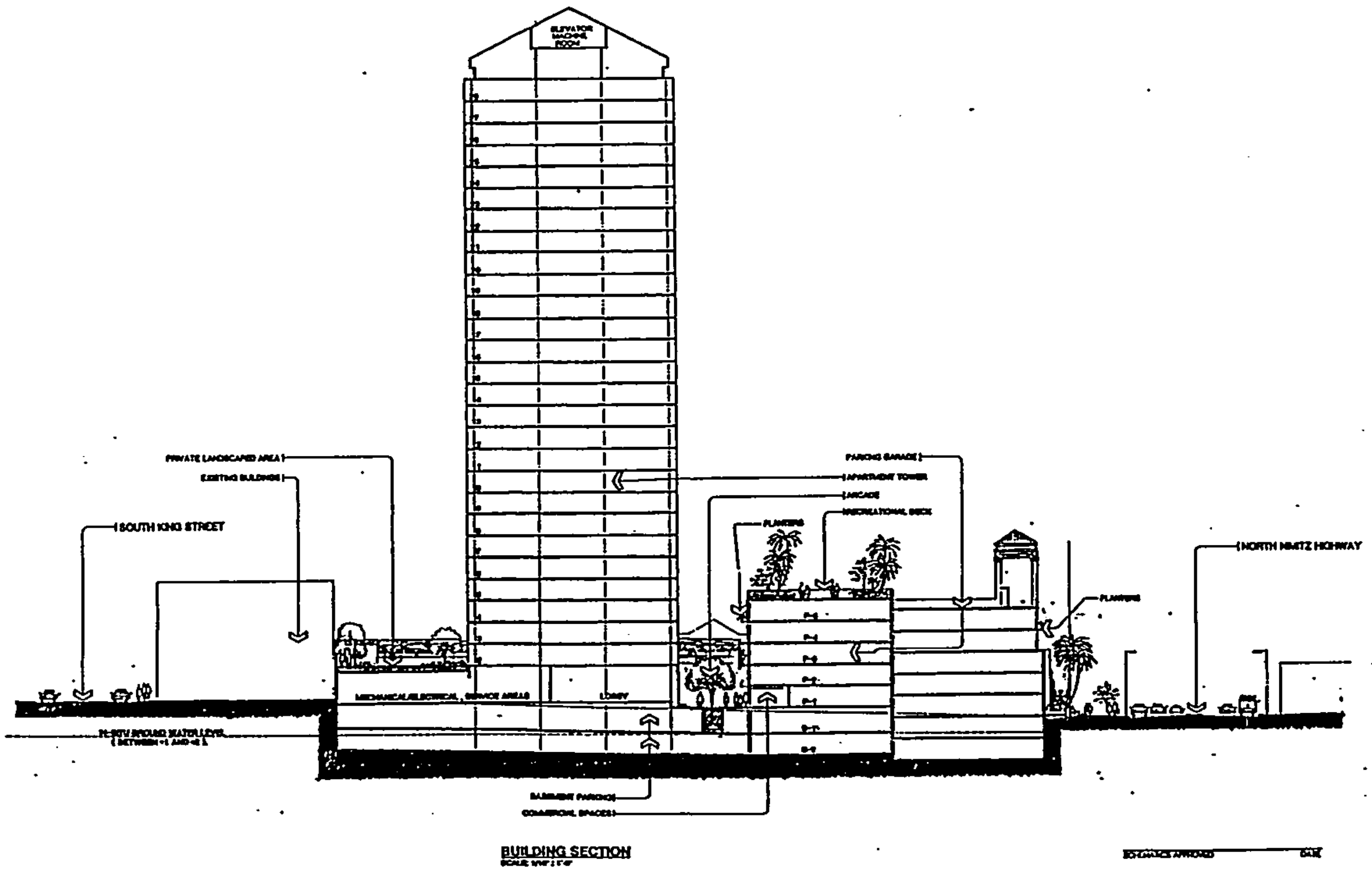


FIGURE 12
BUILDING SECTION
PREPARED BY: ARCHITECTS HAWAII



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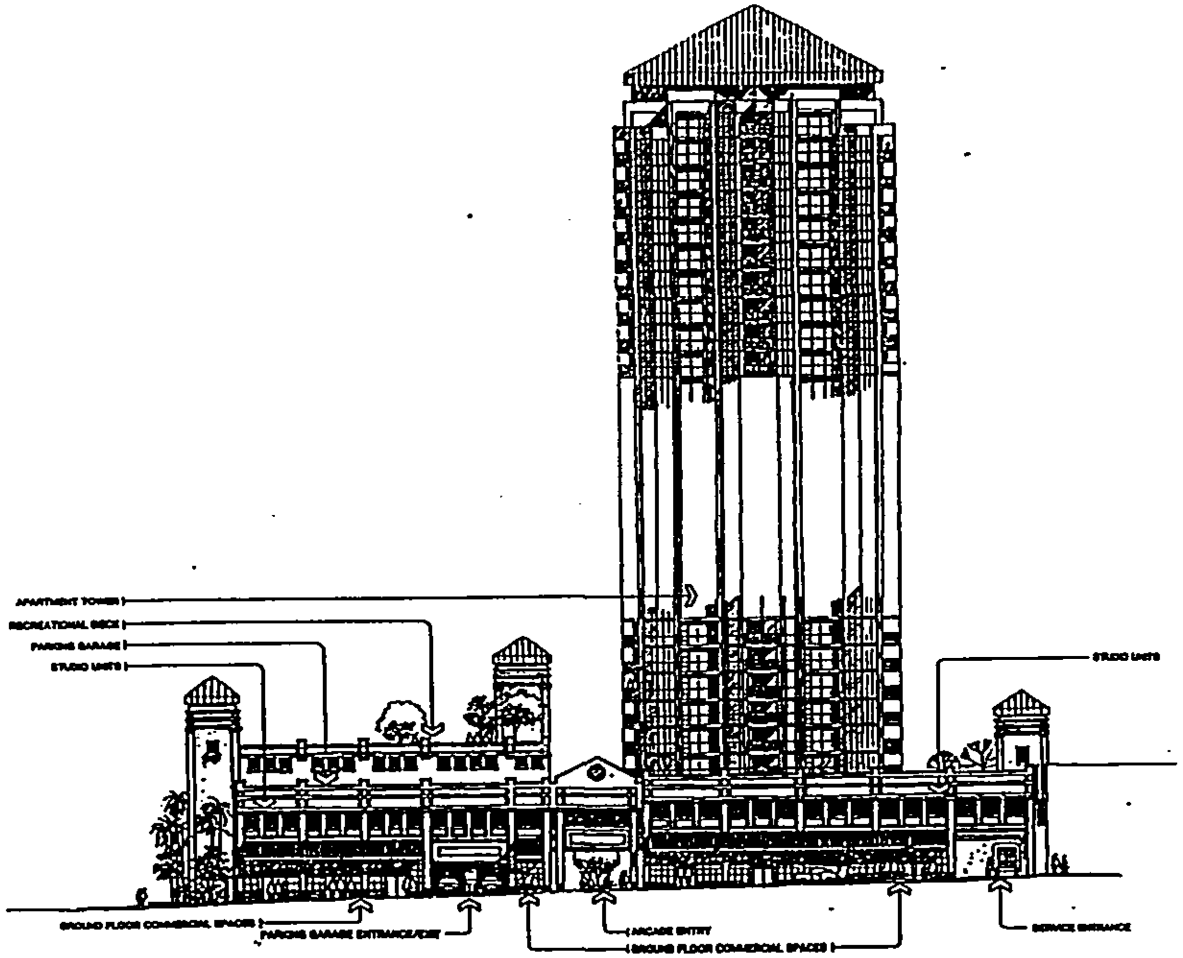
SMITH/MAUNAKEA HOUSING

SD-30

FIGURE 13
SMITH STREET ELEVATION
PREPARED BY: ARCHITECTS HAWAII



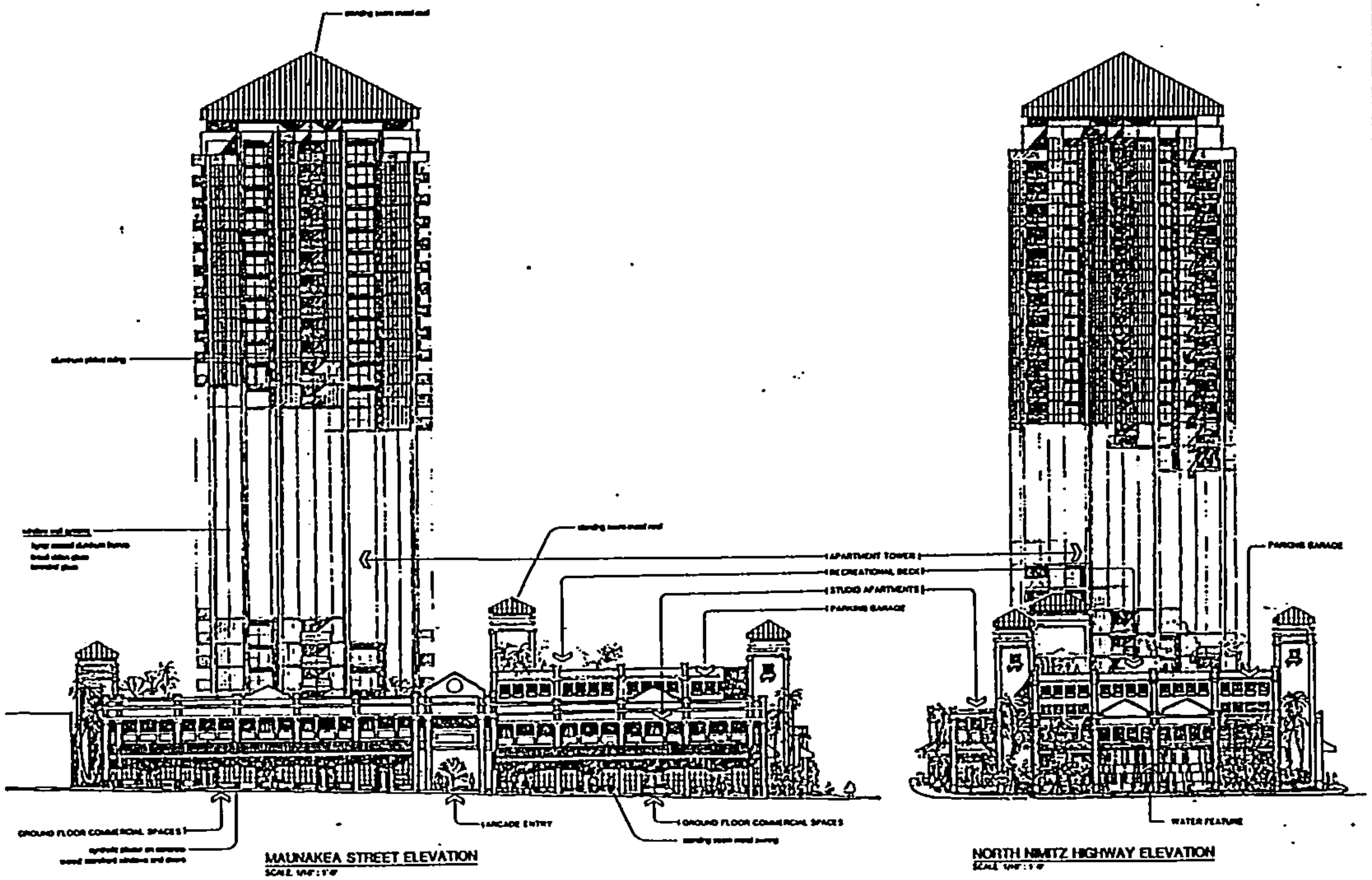
SMITH STREET ELEVATION

ARCHITECTS HAWAII LTD

SMITH/MAUNAKEA HOUSING

SD-27

FIGURE 14
MAUNAKEA STREET & NIMITZ HIGHWAY ELEVATION
PREPARED BY: ARCHITECTS HAWAII



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SD-22

MICHAEL S. CHU
LAND ARCHITECT
PLANNING • LANDSCAPE ARCHITECTURE • URBAN DESIGN

Michael S. Chu, Land Architect

Michael S. Chu, Owner
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phone (808) 5376-4674 FAX (808) 512-9054

Professional Services

Land Use Planning
Landscape Architecture
Urban Design

Education

B.S. California State Polytechnic University, Pomona, 1977, Landscape Architecture
University of Hawaii, Urban and Regional Planning
Iolani School, 1967

Professional Practice

Michael S. Chu, Land Architect, 1982 to present
Phillips Brandt Reddick, Hawaii 1978-82
EDAW Inc. 1977-78
Tongg Assoc. 1973-75

Registration

State of Hawaii, Board of Registration, Professional Landscape Architect, 5348
State of Hawaii, Board of Registration, Realtor Associate, RS-36803

Professional & Community Affiliations

American Planning Association, Member
American Society of Landscape Architects, Member
American Institute of Architects, Professional Affiliate
Hawaii Architect Magazine
The American Land Resource Association, Charter Member
Honolulu Chamber of Commerce, Member
DLU Design Advisory Committee, Member

Background

Michael S. Chu, Land Architect is a professional consulting firm specializing in land use planning, landscape architecture and urban design. The firm was founded in 1982 and is located in downtown Honolulu. The firm is often engaged by governmental agencies, private land owners, developers or other consultants to provide technical planning and/or design services. These services include land use analysis, site planning and landscape architectural design, environmental studies and permit processing.

As a sole propiertorship, the firm maintains a wide network of professional colleagues in related fields and often draws upon this network when undertaking multi-disciplinary projects. This flexibility has enabled the firm to successfully engage in larger and complex projects with a team of subconsultants specifically selected to meet the needs and work products of a particular project. In other instances, the firm works independently or participates as a subconsultant to others and is capable of contributing land use and site planning expertise, technical report writing, design graphics, and landscape architectural design services.

The services of the firm are particularly strengthened with its broad experience and familiarity with governmental objectives as they relate to land use planning and design. Most recently the firm was the prime consultant and author of the Coastal View Study for the City and County of Honolulu, Hawaii County and Kauai County and also authored the Statewide Planning for Private Marina Facilities for the State Department of Transportation, Harbors Division.

Since 1985 Michael S. Chu has served as a member of the DLU Design Advisory Committee. He has also served as a member of the DLU technical review committee for the BMX-4 zoning district of the Land Use Ordinance.

Prior to establishing the firm, Michael S. Chu was a planner and landscape architect with the nationally recoginized firm of EDAW Inc., as well as the local firms of PBR Hawaii and Tongg Assoc. While at PBR he held the position of managing director of its Hawaii office and was project manager for several large multi-disciplinary projects to include the subjects of urban design, public housing and resort planning. His professional experience includes planning and design work throughout Hawaii, as well as Guam, Tahiti and Japan.

Description of Projects

Old Koloa Town, Kauai
The firm was responsible for planning and the development of a landscape architectural master plan for the renovation and revitalization of Koloa Town. Prepared for Koloa Town Associates and Spencer Mason Architects.

Russian Fort Elizabeth, Kauai
The project consisted on preparing an overall master plan and phase I construction documents for the historic restoration of the Russian Fort Elizabeth at Waimea, Kauai. Performed for the State of Hawaii, Department of Land and Natural Resources.

Oahu Coastal View Study
This landmark study was completed in 1987 and consisted of a detailed inventory of coastal scenic resources on Oahu and the formulation of design guidelines applicable to the SMA and Coastal Zone Management program. Performed for the City and County of Honolulu, Department of Land Utilization.

Since the completion of the study, the firm was commissioned to conduct similar islandwide Coastal View Studies by the Hawaii County Planning Department (1988) and the Kauai County Planning Department (1989).

Kapolei Villages, Oahu
Involvement in Kapolei Villages consisted of revising the 830 acre residential master plan and providing further design and design graphics to illustrate the overall development concept. Performed for the State of Hawaii, Housing and Finance Development Corp. and Towill Corp.

Architectural Compatibility Study, Oahu
This urban design project consisted of organizing and structuring a variety of independent projects into an overall and thematic development master plan for Hickam Air Force Base. Performed for the U.S. Air Force and Aotani and Assoc.

Servco Commercial Center, Oahu
The services of the firm was utilized to prepare the owner's development requirements, preparation of a detailed development master plan and to process assorted governmental permits for Servco's newly acquired 14.5 acres of waterfront industrial land at Sand Island. Performed for Servco Pacific, Inc. and Aotani and Assoc.

Hotel Street Transit Mall, Oahu
The firm participated in the planning and design of the Hotel Street Transit Mall by providing design guidance regarding historic features, street signage, bus shelters, light standards and sidewalks within the Chinatown historic district. Performed for the Department of Transportation Services, City and County of Honolulu and Parsons Brinkerhoff, Quade and Douglas.

Kalakaua Center
The firm was retained to provide complete landscape architectural design and permit processing services for the renovation of the "Mitsukoshi building" located in the Waikiki Special District. Performed for Mutual of New York (MONY), Graham Murata and Russell, and the CJS Group Architects.

Hawaii State Library, Oahu
The firm was the project landscape architect for the renovation of the Hawaii State Library locate within the Capital District on Honolulu. Performed for the Department of Accounting and General Services, State of Hawaii and Aotani and Assoc.

EWA by Gentry, Soda Creek, Increment 2 & 3, Oahu
The firm was retained to prepare the cluster development application for increments 2 and 3 of the EWA by Gentry development consisting of over 600 residential units and community support facilities. Services included the landscape design and the preparation of all material for the submittal and application of permits. Other services include participation in the rezoning application of the overall 700 acre development. Prepared for the Gentry Companies.

Pentagram Restaurant Projects
The firm provides exclusive landscape architectural services for all development and renovation of Burger King and El Pollo Loco restaurants in Hawaii and Guam . Work has included landscape development and/or renovation of over 20 restaurants since 1985. Performed for the Pentagram Corp.

Statewide Planning for Marina Facilities
The firm was retained as the prime consultant to provide a statewide study and recommendations for expediting the development of recreational marina facilities. Performed for the State of Hawaii, Department of Transportation, Harbors Division.

Honolulu Waterfront Master Plan, Oahu
The firm served as the landscape architectural subconsultant (to R.M. Towill/ Helber Hastert Kimura, a joint venture) in preparing the overall redevelopment master plan for the 1500 acre Honolulu waterfront area. Performed for the State of Hawaii, Office of State Planning.

Kewalo Basin Park, Oahu
The firm served as prime landscape architect for the park design at the triangle peninsula located at Kewalo Basin. The park development is the first increment of the "lei of green" concept envisioned by the Honolulu Waterfront Master Plan. Performed for the State of Hawaii, Hawaii Community Development Authority.

Kuilima Golf Club House
The firm was commissioned to design the landscaping for the Kuilima Golf Club House located on the north shore of Oahu. The landscape design included extensive planting, detailed grading and site design ammenities. Performed for the Kuilima Development Company and Geoffrey Paterson and Assoc.

Permits and Land Use Amendments
The firm often provides consultation and assistance in the preparation of Development Plan and zoning amendments, as well as processing other regulatory permits. Prominent clients include William E. Wanket, the Estate of James Campbell, Servco Pacific, Duncan Macnaughon, and Goodsill Anderson Quinn & Stifel.

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