

# HOLOMUA

1315 KALĀKAUA AVENUE, HONOLULU, HAWAII

FINAL ENVIRONMENTAL ASSESSMENT  
&  
CHAPTER 201H, HAWAII REVISED STATUTES APPLICATION

AUGUST 2008



PREPARED FOR:  
APPROVING AUTHORITY,  
HAWAII HOUSING AND FINANCE DEVELOPMENT  
&  
APPLICANT,



PREPARED BY:



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**TABLE OF CONTENTS**

<b>1.0</b>	<b>INTRODUCTION.....</b>	<b>1</b>
1.1	PROJECT PROFILE.....	1
1.2	COMPLIANCE WITH STATE OF HAWAI‘I ENVIRONMENTAL LAWS .....	2
<b>2.0</b>	<b>HOLOMUA DESCRIPTION.....</b>	<b>3</b>
2.1	BACKGROUND INFORMATION .....	3
2.1.1	Location and Surrounding Area.....	3
2.1.2	Land Use Designations .....	4
2.2	DESCRIPTION OF HOLOMUA .....	4
2.2.1	Statement of Purpose and Need for Holomua.....	4
2.2.2	Affordability .....	5
2.2.3	Building Details.....	6
2.2.4	Access and Parking .....	6
2.3	DEVELOPMENT TIMETABLE .....	7
<b>3.0</b>	<b>ASSESSMENT OF THE AFFECTED ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES.....</b>	<b>9</b>
3.1	TOPOGRAPHY.....	9
3.2	SOILS .....	9
3.3	NATURAL HAZARDS .....	10
3.4	FLORA AND FAUNA .....	11
3.5	ARCHAEOLOGICAL AND HISTORIC RESOURCES.....	11
3.6	CULTURAL RESOURCES.....	12
3.7	ROADWAYS AND TRAFFIC .....	14
3.8	NOISE .....	16
3.9	AIR QUALITY .....	17
3.10	MAN-MADE HAZARDS.....	18
3.11	VISUAL RESOURCES .....	18
3.12	SOCIO-ECONOMIC CHARACTERISTICS.....	20
3.12.1	Community Profile .....	20
3.12.2	Economy .....	22
3.13	INFRASTRUCTURE .....	23
3.13.1	Water.....	23
3.13.2	Wastewater.....	23
3.13.3	Drainage.....	24

**HOLOMUA  
FINAL ENVIRONMENTAL ASSESSMENT**

---

3.13.4	Solid Waste.....	24
3.13.5	Electrical & Communications .....	26
3.14	PUBLIC SERVICES.....	26
3.14.1	Schools.....	26
3.14.2	Police.....	28
3.14.3	Fire.....	28
3.14.4	Medical Facilities.....	28
3.14.5	Recreational Facilities.....	29
4.0	LAND USE CONFORMANCE.....	31
4.1	STATE OF HAWAI'I .....	31
4.1.1	State Land Use Law (Chapter 205, Hawai'i Revised Statutes).....	31
4.2	CITY AND COUNTY OF HONOLULU .....	31
4.2.1	General Plan .....	31
4.2.2	Primary Urban Center Development Plan .....	33
4.2.3	City & County Land Use Ordinance.....	34
4.3	APPROVALS AND PERMITS .....	35
5.0	201H APPLICATION AND EXEMPTIONS .....	37
5.1	INTRODUCTION .....	37
5.2	REQUESTED EXEMPTIONS .....	37
5.3	SUMMARY OF REQUESTED EXEMPTIONS .....	40
6.0	ALTERNATIVES .....	43
6.1	NO ACTION ALTERNATIVE.....	43
6.2	ALTERNATIVE SITE DEVELOPMENT CONCEPTS.....	43
6.3	RETAIL USE ALTERNATIVE .....	43
7.0	DETERMINATION, FINDINGS, AND SUPPORTING REASONS FOR DETERMINATION.....	45
7.1	SIGNIFICANCE CRITERIA.....	45
7.2	DETERMINATION.....	48
8.0	CONSULTATION .....	49
8.1	AGENCY PRECONSULTATION .....	49
8.2	COMMENTS TO THE DRAFT ENVIRONMENTAL ASSESSMENT .....	50
8.3	ADDITIONAL CONSULTATION .....	52
9.0	REFERENCES .....	55

**HOLOMUA  
FINAL ENVIRONMENTAL ASSESSMENT**

---

**LIST OF APPENDICES**

**Appendix**

A	ALTA/ACSM Land Title Survey
B	Market Study
C	Correspondence with Department of Planning & Permitting
D	Architectural Drawings
E	Archaeological Assessment
F	Transportation Impact Analysis Report
G	Noise Assessment Report
H	Site Infrastructure Assessment
I	Pre-Consultation Comment Letters & Responses
J	Draft Environmental Assessment Comment Letters & Responses

**LIST OF TABLES**

<b>Table</b>		<b>Page</b>
1.	Building Summary.....	6
2.	Demographic Characteristics .....	21
3.	School Capacity and Enrolment.....	27
4.	Approvals and Permits .....	35

**LIST OF FIGURES**

<b>Figure</b>		<b>Follows Page</b>
1.	Holomua Site Plan .....	vii
2.	Holomua Rendering .....	vii
3.	Aerial Photo .....	4
4.	Regional Location Map .....	4
5.	Tax Map Key .....	4
6.	Site Photographs .....	4
7.	State Land Use.....	4
8.	County Zoning .....	4
9.	Development Plan.....	4
10.	Soil Survey .....	10
11.	Flood Zone .....	10
12.	Neighboring Building Heights.....	18
13.	Visual Analysis.....	18

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

---

**ACRONYMS AND ABBREVIATIONS**

<b>BWS</b>	City & County of Honolulu Board of Water Supply
<b>DLNR</b>	State of Hawai'i Department of Land & Natural Resources
<b>DOE</b>	State of Hawai'i Department of Education
<b>DOH</b>	State of Hawai'i Department of Health
<b>DPP</b>	City & County of Honolulu Department of Planning & Permitting
<b>DURF</b>	Dwelling Unit Revolving Fund
<b>EA</b>	Environmental Assessment
<b>FAR</b>	Floor Area Ratio
<b>FEMA</b>	Federal Emergency Management Agency
<b>FIRM</b>	Flood Insurance Rate Map
<b>FONSI</b>	Finding of No Significant Impact
<b>HAR</b>	Hawai'i Administrative Rules
<b>HECO</b>	Hawaiian Electric Company
<b>HHFDC</b>	Hawai'i Housing Finance & Development Corporation
<b>HPD</b>	Honolulu Police Department
<b>HRS</b>	Hawai'i Revised Statutes
<b>HUD</b>	US Department of Housing and Urban Development
<b>LdN or DNL</b>	Day-Night Average Sound Level
<b>LUO</b>	City & County of Honolulu Land Use Ordinance
<b>NRCS</b>	Natural Resource Conservation Service
<b>PUC</b>	Primary Urban Center
<b>SHPD</b>	State Historic Preservation Division
<b>SMA</b>	Special Management Area
<b>TMK</b>	Tax Map Key

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

---

**OVERVIEW**

THM Partners LLC, through affiliate KRC Partners LLC, is proposing to create a 176-unit residential condominium called “Holomua” on 21,339 square feet of land located at 1315 Kalākaua Avenue, Honolulu, identified by Tax Map Key (1) 2-4-6: 17 and 18. The goal of Holomua is to provide affordable and moderately-priced market rate housing in urban Honolulu. Figure 1 provides the Holomua site plan and Figure 2 provides a rendering of Holomua.

Recent residential condominium projects in Honolulu have focused on high-end/luxury units. Over the years attempts have been made to provide affordable housing on O’ahu through a variety of City, State, and Federal programs. However, due to the high cost of land in urban Honolulu, many of these projects are located in the suburban communities of O’ahu. Of the projects located in town, many consist of rental programs and do not provide the opportunity for home ownership. Other affordable, for-sale residential opportunities located in central Honolulu are aged, poorly maintained and in less desirable locations. The result is a void of affordable units for the working people of Honolulu and also a void in moderately-priced market rate units.

Holomua fills this void by providing affordable and moderately-priced market rate housing in urban Honolulu, thus creating the opportunity for home ownership in close proximity to jobs and urban amenities. Located within in the urban core of Honolulu, Holomua is surrounded by numerous amenities including: grocery stores, shopping, public transportation, parks, schools, employment centers, childcare facilities, and activity centers. This close proximity to services is expected to reduce Holomua resident’s reliance on automobiles for daily needs.

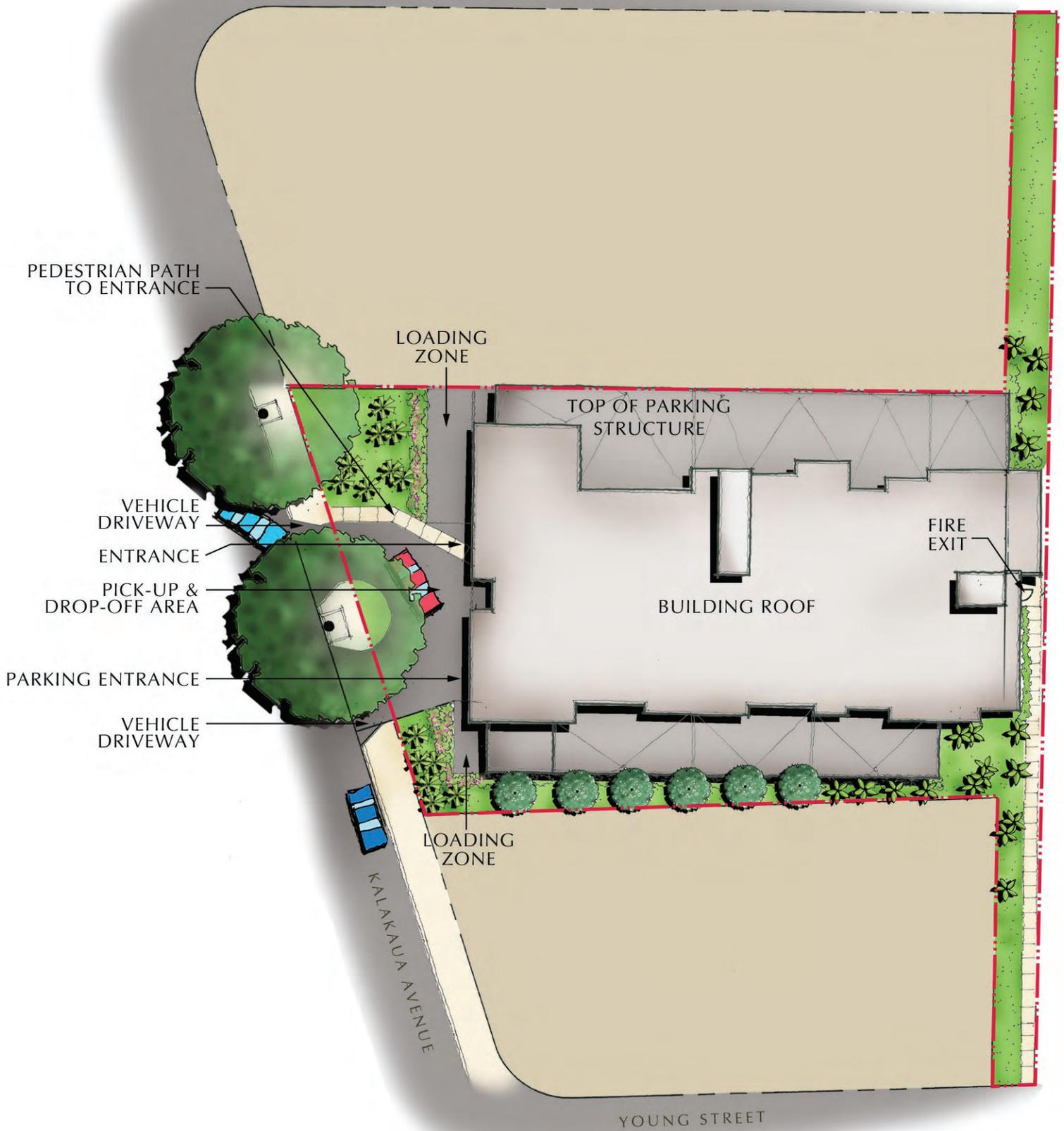
THM Partners LLC will be processing approvals for Holomua under Chapter 201H, Hawai’i Revised Statutes (HRS), which allows for greater design flexibility and cost savings to facilitate the development of affordable housing. A minimum 51 percent of the units will be priced to be affordable to households earning 140 percent or less of the HUD median income for O’ahu.

In addition to meeting the content requirements for an environmental assessment (EA), under Chapter 343, HRS, and Chapter 11-200, Hawai’i Administrative Rules (HAR), the Draft EA also served as the Chapter 201H, HRS application (201H application) agency/public comment document. Pertinent information relating to the 201H application was included in the Draft EA and in this Final EA. The complete 201H application is on file with the Hawai’i Housing and Finance Development Corporation (HHFDC).

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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**Figure 1**  
 Site Plan  
**Holomua**

THM Partners LLC  
 NORTH



NOT TO SCALE

ISLAND OF O'AHU





Figure 2  
Rendering  
**Holomua**

THM Partners LLC

ISLAND OF O'AHU

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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**1.0 INTRODUCTION**

This environmental assessment (EA) is prepared in accordance with Chapter 343, Hawai'i Revised Statutes (HRS), for Holomua, a proposed affordable and moderately-priced market rate housing condominium building in Honolulu, O'ahu, Hawai'i. This chapter briefly reviews the background and nature of the proposed project, relevant statutory requirements, and the various sources consulted to develop the assessment.

**1.1 PROJECT PROFILE**

Project Name: Holomua

Location: 1315 Kalākaua Avenue

Judicial District: Honolulu

Tax Map Key: (1) 2-4-06: 17 and 18

Project Area: 21,339 square feet

Existing Use: Vacant land

Recorded Fee Owner: KRC Partners LLC  
(an affiliate of the developer/applicant, THM Partners LLC)  
615 Pi'ikoi Street, Suite 808  
Honolulu, Hawai'i 96814

Developer/Applicant: THM Partners LLC  
(an affiliate of the recorded fee owner, KRC Partners LLC)  
615 Pi'ikoi Street, Suite 808  
Honolulu, Hawai'i 96814  
Contact: Mr. Serge M. Krivatsy, MAI

Approving Authority: Hawai'i Housing Finance & Development Corporation  
677 Queen Street, Suite 300  
Honolulu, Hawai'i 96813

Agent/Preparer: PBR HAWAII  
1001 Bishop Street  
ASB Tower, Suite 650  
Honolulu, Hawai'i 96813  
Contact: Tom Schnell, AICP

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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**Zoning:** State Land Use: Urban  
Development Plan: District Commercial  
County Zoning: Community Business Mixed Use (BMX-3)  
Special District: not in Special District  
Special Management Area (SMA): not in SMA

**Determination:** Finding of No Significant Impact (FONSI)

**Agencies Consulted:** See Chapter 8

## **1.2 COMPLIANCE WITH STATE OF HAWAI'I ENVIRONMENTAL LAWS**

Section 343-5, HRS, establishes nine “triggers” that require the preparation of an EA or environmental impact statement. Use of State lands or funds is one of the “triggers” that require an EA. Holomua will use State funds through the HHFDC’s DURF program. As such, this EA is prepared in compliance with Chapter 343, HRS, and in accordance with the provisions of Hawai’i Administrative Rules (HAR), Title 11, Department of Health, Chapter 200, Environmental Impact Statement Rules.

In addition, creation of Holomua may involve or impact State and/or County lands or funds relating to infrastructure improvements for public facilities, roadways, water, sewer, utility, drainage, or other facilities. While the specific nature of each improvement is not known at this time, this EA is intended to address all current and future instances involving the use of State and/or County lands and funds relating to Holomua.

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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## **2.0 HOLOMUA DESCRIPTION**

### **2.1 BACKGROUND INFORMATION**

#### **2.1.1 Location and Surrounding Area**

The Holomua site, identified as TMK (1) 2-4-06: 17 and 18, is located on two vacant parcels of land fronting Kalākaua Avenue, bounded by Kulana Hale 1 Senior Rentals, a 16-story, 176 unit building. Commercial retail uses are located to the north; a 7-11 store with Aloha gas station to the south; Kalākaua Avenue to the west; and the Imperial Business Plaza to the east. Figure 3 provides an aerial photo of the site and surrounding area; Figure 4 provides a regional location map; Figure 5 provides a TMK map. Appendix A contains an ALTA/ACSM Land Title Survey of the property.

The Holomua site is on the block between Beretania Street and Young Street, on the east side of Kalākaua Avenue. It is in the Makiki/Lower Punchbowl/Tantalus Neighborhood Board No. 10 District, and within the Primary Urban Center of Honolulu.

Previously, a low-rise commercial building occupied the site. The building was demolished in 2006 to allow redevelopment of the property. A proposal for a 16-story high-rise elderly housing building (Kulana Hale II) had been pursued by other development interests. The Kulana Hale II development included a 201G (affordable housing) application that had been approved by the City and County of Honolulu (Resolution 97-431, CD1). However, development of Kulana Hale II did not move forward beyond the entitlement process. In the 10 years since Kulana Hale II was approved, the project was not built because the Kulana Hale II developer could not make the project financially viable, even with the exemptions granted in 1997. The Kulana Hale II developer eventually sold the property to the current owner, KRC Partners LLC. The applicant, THM Partners LLC (an affiliate of KRC Partners LLC) has now designed Holomua to address current financial realities, such as the cost of land in urban Honolulu and current building material and construction costs.

The Holomua site is currently vacant with a mixture of concrete, asphalt, dirt, and grass. A chain link fence surrounds the site. The surrounding area is developed with a mix of commercial, residential, and apartment uses. In the greater surrounding area are public uses, industrial uses, churches, and parks. Foodland is one block northwest of the Holomua site. Many restaurants and small businesses are conveniently located within a short walking distance from the site. Figure 6 provides site photographs.

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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**2.1.2 Land Use Designations**

The current land use designations of the Holomua site (TMK (1) 2-4-06: 17 and 18), are as follows:

- State Land Use: Urban (Figure 7)
- County Zoning: BMX-3 Community Business Mixed Use (Figure 8)
- Development Plan: District Commercial (Figure 9)
- Special District: none
- Special Management Area (SMA): not in SMA

**2.2 DESCRIPTION OF HOLOMUA**

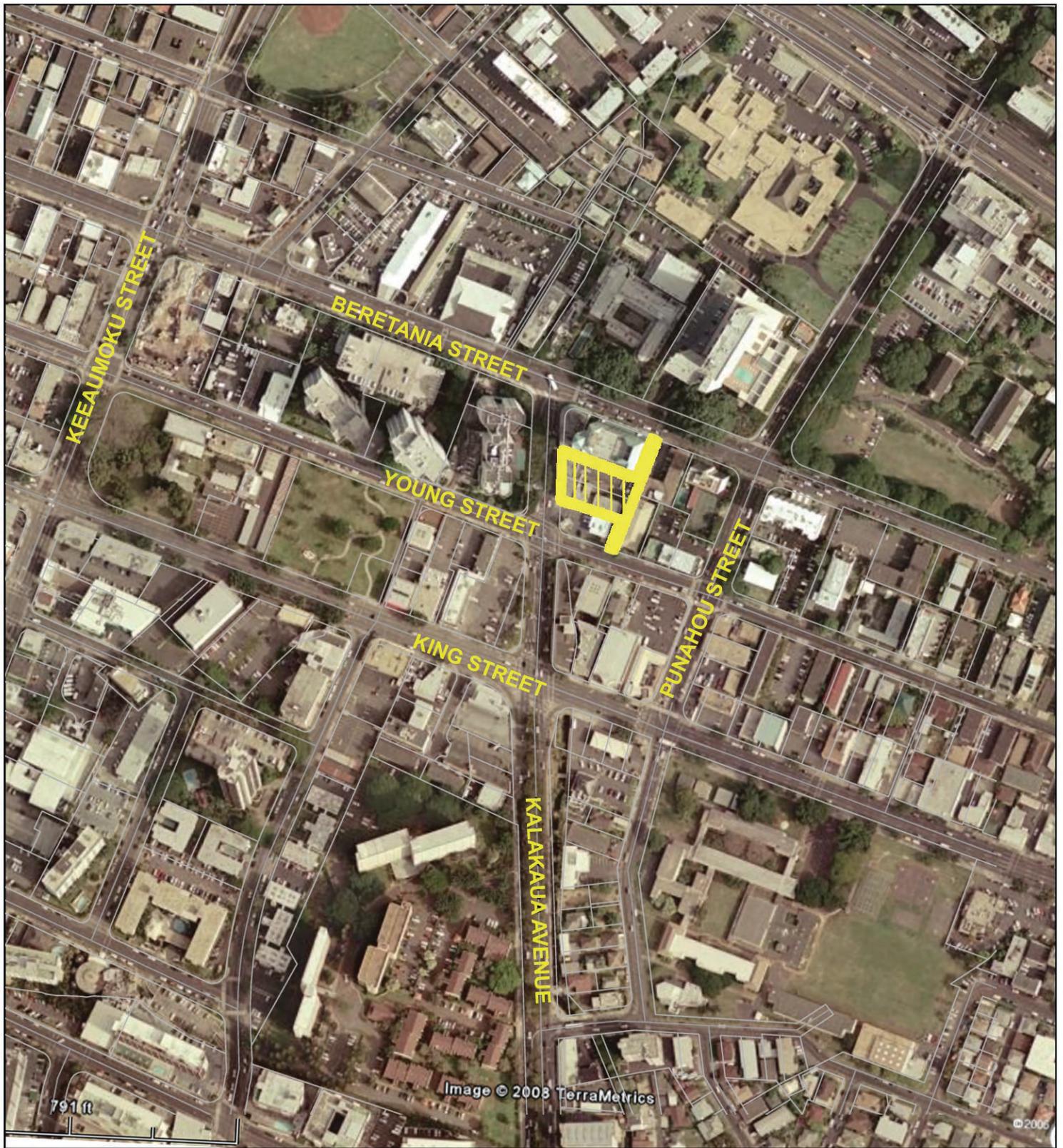
**2.2.1 Statement of Purpose and Need for Holomua**

The Holomua condominium building addresses the need for affordable housing on O’ahu, particularly within Honolulu’s primary urban center (PUC). Due to the focus on high-rise luxury condominium development in recent years, very few moderate-priced condominium buildings have been developed in the Honolulu PUC. New affordable housing has primarily been developed in suburban O’ahu, where residents are separated by considerable commutes from their workplace. In the urban center, affordable housing more often consists of rental housing. This has resulted in a shortage of for-sale affordable residential dwellings for working residents.

Strong demand for affordable and moderately-priced market rate housing within the PUC is evidenced by the strong rental demand in the immediate area as well as relatively high prices for existing residential products. Holomua is intended to provide a needed housing type at an affordable price.

A market study prepared by Data@Work focuses on the historical, current, and projected high-rise condominium conditions and trends to help forecast the absorption for Holomua (see Appendix B).

The market study finds that Holomua will benefit from its strong site location, convenience to city services; and because it is providing new, reasonably priced housing where the housing stock is aged. Based on the analysis and conclusions of the market study, there is strong and sufficient demand within urban Honolulu to support Holomua.



**LEGEND**

 Project Location

**Figure 3**

Aerial Photograph

**Holomua**

THM Partners LLC  
NORTH

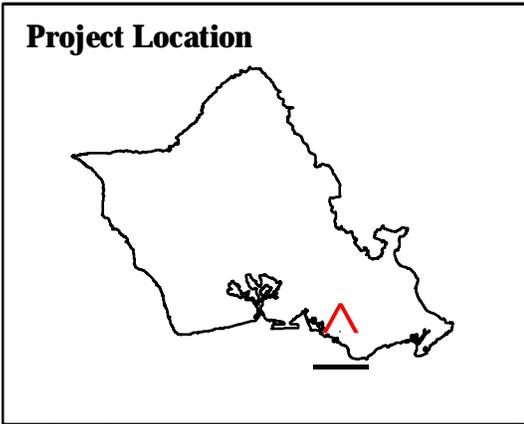
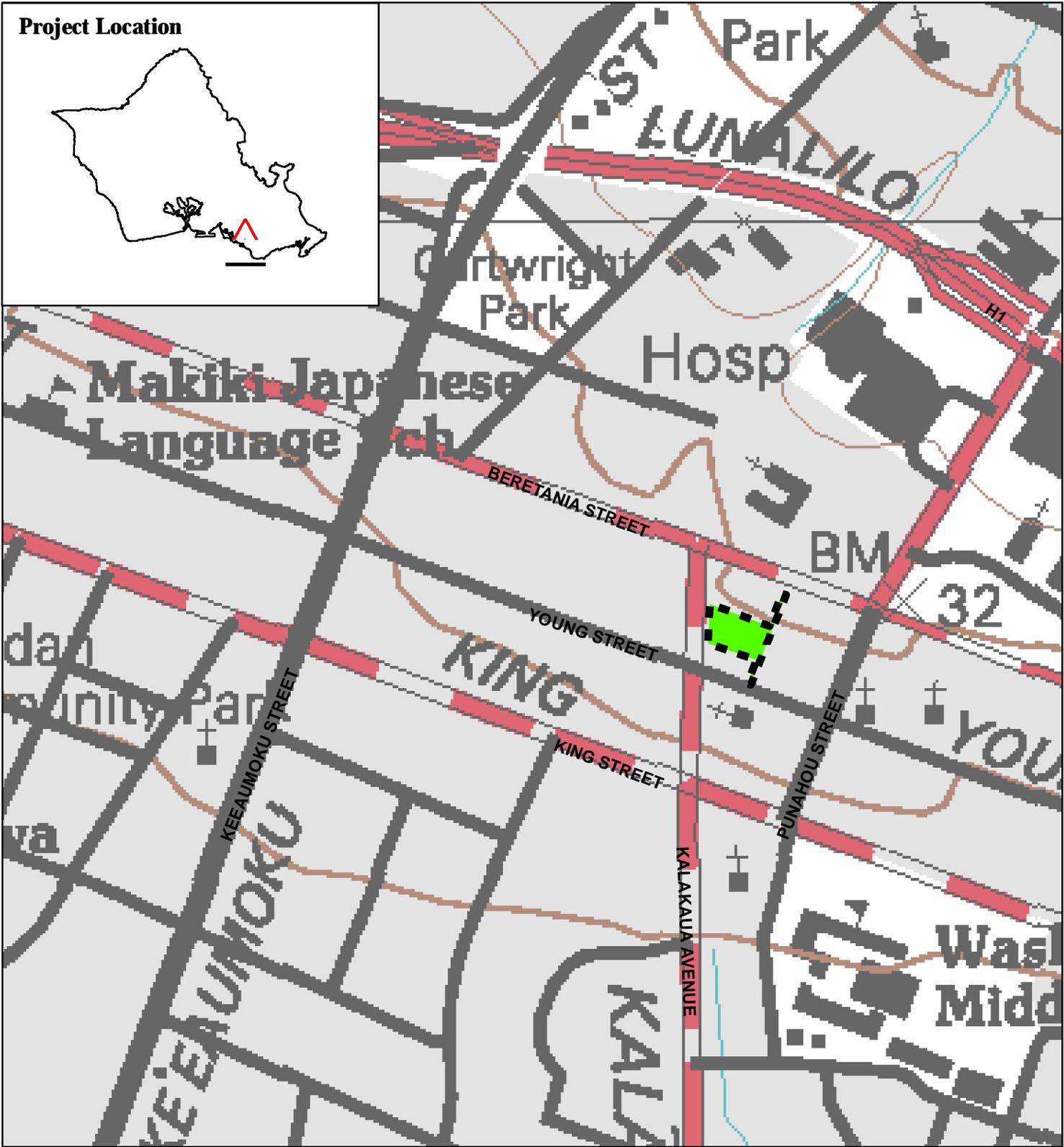
ISLAND OF O'AHU



NOT TO SCALE



Source: Google Earth Tele Atlas Copyright (2008)  
Disclaimer: This map is to be used for general planning purposes only.



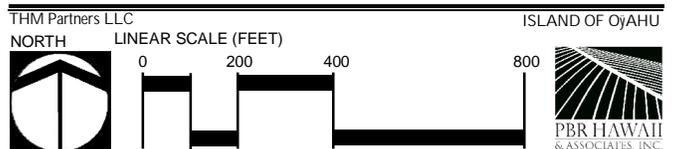
**LEGEND**

 Project Location

**Figure 4**

Regional Location

**Holomua**



Source: U.S. Geological Survey  
 Disclaimer: This map is to be used for general planning purposes only.



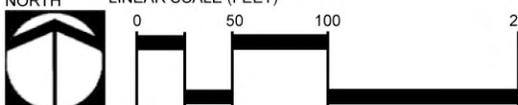
**LEGEND**

 Project Location

**Figure 5**

Tax Map Key

**Holomua**

THM Partners LLC ISLAND OF O'AHU  
 NORTH LINEAR SCALE (FEET)  
  


Source: City & County of Honolulu Engineering Dept (1992)  
 Disclaimer: This map is to be used for general planning purposes only.



1. View looking East from the Northwest corner of Kalakaua Avenue/Young Street. Holomua Condominiums will be located to the left of the 7-11.



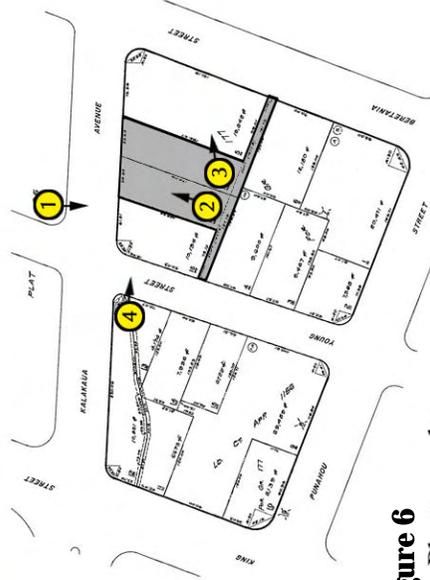
2. View of the project site. The previous building on the site was demolished in 2006.



3. Other high-rise buildings located in the vicinity. Kulana Hale 1 (left) is directly adjacent to the Holomua site. Banyan Tree Plaza (right) is located across Beretania Street.



4. View of the Holomua site from the Southeast corner of Kalakaua Avenue/Young Street. Kulana Hale 1 is in the background.



**Figure 6**  
Site Photographs  
**Holomua**

THM Partners LLC  
NORTH

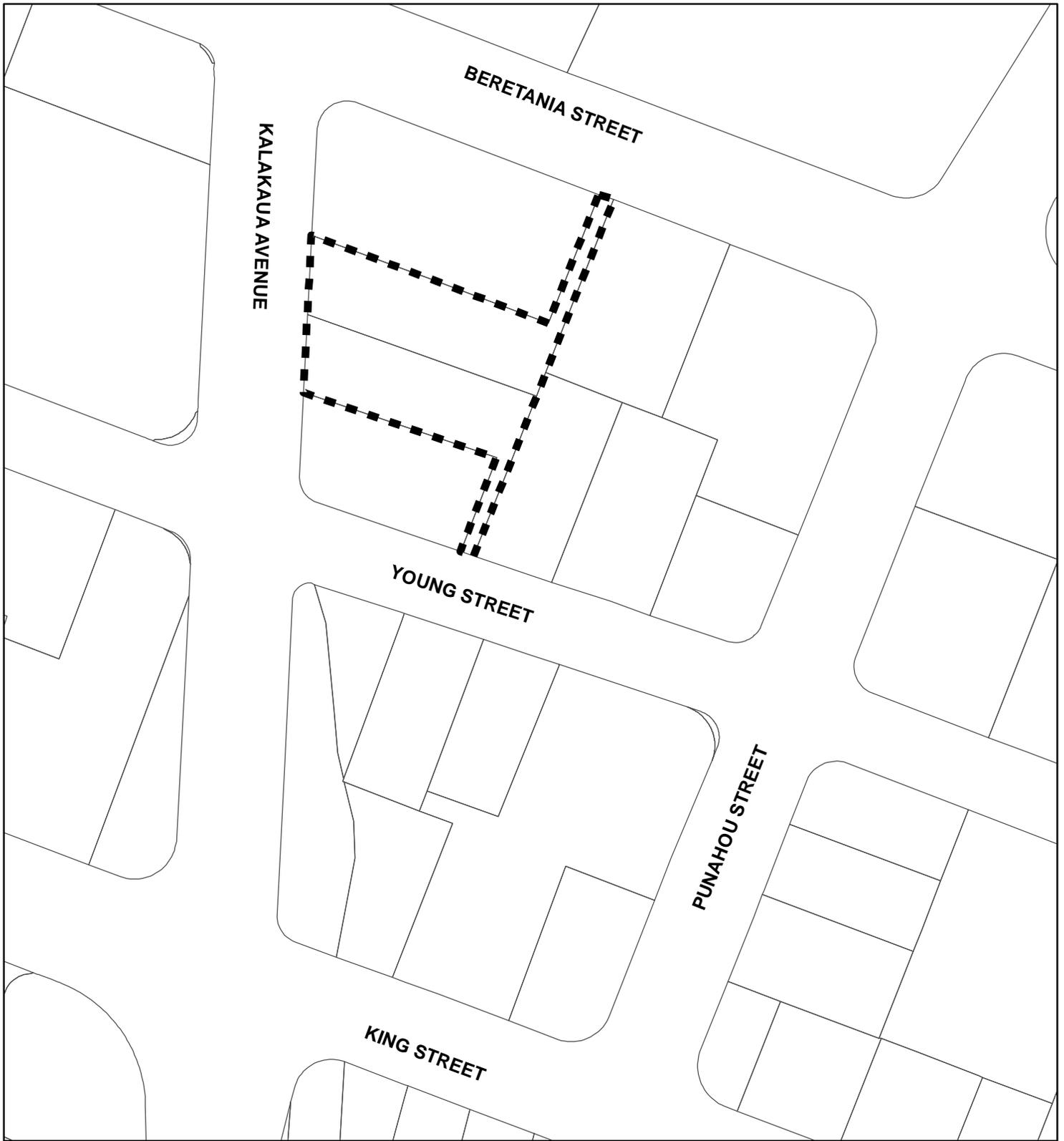


ISLAND OF O'AHU



NOT TO SCALE

Photos taken: 3-4-08



**LEGEND**

-  Project Location
-  Agricultural
-  Conservation
-  Rural
-  Urban

**Figure 7**

State Land Use Districts

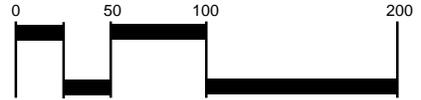
**Holomua**

THM Partners LLC

ISLAND OF OʻAHU

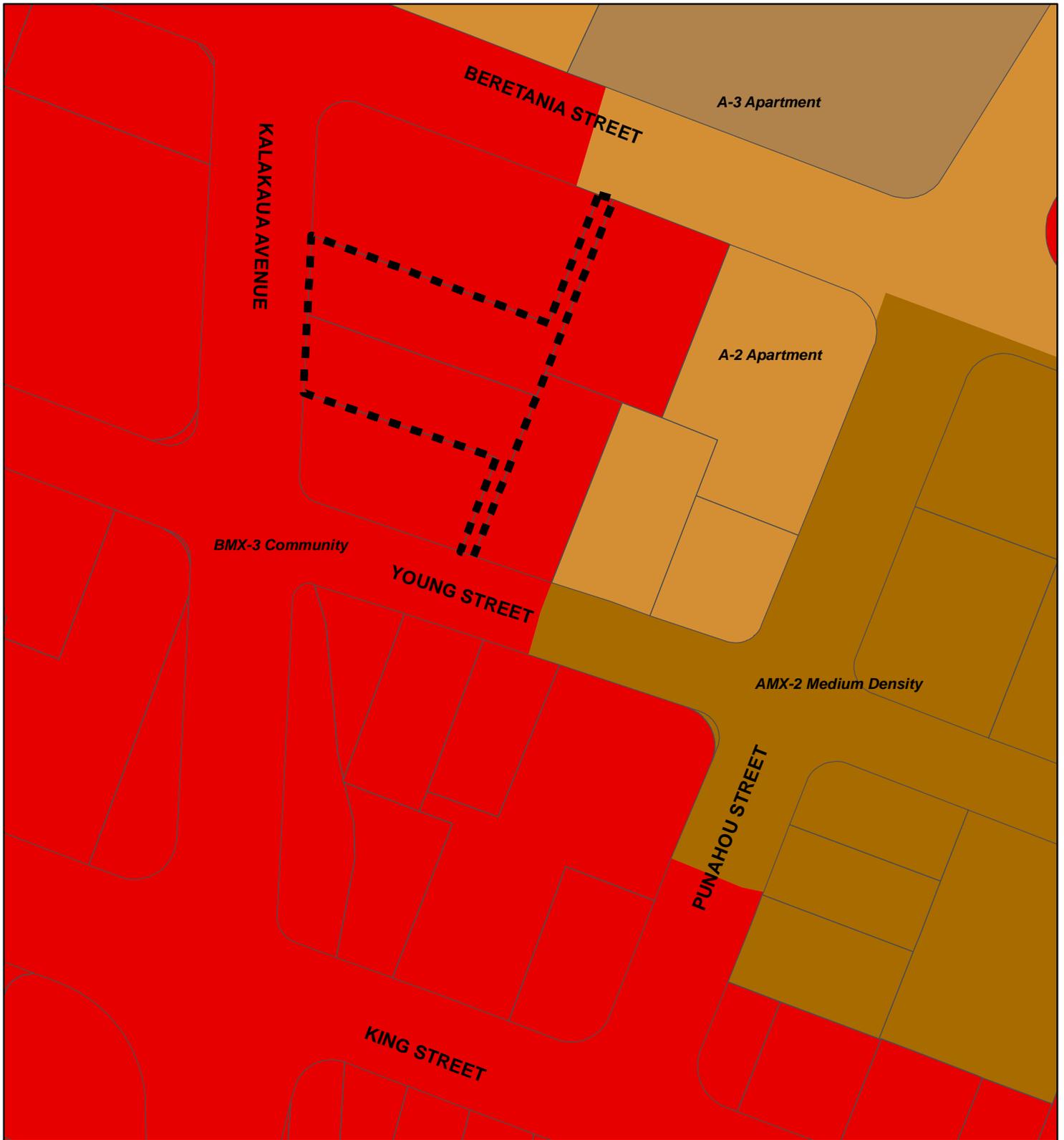
NORTH

LINEAR SCALE (FEET)



Source: State Land Use Commission (2006)

Disclaimer: This map is to be used for general planning purposes only.



**LEGEND**

-  Project Location
-  A-2: Apartment
-  A-3: Apartment
-  AMX-2: Medium Density
-  BMX-3: Community

Source: HOLIS, City & County of Honolulu (2006)  
 Disclaimer: This map is to be used for general planning purposes only.

**Figure 8**  
 City & County of Honolulu Zoning

**Holomua**

THM Partners LLC ISLAND OF OʻAHU

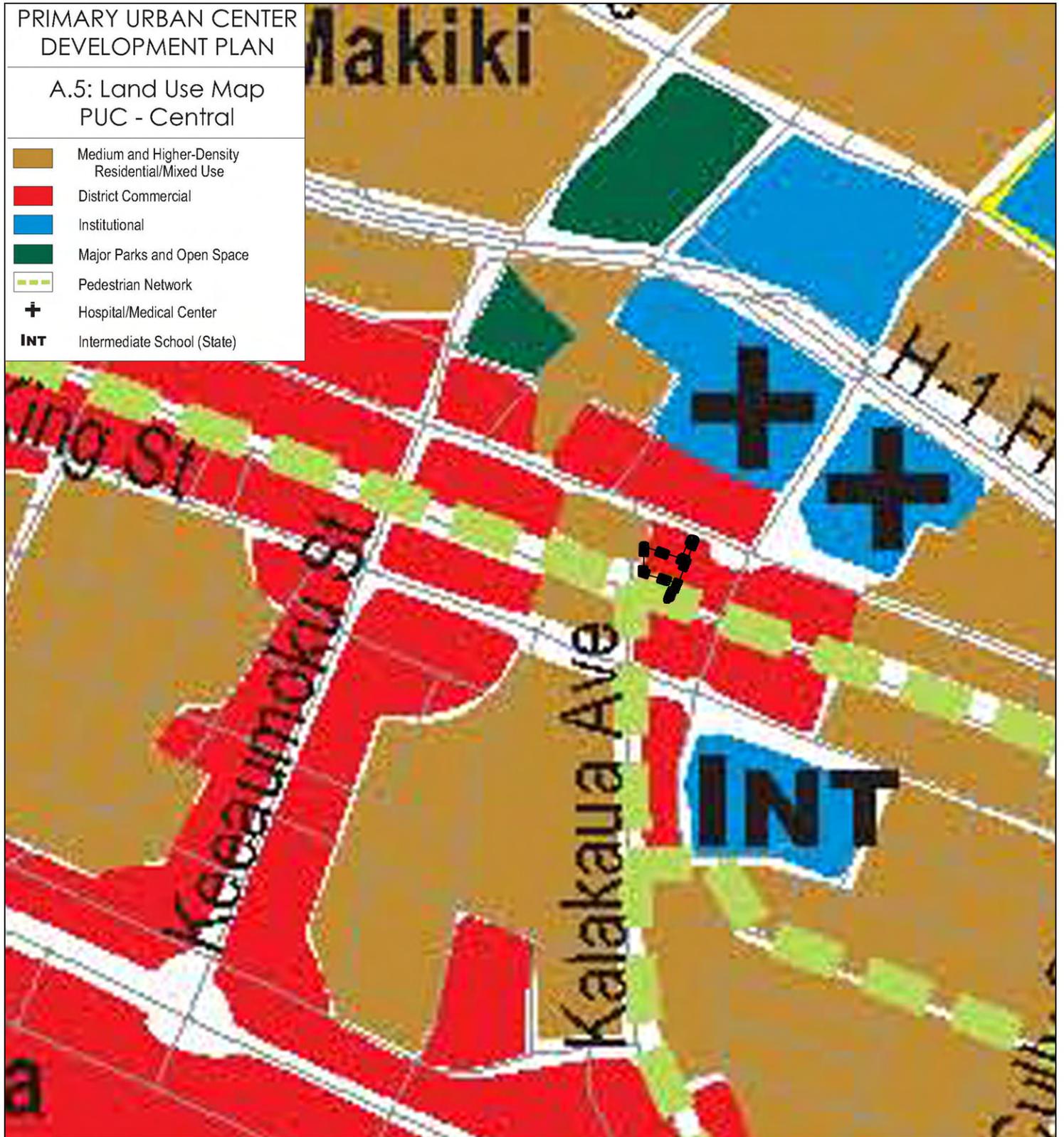
NORTH LINEAR SCALE (FEET)




PRIMARY URBAN CENTER  
DEVELOPMENT PLAN

A.5: Land Use Map  
PUC - Central

-  Medium and Higher-Density Residential/Mixed Use
-  District Commercial
-  Institutional
-  Major Parks and Open Space
-  Pedestrian Network
-  Hospital/Medical Center
-  Intermediate School (State)



LEGEND

-  Project Location

**Figure 9**

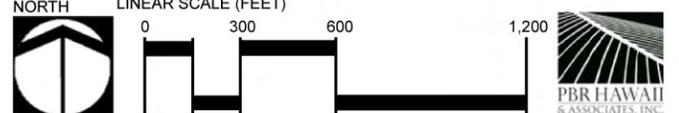
Primary Urban Center Development Plan  
Land Use & Public Facilities

Holomua

THM Partners LLC ISLAND OF O'AHU

NORTH LINEAR SCALE (FEET)

0 300 600 1,200



PBR HAWAII & ASSOCIATES, INC.

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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**2.2.2 Affordability**

A minimum 51 percent of the Holomua units will be priced to be affordable to households earning 140 percent or less of the HUD median income for Honolulu. Based on the HUD median income for Honolulu and the Affordable Sales Guidelines prepared by HHFDC, assuming a six percent interest rate with a five percent down payment, Holomua's affordable units would be priced no more than \$354,700 for a one-bedroom unit and no more than \$399,000 for a two-bedroom unit. The remaining units will be priced as moderately-priced market rate housing.

THM Partners LLC will be processing approvals for Holomua under, Chapter 201H, HRS, which allows for greater design flexibility and cost savings to facilitate the development of affordable housing. Flexibility and cost savings are achieved by allowing exemptions from certain statutes, ordinances, charter provisions, and rules relating to planning, zoning and construction, provided the project primarily provides affordable housing and does not contravene health and safety requirements.

THM Partners LLC has submitted a Chapter 201H, HRS application (201H application) to the HHFDC. Through discussions and correspondence with the City and County of Honolulu Department of Planning and Permitting (see Appendix C) it was determined that HHDFC was the appropriate agency to process the 201H application. This is because Holomua unit pricing—while affordable to households earning 140 percent or less of the HUD median income for Honolulu—does not meet the City and County of Honolulu's eligibility requirements for the processing of a 201H application by the Department of Planning and Permitting. While HHDFC will be processing the 201H application, the Honolulu City Council must approve and request for exemptions.

The Draft EA served as the 201H application agency/public comment document in addition to meeting content requirements for an EA, under Chapter 343, HRS, and Chapter 11-200, HAR. Pertinent information relating to the 201H application was included throughout the Draft EA and in this Final EA. Requested exemptions are discussed in more detail in Chapter 5.0. The complete 201H application is on file with the HHFDC.

Per the requirements of HHFDC and as specified in Section 201H-47, HRS, there will be a 10-year buyback clause for the affordable units; therefore, if the purchaser of an affordable unit sells the unit within 10 years, HHFDC has the option to buy back the unit to resell as affordable. There will also be a shared appreciation clause as provided in Section 201H-47, HRS. There will be no buyback or shared appreciation requirements

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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for the market rate units. However, preference will be given to qualified owner-occupants in initial sale of the market rate units.

THM Partners LLC is also working with HHFDC to create Holomua through the HHFDC’s Dwelling Unit Revolving Fund (DURF) program.

**2.2.3 Building Details**

As currently proposed, Holomua will be a 23-story building, up to 220 feet in height, which will include 176 one- and two-bedroom fee simple units. A minimum 51 percent of the units will be priced to be affordable to households earning 140 percent or less of the HUD median income for Honolulu. The remaining units will be priced at market rates for similar type units in the area and are expected to be to be moderately-priced in comparison to recently-built condominium units in urban Honolulu. The building floor area will be approximately 160,000 square feet with a building floor area ratio of 7.5. In an effort to both keep initial purchase price low and reduce maintenance fees for residents, Holomua will include moderate amenities. Each unit will be provided a lanai ranging in area from 28 square feet to 1,000 square feet. Additionally, a 1,196 square foot community activity room with kitchen and bathroom will be provided for Holomua residents’ use. Table 1 provides a building summary.

Figure 1 provides the Holomua site plan. Figure 2 provides a rendering of Holomua. Appendix D contains the Holomua architectural drawings.

**Table 1. Building Summary**

<b>Bedroom/Bath</b>	<b># of Units</b>	<b>Size (sq. ft.)</b>	<b>No. of Floors</b>	23
1/1	80	360-630±	<b>Building Height</b>	220± feet
2/1	32	695-700±	<b>Parking</b>	245 stalls
2/2	64	700-750±	<b>Loading</b>	2 stalls
<b>Total units</b>	176	-	<b>Elevators</b>	3

**2.2.4 Access and Parking**

Vehicular access to Holomua will be via a semi-circular driveway on Kalākaua Avenue. The driveway will allow for simultaneous in-bound and out-bound operations as well as a passenger loading/unloading area. A separate pedestrian walkway entrance to the lobby will also be directly off Kalākaua Avenue.

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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Current plans are for the parking structure to contain 245 parking spaces. However, THM Partners LLC is requesting the option to reduce the parking by 34 stalls (one floor), in the event that it is required to make the project financially feasible. ADA accessible stalls in compliance with City and County of Honolulu requirements will be provided. As discussed in Chapter 5 of this document, THM Partners LLC requests the option to include a lesser number of 200 resident parking spaces (1.14 stalls/unit) and 11 guest parking stalls for a total of 211 parking stalls if required to make Holomua financially viable. Please note that unit plans and parking structure design are not finalized and additional changes regarding parking may be required; however it is envisioned that Holomua will provide at least one stall per unit.

Holomua is located on Kalākaua Avenue, which is frequented by TheBus routes 2, 13, and the B City Express. Beretania and King Streets, which are major east/west bus thoroughfares, are within walking distance. The urban location in proximity to stores, services, and transit routes provides opportunities for Holomua residents to reduce trips by cars, or possibly even eliminate the need for car.

**2.3 DEVELOPMENT TIMETABLE**

Construction of Holomua will begin when all approvals are received. The proposed construction timetable is as follows:

Design/Entitlement	January 2008 – December 2008	12 months
Construction Start	December 2008	18 Months
End	June 2010	

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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### 3.0 ASSESSMENT OF THE AFFECTED ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

This chapter describes the existing environmental conditions (physical, natural, and human) of the project area. Potential impacts that may result from the proposed Holomua development, and mitigation measures that may be implemented, are also identified.

#### 3.1 TOPOGRAPHY

The topography of the Holomua site is flat and level, as the site was extensively modified to accommodate previous building at the site.

##### *Potential Impacts and Mitigation Measures*

The Holomua site has been previously modified, and the site currently consists of compacted gravel, areas of pavement and areas of low vegetation. Therefore, the proposed improvements will not require any major alterations to the land and no significant impacts to site topography are anticipated.

#### 3.2 SOILS

*The United States Department of Agriculture Soil Conservation Service, Soil Survey of Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawai'i (1972)*, classifies the soils on the project site as MkA – Makiki clay loam, 0 to 2% slopes (Figure 10). This soil is almost entirely in urban use.

This soil is on smooth fans and terraces. In a representative profile the surface layer is dark brown clay loam about 20 inches thick. The subsoil, about 10 inches thick, is dark-brown clay loam that has subangular blocky structure. It contains cinders and rock fragments. The subsoil is underlain by similar material, about 24 inches thick, that is massive. Below this are volcanic cinders. The soil is strongly acid to medium acid.

Permeability is moderately rapid. Runoff is slow, and the erosion hazard is no more than slight. The available water capacity is about 1.7 inches per foot of soil. In places roots penetrate to a depth of 5 feet or more.

# HOLOMUA

## FINAL ENVIRONMENTAL ASSESSMENT

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### *Potential Impacts and Mitigation Measures*

The Holomua site does not contain soils of agricultural value and will not impact agricultural productivity (existing or potential). The site has been extensively modified for urban development, and grading for the proposed improvements is not expected to be significant.

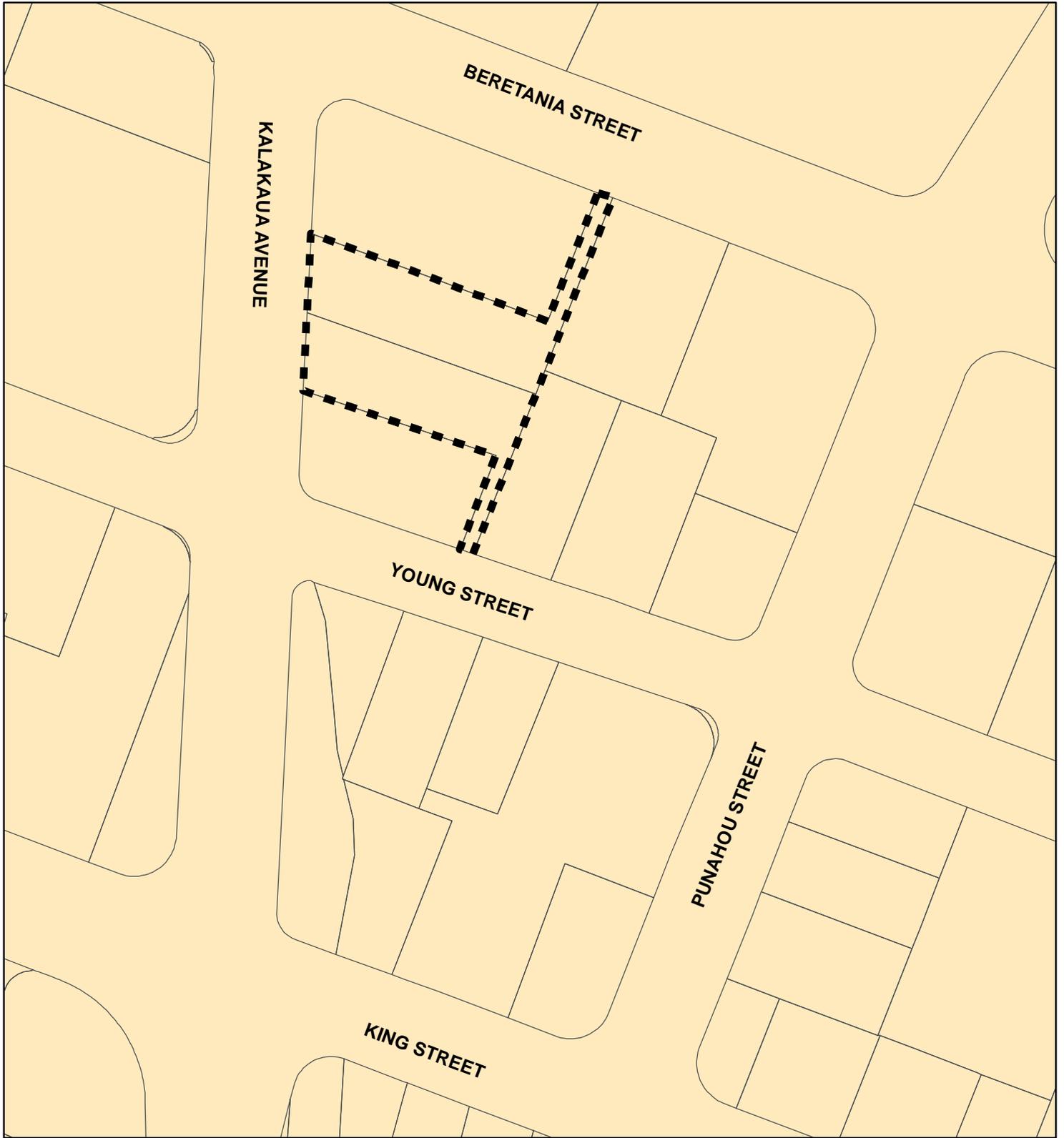
Grading volumes are estimated on architectural plans (See Appendix D, Sheet C-7). A total of 15 cubic yards are proposed to be excavated, and a total of 800 cubic yards of material will be sculpted into an embankment that rises from the street to set finish floor elevation at 27.25 feet.

All grading operations will be conducted in full compliance with dust, erosion control, and other requirements of the City Grading Ordinance, as well as the provisions of Section 11-60.1-33, HAR, on fugitive dust. In addition, best management practices will be included in construction plans to mitigate dust and/or silt emissions. Best management practices include installation of a silt fence around the construction site and sediment filters at existing downstream catch basins. New sediment filters will be installed at new on site stormwater inlets and a small landscape area at the front of the building will allow for some additional infiltration of stormwater.

### **3.3 NATURAL HAZARDS**

The Hawaiian Islands are associated with volcanic eruption and tectonic movement. The State of Hawai'i has been affected twice in the recent past by devastating hurricanes, 'Iwa in 1982 and 'Iniki in 1992. While it is difficult to predict these natural occurrences, it is reasonable to assume that future events could be likely given the recent record. However, the Holomua site is no more vulnerable to the destructive winds and torrential rains associated with hurricanes and cyclones than the rest of the island or state.

The Holomua site is located outside of the tsunami evacuation area and is designated Zone X (areas determined to be outside of the 500-year floodplain) by the Federal Flood Insurance Rate Map (FIRM) (Figure 11). No portions of the site are located in a flood zone, as indicated on the FIRM by the Federal Emergency Management Agency (FEMA).



**LEGEND**

-  Project Location
-  MkA: Makiki clay loam, 0-2% slopes

**Figure 10**  
Soil Survey

**Holomua**

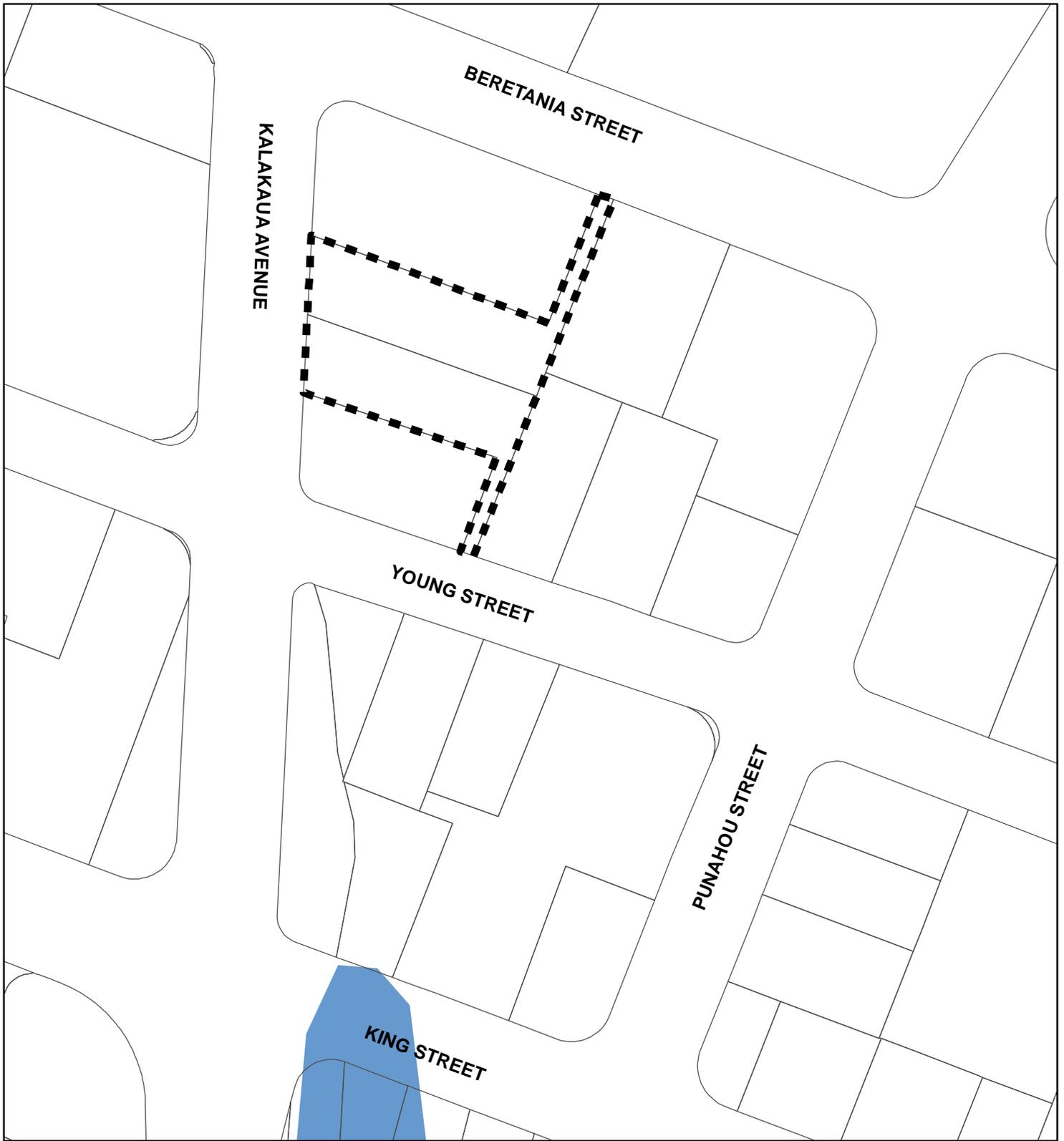
THM Partners LLC ISLAND OF OʻAHU

NORTH LINEAR SCALE (FEET)



  
PBR HAWAII  
& ASSOCIATES, INC.

Source: Natural Resources Conservation Service (2007)  
Disclaimer: This map is to be used for general planning purposes only.



**LEGEND**

-  Project Location
-  Outside Floodplain/Minimal Flooding Area
-  500-Year Floodplain
-  100-Year Floodplain
-  Floodway

Source: Federal Emergency Management Agency  
 Disclaimer: This map is to be used for general planning purposes only.

**Figure 11**  
 Flood Insurance Rate Map

**Holomua**

THM Partners LLC      ISLAND OF OʻAHU

NORTH      LINEAR SCALE (FEET)




PBR HAWAII & ASSOCIATES, INC.

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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*Potential Impacts and Mitigation Measures*

Holomua will not exacerbate any hazard conditions, and all structures will be constructed in accordance with the City's Uniform Building Code to protect against the potential damage from destructive winds, torrential rainfall, or tropical hurricanes and cyclones. No structures will be built within a flood zone (since no portions of the site are within a flood zone) and no existing drainage patterns will be altered. The proposal does not include an increase in impervious area over previously developed conditions. Runoff will continue to flow into the municipal drainage system.

On-site construction work will temporarily expose any remaining soil and slightly increase the potential for soil erosion. However, project specifications will incorporate erosion control requirements to mitigate any construction impacts. After construction, impermeable surfaces (i.e., walkways and parking areas) and landscaping will mitigate the potential for soil erosion. Detailed erosion and sediment control measures will be specified in site plans.

### **3.4 FLORA AND FAUNA**

The site is urbanized and is not known to contain any federally protected, threatened, or endangered species of plants or animals. The site previously had a commercial building on it, which was demolished in 2006.

*Potential Impacts and Mitigation Measures*

Because the site was previously developed and is not known to contain any federally protected, threatened, or endangered species of plants or animals, no impacts to flora and fauna are expected.

### **3.5 ARCHAEOLOGICAL AND HISTORIC RESOURCES**

Appendix E contains an archaeological assessment prepared by Scientific Consultant Services, Inc. The assessment provides a summary of settlement pattern for the Ahupua'a of Makiki based on historical, oral, and archaeological documentation. The assessment also provides results of archaeological testing which were conducted on site. Testing methods included both a pedestrian survey as well as mechanical excavation and analysis of nine stratigraphic trenches.

## HOLOMUA FINAL ENVIRONMENTAL ASSESSMENT

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The archaeological assessment did not identify any archaeological sites, and generally served to support the historical settlement patterns discussed in the Assessment.

### *Potential Impacts and Mitigation Measures*

Based on the results of the archaeological assessment, no impacts to archaeological resources are expected with creation of Holomua. Further, the archaeological assessment concludes that no further archaeological investigation is recommended.

THM Partners LLC will comply with all State and County laws and rules regarding the preservation of archaeological and historic sites. Should historic remains, such as artifacts, burials, concentrations of shell or charcoal be encountered during construction activities, work will cease in the immediate vicinity of the find and the State Historic Preservation Division will be contacted for appropriate mitigation, if necessary.

### **3.6 CULTURAL RESOURCES**

The site is within the ahupua'a of Makiki, and more specifically, 'ili of Pāwa. The City and County of Honolulu has placed this site within the boundary of the Makiki neighborhood, although it is located immediately adjacent to the McCully/Mō'ili'ili neighborhood district. As the site is located in an urbanized area of Honolulu, resource materials investigating the cultural and archaeological significance of the area are plentiful. This assessment of cultural resources included a review of EAs for nearby developments, including those conducted on behalf of the City and County of Honolulu for the McCully-Mō'ili'ili Beautification Master Plan which presents a broader context than site-specific EAs typically prepared for individual development projects. Additionally, research collected for the archaeological assessment contributed to this cultural assessment by providing information relative to the historical settlement pattern. These investigations were supplemented by review of Sterling and Summers *Sites of O'ahu* as well as periodical research relating to history and culture of the Makiki and McCully/Mō'ili'ili neighborhoods.

Historically, the areas bordering the Makiki Stream (in the vicinity of the Holomua site) were likely utilized for the cultivation of *taro* and like-crops from the early Historic times probably extending from Traditional times. Land Commission Awards research shows that subsequently land in the area was parceled and likely used for home sites. However, the archaeological assessment did not find any surface or subsurface archaeological evidence (artifacts such as basalt cores, adzes, flakes or features such as stone alignments, pavements, and walls) of former agricultural uses or habitation on the site. The archaeological assessment provides three possible explanations for this lack of

## HOLOMUA FINAL ENVIRONMENTAL ASSESSMENT

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archaeological evidence: 1) the site has been previously disturbed by past construction or demolition; 2) the acid condition of the soils could have degraded organic materials so that none could be found; or 3) no Traditional-style (pre- and circa-1778) cultural activities (*e.g.*, agriculture, fire making, food consumption) occurred on the site.

In recent historical times, the Makiki and McCully/Mō'ili'ili neighborhoods have urbanized and population demographics changed from predominantly Hawaiian to Chinese to settlers of Japanese ancestry (Watanabe (1996).

Currently, the neighborhood is densely populated and multi-ethnic, retaining a strong Japanese presence through the Honolulu Japanese Chamber of Commerce and Japanese Cultural Center of Hawai'i (2454 S. Beretania Street) as well as many Japanese restaurants and retailers. In most recent history, the more culturally significant aspects of this neighborhood relate to business enterprises owned by those of Chinese, Japanese, and Korean descent. The neighborhood is home to the original Zippy's drive-in chain of restaurants, and recently, owners of an art gallery received a variance from the City and County of Honolulu to maintain a non-conforming neon sign that served the Chop Suey restaurant that was located at the intersection of King and McCully Streets for over 50 years.

Although the Holomua site is now vacant, debris, site soils, and vegetation all reflect the site's history of development and recent building demolition. Subsurface testing conducted for the archaeological assessment indicate a top layer of imported matrices, a layer of man-made debris (trash), a layer of additional non-local material. Vegetation consists of plant species that are adaptable to a harsh urban environment that receives little or no maintenance or watering. As such, the site is not utilized for cultivating or gathering of plants of cultural significance. Further, as the site is surrounded on three sides by buildings (high-rise housing and retail uses), and a fourth side by Kalākaua Avenue, the site does not serve as an accessway to any neighboring cultural sites.

### *Potential Impacts and Mitigation Measures*

The construction of housing at this urban site is not anticipated to create negative impacts to cultural resources in the immediate vicinity or larger community. The site itself does not contain any cultural resources, nor does it impede access to any cultural resources. The addition of affordable housing on the site is consistent with the existing culture of the lower Makiki neighborhood as an urban mixed use neighborhood.

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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### **3.7 ROADWAYS AND TRAFFIC**

The site is an irregularly configured mid-block lot with frontage on three public rights-of-way, Beretania Street (mauka), Young Street (makai) and Kalākaua Avenue (Ewa). Access to Holomua is proposed only from Kalākaua as the mauka and makai accesses are substandard in width for emergency services. Kalākaua is a four-lane street extending from S. Beretania Street into Waikiki and through Kapi'olani Park. On-street parking is permitted in the mauka-bound direction along the project site frontage. Transit facilities (TheBus) include multiple routes and bus stops (routes 1, 2, 5, 6, and 13) near the site. Pedestrian facilities include sidewalks on Kalākaua and neighboring streets as well as crosswalks at intersections. Young Street is a designated Bicycle Route.

A summary of existing transportation facilities, as well as an analysis of potential impacts has been prepared by transportation consultants, Fehr and Peers and is provided as Appendix F, Transportation Impact Analysis Report (TIAR). The TIAR evaluates impacts of Holomua based on projected traffic estimates of existing conditions, plus anticipated (recently approved) development, and anticipated traffic associated with Holomua.

#### *Potential Impacts and Mitigation Measures*

##### Intersection Operations

The operations of eleven key intersections near the site were evaluated during the weekday morning (7:00 to 9:00 AM) and afternoon (4:00 to 6:00 PM) peak hours for the following three scenarios:

- **Scenario 1:** *Existing Conditions (2008)* – Existing volumes obtained from turning movement counts representing the peak one-hour vehicle flow.
- **Scenario 2:** *Opening Year (2010) without Project Conditions* – Existing peak-hour volumes multiplied by a growth factor plus traffic from approved but not yet constructed developments in the area. The traffic growth factor was developed based on historical growth in traffic counts for this area. This scenario is the basis from which Holomua impacts are determined.
- **Scenario 3:** *Opening Year (2010) with Project Conditions* – Opening Year (2010) without Holomua volumes plus the new traffic generated by Holomua.

Based on the impact criteria specified above, Holomua would not have a significant impact at any of the study intersections. While the Beretania Street/Ke'eaumoku Street

## HOLOMUA FINAL ENVIRONMENTAL ASSESSMENT

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intersection is projected to operate unacceptably, this condition is due to the addition of traffic from already approved projects plus growth. When Holomua traffic is added directly to existing volumes, the resulting operations at this location would continue to be acceptable, as described on page 22 of the TIAR. This illustrates that the unacceptable operating level at the Beretania Street/Ke'eaumoku intersection in the future is caused by the cumulative effect of future traffic with or without the addition of Holomua.

### Transit, Bicycle, and Pedestrian System Operations

The Holomua site is within 650 feet of bus stops on three transit corridors. Given the proximity to transit, it is anticipated that residents may use the bus to commute and travel to other regional destinations rather than using personal cars for all trips. The number of anticipated transit riders could be accommodated by the existing system capacity and no significant impacts are anticipated.

Creation of Holomua will not conflict with any existing or proposed bicycle or pedestrian facility and will not significantly increase demand or hazards for these modes of travel. Cyclists will have direct access to the Young Street bike route, which is more conducive to bicycle travel than either King or Beretania Streets. Thus, no significant impacts are anticipated.

Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by Holomua will not result in a significant impact at any of the study intersections including those on Kalākaua Avenue, Young Street, Beretania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exit) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

### On-Site Circulation

Access to the site will be provided by two driveways on Kalākaua Avenue, both of which will be restricted to right-in/right-out only operation. On-site circulation will be provided via an internal drive aisle providing access to parking inside the building. The width of aisles and length of parking stalls will provide adequate circulation. As such, site access and onsite circulation is considered adequate, and no changes are recommended.

## HOLOMUA

### FINAL ENVIRONMENTAL ASSESSMENT

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On-site circulation will include facilities for access by persons with disabilities; Holomua will include an accessible entry at the drop-off/pick up area, ADA accessible stalls within the parking structure, and accessible parking spaces nearest the main entry.

Comments from the City and County of Honolulu Department of Facility Maintenance indicate that no future road work is planned along the Holomua frontage or in the immediate vicinity. Therefore, construction conflicts are not anticipated.

### **3.8 NOISE**

The site is currently exposed to moderate and sometimes high ambient noise levels. Appendix G contains a Noise Assessment Report. It finds that vehicular traffic on Kalākaua Avenue is the dominant noise source. Other noise sources include typical urban noises such as sirens, car horns, pedestrians, birds, and mechanical equipment from neighboring buildings. Activities at the neighboring gas station can also generate noise.

Environmental noise is generally described as Day-Night Average Sound Level (Ldn or DNL), which is a noise descriptor currently used by federal agencies (such as FHA/HUD). This descriptor is a 24-hour average of measured sound levels with an additional 10-decibel (dB) “penalty” on noise levels occurring during the nighttime hours of 10:00 PM to 7:00 AM. In general, noise levels of 55 Ldn or less occur in rural areas, or in areas which are removed from high volume roadways. In urbanized areas, locations shielded from high volume streets generally range from 55 to 65 Ldn.

#### *Potential Impacts and Mitigation Measures*

Short-term noise impacts from construction activities are expected during the construction period. Construction noise will be short-term and limited to daylight hours. Proper mitigation measures will be implemented to minimize noise impacts, and all work will comply with the State Department of Health (DOH) noise limits.

Construction activities will generate noise from related equipment. This construction-related noise will have an impact on nearby residents although construction will occur during daylight hours when most adult residents are at work and children are at school. However, this noise impact will be temporary and last only until project completion (approximately 18 months).

## HOLOMUA FINAL ENVIRONMENTAL ASSESSMENT

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All construction activities will be monitored to ensure compliance with the DOH Administrative Rules, Chapter 11-46, "Community Noise Control."

After construction, long-term noise impacts will be from traffic and associated noise conditions. The results from the long-term noise measurements conducted for the noise assessment (Appendix G) at the Holomua site show a calculated day-night level, Ldn, of 65 dBA. Therefore, the exterior noise levels at the façade of the proposed building facing Kalākaua are expected to meet the current EPA design goal as well as the HUD noise criteria for "Acceptable" housing sites. Noise mitigation measures included in the building's design include fully enclosing two sides, and partially enclosing a third side, of the structured parking.

### 3.9 AIR QUALITY

Air quality in the vicinity of the project site is primarily affected by vehicular emissions generated along surrounding streets. Among the various air pollutants for which State and National standards have been established, carbon monoxide level is the primary concern in areas near heavy traffic flow. The federal standard for carbon monoxide is a maximum of 40 micrograms per cubic meter for 1-hour sample and 10 micrograms per cubic meter for an 8-hour sample. State of Hawai'i regulations, which are more stringent, limit carbon monoxide to 10 micrograms per cubic meter for 1-hour samples and 5 micrograms per cubic meter for 8-hour samples. According to the State DOH Clean Air Branch, the Waikiki Air Monitoring Station on Kalākaua Avenue reported that carbon monoxide levels have not exceeded State or Federal standards in the past five years.

#### *Potential Impacts and Mitigation Measures*

It is anticipated that no State or Federal air quality standards will be violated during or after the creation of Holomua. The anticipated issues related to air quality are related to construction; however, construction activities such as site clearing and grading, will be temporary. In addition, all construction activities will comply with the provisions of Chapter 11-60.1, HAR, Section 11-60.1-33, Fugitive Dust.

An effective dust control plan will be implemented as necessary. Measures to control dust during various phases of construction include:

- Providing an adequate water source at the site prior to start-up construction activities.
- Irrigating the construction site during periods of drought or high winds.

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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- Controlling dust debris being hauled away from the project site.
- Providing adequate dust control measures during weekends, after hours, and before daily start-up of construction activities.
- Installing silt screening in the areas of disturbance.

In the long term, Holomua is not anticipated to generate significant enough volumes of traffic to degrade air quality in the area.

### **3.10 MAN-MADE HAZARDS**

A Phase I Environmental Site Assessment was conducted in October, 2007 by Environmental Science International. The study concluded that there were no environmental liens or use limitations for the property. Two abandoned pipes were found protruding from the ground. Additional studies were conducted and it was found that the pipes extended two feet into the ground where they terminated. The pipelines were found to be isolated and connected to nothing and no subsurface soil contamination was observed. The abandoned pipes were excavated from the property and soil was backfilled into the excavated trenches.

#### *Potential Impacts and Mitigation Measures*

The Phase I Environmental Site Assessment did not report any soil contamination requiring future use limitations on the site; however, if hazardous materials are found, they will be handled according to the Department of Health regulations.

### **3.11 VISUAL RESOURCES**

The Holomua site is located in the Primary Urban Center and the BMX-3 Community Business Mixed Use District. None of the major mauka-makai streets in the surrounding neighborhood offer views of the ocean, and the existing tall buildings in the area obstruct mauka views along Kalākaua Avenue toward the Ko'olau Mountain Range. The Holomua site is surrounded by roadways and tall buildings (see site photographs in Figure 6 and a comparison of neighboring building heights in Figure 12).

#### *Potential Impacts and Mitigation Measures*

The proposed structure will have a finished height of up to 220 feet, which is over the 150-foot height limit of this BMX-3 Community Business Mixed Use District. THM

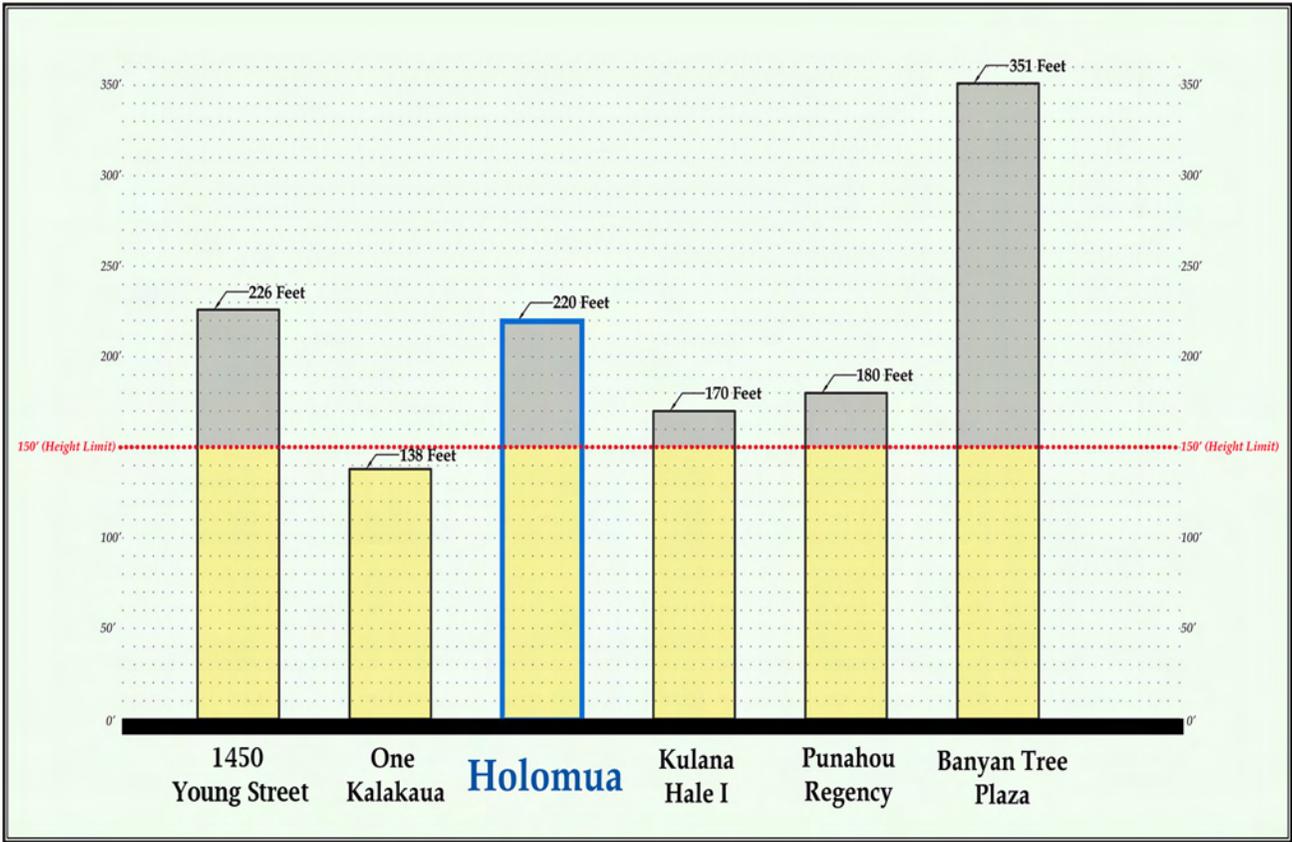


Figure 12  
Neighboring Building Heights

# Holomua

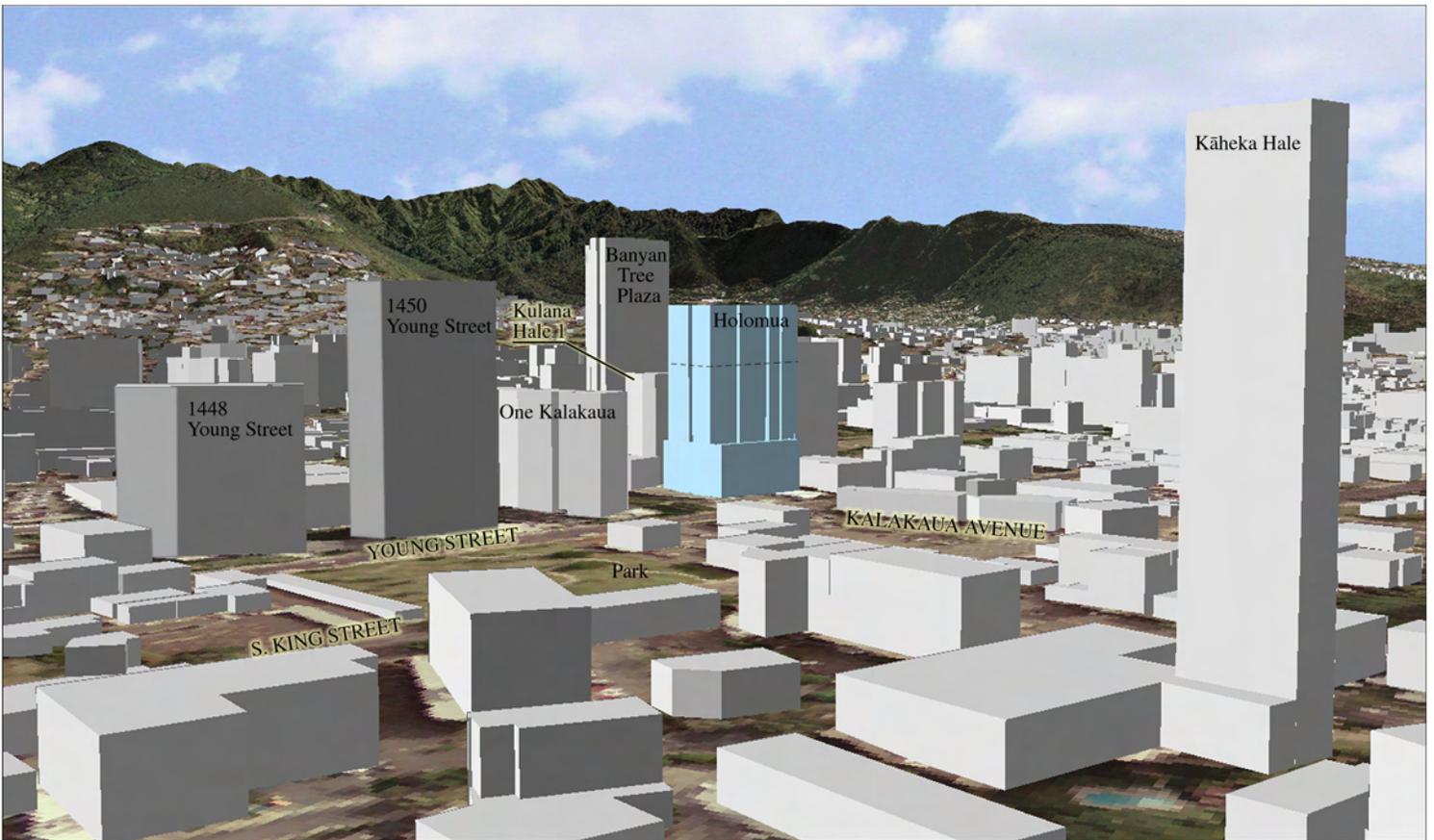
THM Partners LLC  
NORTH



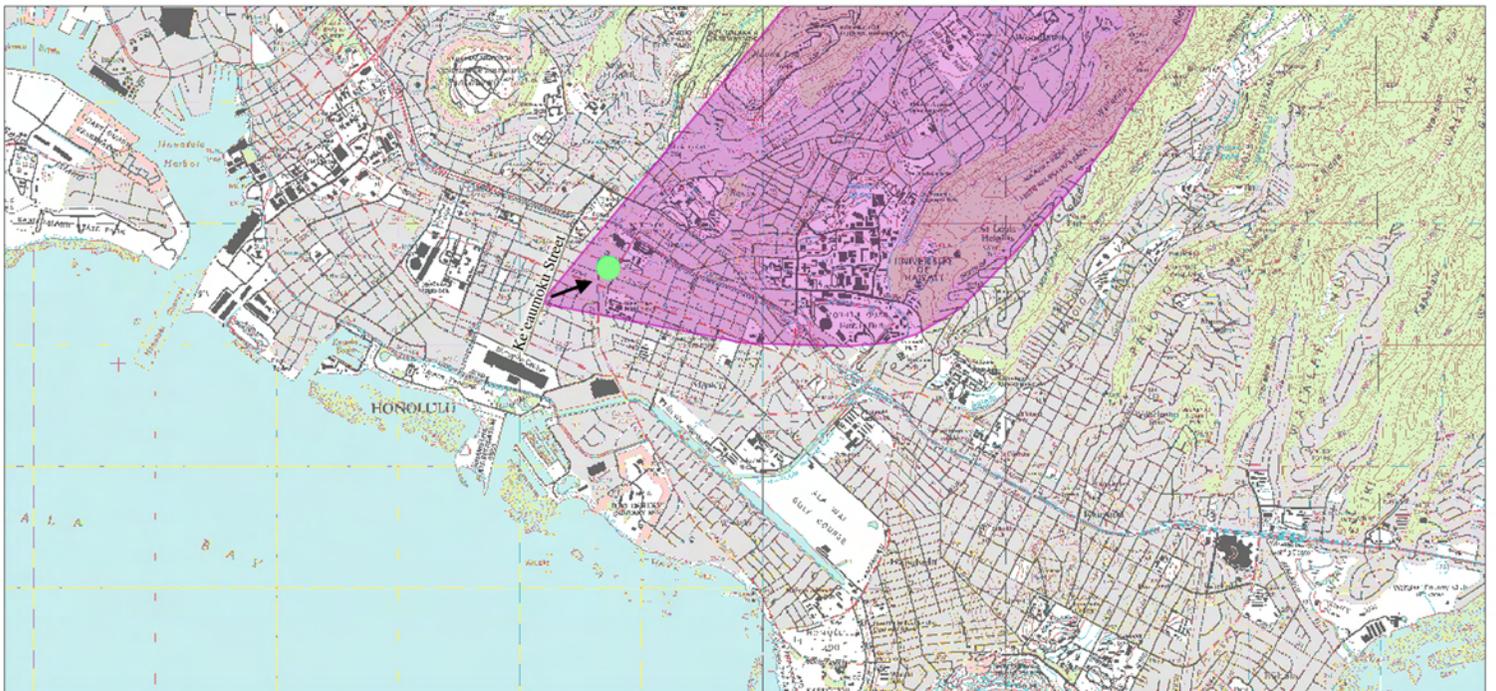
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ISLAND OF O'AHU





The proposed Holomua building viewed from the vicinity of the Ke‘eaumoku Street and Kanunu Street intersection, looking northeast toward Mānoa Valley.



**Map Key Legend**

- Holomua Location
- Northeast Viewshed

Figure 13a

3D Viewshed Analysis - Northeast View

# Holomua

THM Partners LLC  
NORTH

ISLAND OF O‘AHU

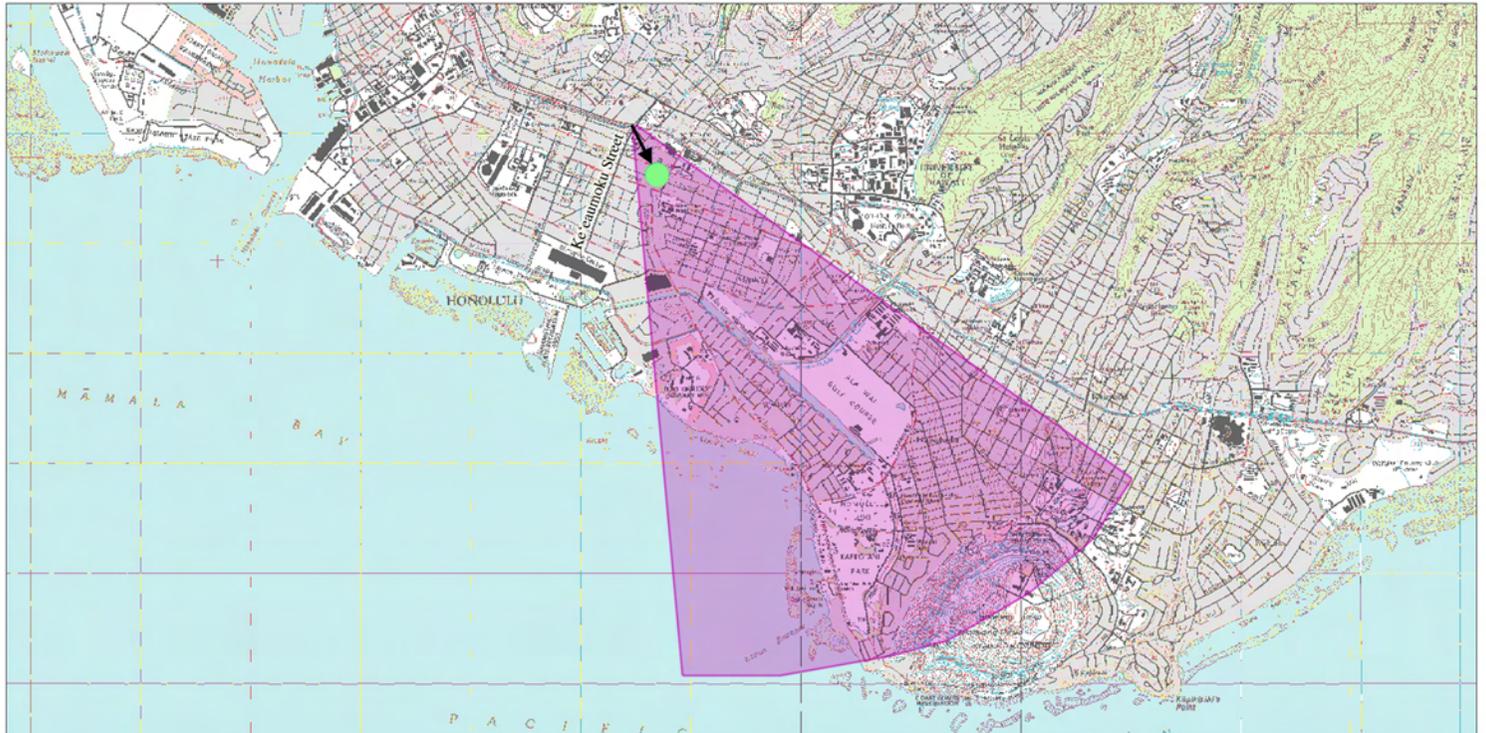


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The proposed Holomua building viewed from the vicinity of Ke‘eaumoku Street at the H-1 overpass, looking southeast toward Waikiki.



**Map Key Legend**

- Holomua Location
- Southeast Viewshed

Figure 13b

3D Viewshed Analysis - Southeast View

# Holomua

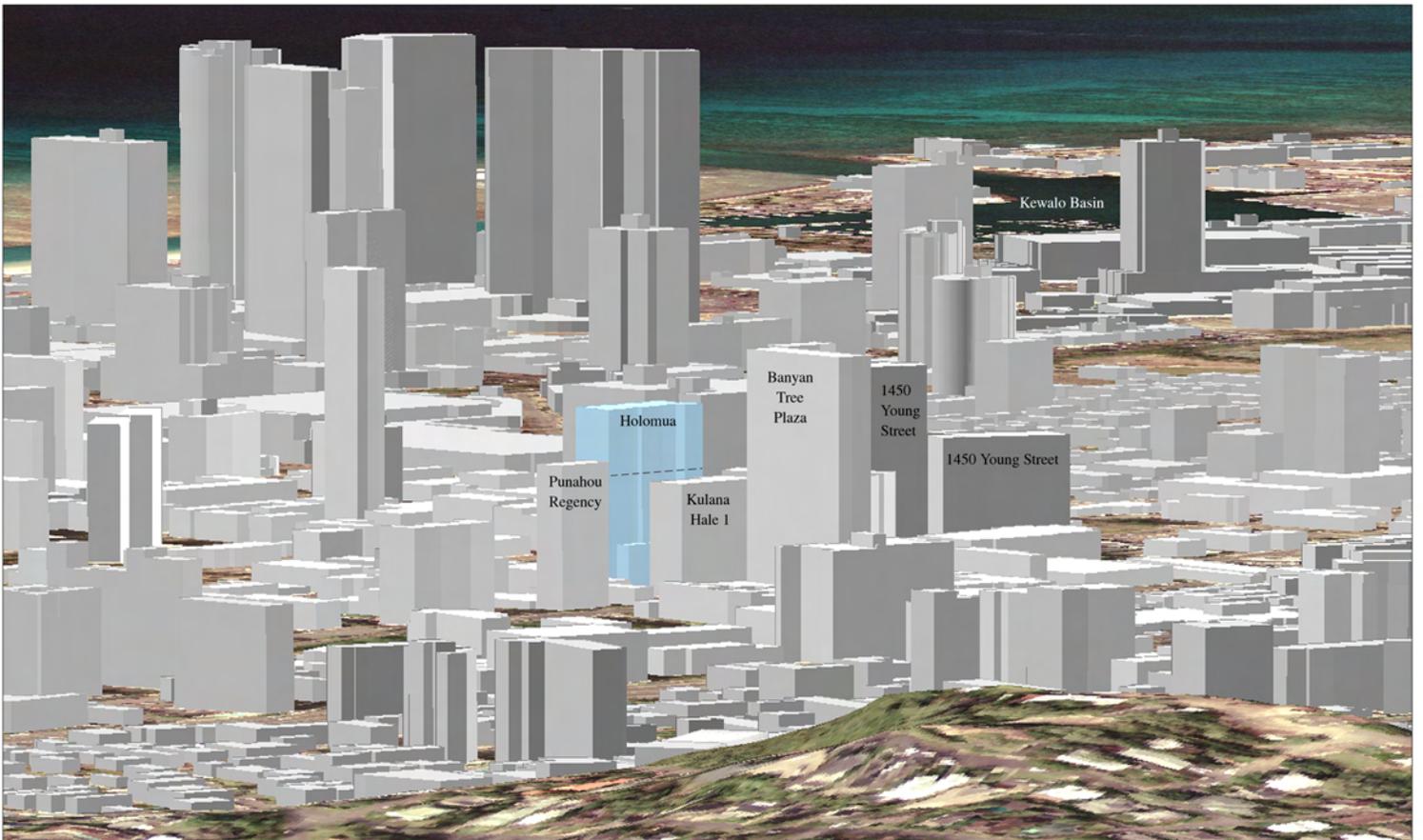
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NORTH



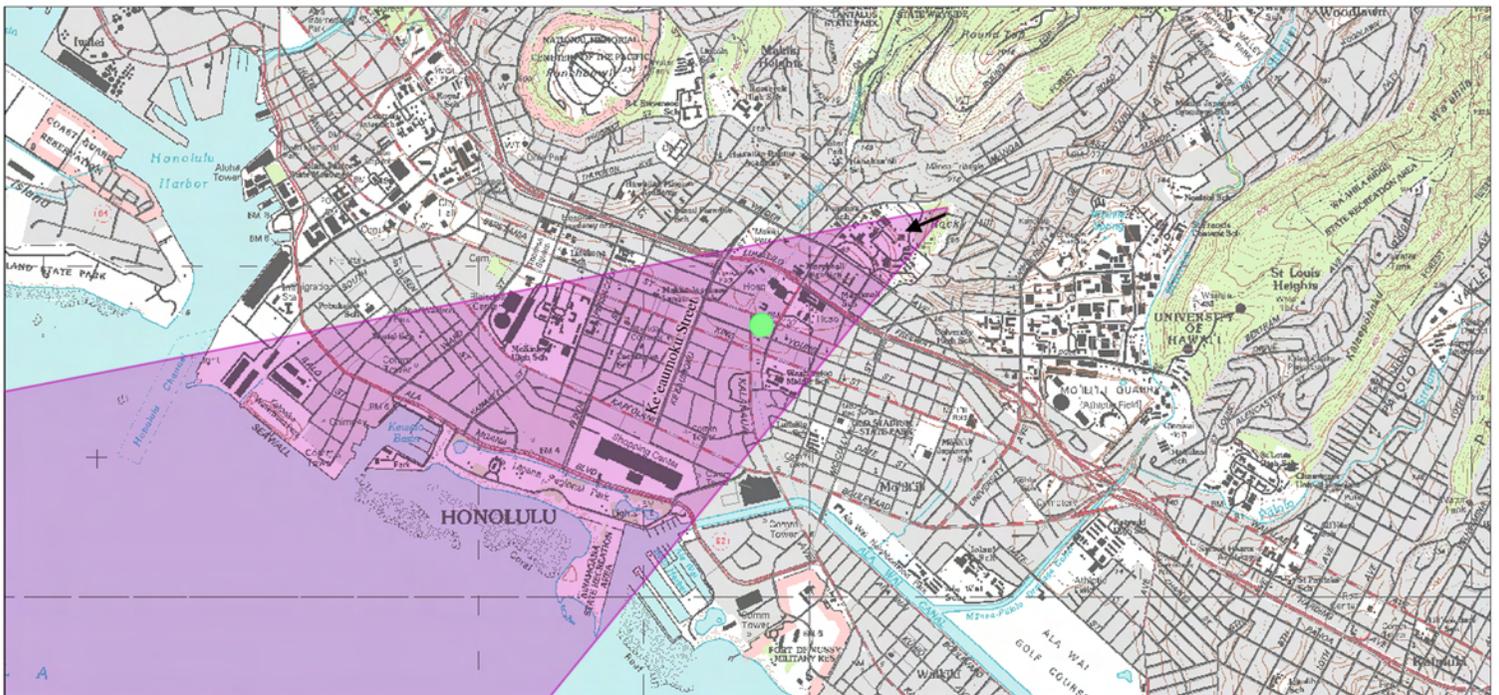
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ISLAND OF O‘AHU





The proposed Holomua building viewed from Mānoa Valley, looking southwest toward Kewalo Basin.



Map Key Legend

- Holomua Location
- Southwest Viewshed

Figure 13c

3D Viewshed Analysis - Southwest View

# Holomua

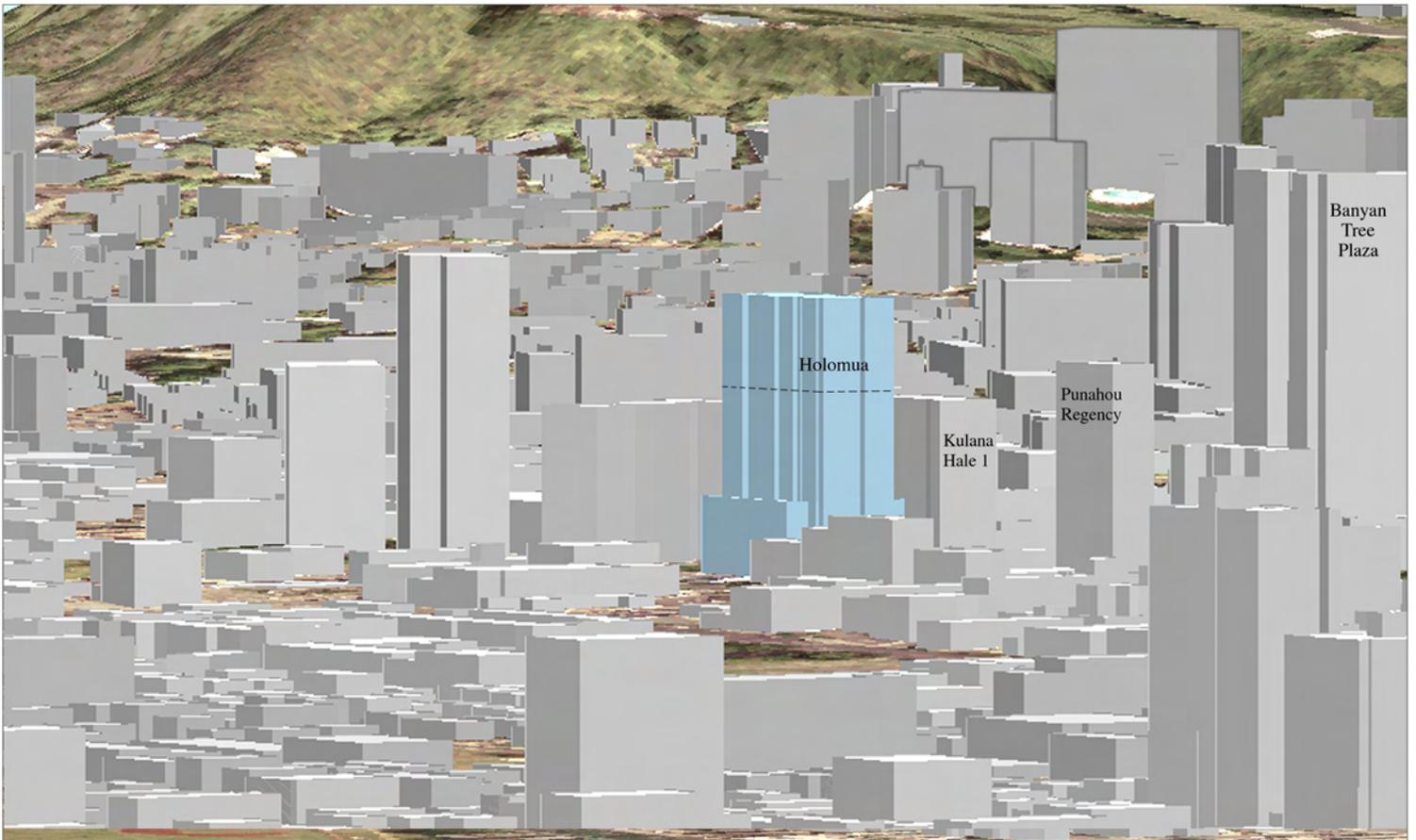
THM Partners LLC

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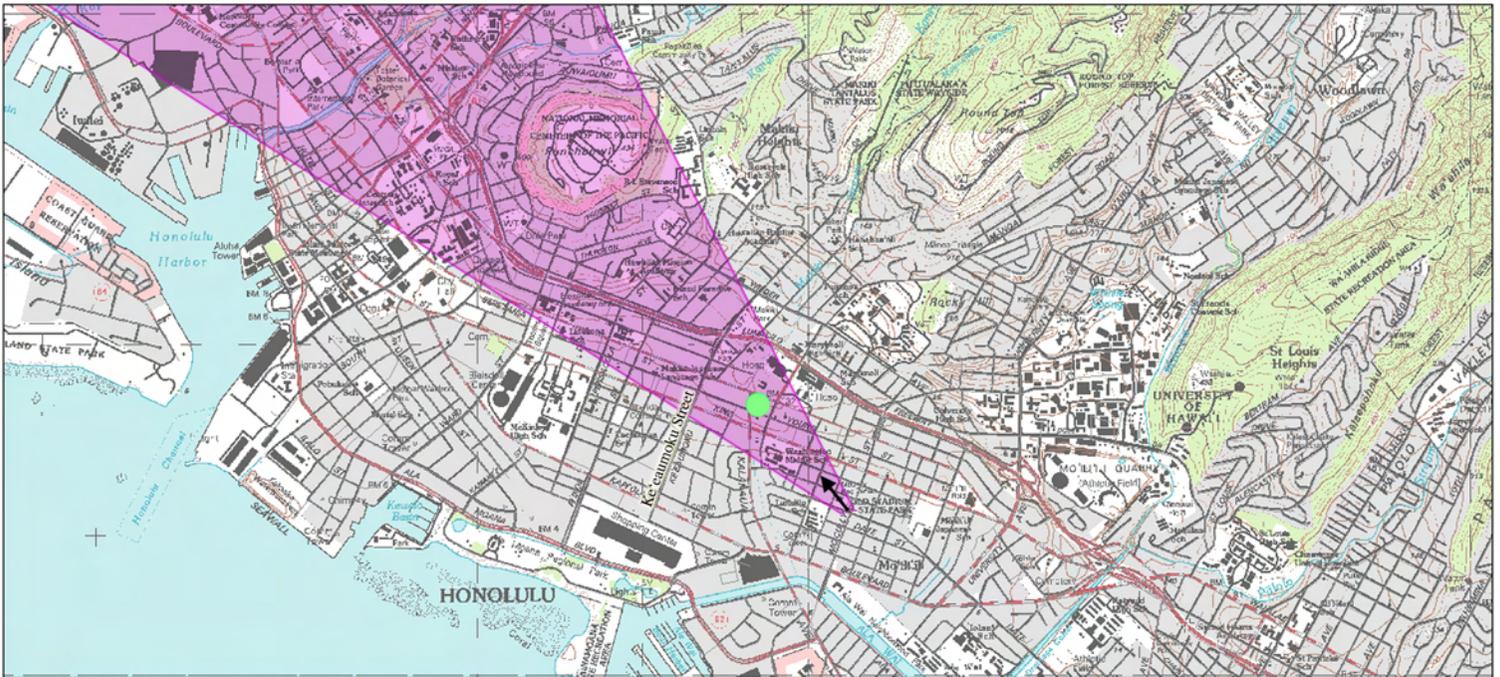


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The proposed Holomua building viewed from the vicinity of the McCully Street and Citron Street intersection, looking northwest toward Punchbowl Crater.



Map Key Legend

- Holomua Location
- Northwest Viewshed

Figure 13d  
3D Viewshed Analysis - Northwest View

# Holomua

THM Partners LLC  
NORTH

ISLAND OF O'AHU



NOT TO SCALE



Disclaimer: This exhibit has been prepared for general planning purposes only.  
Source: U.S. Geological Survey

## HOLOMUA

### FINAL ENVIRONMENTAL ASSESSMENT

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Partners LLC plans to ask for an exemption, through the 201H process, from the height restriction. The additional height requested (70 feet, for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet); and 1450 Young Street (226 feet). See Figure 12 for a comparison of neighboring building heights.

The scale of Holomua is similar of that previously approved for the site by the City and County of Honolulu (Resolution 97-341, CD1) for Kulana Hale II, a 16-story, 162 unit affordable elderly housing development. Kulana Hale II was granted exemptions for height (166 feet) and density. While Kulana Hale II would have been lower in height than Holomua, it would have been similar in density (162 units vs. 176 units for Holomua). This similar density at lower height was achieved because the Kulana Hale II units would have been much smaller than the Holomua units.

In the end, Kulana Hale II was never built because it was not financially viable, despite the exemptions granted and the strong demand for affordable housing in Honolulu. The Kulana Hale II developer eventually sold the property to the current owner, KRC Partners LLC. The applicant, THM Partners LLC (an affiliate of KRC Partners LLC) has now designed Holomua to address current financial realities, such as the cost of land in urban Honolulu and current building material and construction costs.

Holomua will be an infill development, surrounded by a mixture of commercial, residential, and mid to high-rise apartments. As illustrated in Figure 12, there are a number of other high-rise buildings in close proximity to Holomua, some of which exceed 200 feet in height. To evaluate Holomua's visual impact, a viewshed analysis has been prepared (see Figure 13). When viewed in context with surrounding buildings, Holomua does not appear incongruous in height or mass. Nor does Holomua significantly impair panoramic views of natural features such as Diamond Head, Punchbowl, or the urban skyline.

Regarding views from neighboring buildings, Holomua is designed as a residential tower atop a parking structure pedestal. The residential tower walls (including the north wall facing Kulana Hale) are setback from the parking structure and are articulated with jogs, building insets, windows, and lanais. This allows 30 to 40 feet between Holomua and the closest neighboring building (Kulana Hale) from the 9<sup>th</sup> floor up.

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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### **3.12 SOCIO-ECONOMIC CHARACTERISTICS**

#### **3.12.1 Community Profile**

The Makiki/Lower Punchbowl/Tantalus neighborhood (defined by the City as Neighborhood Board No. 10 District) extends from the east side of the Pauoa Valley, across the H-1 Freeway at Punahou Street, makai to King Street, and from King Street to Ward Avenue mauka to the H-1 Freeway, Pele Avenue to the east rim of Punchbowl Crater and onward mauka to encompass Tantalus. The Holomua site is located within the Subdistrict 2 which contains Kīna‘u, Lower Makiki and Kewalo, characterized by a mix of uses including multi-family mid-rise and high-rise housing, retail and institutional/educational facilities.

The Makiki neighborhood is a primarily residential community, with economic facilities mostly limited to neighborhood stores, small offices, restaurants, and other facilities serving community residents and University students, faculty, and staff. The lower Makiki area, makai of the H-1 Freeway, contains a greater proportion of the neighborhood’s commercial uses with housing consisting primarily of mid-rise and high-rise structures.

The City DPP compiled *Community Profiles: General Demographic Characteristics of Neighborhoods (1990-2000)* based on 1990 and 2000 U.S. Census files. In 2000, the population of O‘ahu was 876,156; the population for the Makiki Neighborhood Area was 30,145.

In comparison to O‘ahu as a whole (see Table 2), the Makiki Neighborhood Area population is generally older; has a racial mix with proportionately more Asians than other races; has a lower proportion of family households; has proportionately lower homeownership rates and greater vacancy rates.

#### ***Potential Impacts and Mitigation Measures***

Holomua will have a socio-economic benefit by addressing affordable housing demand in Honolulu. In particular, Holomua will increase the opportunity for homeownership in a neighborhood with relatively low homeownership rates. According to the market analysis prepared for Holomua (see Appendix B), a deficit in housing supply is projected relative to demand. Therefore, the provision of housing, and particularly affordable housing, is a benefit to the Makiki Neighborhood and larger O‘ahu housing market. The market analysis further projects that there are some 33,000 households on O‘ahu that could qualify for the affordable units at Holomua.

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

Holomua will supply 176 new multi-family residential units. This represents a one percent increase to the existing inventory of 16,368 units (2000 Census data). A minimum 51 percent of the units will be priced to be affordable to households earning 140 percent or less of the HUD median income for O’ahu.

Holomua is compatible with the existing character of this mixed use neighborhood and surrounding multi-family developments.

**Table 2. Demographic Characteristics: 2000**

Subject	Makiki Neighborhood #10		O’ahu	
	Number	Percent	Number	Percent
<b>TOTAL POPULATION</b>	30,145	100.0	876,156	100.0
<b>SEX AND AGE</b>				
Female	15,760	52.3	435,638	49.7
Male	14,385	47.7	440,518	50.3
Under 5 years	1,260	4.2	56,849	6.5
5-17 years	3,205	10.6	175,175	20.0
18-64 years	20,354	67.5	526,395	60.1
65 years and over	5,326	17.7	117,737	13.4
Median age (years)	41		35.7	-
<b>RACE</b>				
White	6,563	21.8	186,484	21.3
Black or African American	340	1.1	20,619	2.4
American Indian and Alaska Native	60	.2	2,178	0.2
Asian	16,321	54.1	403,371	46.0
Native Hawai’ian and other Pacific Islander	1,862	6.2	77,680	8.9
Other/two or more races	4,702	15.6	185,824	21.2
<b>HOUSEHOLD BY TYPE</b>				
Total Households	14,998	100.0	286,450	100.0
Family households (families)	6,895	46.0	205,672	71.8
• With own children under 18 years	2,671	17.1	91,022	31.8
Married-couple family	4,793	32.0	156,195	54.5
• With own children under 18 years	1,644	11.0	70,442	24.6
Female householder, no husband present	1,520	10.1	35,138	12.3
• With own children under 18 years	712	4.7	15,235	5.3
Non-families	8,103	54.0	80,778	28.2
• Living with non-relatives	1,599	10.7	18,815	6.6
• Living alone; 65 years and over	1,879	12.5	20,021	7.0
Average household size	1.97	-	2.95	-

**HOLOMUA  
FINAL ENVIRONMENTAL ASSESSMENT**

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Subject	Makiki Neighborhood #10		O'ahu	
	Number	Percent	Number	Percent
<b>HOUSING OCCUPANCY AND TENURE</b>				
Total Housing Units	16,368	100.0	315,988	100
Occupied units	14,998	91.6	286,450	90.7
• By owner	5,856	35.8	156,290	49.5
• By renter	9,142	55.9	130,160	41.2
Vacant units	1,370	8.4	29,538	9.3
Available housing vacancy rate (%)	5.7	-	4.9	-
Homeownership rate (%)	39.0	-	54.6	-

### 3.12.2 Economy

The Makiki Neighborhood, particularly makai of the H-1 Freeway is characterized by a mix of uses including high-rise housing, neighborhood stores, small offices, restaurants, and other facilities serving community residents and University students, faculty and staff.

According to the 2000 Census data, median household income for Makiki Neighborhood Area was \$37,818, which is significantly lower than the median household income of \$52,280 for O'ahu.

#### *Potential Impacts and Mitigation Measures*

Holomua will provide needed affordable housing in an urban neighborhood, where median housing income is significantly below the island-wide median.

Holomua will provide short-term construction jobs and is expected to stimulate economic activity in the surrounding neighborhood as Holomua residents patronize nearby stores, restaurants, and other neighborhood businesses. Holomua will also provide direct long-term, employment for a resident manager and landscape and maintenance personnel.

Tax revenues will be generated by the short-term construction work and also modest revenues by the long-term employment and secondary service industry jobs that support the increase in population. Holomua will also increase property tax revenues relative to the current vacant condition of the site.

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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### **3.13 INFRASTRUCTURE**

Engineering Dynamics Corporation has evaluated availability of public infrastructure and a Site Infrastructure Assessment is attached as Appendix H .

#### **3.13.1 Water**

The Board of Water Supply (BWS) owns and maintains the water system that serves the area. Records at BWS, Engineering Maintenance Unit, indicate there are existing 8-inch water mains located along the westerly side of Kalākaua Avenue and the southerly side of Young Street.

#### *Potential Impacts and Mitigation Measures*

Average daily water demand for Holomua is estimated to be 52,800 gallons per day (GPD). Initial contacts with BWS Customer Care Division indicate adequate capacity to serve Holomua.

Approval from BWS to connect to the water system will be requested during the building permit process. Holomua will be subject to Cross-Connection Control and Backflow Prevention requirements prior to approval of the building permit.

To conserve water within Holomua, THM Partners, LLC will implement water conservation strategies to reduce consumption, conserve resources, and minimize water demands. The goal is to reduce the total water requirements through a combination of water saving equipment and strategies. Water efficiency measures may include:

- Low-flow fixtures and devices, including low-flow toilets.
- Climate-adapted native and other appropriate plants for landscaping as practical.
- Encouraging individual homeowners to maintain fixtures to prevent leaks.

#### **3.13.2 Wastewater**

The area is currently serviced by the existing wastewater system owned and maintained by the City. Comments from City and County of Honolulu Department of Design and Construction indicate that a sewer connection application is required with the Department of Planning and Permitting, Wastewater Branch, to determine adequacy of

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

---

existing sewer lines. The sewer connection application was filed and approved on April 3, 2008 by the Wastewater Division.

*Potential Impacts and Mitigation Measures*

Sewer connection for 176 units was approved on April 3, 2008 by the City and County of Honolulu Department of Planning and Permitting, Wastewater Branch. The applicant will continue to work with the City Wastewater Branch, Inspection Section and/or State DOH to maintain proper operation of the system and to mitigate potential interruptions of existing wastewater service that may occur.

**3.13.3 Drainage**

Stormwater surface runoff from the Holomua site is generally directed toward the Kalākaua Avenue gutter where it continues through the public system, ultimately to the Ala Wai canal.

*Potential Impacts and Mitigation Measures*

The site formerly contained a commercial structure, with all exterior areas paved in A/C pavement, rendering it completely impervious. Construction of Holomua will not create any additional impervious surface area than under prior development conditions. During construction activities, best management practices will be employed to ensure that sediment does not enter the storm sewer system. To that end, a silt fence will be installed around the construction site and sediment filters will be installed at existing downstream catch basins. The construction access will include a crushed rock drive so that trucks and equipment do not track dirt/debris into Kalākaua Avenue. New sediment filters will be installed on site and a small landscape area at the front of the building will allow for additional infiltration of stormwater.

**3.13.4 Solid Waste**

On O'ahu, most residential and general commercial trash is disposed of at H-POWER (Honolulu Program of Waste Energy Recovery), the City's waste-to-energy plant located at Campbell Industrial Park. The facility processes over 600,000 tons of solid waste annually, reducing the volume of solid waste going into landfills by 90 percent. H-POWER also generates about seven percent of O'ahu's electricity. The electricity generated is bought under a purchase power agreement with HECO. Ash and non-processibles are transported and buried at the Waimānalo Gulch Landfill.

## HOLOMUA FINAL ENVIRONMENTAL ASSESSMENT

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The Waimānalo Gulch Landfill is located on the western side of O’ahu. The land is owned by the City and the landfill is operated by Waste Management, Inc. The landfill accepts ash and residue from the H-POWER waste-to-energy facility, industrial wastes, and non-combustible construction and demolition debris.

### *Potential Impacts and Mitigation Measures*

A solid waste management plan will be prepared in accordance with guidelines provided by the City Department of Facility Maintenance. All waste generated by Holomua will be disposed of in a manner and at appropriate sites designated by the City.

Holomua will comply with applicable requirements of the State DOH and the City Department of Facility Maintenance. Holomua will also comply with the program goals and objectives of the Integrated Solid Waste Management Act, Chapter 342G, HRS, and the City’s approved integrated solid waste management plans.

Waste generated by site preparation will primarily consist of vegetation, rocks, and debris from clearing, grubbing, and grading. Soil and rocks displaced from grading and clearing will be used as fill within the site as needed. Construction waste will consist of waste lumber, concrete, and other building materials.

During construction, a job-site waste management and recycling program will be implemented to maintain a clean construction site, maximize material recycling, and minimize disposal truck traffic impacts. This recycling program will incorporate the “Three Rs” of effective construction waste management:

- Reduce: by preventing waste before it happens through efficient design.
- Reuse: by using materials removed during demolition (such as rocks and concrete) on site.
- Recycling: by separating recyclable materials from non-recyclable materials and supplying these recyclable materials to a recycler for use as new products.

Construction materials that cannot be recycled will be disposed of in the Waimānalo Gulch Landfill.

After construction Holomua will contain a centralized trash chute for solid waste disposal from each floor. Provisions for recycling, such as collection systems and space for bins for recyclables, will be incorporated into the ground floor trash room. A

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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private refuse company will be contracted to haul away solid waste that cannot be recycled.

### **3.13.5 Electrical & Communications**

Hawaiian Electric Company (HECO) has existing power lines serving this area. Existing overhead electrical lines and power poles are located within the vicinity of the project area frontage along Kalākaua Avenue.

An existing telecom box is located within the sidewalk also fronting Kalākaua Avenue.

#### *Potential Impacts and Mitigation Measures*

To reduce energy consumption, THM Partners, LLC will consider implementing elements of the United States Environmental Protection Agency (EPA) ENERGY STAR Program in the design of Holomua. Energy conservation measures may include:

- Energy efficient lighting and appliances
- High efficiency compact fluorescent lighting
- Effective insulation
- High performance, energy efficient windows
- Tight construction
- Efficient cooling equipment, and.
- Maximum use of day lighting.
- Exceeding Model Energy Code requirements.

THM Partners LLC will coordinate with HECO and franchise utilities regarding electrical and communications infrastructure to support Holomua.

## **3.14 PUBLIC SERVICES**

### **3.14.1 Schools**

The Holomua site is located in the State Department of Education (DOE)'s Honolulu District, and is served by Queen Ka'ahumanu Elementary School, Washington Middle School, and McKinley High School.

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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Queen Ka'ahumanu Elementary School is located at 1141 Kīna'u Street, approximately 0.7 miles northwest of the Holomua site.

Washington Intermediate School is located at 1633 S. King Street, approximately 1,000 feet southeast from the Holomua site.

McKinley High School is located at 1039 S. King Street, approximately 0.8 miles west of the project site.

Current school enrollment and capacity for the three schools are listed below in Table 3.

**Table 3. Public School Capacity and Enrollment**

<b>School</b>	<b>Capacity 2006-2007</b>	<b>Enrollment 2007-2008</b>	<b>Projected Enrollment 2010-2011</b>
Queen Ka'ahumanu Elementary School	670	566	551
Washington Intermediate School	1,158	1,032	844
McKinley High School	2,152	1,857	1,757

Source: Department of Education, 2008.

***Potential Impacts and Mitigation Measures***

Based on multipliers provided by DOE, it is estimated that Holomua will have 31 elementary, 8 middle, and 10 high school students. As shown in Table 3 above, the public schools will have the capacity to accommodate Holomua's estimated student population growth.

In 2007, the State Legislature passed a law establishing school impact fees (See HRS Section 302A-1601 et. seq). Under this new law, it is possible that Holomua may be located in a geographic area subject to an impact fee. However, since adequate capacity exists at local schools to accommodate potential students residing at Holomua, no adverse impact to schools is expected.

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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**3.14.2 Police**

Police protection is provided by the Honolulu Police Department (HPD). HPD headquarters (Alapa'i Headquarters) is located at 801 South Beretania Street.

*Potential Impacts and Mitigation Measures*

In their pre-consultation letter the Honolulu Police Department stated "This project should have no significant impact on the facilities or operations of the Honolulu Police Department." However, due to its residential use, there may be an occasional demand for police services at Holomua. Holomua will have its own on-site security system. The Police Department will be notified when the construction phase begins so they may anticipate an increase in calls for service to the area because of traffic complications. As such, mitigation measures will be implemented to minimize construction-related traffic.

**3.14.3 Fire**

The Pawa'a Fire Station (Station 2) on Makaloa Street provides primary response to this area in case of an emergency.

*Potential Impacts and Mitigation Measures*

There may be an occasional demand for firefighting services. To mitigate potential structural fires, Holomua will be equipped with modern fire control devices, and access for fire apparatus, water supply, and building construction will be in conformance with existing codes and standards. Fire apparatus access will be provided in compliance with Uniform Fire Code (UFC) Section 902.2.1. Adequate water supply exists (see Section 3.12.1). On-site fire protection will include fire hydrants or fire department connections (FDC) located within the parking area and an automatic fire sprinkler system within the building. Civil engineering drawings will be submitted to the Fire Department for review.

**3.14.4 Medical Facilities**

Several healthcare facilities in Honolulu provide primary patient care to adults and children. The nearest hospital that provides 24-hour emergency service is Straub Clinic & Hospital at 888 South King Street. The hospital is approximately five minutes from the McCully Fire Station by ambulance. Also near the project site, the Kapi'olani

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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Medical Center for Women & Children at 1319 Punahou Street has a 24-hour pediatric emergency room.

*Potential Impacts and Mitigation Measures*

Holomua is not expected to significantly increase the need for emergency service, and is not expected to have a long-term adverse impact on emergency medical providers or their ability to service the community. There may be an unavoidable and occasional need for emergency health care services by residents of Holomua.

**3.14.5 Recreational Facilities**

There are numerous recreational facilities in Honolulu. The well-known Waikiki beach parks, Kapi'olani Park, Kewalo Basin, Kaka'ako Waterfront Park, Ala Wai Boat Harbor, Mount Tantalus, and Diamond Head State Park are located within a three-mile radius of the project site.

The following public recreational facilities are located within convenient walking distance (less than one mile) from the Holomua site.

- Ala Moana Regional Park, 1201 Ala Moana Boulevard
- Ala Wai Community Park, 2015 Kapi'olani Boulevard
- Ala Wai Promenade, 1828 Kalākaua Avenue
- Cartwright Neighborhood Park, 1314 Makiki Street
- Makiki District Park, 1527 Ke'eaumoku Street
- McCully District Park, 831 Pumehana Street
- Mō'ili'ili Neighborhood Park, 1115 Isenberg Street
- Old Stadium Park, 2237 King Street
- Pawa'a Park, Young Street at Kaheka Street
- Sheridan Community Park, 833 Pi'ikoi Street
- Stevenson Recreation Center, 1202 Prospect Street
- Thomas Square, 1102 Victoria Street

*Potential Impacts and Mitigation Measures*

THM Partners LLC seeks an exemption to park dedication requirements (Chapter 22, Article 7, Revised Ordinances of Honolulu) through the 201H process. Comments from City and County of Honolulu Parks and Recreation suggest incorporation of on-site

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

---

recreational facilities into the project design. As Holomua is an affordable housing project, the on-site amenities proposed are limited, to both hold the purchase price down as well as limit maintenance fees for residents. However, to provide community gathering space, an activity room will be provided for Holomua residents. The activity room will measure approximately 1,196 square feet in area, contain cooking facilities and furnishings typical of a community center. To provide public/pedestrian amenities, benches will be provided in the ground level yard adjacent to the Kalākaua Avenue sidewalk.

HOLOMUA  
FINAL ENVIRONMENTAL ASSESSMENT

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## 4.0 LAND USE CONFORMANCE

### 4.1 STATE OF HAWAI'I

#### 4.1.1 State Land Use Law (Chapter 205, Hawai'i Revised Statutes)

The Holomua site is located within the State Urban District, and Holomua is consistent with the uses allowed in this district.

### 4.2 CITY AND COUNTY OF HONOLULU

#### 4.2.1 General Plan

The General Plan for the City establishes long-range objectives and policies for the general welfare of the public and, together with the City Charter, provides a direction and framework to guide the programs and activities of the City.

The General Plan directs most of the growth in residential population and jobs to the Primary Urban Center (PUC) and Ewa to achieve the City's overall strategy to maintain a compact urban core. The proposed project will support this strategy by providing additional residential units within the PUC.

The proposed project is in accordance with the following General Plan policies:

#### *I. POPULATION*

*Objective C: To establish a pattern of population distribution that will allow the people of Oahu to live and work in harmony.*

*Policy 1: Facilitate the full development of the primary urban center.*

**Discussion:** Holomua is located within the Primary Urban Center (PUC). Housing that is affordable and centrally located is important to ease the burden on transportation systems, and contributes to a vibrant, 24-hour city.

#### *IV. HOUSING*

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

## HOLOMUA FINAL ENVIRONMENTAL ASSESSMENT

---

- 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 5: Make full use of State and Federal programs that provide financial assistance for low- and moderate-income homebuyers.*
- 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 3: Encourage residential development near employment centers.*
- Policy 4: Encourage residential development in areas where existing roads, utilities, and other community facilities are not being used to capacity.*

**Discussion:** A minimum 51 percent of the Holomua units will be priced to be affordable to households earning 140 percent or less of the HUD median income for Honolulu. (see Section 2.2.2). The remaining units will be priced as moderately-priced market rate housing.

Holomua will increase the inventory of residential condominiums in the PUC, near employment, recreation, and commercial centers. Holomua will be integrated with the existing roadway and utility system in the immediate vicinity, and will not require the development of new roadways or off-site infrastructure.

### VII. PHYSICAL DEVELOPMENT AND URBAN DESIGN

- Objective A: To coordinate changes in the physical environment of Oahu to ensure that all new developments are timely, well- designed, and appropriate for the areas in which they will be located.*
- Policy 2: Coordinate the location and timing of new development with the availability of adequate water supply, sewage treatment, drainage, transportation, and public safety facilities.*
- Policy 5: Provide for more compact development and intensive use of urban lands where compatible with the physical and social character of existing communities.*
- Policy 6: Encourage the clustering of developments to reduce the cost of providing utilities and other public services.*
- Policy 9: Exclude from residential areas, uses which are major sources of noise and air pollution.*
- Objective B: To develop Honolulu (Waialae-Kahala to Halawa), Aiea, and Pearl City as the Island's primary urban center.*

## HOLOMUA FINAL ENVIRONMENTAL ASSESSMENT

---

- 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.*
- Policy 4: Provide downtown Honolulu and other major business centers with a well-balanced mixture of uses.*
- Policy 5: Encourage the development of attractive residential communities in downtown and other business centers.*
- Objective E: 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 5: Require new developments in stable, established communities and rural areas to be compatible with the existing communities and areas.*
- Policy 6: Provide special design standards and controls that will allow more compact development and intensive use of lands in the primary urban center.*

**Discussion:** Holomua is consistent with policies to promote development in the PUC. Holomua will be compatible with the neighboring mid- and high-rise residential developments. By design, Holomua is also consistent with the policy to provide for more compact development and intensive use of urban lands. Holomua will contribute residents to an already vibrant, mixed-use neighborhood through the addition of affordable and attractive housing.

### 4.2.2 Primary Urban Center Development Plan

The City Department of Planning and Permitting (DPP) has established Development/Sustainable Communities Plans for eight geographic regions that include all areas of O’ahu. These community-oriented plans are intended to help guide public policy, investment, and decision-making through the 2025 planning horizon. Holomua is located within the Primary Urban Center (PUC).

The PUC Development Plan Land Use Map designates the Holomua site as District Commercial (Figure 9) and describes this land use as the following (Section 3.2.2.4 Shopping and Retail Business Districts, page 3-26):

***District Commercial.** District Commercial includes a wide variety of commercial uses located in the core areas of the Primary urban Center. These districts typically have larger facilities and serve larger populations than community/neighborhood commercial*

## HOLOMUA

### FINAL ENVIRONMENTAL ASSESSMENT

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*districts. They may include major office buildings, shopping centers, and older commercial streets that serve a district-wide, regional or island wide population. Mixed uses, medium to higher density residential uses where appropriate, and higher densities are encouraged in these areas. Downtown should have the tallest buildings on Oahu. In other areas, maximum building heights should be established on the basis of viewplane studies to preserve views of natural landmarks.*

**Discussion:** Holomua, a high-density residential facility, is consistent with this designation.

Holomua is in accordance with the following PUC Development Plan policies (page 3-36):

#### *3.3 In-Town Housing Choices*

##### *3.3.2 Policies*

*The following policies are intended to promote housing choices in livable in-town neighborhoods that are planned for higher-density residential and mixed uses.*

- Provide incentives and cost savings for affordable housing. Provide exemptions from zoning and building codes for housing projects that meet established standards of affordability, on a case-by-case basis.*
- Provide for high-density housing options in mixed-use developments around transit stations. This type of “transit-oriented development” facilitates transit use and allows for increased densities without generating increased vehicular congestion.*

**Discussion:** A minimum 51 percent of the Holomua units will be priced to be affordable to households earning 140 percent or less of the HUD median income for Honolulu. (see Section 2.2.2). The remaining units will be priced as moderately-priced market rate housing.

Holomua is located near major bus stops at the intersections of Kalākaua Avenue/Beretania Street and Kalākaua Avenue/King Street. Holomua’s proximity to local services and easy access throughout the city via transit is consistent with housing choice policies set forth by the City.

#### **4.2.3 City & County Land Use Ordinance**

All lands within the City and County are zoned into specific districts. According to the Department of Planning and Permitting, the project site is zoned Community Business Mixed Use (BMX-3). According to Sec. 21-3.120 of the Land Use Ordinance (LUO):

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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*The purpose of the business mixed use districts is to recognize that certain areas of the city have historically been mixtures of commercial and residential uses, occurring vertically and horizontally and to encourage the continuance and strengthening of this pattern. It is the intent to provide residences in very close proximity to employment and retail opportunities, provide innovative and stimulating living environments, and reduce overall neighborhood energy consumption.*

**Discussion:** Holomua is consistent with the purpose of this zoning designation. Because Holomua is also proposed under the provisions of 201H, exemptions will be sought to the LUO. These exemptions will be requested so as to make the project financially viable, keep unit prices affordable, and limit maintenance fees for the eventual residents. Proposed exemptions are discussed in Chapter 5.

### 4.3 APPROVALS AND PERMITS

**Table 4. Approvals and Permits Summary**

<b>Permit/Approval</b>	<b>Responsible Agency</b>
Chapter 201H, HRS	State HHFDC/ Honolulu City Council
Chapter 343, HRS	State HHFDC
Americans with Disability Act (ADA) Accessibility Requirements	Disability and Communication Access Board
Conditional Use for Joint Development	Department of Planning and Permitting
Building Permit for building, electrical, plumbing, sidewalk/driveway, and demolition work (variance for Building Permit when work is done in setback areas)	Department of Planning and Permitting
Grubbing, Grading, and Stockpiling Permit	Department of Planning and Permitting
Sewer Connection Permits	Department of Planning and Permitting
Water Connection	Board of Water Supply
Water Quality	State Department of Health

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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## **5.0 201H APPLICATION AND EXEMPTIONS**

### **5.1 INTRODUCTION**

Hawaii Revised Statutes (HRS) Section 201H-38, "Housing development; exemption from statutes, ordinances, charter provisions, and rules" allows for eligible 201H projects to seek exemptions from all statutes, ordinances, and rules of any governmental agency relating to planning, zoning, and construction standards that do not negatively affect the health and safety of the general public in exchange for providing affordable housing.

Holomua will offer for sale condominium units centrally located in urban Honolulu. At least 51 percent of the units will meet the affordability requirements of the 201H program in that they will be priced to be affordable to households earning 140 percent or less of the HUD median income for Honolulu. Based on the HUD median income for Honolulu and the Affordable Sales Guidelines prepared by HHFDC, assuming a six percent interest rate with a five percent down payment, Holomua's affordable units would be priced no more than \$354,700 for a one-bedroom unit and no more than \$399,000 for a two-bedroom unit.

Below is a detailed description of the exemptions being requested for Holomua. A summary of requested exemptions is also included following the detailed description. The exemptions requested below are required to maintain the financial feasibility of Holomua. The primary goal is to maximize the number of units on the site reducing the overall development cost on a per unit basis. This in turn achieves THM Partners LLC and the State of Hawai'i's joint goal of maximizing the number of affordable homes delivered to the public in an attractive and efficient building situated in a prime urban location located in close proximity to major employment centers and public transportation opportunities.

### **5.2 REQUESTED EXEMPTIONS**

#### Zoning

#### Exemption from Revised Ordinances of Honolulu, Land Use Ordinance Section 21-3.120-2(b) [Table 21-3.4], Business Mixed Use Districts and Development Standards

- An exemption from Land Use Ordinance Sec. 21-3.120-2(b) [Table 21-3.4] is sought to allow Holomua to exceed the current allowable maximum height of 150 feet. Holomua consists of a single structure which may be as high as 220 feet.

## HOLOMUA

### FINAL ENVIRONMENTAL ASSESSMENT

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This additional height should not significantly impact the immediate neighborhood. There are a number of other high-rise buildings in close proximity to Holomua, some of which exceed 200 feet in height. Further, Holomua has a relatively small overall building footprint of only 9,100± square feet.

- An exemption from Land Use Ordinance Sec. 21-3.120-2(b) [Table 21-3.4] is sought to allow Holomua to exceed the maximum allowable density (FAR) of 2.5 (maximum 3.5 with bonuses) which allows a maximum building floor area of 53,348 square feet (74,687 square feet with bonuses). Holomua will have a building floor area of up to 160,000 square feet which equals a density (FAR) of 7.50. This density is necessary to achieve required economies of scale to maintain the financial feasibility of the affordable nature of Holomua.
- An exemption from Land Use Ordinance Sec. 21-3.120-2(b) [Table 21-3.4] is sought to allow the parking levels of Holomua to encroach into the required 10-foot side yard setback by about 10 feet along the north side and between 0 to 5 feet along the southerly side of the property. The residential tower located on top of the parking structure will not encroach into the side yard setback areas.
- An exemption from Land Use Ordinance Sec. 21-3.120-2(b) [Table 21-3.4] is sought to allow the parking levels of Holomua to encroach into the required 10-foot rear yard setback by about 10 feet for a distance of 27 feet and another 5 feet for a distance of about 37 feet. The residential tower located on top of the parking structure will not encroach into the rear yard setback area.
- An exemption from Land Use Ordinance Sec. 21-3.120-2(b) [Table 21-3.4] is sought to allow a loading space of Holomua to encroach into the required 10-foot side yard setback by about 10 feet along the north side of the property.

#### Exemption from Revised Ordinances of Honolulu, Land Use Ordinance Section 21-3.120-2(5) (A), Street Setbacks

- An exemption from Land Use Ordinance Sec. 21-3.120-2(5)(A) is sought to allow a 60 foot high and 30 foot wide section at the top of Holomua to encroach into the street setback area.

#### Exemption from Revised Ordinances of Honolulu, Land Use Ordinance Section 21-6.20 [Table 21-6.1], Off-street Parking Requirements

- An exemption from Land Use Ordinance Sec. 21-6.20 [Table 21-6.1] is sought to allow for less than the minimum required off-street parking spaces. The requirement is to provide 232 resident and 18 guest parking stalls for a total of 250 stalls.<sup>1</sup> While the current design provides for 245 parking stalls, slightly

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<sup>1</sup> Parking calculations from ROH, LUO Sec. 21-6.20 [Table 21-6.1] based on floor area of dwelling unit: 1 required parking stall per unit of 600 square feet or less; 1.5 required stalls per unit between 601 and 799 square feet; 1 guest parking stall per 10 units. Therefore, 80 units (600 sf or less) x 1 required stall/unit = 80 stalls; 96 units (601 to 799

## HOLOMUA FINAL ENVIRONMENTAL ASSESSMENT

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under the minimum parking requirement, THM Partners LLC requests the option to include a lesser number of 200 resident parking spaces (1.14 stalls/unit) and 11 guest parking stalls for a total of 211 parking stalls if required to make Holomua financially viable. Considering the Holomua's close proximity to bus lines and major employment centers many residents and guests are anticipated to use public transportation, reducing the demand for parking stalls within Holomua.

### Exemption from Revised Ordinances of Honolulu Chapter 22, Article 7, Park Dedication Requirements

- An exemption from the Park Dedication requirements as set forth in Chapter 22, Article 7, Revised Ordinances of Honolulu is sought. The requirement is to provide approximately 16,000 square feet for Holomua.<sup>1</sup> The Holomua site is limited in size and, therefore, has limited land available for park dedication. To provide community gathering space, an activity room will be provided for Holomua residents. The activity room will measure approximately 1,196 square feet in area, contain cooking facilities and furnishings typical of a community center. To provide public/pedestrian amenities, benches will be provided in the ground level yard adjacent to the Kalākaua Avenue sidewalk.

### Exemption from Primary Urban Center (PUC) Development Plan Guidelines

- Scenic Views - An exemption from the PUC Development Plan policies and guidelines as they relate to scenic views (PUC 3.1.1.2; Map A.1; Policy 3.1.2; and Guideline 3.1.3.3) is requested. At an overall height of nearly 220 feet, Holomua may not meet the overall guidelines of the PUC Development Plan. However, it should be noted that there are a number of other high-rise buildings in close proximity to Holomua some of which exceed 200 feet in height. Further, Holomua has a relatively small overall building footprint of only 9,100± square feet. Therefore, it is not anticipated that Holomua will have a significant impact on scenic views outlined in the Development Plan.
- Plazas - An exemption from the PUC Development Plan policies and guidelines as they relate to plazas (PUC Policy 3.1.2; and Guideline 3.1.3.7) is requested. At 21,339 square feet, the Holomua site is relatively small and does not afford the flexibility a larger site would provide in meeting this goal of creating public open space on the property while providing the maximum number of allowable affordable units.

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sf) x 1.5 required stalls/unit = 144 stalls; 80 + 144 stalls equals 224 required resident stalls. 176 units x 1 guest parking per 10 units equals 18 required guest parking stalls.

<sup>1</sup> The Park Dedication requirement is based on 10% of the maximum floor area (160,000 square feet) which equals 16,000 square feet or 176 units x 110 square feet per unit which equals 19,360 square feet, whichever is less.

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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- Maximum Building Heights – An exemption from the PUC Development Plan policies and guidelines as they relate to maximum building heights (PUC Policy 3.2.2.3) is requested.
- Pedestrian Amenities – An exemption from the PUC Development Plan policies and guidelines as they relate to additional pedestrian amenities (PUC Policy 3.2.2.3) is requested.

**Building Permit And Plan Review Fees**

- An exemption from Sections 18-6.1 and 18-6.2, Revised Ordinances of Honolulu is requested, to allow exemption from plan review and building permit fees, estimated at \$2,500 (maximum) and \$170,500±, respectively.

**Public Works/Infrastructure Fees**

- An exemption from ROH, Sec. 14-14.4 is sought to exempt Holomua from grading and grubbing permit fees.
- An exemption from ROH, Sec. 14-12.12 is sought to exempt Holomua from private storm drain connection license fee.
- A deferral from ROH, Sec. 14-10.3 is sought to defer residential wastewater system connection fees and facility charges in the estimated amount of \$605,000 until funding from the construction loan is available and sales of the individual condominium units are closed.
- A deferral from Board of Water Supply Rules and Regulations, Sections 1-102, 2-202(2) and 2-202(3) is sought to exempt Holomua from Water Systems Connection Charges and Facility Charges for resource development, transmission and daily storage until funding from the construction loan is available and sales of the individual condominium units are closed, estimated to be approximately \$270,000.

**5.3 SUMMARY OF REQUESTED EXEMPTIONS**

A summary of requested exemptions is presented on the following page.

**HOLOMUA  
FINAL ENVIRONMENTAL ASSESSMENT**

<b>SUMMARY OF REQUESTED EXEMPTIONS</b>			
<i>Land Use Ordinance</i>			
Item	Pertinent Section	Allowable/Required	Proposed
Building Height	Sec. 21-3.120-2(b) [Table 21-3.4]	150 ft.	220± ft.
Building Floor Area Ratio/Density	Sec. 21-3.120-2(b) [Table 21-3.4]	2.5-3.5 (53,348-74,687 sf)	7.50 (160,000± sf)
Setbacks:			
Side Yard	Sec. 21-3.120-2(b) [Table 21-3.4]	10 ft.	10-ft encroachment of parking garage on North side; 0-ft to 5-ft. encroachment of parking garage on South side; 10-ft encroachment of loading space on North side
Rear Yard	Sec. 21-3.120-2(b) [Table 21-3.4]	10 ft.	10'x27' encroachment and 5'x37' encroachment of parking garage
Street Setback (Height)	Sec. 21-3.120-2(5)(A)	2 to 1 max from centerline of street	60-ft high x 30-ft wide encroachment at top of building
Parking Stalls:	Sec. 21-6.20 [Table 21-6.1]		
Units		232	245/201 (201 if needed financially)
Guest		18	11
Total		250	211

<i>Park Dedication Requirement</i>			
Park Dedication	Chapter 22, Article 7 Revised Ordinances of Honolulu	110sf/unit or 10% Permitted Floor Area = 16,000 sf	None

<i>Primary Urban Center Development Plan</i>			
Scenic Views	PUC 3.1.1.2; Map A-1; Policy 3.1.2; Guideline 3.1.3.3	Exemption is requested as Holomua may not meet guidelines for preservation of scenic views.	
Plazas	PUC Policy 3.1.2; Guideline 3.1.3.7	Exemption is requested as the Holomua site is relatively small and may not meet Development Plan's goals for plazas or public open space.	
Maximum Building Heights	PUC Policy 3.2.2.3	Exemption is requested as Holomua may not meet guidelines for maximum building heights.	
Pedestrian Amenities	PUC Policy 3.2.2.3	Exemption is requested as Holomua may not meet guidelines for pedestrian amenities.	

<i>Permit/Infrastructure Fees &amp; School Impact Fee</i>			
In addition to the exemptions above, the applicant will also be requesting the following:			
<ol style="list-style-type: none"> <li>1. Exemption is requested of Plan Review and Building Permit fees, estimated at \$2,500 and \$170,500, respectively (Sections 18-6.1 and 18-6.2, ROH).</li> <li>2. Deferral is requested from facilities fees charged by Board of Water Supply and Wastewater Branch, estimated at \$270,000± and \$605,000±, respectively.,</li> <li>3. Deferral is requested from wastewater sewer connection and water connection fees (Sections 14-6.1 and 14-6.4, ROH &amp; BWS Rules and Regulations 2-202(2)).</li> <li>4. Exemption is requested from sewer installation charges (ROH, Sec. 14-3.2), grading and grubbing permit fees (ROH, Sec. 14-4.4), private storm drain connection license fee (ROH, Sec. 14-12.12).</li> </ol>			

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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## 6.0 ALTERNATIVES

### 6.1 NO ACTION ALTERNATIVE

The no action alternative would keep the site in its present condition. Given the presence of the vacant dirt lot, this alternative is not considered to be desirable for purposes of health and safety as well as aesthetics. The vacant nature of the lot generally attracts loitering and other undesirable activities. The adjacent commercial building wall has been vandalized with graffiti, and the dirt lot is unsightly and dusty.

### 6.2 ALTERNATIVE SITE DEVELOPMENT CONCEPTS

The Holomua site is limited by the small lot size and allowable uses and development standards pursuant to the City's Land Use Ordinance. Alternative concepts include:

- **Low-rise Multi-family Residential Development** – The cost of redevelopment, when coupled with the tax burden the property bears, cannot be justified by a land use that is significantly less than its highest and best use. In addition, a low-rise multi-family residential building would be inconsistent with the surrounding mid-rise condominiums.
- **Taller Building Form** – A tall, compact residential tower atop a podium parking structure is a typical design solution for high-rise buildings. A taller building form than the one proposed could provide more residential units, but at a much higher cost, especially for additional levels in the parking structure, which would require proportionately greater circulation space.

### 6.3 RETAIL USE ALTERNATIVE

This alternative would limit development on the site to retail/commercial land uses that would compliment the existing retail activities in the area. As with the low-density, low-rise alternative discussed in 5.2, an important consideration is the inability to generate sufficient revenue to justify the land purchase price and development cost.

To maximize revenue from retail, the property would need to be developed to its highest allowable density. Assuming that the property is developed to the allowable Floor Area Ratio (FAR) of 2.5 (~53,347 square feet of retail space), the parking standard

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

---

of one stall for every 800 square feet of retail space would result in 66 parking stalls being required for off-street parking. These stalls would have to be located on-site in a multi-story parking garage, which would have to be built above retail. The construction cost for structured parking is such that lease rates for retail tenants would be well above market lease rates, making the project unfeasible.

## 7.0 DETERMINATION, FINDINGS, AND SUPPORTING REASONS FOR DETERMINATION

### 7.1 SIGNIFICANCE CRITERIA

According to the State DOH, HAR (Section 11-200-12, Significance Criteria), an applicant or agency must determine whether an action may have a significant impact on the environment, including all phases of the project, its expected consequences both primary and secondary, its cumulative impact with other projects and its short- and long-term effects. The HAR establish a “significance criteria” to determine whether significant environmental impacts will occur as a result of a proposed action. An action shall be determined to have a significant impact on the environment if it meets any one of the following criteria:

- (1) *Involves an irrevocable commitment to loss or destruction of any natural or cultural resources;*

The Holomua site, along with the surrounding area, has been extensively modified from its natural state for urban development. Based on site inspections and the results of an archaeological assessment, there are no known historic properties on or near the Holomua site. Similarly, no loss or destruction of any cultural resources or natural resources such as threatened or endangered plant or animal species are expected.

This EA evaluated existing cultural and environmental conditions and determined that no known natural or cultural resources will be lost or destroyed as a result of the proposed action.

- (2) *Curtails the range of beneficial uses of the environment;*

Holomua is consistent with State and City land use designations. Holomua involves the redevelopment of an urban use site with a use consistent with the General Plan, PUC Development Plan, and Land Use Ordinance. The “highest” and “best” use of the project site would be multi-family housing.

- (3) *Conflicts with the State’s long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS; and any revisions thereof and amendments thereto, court decisions, or executive orders;*

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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Holomua is consistent with the environmental policies, goals, and guidelines established in Chapter 344, HRS.

- (4) *Substantially affects the economic welfare, social welfare, or cultural practices of the community or state;*

Holomua will also positively benefit the social welfare by providing needed affordable housing in an urban neighborhood, where median housing income is significantly below the island-wide median.

Construction of Holomua will benefit the community and State by creating temporary jobs and increasing sales within the construction industry. Tax revenues will be generated by the short-term construction work and also modest revenues by the long-term employment and secondary service industry jobs that support the increase in population. Holomua will also increase property tax revenues relative to the current vacant condition of the site.

- (5) *Substantially affects public health;*

Construction of Holomua may pose temporary impacts to noise and air quality levels (i.e., fugitive dust from grading work, noise and exhaust emissions from construction equipment and vehicles). However, these potential impacts will be short-term and are not expected to significantly affect public health. All construction activities will comply with applicable regulations and appropriate mitigation measures will be implemented as necessary.

- (6) *Involves substantial secondary impacts, such as population changes or effects on public facilities;*

Holomua will have a secondary impact of creating residences for 176 new households in the Makiki Neighborhood Area. This represents a one percent increase to the existing inventory of 16,368 units (2000 Census data). Public facilities have adequate capacity to serve the development.

- (7) *Involves a substantial degradation of environmental quality;*

Construction activities are anticipated to result in short-term impacts to noise, air quality, and traffic in the immediate vicinity. With the incorporation of mitigation

## HOLOMUA

### FINAL ENVIRONMENTAL ASSESSMENT

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measures during the construction period, the Holomua will not result in long-term degradation to environmental quality.

- (8) *Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment for larger actions;*

No cumulative effects are anticipated, inasmuch as Holomua involves the development of residential uses within an urban area that are consistent with land use plans and designations.

- (9) *Substantially affects a rare, threatened or endangered species or its habitat;*

The Holomua site and surrounding area consists of urban uses, structures, and the landscaped environment does not provide habitat for any rare, threatened, or endangered species.

- (10) *Detrimentially affects air or water quality or ambient noise levels;*

Construction activities for creation of Holomua could temporarily impact noise, air, and water quality levels (i.e., fugitive dust from grading work, noise and exhaust emissions from construction equipment and vehicles). However, these potential impacts will be short-term and are not expected to be detrimental. All construction activities will comply with applicable regulations and appropriate mitigation measures will be implemented as necessary.

- (11) *Affects or is likely to suffer damage by being located in an environmentally sensitive area, such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, freshwater, or coastal waters.*

Holomua is not located within an environmentally-sensitive area and is not expected to impact any environmentally-sensitive areas such as a critical habitat for an endangered species. The Holomua site is designated by the FIRM as Zone X, which are areas determined to be outside of the 500-year floodplain (Figure 11). The site is located away from the shoreline and is outside of the tsunami evacuation and beach area. The site is flat and does not appear to be located on geologically hazardous land. The site is not located adjacent to an estuary or freshwater or coastal waters.

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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- (12) *Substantially affects scenic vistas and view planes identified in county or state plans or studies;*

Holomua will not affect any designated view planes in this area as identified on State or County plans.

Holomua will fall in the profile of the existing high rises and be built to the character of the neighborhood. Holomua will be an infill development, surrounded by a mixture of commercial, residential, and mid to high-rise housing.

- (13) *Requires substantial energy consumption.*

Construction of Holomua is not expected to require substantially more energy than other projects of similar size and scale. Where possible, Holomua's developer will be looking to incorporate energy-saving technologies.

## **7.2 DETERMINATION**

On the basis of impacts and mitigation measures examined in this document and analyzed under the above criteria, it is anticipated that Holomua will not have a significant effect on the local, County, or Statewide physical or human environments. Pursuant to Chapter 343, HRS, the Approving Agency, which in this case is the HHFDC, has issued a Finding of No Significant Impact (FONSI).

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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## **8.0 CONSULTATION**

THM Partners LLC has initiated public and agency comment to Holomua through letters and meetings requesting input throughout development of this EA.

### **8.1 AGENCY PRE-CONSULTATION**

The following public agencies were sent pre-consultation letters for the preparation of this EA. Those agencies with a (✓) provided comments, which were incorporated into the Draft EA. Letters and responses are provided in Appendix I.

#### **State of Hawai'i**

- Department of Education ✓
- Department of Land & Natural Resources – State Historic Preservation Division
- Hawai'i Housing Finance & Development Corporation
- Department of Health – Office of Environmental Quality Control

#### **City & County of Honolulu**

- Board of Water Supply ✓
- Department of Community Services ✓
- Department of Design & Construction ✓
- Department of Environmental Services
- Department of Facility Maintenance ✓
- Department of Parks & Recreation ✓
- Department of Transportation Services ✓
- Department of Planning and Permitting (DPP) ✓
- DPP - Land Use Approval Branch
- DPP - Traffic Review Branch
- DPP - Zoning Plan Review Branch
- DPP -Civil Engineering Branch
- DPP-Subdivision Branch
- DPP-Wastewater Branch
- Fire Department ✓
- Police Department ✓

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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**Private Organizations and Individuals**

- Hawaiian Electric Company, Inc. ✓
- Councilmember Ann Kobayashi

**8.2 COMMENTS TO THE DRAFT ENVIRONMENTAL ASSESSMENT**

The following agencies were provided copies of the Draft EA. Those marked with a (✓) provided comments to the Draft EA. Appendix J contains all comment letters received and responses.

**State of Hawai'i**

- Department of Business, Economic Development & Tourism
- Department of Education ✓
- Department of Transportation ✓
- Department of Land & Natural Resources, Historic Preservation Division
- Senator Carol Fukunaga ✓

**City & County of Honolulu**

- Board of Water Supply ✓
- Department of Community Services ✓
- Department of Budget and Fiscal Services
- Department of Design & Construction ✓
- Department of Environmental Services
- Department of Facility Maintenance ✓
- Department of Parks & Recreation ✓
- Department of Transportation Services ✓
- Department of Planning and Permitting ✓
- Fire Department ✓
- Police Department ✓

In addition to comments received from various public agencies, comments regarding Holomua were received from Senator Carol Fukunaga of Senatorial District 11 as well as several community members, many via the Makiki/Lower Punchbowl/Tantalus Neighborhood Board. Comments were received from the following community members:

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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**Kulana Hale**  
**(1551 Beretania Street):**

Jerry Smollen  
Cindy & Bill Ong  
Bernice Pfeiffer  
Eiko Uyehara  
Mr. & Mrs. Nelson Waikiki  
Lillian Yamada  
David Wong  
Betty Wells  
Y.S. Dayton  
Carmen Davis  
Jane Rapozo  
Kathryn Clark  
Natalia Steele  
Hinae Okinaka  
Vera Stolfree  
Alice May Drury  
Lawrence Ngiramerekos  
Betty Mason  
Lawrence Holley  
Rose Obernolte  
Johanna Shaw

**One Kalakaua**  
**(1314 Kalākaua Avenue):**

Olivia Au  
Rachael Chang  
Bernice Choy  
Mildred Chung  
Patricia Conrad  
Sally Edwards  
Andrew & Barbara Egseth  
Sigrid Grover  
Gladys Helbush  
Amy Jung  
Walter K.H. Kam  
Francis & Bertha Lum  
Violet Mau  
Virgil Meeker  
Lois T. Norris  
Marie O. Pell  
Lila Park  
Dee Robinson  
Harriet Rotz  
Kenneth Uyeda  
Nora Uyeda  
Hiroko Vaughn  
Joan White  
Mary Yamakawa  
Masaru & Mitsue Yokota  
Sally Tully  
Francis Soon  
Joyce Masuda  
Daniel & Aiko Fujikawa  
Yoshito & Gladys Hironaka  
Katherine Akona  
Lloyd Namihira  
Benjamin Bond Jr.  
Bernice Louie  
Miriam Dawson  
Mary Ceccarelli  
Elaine McQuaid  
June Takemoto  
Katsuya & Toshi Nohara  
Sarah Kim  
B. Lalani Pyle  
Name Unreadable (1)  
Name Unreadable (2)

**Other:**

John Steelquist, Chair,  
Makiki/Lower Punchbowl/Tantalus  
Neighborhood Board #10  
Karla Kral  
Harriet Falconeer

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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### **8.3 ADDITIONAL CONSULTATION**

In addition to the pre-consultation letters, THM Partners LLC also initiated public involvement through meetings, which as of May 2008, included:

**Councilwoman Ann Kobayashi** - The principals of THM Partners LLC met with Councilwoman Ann Kobayashi on Friday, March 14, 2008. At the meeting THM presented the Holomua and included a summary of the exemptions sought in order to make the Holomua successful. Councilwoman Kobayashi asked a number of general questions regarding the Holomua and unit pricing. Due to its central location, she felt the residents would benefit from nearby public transportation. She expressed initial support for the Holomua; however, stated she would need to get feedback from her constituents about Holomua before providing her formal public support.

**Makiki/Lower Punchbowl/Tantalus Neighborhood Board No. 10.** Holomua is located within the boundaries of the Makiki/Lower Punchbowl/Tantalus Neighborhood. The principals of THM Partners LLC presented Holomua to the Makiki/Lower Punchbowl/Tantalus Neighborhood Board on April 17, 2008 and again on June 19, 2008. At the April 17 meeting, questions were asked regarding if THM Partners LLC was considering energy-saving devices such as photovoltaics or solar water heating (response was these items are being explored, however, are not likely to be feasible due to limited roof top space for panels as well as cost concerns considering affordable nature of Holomua); timing of EA (response – July 2008); if Holomua will be fee simple (response – yes); if there will be any restrictions on affordable units (response – yes, 10-year buyback, shared appreciation, etc); and if there will be any commercial use on the ground floor (response – no). One attendee expressed concern about traffic. However, this concern was more about the self storage project currently under construction at the corner of Kalākaua and King which has been blocking off one lane of traffic on a daily basis for quite some time. Overall the presentation went smoothly with no major issues or concerns raised by the Board or the attendees. No action by the Board was taken.

At the June 19 meeting several residents of Holomua neighboring buildings, Kulani Hale I and One Kalākaua were in attendance. Many of these residents expressed concern regarding Holomua's height, density, and impact on traffic and pedestrian safety, among other issues. The Board received several written comments from the residents and later provided these comments as part of the public comment period on this EA. Individual response letters to each written comment have been prepared and sent to each person who commented. Where appropriate, additional information has been provided in this Final EA. Appendix J contains the comments and responses.

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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The following is a record of concerns raised at the June 19 meeting as recorded in the meeting minutes:

- 1) When the Holomua developers came to the April 2008 meeting, the neighbors across the street were not notified;
- 2) At 1450 Young Street, the building next door got a height variance and now the residents complain about the noise from the equipment on their roof;
- 3) There should be more studies about the impact on infrastructure, increased traffic and people, the entrance/exit on Kalākaua Avenue, and the health of elderly in the area and at Kulana Hale. The traffic study mentioned "no significant impact," but there were concerns about the possible increase in traffic from Punahou Street, Beretania Street, and Kalākaua Avenue;
- 4) A resident pointed out that a seven-story garage would be 50 feet from her apartment. She expressed concerns regarding raised rents, increased electricity bills and blocked sunlight;
- 5) A resident stated that undergrounding of utilities is very expensive, there should be a moratorium on height, and he wants current laws enforced. At 1314 Kalākaua he has a good view. When Holomua goes up, he will lose the view and even the sky. There is glare/reflection from the wall across the street in the afternoon.

At the June 19<sup>t</sup> meeting Makiki/Lower Punchbowl/Tantalus Neighborhood adopted the following motion: "The Makiki/Lower Punchbowl/Tantalus Neighborhood Board No. 10 commends the developers of the Holomua project for providing much-needed affordable housing. The Board has heard the community concerns about increased traffic, parking, pedestrian safety, and loss of view plane. The Board is not taking a position in favor or opposition the project, but will forward the letters received from community members on to the appropriate agency or agencies."

**McCully/Mo'ili'ili Neighborhood Board No. 8** – The principals of THM Partners LLC also presented Holomua to the McCully/Mo'ili'ili Neighborhood Board on July 3, 2008. The following is a record of concerns raised and addressed at the June 19<sup>th</sup> meeting as recorded in the meeting minutes:

- 1) The proposed building will be narrow using about 16,000 square feet of the 23,000 square feet lot. The entrance and exit to parking will be on to Kalākaua Avenue.
- 2) The State created the programs mentioned because the high real estate prices in urban Honolulu can be offset by the height variance doubling the number of units they can construct that cuts the land costs in half and passes the savings on to the buyers. The land is fee simple.

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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- 3) The project was approved by the Waste Water branch for the sewer hook up so they will have sufficient capacity resources.
- 4) The average setback will be 40 feet from Kalākaua Avenue because the building will be built at an angle.
- 5) The height of other buildings in the area are the Banyan Tree Plaza at 35 stories or about 350 feet; 1450 Young Street is 27 stories or about 250 feet; One Kalākaua is about 15 floors at 138 feet and Puana Hale is about 107 feet high.
- 6) Planned parking is up to code but if the costs come in higher, the option might be a little under code. They are comfortable with that arrangement because the area has so much public transportation. They will still provide one stall per unit and at least 10 guest stalls.
- 7) Their architectural and sound studies found the extra cars to be at the site during construction will be a small percentage of cars in the area. Car access onto the property will be right in and right out only.
- 8) Chair Lockwood has the project study for which comments are due in five days. The June 30th copy of the Honolulu Advertiser covered the project. THM made their presentation at the Makiki Neighborhood Board meeting at which time the board did not take a position for or against the project but commended their efforts for creating affordable housing.

**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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**HOLOMUA**  
**FINAL ENVIRONMENTAL ASSESSMENT**

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APPENDIX  
ALTA / ACSM LAND TITLE SURVEY

A

**SURVEYOR'S REPORT**  
(To be filled out and signed with all surveys)

To: **TITLE GUARANTY OF HAWAII**

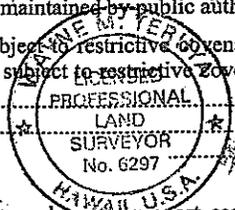
THIS IS TO CERTIFY, that on September 27, 20 07, I made an accurate survey of the premises standing in the name of Geneva Commons, LLC situated at Honolulu Hawaii City County State briefly described as: Parcels First and Second Tax Key: (1)-2-4-06: 17 & 18 and shown on the accompanying survey entitled: ALTA/ACSM Land Title Survey

I made a careful inspection of said premises and of the buildings located thereon at the time making such survey, and again on September 25, 20 07, and at the time of such latter inspection I found same to be in possession of said premises as owner (tenant) or (owner)

I further certify as to the existence or non-existence of the following at the time of my last inspection:

1. Rights of way, old highways, or abandoned roads, lanes or driveways, drains, sewer, water, gas or oil pipe lines across said premises: See map.
2. Springs, streams, rivers, ponds, or lakes located, bordering on or running through said premises: None
3. Cemeteries or family burying grounds located on said premises. (Show location on plat): No surface evidence was found to indicate any cemeteries or family burying grounds.
4. Telephone, telegraph or electric power poles, wires or lines overhanging or crossing said premises and serving other property or properties: See map.
5. Joint driveways or walkways; party walls or rights of support; porches, steps or roofs used in common or joint garages: None
6. Encroachments, or overhanging projections. (If the buildings, projections or cornices thereof, or signs affixed thereto, fences or other indications of occupancy encroach upon or overhang adjoining properties, or the like encroach upon or overhang surveyed premises, specify all such): See map.
7. Physical evidence of boundary lines on all sides. (Be specific): Sidewalk along the westerly side; building along the northerly side; building and pavement along the southerly side; building along the easterly side.
8. Is the property improved? No  
(a) Building is: Brick ( ); Clapboard ( ); other ( ) Specify  
(b) Building is One story ( ); two story ( ); split-level ( ), other ( ) Specify
9. Indications of building construction, alterations or repairs within recent months: No  
(a) If new improvements under construction, how far have they progressed?
10. Changes in street lines either completed or officially proposed: None to my knowledge.  
(a) Are there indications of recent street or sidewalk construction or repairs? No
11. Are the abutting streets or roads maintained by public authorities? Yes

12. If the surveyed premises are subject to restrictive covenants, do the improvements, use and occupancy comply with such? (If the premises are subject to restrictive covenants, have the examining attorney furnish you verbatim copy of them) N/A



*Wayne M. Jantz*  
Civil Engineer or Surveyor

**NOTE:** In all cases where there are encroachments, support easements, party walls, etc., they should also be denoted upon the map of your survey. Also, be certain map complies with Instructions on reverse side. Particular attention is directed to Paragraph 3 of these instructions.

## Survey Instructions and Certificate

A survey to be acceptable to **TITLE GUARANTY OF HAWAII, INC.**, must be prepared in U. S. Standard of measurements and if within corporate limits of any town, village or city, must be a "transit" survey and not a "compass" survey. Preference will always be given to surveys showing bearings referred to true north but all surveys which show bearings must designate the meridian referred to whether true, magnetic or arbitrary and if true meridian is not used approximate deflection must be noted on the plat.

### Boundaries

1. Every survey, whether of farm or city property, must indicate the physical character of the boundary lines, that is, whether fence, wall, water-course, highway, etc., and if no physical evidence of boundaries exists, such fact must be noted. Any material variations from the record lines by fences, walls or structures, whether on the property surveyed or adjoining, must be shown, with the extent of such variations. If any of the boundaries or lines of record coincide with lot or property lines on any filed map, or are adopted from previous surveys, whether by the same surveyors or otherwise, such facts should be shown on plat. The surveyor is required to check the descriptions of adjoining owners, when furnished to him, and show the extent of any variations between the boundaries as stated therein and those of the property surveyed.

### Rights of Way, Cemeteries, etc.

2. The surveyor must indicate any water courses, drains, sewers, utility easements, joint driveways, roads, paths or trails crossing the property, the closing of which might affect the rights of adjoining owners, whether legal or assumed. He must also show any existing cemetery or burying grounds on surveyed property.

### Streets and Alleys

3. Names of streets and alleys must be shown with the **distance** from the nearest corner to **beginning point** of property surveyed. Width of street and sidewalk in front or at side of premises should be shown with width of alley in rear or side of premises.

### Party Walls

4. The nature, character, location and width of all walls on or near boundary lines should be shown. Show all projections beyond face of wall and indicate the portion of wall on the property and the portion on adjoining property, and whether subject to beam rights. The thickness of walls throughout entire length should be shown. If building on premises has no independent wall but uses any wall of adjoining premises, this condition should be shown and explained. The same requirements apply where conditions are reversed.

### Adjoining Owners and Lot Numbers Encroachments

5. Indicate on survey the names of adjoining owners on all sides of the premises which information may be obtained from occupants. Lot numbers and name of subdivision of the property in question and of adjoining lots must be shown.

6. Encroachments of buildings and of structural appurtenances, such as fire escapes, bay windows, etc., by or on adjoining property, or on abutting streets, must be indicated with the extent of such encroachments.

### Buildings and Lot Lines

7. All buildings on property must be shown with dimensions and relation to lot and building lines. If conditions in chain of title or zoning ordinances require building to be set back specified distances from street or property line survey must show **measured distances** from said building to said line. In acreage surveys buildings may be plotted to scaled positions.

### Area Contiguity

8. Show acreage of the property except in cases of small lots.

9. If survey comprises several parcels, shown interior lines and facts sufficient to insure contiguity. The Company may require that it be furnished with a consolidated description. Caution should be used to see that there are no strips or gores.

### Courses and Distances

10. Courses and distances should be properly denoted, showing stakes or other monuments appearing on the premises. Map should show arrow pointing north and give scale of distances.

### Certificates

11. All maps must show City or Town and State where premises located with such other notations as will accurately identify property surveyed. The certificate thereon must be dated as of date survey was made, signed by surveyor, and be to the effect that the survey was actually made on the ground as per record description and is correct; that there are no encroachments either way across property lines except as shown.

The certificate should be addressed, to-wit: "To all parties interested in title to premises surveyed."

*In addition to the certified map of the survey, a report must be filled out by the surveyor on the following attached form entitled "SURVEYOR'S REPORT".*



APPENDIX  
MARKET STUDY

B

*CHANGING AFFORDABLE HOUSING MARKET*

**I. INTRODUCTION & IDENTIFICATION OF STUDY AND RESEARCHER**

The Data@Work, a market research firm that specializes in analyzing residential real estate markets for developers, has been asked to perform a study analyzing the market for affordable housing condominiums in Honolulu. This study focuses on the historical, current, and projected rental market conditions and trends to help forecast the absorption for the proposed project (tentatively named Holomua).

The study entailed collecting, comparing and analyzing information that has a bearing on the numerous aspects of market demand for the proposed project, including but not limited to publicly available real property, economic and commercial data. Income and demographic information was obtained from the State of Hawaii, City and County of Honolulu, Bureau of the Census, Applied Geographic Systems and National Decision Systems.

The data and statements herein are based on independent research by Data@Work and are in no way contingent upon outside findings or recommendations. By way of background, Data@Work focuses exclusively on residential market research in the state of Hawaii. It services the developer, lending and landowning community with regular reports on the housing markets. In addition, it conducts numerous feasibility studies, including Hokuu Tower, The Windsor and Ko'olani, three of the largest condominium high-rise projects on the market today. It also has done fourteen studies on the affordable housing market, rental and for-sale – ten on Oahu, and one on Maui, one on the Big Island and two on Kauai -- since 1999 for five different developers.

**For Holomua  
KRC Partners**

**Data@Work**

A RESIDENTIAL REAL ESTATE MARKET RESEARCH CONSULTANCY

1029 Iiwi Street, Honolulu, Hawaii

(808) 291-4407

• [rcassiday@macl.com](mailto:rcassiday@macl.com) •

<http://www.rcassiday.com>

**II. PROJECT DESCRIPTION, TARGET MARKET AND STUDY**

**Project Location & Description**

The proposed project is located on Kalakaau Avenue in the area of Lower Makiki, Honolulu, on the island of Oahu, in the state of Hawaii. It is situated at one end of Kalakaau Avenue, which is the major thoroughfare of the major resort in the state, Waikiki. It is also within close proximity to Ala Moana Shopping Center, the state's largest retail center. As such, it is very close to two of the major sources of employment in Honolulu.

In the immediate neighborhood, there is a good-sized public park, and one of the oldest and largest churches, Central Union, in the state (with extensive grounds). It is next to every major bus line in the city, and has a major supermarket within a block.

The property is 21,339 square feet in size. It is an infill site, planned for redevelopment with a 176-unit residential condominium project, whose units will be aimed at the workforce market. Thus, a minimum of 50% of the units will be priced at or below 140% median income for the area.

**PROPOSED PROJECT**

Target Market	Bedrooms	Count	Ave sq
Affordable Units	1 Bed	43	458
	2 Bed	48	719
Affordable Units Market	1 Bed	81	598
	2 Bed	37	515
Market Total		48	719
Grand Total		85	630
		176	612

By Ricky Cassidy

<http://www.rcassiday.com>

The project's strongest selling points:

- Strong location, extremely desirable to most Honolulu residents (as well as a number of offshore ones), including the neighbor islands and the continental US);
- Providing new construction in an area where most of the housing stock is aged;
- Reasonable prices;
- Strong views of the mountains and surrounding city on 3 out of the 4 sides;
- Walking distance to large park and major church;
- Walking distance to services and shopping, as well as easy transit to bus stop on King and South Beretania Street.

**Target Market Definition**

The project is targeted on buyers who can qualify to purchase these units, under the affordable housing policy of the state of Hawaii (which combines residency, plus family size, age and income guidelines). In general, they will be making within 140% of the Area Median Income, and consist of households having 1 person to 4 persons, preferably.

Target Market: In order to qualify, the home purchaser candidates will have to demonstrate that their annual incomes fall within the limits established by the affordable housing policy guidelines, which for this program has at it's limits 140% of Area Median Income (AMI).

The overall guideline is described in the table below:

**HONOLULU AFFORDABLE INCOME GUIDELINES, 2008**

AMI	2 Persons	3 Persons
80%	\$60,800	\$68,400
100%	\$61,840	\$69,570
110%	\$66,020	\$76,530
120%	\$74,210	\$83,480
130%	\$80,390	\$90,440
140%	\$86,580	\$97,400

Using these income guidelines, we developed the following limits that these households could pay for a house, using the following HUD assumptions:

- A Five Percent down payment
- A 30 year term mortgage
- A Six percent interest rate, and
- A Housing Expense (mortgage only) of 28%

Using these guidelines, we roughly estimated 'how much house you could buy' for households containing 2 to 3 people, earning 140% of AMI. Then, we arranged this according to household sizes (people counts). This is described in the table below:

**TENTATIVE PRICING, GIVEN 140% AMI 2008**

People in Household	Maximum Bedroom Size To Purchase	140% of AMI	Maximum Price Payable, 140%
2	One Bed	\$86,580	\$334,700
3	Two Bed	\$97,400	\$399,000

It is worth noting that the maximum prices these households could afford are higher than the average prices for similar units in the market last year. The table below describes the average

prices for fee-simple condominium one and two bedroom units in the general area (TMK Zone 1-2, from Downtown to Kapaehulu) of the proposed project and in the relevant price ranges, of \$250,000 to \$500,000.

**GENERAL PRICING CHARACTERISTICS OF THE OAHU CONDOMINIUM MARKET**

Bed Counts	2007 Sales	Ave Int sq ft	Ave 2007 Prices
1	596	601	\$344,794
2	340	966	\$519,950

In order to get a general understanding of the positioning of these units in the market, we have worked up a potential price program for both the affordable and the market units in the development. The table below describes our guidelines and pricing parameters:

**GENERAL PRICING PROGRAM FOR DEVELOPMENT**

Target Market	Bedroom Type	Count	Ave sq ft	Min \$	Ave \$	Max \$
Affordable Units	1	43	458	\$243,700	\$313,293	\$354,700
	2	48	719	\$399,000	\$399,000	\$399,000
Affordable Units	1	91	696	\$243,700	\$358,501	\$399,000
	2	37	515	\$355,100	\$462,594	\$374,800
Market Total		48	719	\$473,000	\$508,850	\$544,300
Grand Total		176	612	\$243,700	\$400,364	\$544,300

As seen, this pricing program fits well within both the pricing limits for the affordable units, as well as the general pricing parameters existing in the target market segment for the market units.

This then provides support for our belief that the marketplace will react favorably to both the affordable and market units, when they come to market. To be sure, this belief is based on our observation of strong and deep potential demand, as well as no further degradation of market sentiment, but we point to the following benefits that drive demand (besides the most important, favorable pricing relative to the market):

- The most desirable infill location for a new project in terms of having immediate access to major employment centers, major transportation conduits and public transportation, shopping and recreational opportunities and vital good and services;
- Impressive and unobstructed views of the surrounding area, particularly the mountains, the sunrise and Diamond Head, and Waikiki (3 out of the 4 sides of the building, and above the 16<sup>th</sup> floor on the 4<sup>th</sup> side of the building, looking out at the sunset).

**Competitive Market Area Definition**

In the narrowest sense, the competitive market area consists of the sales of condominium apartments in and around general area of Central Honolulu, and more specifically Waikiki and Moiliili. This would be areas included in TMK Zone 1-2.

In a broader sense, one well supported by buyer demographics in competing projects, the competitive market includes the entire island, given that the location is very near to the centers of employment, shopping and recreation of Honolulu.

**Quantifying Market Demand**

Given the needs and desires typical of homebuyers whose incomes are at or below 140% of AMI, we will quantify the potential demand for these units as follows:

- All households within a reasonable proximity of the proposed project (which we believe is island-wide, given that the proposed pricing will target an affordable market segment, but which we restrict to the immediate area, defined as TMK Zone 1-2) that can qualify under the income guidelines of HUD and still be able to qualify for a market rate mortgage.

In accessing the size and strength of the target market, we will look to the following:

- The overall real estate market for Oahu; plus
- All condominium sales, new and resales, in the relevant price ranges for Oahu, Honolulu and the relevant area.

**Study Contents**

- The study will begin by analyzing the economic cycle relevant to housing demand, and to those macro and micro economic considerations that have a bearing on the project's feasibility.
- Thereafter, it will describe the current residential real estate market on Oahu. It will do so first in general, looking at the overall market trends.
- Next, it will look at the specific target market, focusing in on the sources of demand, as well as the sources of competitive supply.
- Finally, it will quantify demand and make a projection as to how soon these units will be completely absorbed.

**III. ECONOMIC TRENDS AND HOUSING DEMAND**

**Overview**

Simply put, real estate values move closely in synch with an area's economic growth, and economic growth is determined in the short run by economic trends in the area, plus those trends in the area's major trading partners. In the longer run, economic growth is also determined by population changes (both migration and demographic) and lifestyle preferences.

**The Economist poll of forecasters, April averages (previous month's, if changed)**

	Real GDP, % change		Consumer prices % increase		Current account % of GDP	
	2008	2009	2008	2009	2008	2009
Australia	2.5/3.6	2.5/3.8	3.0/3.3	3.3/3.1	2.7	6.1/5.6
Belgium	1.2/2.7	1.1/2.4	1.8/1.9	2.6/2.6	1.8/1.9	1.9/2.0
Britain	1.2/2.1	1.0/2.3	1.8/1.9	1.8/2.0	2.6/2.6	2.1/2.0
Canada	1.1/2.5	1.4/2.5	1.5/1.7	2.1/2.2	1.7/1.9	0.0/0.4
France	1.2/2.5	0.9/2.2	1.6	1.6/1.7	2.4/2.2	1.8/1.7
Germany	1.2/2.5	1.0/2.2	1.7	1.7/1.9	2.3/2.1	1.8/1.7
Italy	0.1/3.1	0.4/1.9	0.8/1.0	1.1/1.6	2.6/2.4	1.9
Japan	0.9/2.1	1.0/2.2	1.3/1.4	1.5/1.6	0.7/0.6	0.6/0.5
Netherlands	1.4/3.5	1.4/2.4	2.5/2.3	1.9/2.1	2.0	2.1
Spain	1.8/3.8	1.0/3.0	2.4	3.6/3.9	2.7/2.6	7.2/6.9
Sweden	2.3/3.3	1.4/3.1	2.4/2.6	2.3/2.5	2.8/2.6	2.2
Switzerland	1.5/2.8	1.0/2.4	2.1/2.0	1.7/1.9	1.8/1.6	1.2
United States	0.8/2.2	0.9/2.6	1.2/1.5	1.7/2.2	3.3/3.2	2.3
Euro area	1.1/2.6	1.1/2.2	1.6/1.7	1.6/1.8	2.7/2.5	2.0

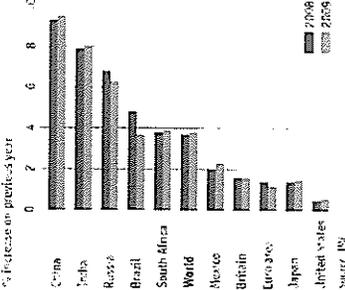
SOURCE: INTERNATIONAL MONETARY FUND, "GDP Growth Projections for 2008 and 2009," *World Economic Outlook*, April 2008, p. 102. GDP, real GDP, % change; CPI, Consumer Prices, % increase; CA, Current Account, % of GDP.

**Short Term**

Up through the 1st quarter of 2008, the Hawaiian economy is growing slowly but steadily, fueled largely by federal spending that is consistent and present for the long-term, and visitor spending that has been steady. That said, a number of event have lead most economic forecasters to expect growth to fall to zero in the 2<sup>nd</sup> quarter, and stay that way until the 4<sup>th</sup> quarter.

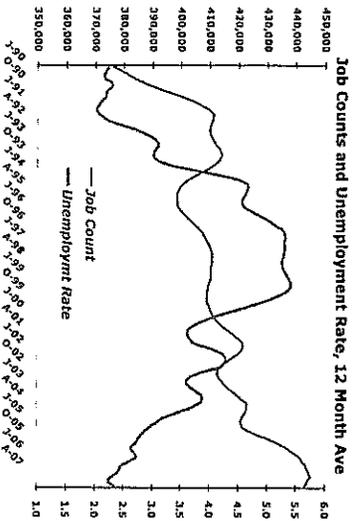
What events? A local and a national airline ceased passenger operations, and a cruise ship operator cut it's capacity back to one ship from three. Add to that the fact that the US economy is entering a recession (one that looks to be sharper than the last two, thanks to falling home prices and falling consumer spending). Thus, it looks like tourism will be down in 2008, before growing again next year. To be sure there are

**GDP forecasts**

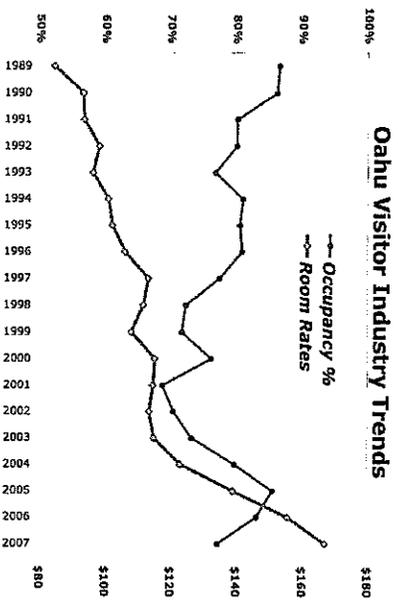


some positives, per the IMF, the global economy continues to grow and will probably not fall into recession (and that is why they forecast a soft landing for the US).

That said, Hawaii is in much better shape than the US. Per the island's economic activity - real personal income statewide is in its eleventh consecutive year of growth. The state also had the lowest unemployment nationally for 2007, 2.6%. It also was the lowest in 2006, at 2.4%.



Per DBEDT, total visitor arrivals should decline 1.4 percent in 2008, and visitor expenditures growth will be at 1.5 percent. For 2009, both visitor arrivals and visitor days are predicted to grow 1.2 percent, while the visitor expenditures are forecast to increase 4.2 percent.

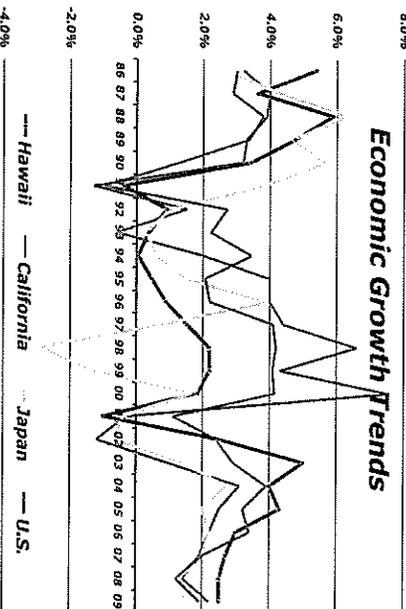


Building permit levels still remain high, suggesting a solid construction activity in 2008. Government construction keeps on rising, with the ongoing multi-billion military housing privatization initiative lasting several more years. All in all, construction continued to show robust, though slower, job growth. Overall, total wage and salary jobs are now expected to grow 1.4 percent in 2008, and 1.3 percent in 2009.

While the economy has continued to grow, costs have grown faster over the last couple years. This is now cooling down, with real personal income slated to grow at 1.6 percent this year, up from 1.3 last year and behind the 1.9 percent forecast for each of the next two years.

Looking ahead, the eastbound Asian market shows strong economic growth continuing, albeit at a lower level. World GNP also is looking good. Further, the rise in energy prices should fuel visitor (and second home) demand from the homes of natural resources: Canada, Alaska and the Rocky Mountain states. Then, the revival of Waikiki will play out well with the devalued dollar, spurring higher occupancies and room rates. The growth in visitor industry should support the second home and retirement housing market here.

However, all told, there is a slowdown going on in the major markets relative to our visitor industry, per the Economist Poll of Forecasters (as illustrated in the ECONOMIC GROWTH Chart). As such, US visitor demand for Oahu's recreational goods and services looks to fall over the next 1-2 years.



Beyond tourism, the federal government is pouring billions into Oahu's economy, due to the military activity post 9/11. On Oahu, there are several major funded programs: the addition of several new military platoons (the Stryker brigade), the upgrading of the communications and logistics infrastructure and the privatization of military housing (Hawaii would gain 3,700 troops by 2011 as 50,000 service members are brought home to the United States from Germany and South Korea).

In sum, Hawaii is slowing down significantly relative to 2003-2004, with the silver lining that this is some chance of escaping the US downturn, thanks to steady federal spending (mainly on military housing, but also on other upgrades), relatively stable housing values (prices falling by 3-5% this

year and possibly next), replacement Asian visitors (especially with the strong Yen) and falling interest rates.

**Longer Term:**

Looking ahead, we think Oahu's visitor industry is in fundamentally good shape. In the first place, its major renovations and additions will attract new timers and repeat visitors – Waikiki has gotten a major facelift, and Ko Olina has a Disney 800 unit vacation club slated to come in. Further out, Turtle Bay will be sold at low enough price so that there will be an addition of at least 1,000 units combining both short-term and long-term housing on the property.

Longer term, our major visitor markets will return to economic growth in 2-3 years, then grow steadily for several after that. Added to that, we expect it will be boosted by two trends:

- The movement away from visiting 'foreign' resorts, due to terrorism in Bali and other places, and
- The low value of the dollar, which makes vacations in Hawaii cheaper for foreigners and foreign vacations more expensive for Americans.

Oahu will grow also by diversifying recreational goods and services into different short-term visitor segments (lime share, vacation rentals, bed-and-breakfasts and partial ownership products) and long-term immigration in order to upgrade one's quality of life (second home ownership, retirement communities).

Potentially equal to the visitor trade is federal spending, mainly for national security. The outlook here is just as optimistic, if not more, given the present nuclear threat of Korea and the future threat of China becoming expansionist. The net of this increased funding due as the military upgrades, extends and populates their facilities on the island, from home porting another aircraft carrier to upgrading the missile defense network. Finally, as the war in Iraq winds down, there will be a large-scale repatriation of military personnel to their home base, here on Oahu.

Finally, the state and county have some major infrastructure projects ahead, with the wherewithal to indulge in some countercyclical spending. This is above and beyond the light rail transport system, which will contribute more than the stated cost of \$3.8 billion, given the housing, office and retail development surrounding these transit stations.

Given these trends, our expectation over the next 3-5 years is good job growth and rising income levels on Oahu, more than enough to accelerate a relatively high level of migration into the island from domestic and international sources. Over the ensuing 3-5 years, we see an economic consolidation, but no letdown in income growth and job stability: the term of federal spending is for 10 years, and the spending levels have been set.

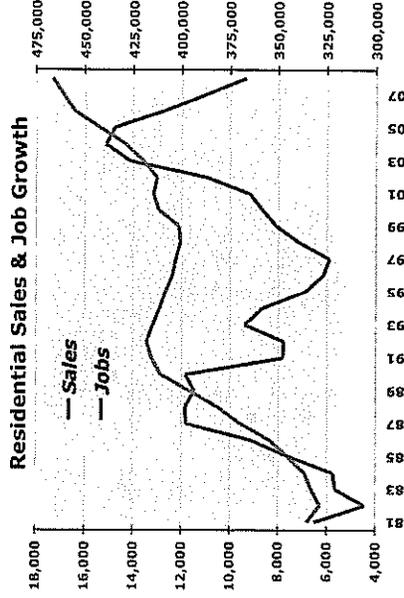
**Housing Demand:**

Looking at the relationship between the economy and residential development, the major link is that the economy's performance drives the demand side of the real estate market. Looking at the market from the grass roots, the commonly accepted truth of purchasing a home is: "When I have a job, I can't afford a house. And when I can afford a house, I don't have a job."

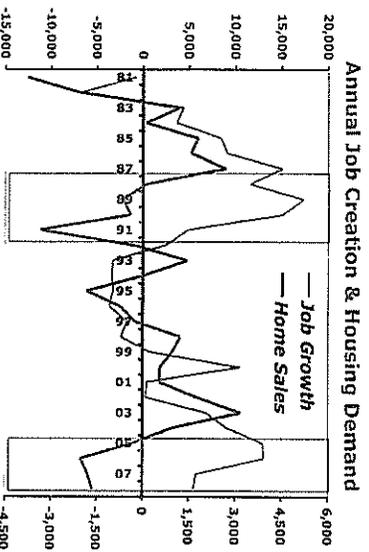
In short, economic expansion fuels a residential boom, pushing the prices of homes out of many households' ability to purchase. Indeed, this is often so exaggerated that there is a political backlash, wherein local public agencies act to increase the supply of housing. Unfortunately, they look to the housing industry to provide them with most of this subsidy, which often counterproductive, as it hurts the goose that lays the golden egg.

On the supply side, given the extremely long time it takes to entitle residential development, is less affected both in the short and the long term. In particular, the lack of land on this island, combined with a NIMBY sentiment and high costs of production, has kept long-term supply of residential land low and in decline. We turn now to look at the various linkages in between the economy and the property market, starting with job growth and housing sales.

Interestingly, there has not been the same high degree of job growth (adding 80,000 plus jobs in 7 years, as opposed to 60,000 in 6 years) in this economic cycle, as there was in the last one. This can be seen in the blue line in the RESIDENTIAL SALES & JOB GROWTH Chart. Either there is a lot of informal job growth, hidden from the statisticians, or there is a lot more job growth coming in the pipeline (such as non-payroll jobs i.e., self-employed, contract labor). Whatever the explanation, this abundance of jobs gives support for a strong housing market.

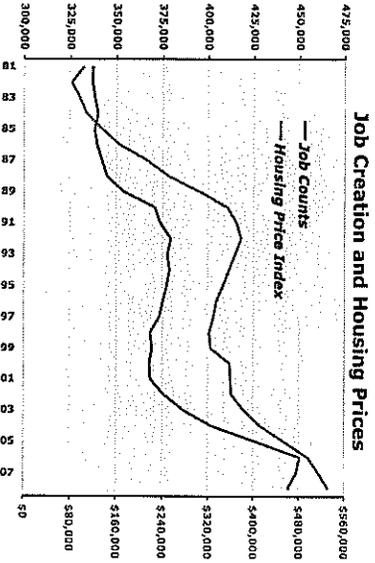


Another way of looking at this is the annual change in job counts and residential sales. The ANNUAL JOB GROWTH AND HOUSING DEMAND Chart isolates the annual changes in job growth and home sales, and shows even more clearly the periods of price growth. This is when



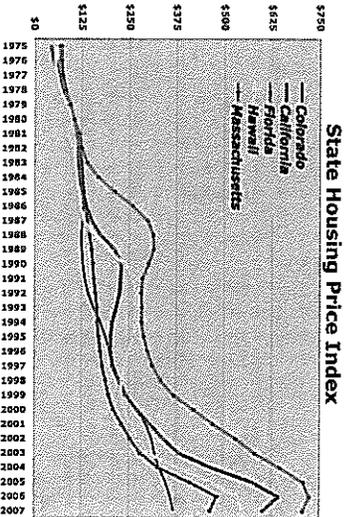
there are more jobs than houses to buy (demand greater than supply), shown in the chart by a yellow shaded area. It remains to be seen whether job growth will continue to support current price levels, given recent dramatic price appreciation and negative buyer psychology.

Another way to visualize this is to examine relationship between job count growth and housing prices (as an index of resale and new, condo and single family) in the JOB CREATION AND HOUSING PRICES Chart. Historically, a decline in prices has been caused by a decrease in job growth, but this is not the case at this point in the cycle. Instead, it looks like price increases went much higher than was sustainable, and the two lines converged, when there normally would be some separation. As such, it looks like price declines have now brought the relationship back near its historic norm.

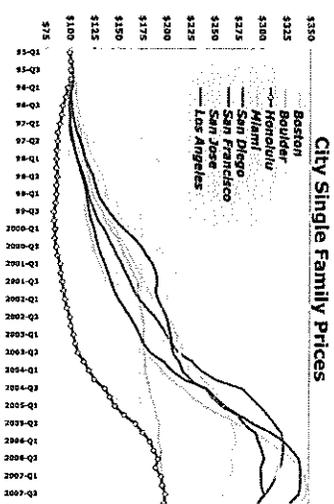


Interestingly, in the last cycle, it took a lot of job growth before there was an impact on home prices (and not very much of an impact, relative to this cycle. Somewhat the opposite, home prices in this cycle really took off, relative to job growth in this cycle.

Some or much of this could be attributable to offshore demand, both in terms of second home purchases and price arbitrage between regions. But with prices across the nation falling, this demand will ease up, allowing our prices to decline (plus lower demand due reduced tourism). Note: On the other hand, since Hawaii's and Honolulu's prices didn't rise as dramatically vis-à-vis national ones, there's less of a reason for them to go down much, going forward.



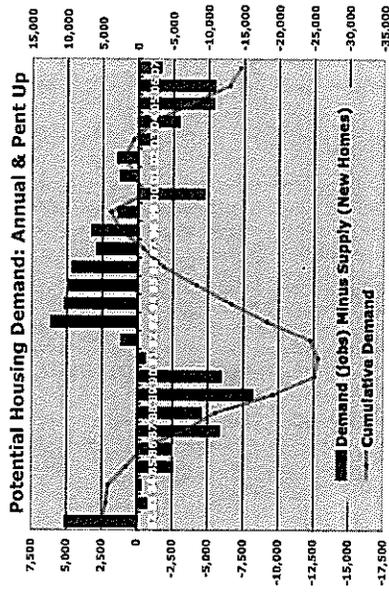
The STATE HOUSING PRICES (Log) Chart, showing OFHEO's same sale single family home price index, illustrates this arbitrage effect.



A similar chart is done for the reduced wealth effect, showing the CITY SINGLE FAMILY PRICES, of the metropolitan areas that are Hawaii's major tourism markets.

When there's not enough homes available (either because of strong job creation or second home demand) in any one year, then the residual of that is set aside as pent-up demand for next year. We tried to quantify this pent-up demand by taking a factor of housing demand via job creation, and matching that up with new housing supply.

What we found is a potential undersupply, and this is demonstrated in the HOUSING DEMAND: ANNUAL & PENT UP chart (with the annual demand shown as purple bars, and the cumulative of that, shown as the red line). To be sure, many of these jobs are ones that make a wage better suited to purchasing a starter condominium rather than a single family home.



However, this leads to a concern going forward: if the growth of jobs is outpacing the supply of housing, will it continue to underwrite rising housing prices, with the effect of reducing the number of workers that are available to businesses within the local economy. This is what is behind the recent initiatives to grow the stock of workforce housing.

Now, we turn to examine the residential market in detail, starting with supply.

#### IV. ANALYSIS OF HOUSING SUPPLY IN THE MARKET

The study guidelines call for an analysis of household sizes and types in the market.

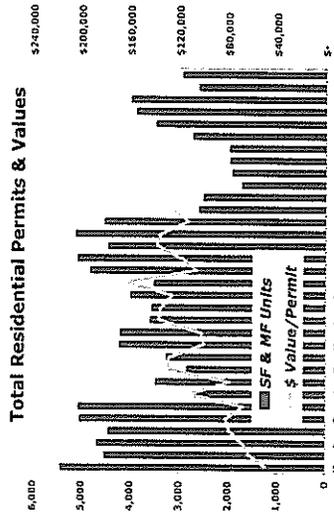
##### Oahu Condominium Housing Stock

As noted earlier, most of Oahu's condominium housing stock is quite old:

- 17% of the total condo housing stock was built before 1970
  - 46% of it was built between 1970-1979,
  - 18% was built between 1980-1989, and,
  - 15% was built between 1990-1999.
- Furthermore, most of Oahu's condominium housing stock is quite small:
- 13% of all condominium units on Oahu are between 1,250 and 1,500 sq. ft.,
  - 7% of all units are between 1,500 and 1,750 sq. ft.,
  - 3% of all units are between 1,750 and 2,000 sq. ft., and
  - 1% of all units are over 2,000 sq. ft.

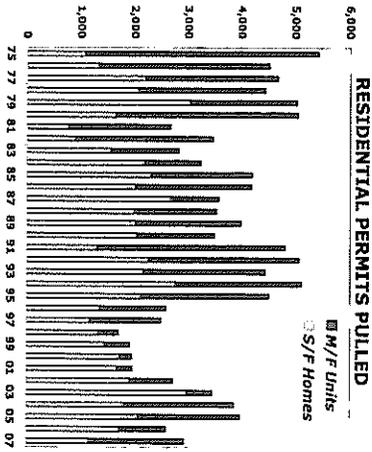
The rest of the condo stock, 76%, averages less than 1,250 sq. ft. in size.

##### Future Housing Supply, Short Term



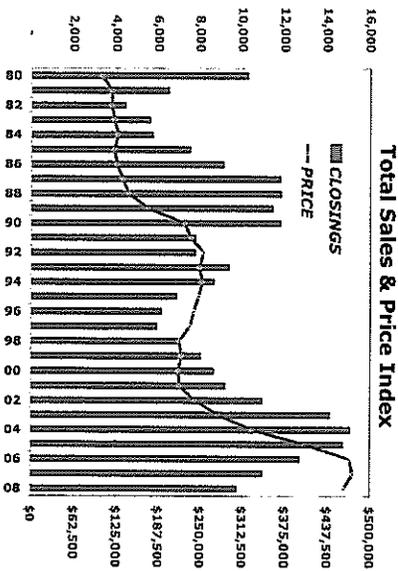
The easiest way to look where the housing market is going short-term is by examining permits for building residential units. A high level of activity indicates more supply, which means that more demand will be met, with a potential for prices adjusting downwards. Obviously, a low level of permits indicates small increases will be made to the stock of housing (and potentially higher prices). In addition, low levels of per unit value indicate that the units being built are for the lower end of the market (and vice versa).

A quick overview of the TOTAL RESIDENTIAL PERMITS AND VALUES Chart shows that the number of permitted units is below historical levels. On the other hand, the value per permitted unit has rocketed higher since 1995.

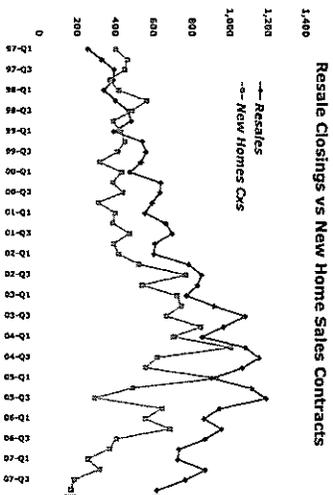


In sum, there has not been much housing production on Oahu during this last real estate boom.

V. CURRENT RESALE REAL ESTATE MARKET  
Total Market



**SALES & PRICES:** Oahu's market for residential property is now four years passed the top of the cycle. Sales are off 45% from the peak, down to the 9,800 mark. At this level, it is right about the historical 20-year average of 9,300 sales/year. Unlike the last cycle, this one did not linger at the peak - instead, it went down by double digits in each of the last three years, 2006+.



The chart also shows that the developer market lead the way, followed shortly after by resales. The table below looks at the component parts of the market:

**RECENT HOUSING ACTIVITY**

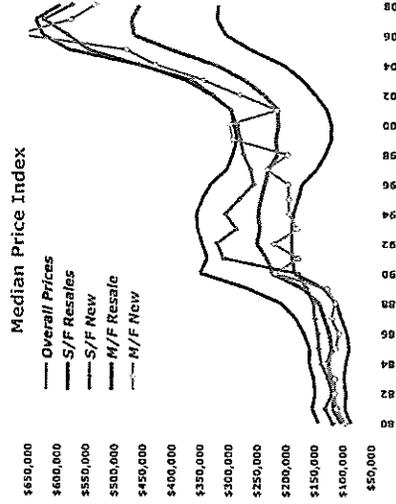
Year	Totals	Resale Homes	New Homes	Resale Condos	New Condo
2002	10,981	3,906	1,229	5,406	420
2003	14,152	4,420	2,063	6,907	762
2004	15,107	4,702	1,611	7,888	906
2005	14,773	4,617	1,170	7,790	1,196
2006	12,762	4,041	1,058	6,380	1,283
2007	10,983	3,627	586	5,489	1,271
2008*	9,123	2,700	583	4,400	1,440

\* Forecast based on YTD data, Feb., 2008

It shows:

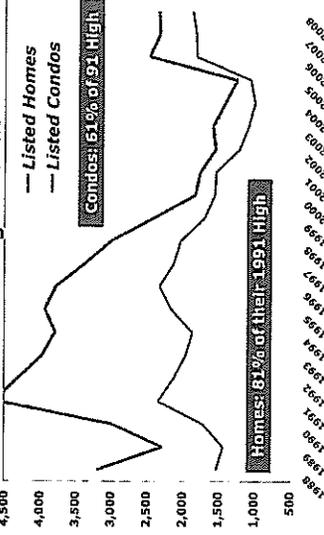
- That the market for total single family homes peaked in 2003 five years ago,
- That the condo market topped out in 2005, three years ago, and
- That the new market peaked also in 2003, five years ago, while resales hit the ceiling in 2004, four years ago.

As seen in the **MEDIAN PRICE INDEX** Chart, demand pushing prices stopped last year. The All Housing price index (all resales, single family and multifamily, and all new sales, single family and multifamily) fell from \$475,955 in 2007, top of the market, to \$461,000 YTD this year. That is a 3.2% fall, and will probably be added to as the year continues. The cumulative rise in prices, since they turned up in 2000, is over 110%.



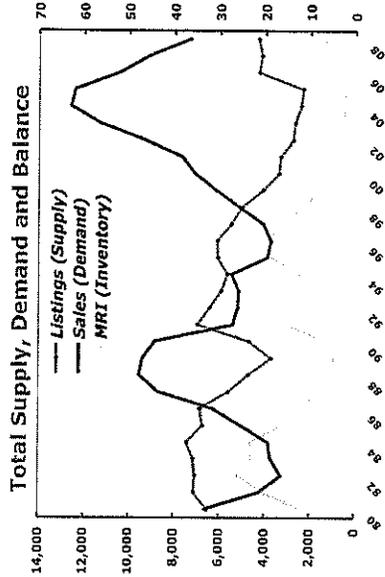
**LISTINGS AND MONTHS OF REMAINING INVENTORY:** With demand peaked, the issue of supply becomes important, particularly for future prices. Traditionally, Oahu's major source for housing supply came from resale listings -- new sales averaged 18% of all sales, 1999-2008.

**Resale Listings Trends**



As seen in the **RESALE LISTINGS** Chart, listings have expanded dramatically this year. Single family listings are at 81% of where they were at the top of the last cycle, 1996, while condos are 58% of the way up to their high point, set in 1995.

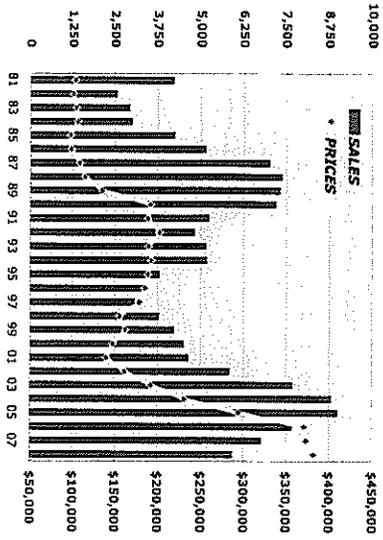
While alarming if taken out of context, listing levels need to be related to sales and inventory. This can be seen, in the **TOTAL SUPPLY, DEMAND AND BALANCE** Chart, which shows the balance in the relationship between listings (supply) and sales (demand) -- months of remaining inventory (MRI).



Months of Remaining Inventory is the number of total listings (supply) divided by current demand, and expressed in the amount of time it would take current demand to exhaust current supply. Currently, there is only 7 months of supply available on the market, which is still lower than the 8.9 average over the last 20 years.

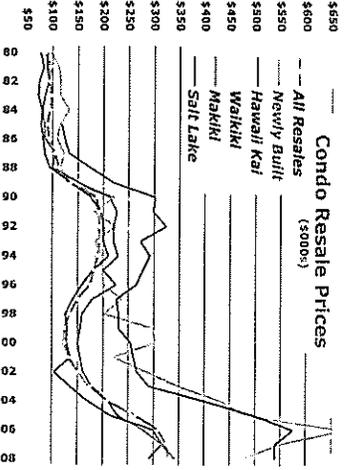
Condominium Market:

Total Condominium Market



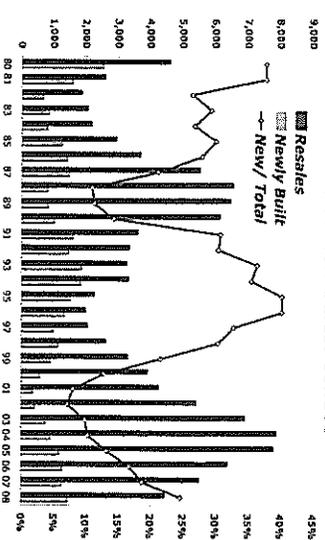
**RESALE CLOSINGS AND PRICES:** There has been three years of falling sales, each by double digits, and this year the YTD fall is almost 13%. Note that the overall market is about 500 units below its historical ten-year average.

Along with rates and confidence, what is hampering demand is high prices: the price index had five straight years of double-digit appreciation, and then settled for single digits the last two. As seen from the price chart, much of this was caused by the new home prices, led by the luxury high-rise projects in and around Waikiki.



Thanks to this pricing, multifamily ones are producing at an accelerated pace, meeting demand with the high end of the market taking a breather; the next segment that could well become more active is workforce housing (and what could lie ahead is several years of 1,250 plus unit closings).

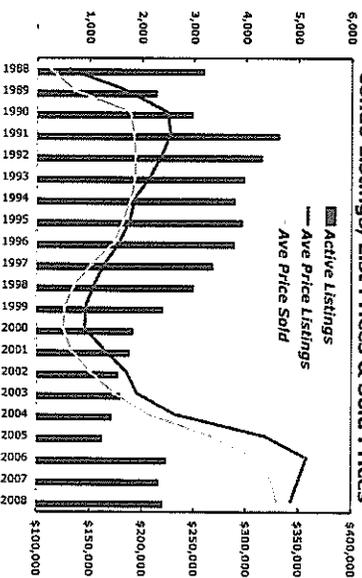
Resales vs New Sales: Condos



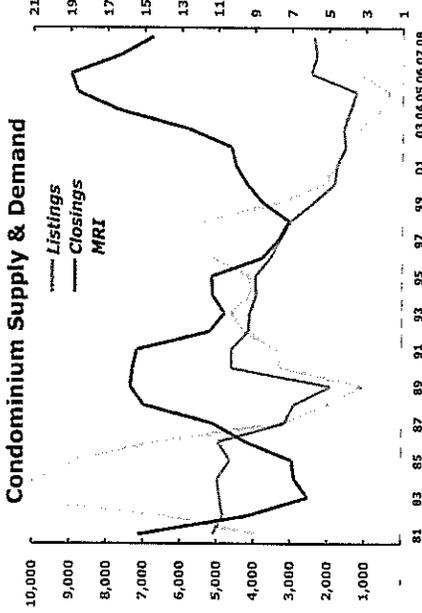
**LISTINGS:** As seen in the LISTINGS, LIST PRICES & SOLD PRICE Chart, the inventory of active listings has been up for three years, at about the same level, with not enough demand to move it, but neither much new supply.

Pricing is interesting, as the listing prices have fallen by 2% in each of the last 2 years, which the sold prices haven't stopped rising.

Condo Listings, List Prices & Sold Prices



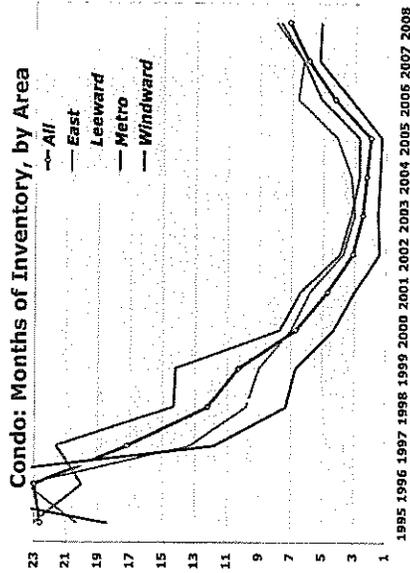
**SUPPLY/DEMAND BALANCE:** Again, when listings are seen in context with sales, listing levels are not particularly alarming. This can be seen, in the TOTAL SUPPLY, DEMAND AND



BALANCE Chart, which shows the balance in the relationship between listings (supply) and sales (demand) – months of remaining inventory (MRI).

Currently, there is 4.3 months of supply available on the market, which is still lower than the 8.9 average over the last 20 years.

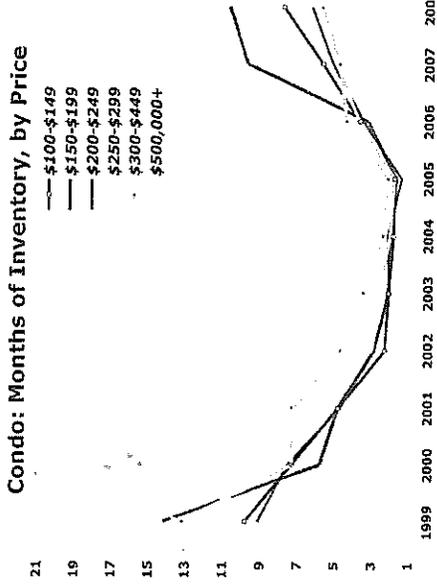
When breaking the MRI into segments based on location and price, we can see which communities experiencing the lightest markets (Leeward Oahu and Windward Oahu)...



By Ricky Cassidy

<http://www.rcassiday.com>

...and which price segments (\$250,000 to \$299,000 price range and \$300,000 - \$499,000 price range.



Finally, the question is where the market will go this year? The following chart plots sales and prices over a long period, and it shows the last cycle's top to bottom swing had a loss in price of around 20%, and the activity going from around 7,000 sales to 3,500.

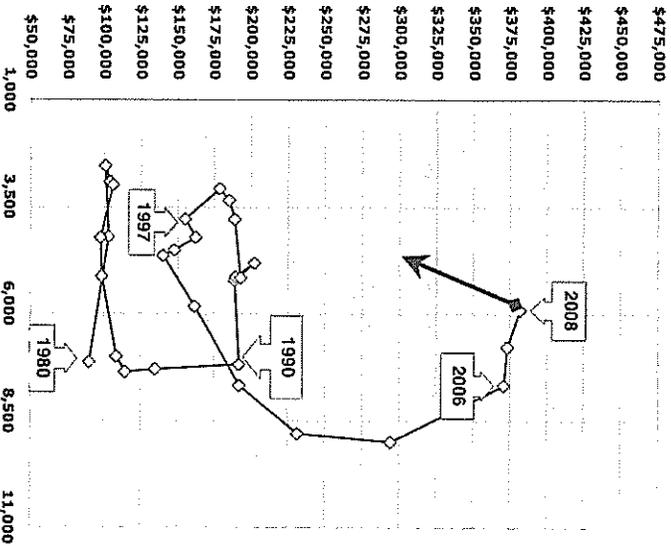
By Ricky Cassidy

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OUTLOOK FOR RESALES

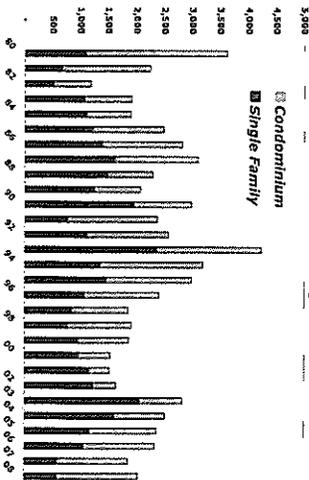
This FORECASTING SALES AND PRICES Chart plots the relationship between price and sales, with sales at the bottom and price on the right. It illustrates the general tendency of markets to follow a pattern (or cycle) that starts with low sales and low prices, moves to higher sales followed by higher prices, goes to yet higher prices and lower sales, followed by even lower sales with falling (and then falling) prices.

Future Condo Sales & Prices



The yellow points on the blue line in the chart represent the market's position in terms of the intersection of closings and prices) for every year since 1978. The arrows at the call out box for 2006 illustrate our general outlook or forecast (the red arrow illustrates our pessimistic view and the yellow one our optimistic view).

Developer Closings Trend



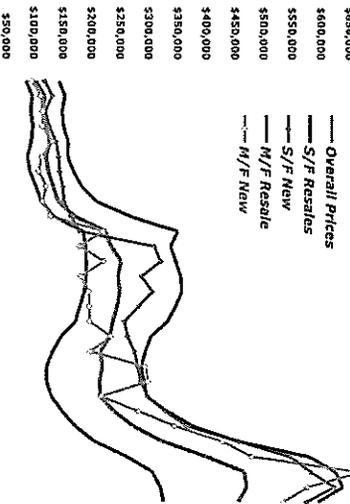
VI. THE CURRENT NEW HOME MARKET

**CLOSINGS AND PRICES:** Interestingly, the new homes market had its first breakout year in a decade in 2003, hitting 2,845 units. Unfortunately, it was not able to build on it, thanks to the concrete strike and other material shortages (including zoned land, ultimately).

Part of the reason for this is that several major master planned communities are running out of land (or have run out of land). Relative to several years ago, Waikalei, Kapolei and Kunia are no longer producing homes this year, and Mililani will be out of its inventory of entitled lots this year or the next. Furthermore, there may not be a smooth transition to higher production, as Horton's big project in Kapolei, Koa Ridge and Waiawa are more than 3 years away from delivering homes (or more).

Indeed, the strength and breadth of the market was such that when builders ran into these shortages, they had to raise prices. And as they raised prices, they slowly had to roll out single family and into condominium production.

Median Price Index

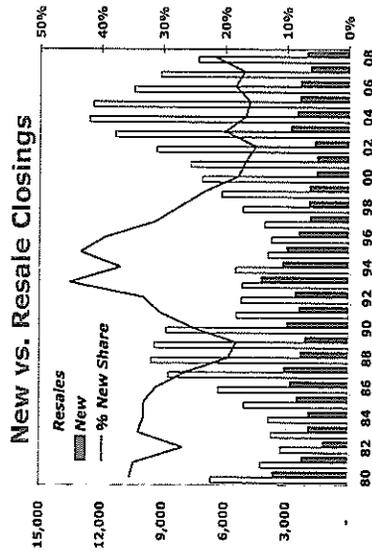


Prices also held back sales – the new MF homes price index climbed sharply the last few years, thanks to a bevy of high-end, high-rise closings (up over 40%). Indeed, the index went from being the fourth or the fifth lowest price index (in the last cycle) to being the top of the second or third (and the spread between itself and its resale MF brethren increased dramatically).

Breaking out the pricing trends by resale and new, condo and single family, the MEDIAN PRICE INDEX Chart shows that single family developers were able to price their homes at or just below the comparable area resale homes, while the condominium market was able to price substantially above resales, thanks to the stronger market for new product and high-end infill locations (like Hawaii Kai, Kapiolani or Waikiki) or on resorts (Ko Olina).

At this stage in the cycle, developers are targeting demand for primary housing, mainly workforce in nature, and trying to bring their cost of construction to a level that allows them to build in this lower price segment.

In spite of all of this activity, the developer share of the overall market is quite low, particularly by historical standards (as seen in the NEW Vs RESALE CLOSING Chart). Even with the strong growth this year, developer market share has only just moved above the high teens. This leads us to believe that this sector can grow further in 2008 and beyond, if and as resources are available at a reasonable cost.



The following table gives a better description of the trends in the new homes market. It shows the contracts (Sales), closings, the average list prices, and the average closing prices.

**TOTAL NEW HOMES MARKET TRENDS**

	2002	2003	2004	2005	2006	2007
Sales	2,288	3,016	2,930	2,410	2,132	1,423
Closed	1,509	2,563	2,246	2,291	2,144	1,845
Ave List \$	\$338,117	\$424,579	\$505,617	\$555,164	\$693,812	\$602,509
Ave Closed \$	\$321,419	\$364,894	\$451,788	\$516,902	\$587,753	\$595,165

As seen, the sales (contracts written) have been slowing since 2003, but really fell off in 2007. The culprit firstly was single family (see below) and not condos.

**TOTAL NEW CONDOMINIUM MARKET TRENDS**

	2003	2004	2005	2006	2007
Sales	1,196	1,747	1,343	1,482	897
Closed	635	754	1,166	1,155	1,302
Ave List \$	\$509,845	\$532,971	\$579,316	\$740,963	\$910,501
Ave Closed \$	\$349,083	\$432,760	\$483,687	\$723,978	\$591,338

As seen, while sales are off, closings have not really slowed down, even in 2007. This is because many of them came on high-rise reservations and contracts that had been written 20-28 months earlier.

**HIGH-RISE NEW CONDOMINIUM MARKET TRENDS**

	2003	2004	2005	2006	2007
Sales	475	1,043	608	1,184	663
Closed	35	245	383	629	893
Ave List \$	\$802,407	\$599,978	\$674,241	\$824,029	\$1,081,267
Ave Closed \$	\$609,943	\$512,653	\$437,512	\$1,015,943	\$643,553

In fact, the condo market will not see a decline in closings until after this year, when 2 high-rise projects complete (and even then, there are another couple high-rise projects coming through the pipeline.

Interestingly, the low-end of the new condo market in the suburban communities, i.e., the developers of town home and flats, have also slowed down markedly. This, however, is more a function of developers not building many of these units (which have a lower per unit profit margin, as opposed to the high end). This is about to change, with the onset of the push to build more affordable housing coinciding with the fall off of demand for the higher end homes and condos.

**LOW-RISE NEW CONDOMINIUM MARKET TRENDS**

	2003	2004	2005	2006	2007
Sales	721	704	735	288	234
Closed	600	599	783	526	409
Ave List \$	\$317,104	\$433,698	\$500,793	\$410,928	\$426,664
Ave Closed \$	\$333,866	\$394,334	\$506,273	\$494,531	\$445,501

Thus, the slowdown in the resale market has also been felt in the new home segment. Notwithstanding the strong showing of high-rise sales and closings, the rest of the market has taken a breather, with lighter traffic, slower reservations and an increase in incentives (no closing costs, credits, pre-paying points, interest rate buy-downs).

That said, this softness in the market is not being felt by all new projects: case in point is the success that Country Club Village 6, a new project in Salt Lake, enjoyed several months ago, selling out in 2 days. Their success was due to buyer's desires to have newly built housing over similarly configured resale units at an equal or lesser price. As mentioned, the supply of new housing has not been keeping up with demand, both historically and contemporarily.



Listings have grown, 8% this year and as a result the Months of Remaining Inventory (MRI) has risen somewhat significantly, now at 6.58 months. Then, listing prices are falling, albeit not by much. Listing DOM is up again, now a bit over 80 days, but the average value for listings \$/sf is down, more than price points, -1.9%.

Next, we look at the area around Downtown/Makiki to Waikiki/Moiliili, TMK Zone 1-2, for the same data parameters:

TMK 1-2 CONDOMINIUM MARKET, 2003 TO 2008

	Sold	Price	Intr sf	DOM	Sales/List	\$/sf
2004	1,166	\$334,190	795	42	98.0%	\$420
2005	1,292	\$354,847	726	36	98.8%	\$489
2006	1,205	\$380,113	680	51	97.7%	\$530
2007	1,259	\$374,196	700	54	97.7%	\$534
2008	956	\$368,996	692	62	97.2%	\$534
	Sold	Price	Intr sf	DOM	Sales/List	\$/sf
2005	11%	6.2%	-9%	-16%	0.8%	16.3%
2006	-7%	1.5%	-6%	45%	-1.2%	8.4%
2007	4%	3.9%	3%	6%	0.1%	0.9%
2008	-24%	-1.4%	-1%	13%	-0.6%	-0.1%
1 Yr	-24%	-1%	-1%	13%	-0.6%	-0.1%
2 Yr	-10%	1%	1%	10%	-0.5%	0.4%
3 Yr	-9%	1%	-2%	21%	-0.6%	3.0%
	MRI	List/Sales Premium				
2006	4.47	103%				
2007	4.72	103%				
2008	7.03	103%				
	Listings	Price	Intr sf	DOM	\$/sf	
2005-2Q-A	297	\$355,717	719	37	\$495	
2006-1Q-A	449	\$371,988	669	59	\$556	
2007-2Q-M	495	\$385,865	659	71	\$586	
2008-1Q-A	560	\$381,329	672	88	\$567	
	Listings	Price	Intr sf	DOM	\$/sf	
2006	51.2%	4.6%	-5.9%	60.0%	12.4%	
2007	10.2%	3.7%	-1.5%	20.2%	5.3%	
2008	13.1%	-1.2%	2.0%	23.1%	-3.2%	
Yr	Listed	Price	Intr sf	DOM	\$/sf	
1 Yr	13.1%	-1.2%	2.0%	23.1%	-3.2%	
2 Yr	11.7%	1.3%	0.3%	21.6%	1.1%	
3 Yr	24.9%	2.4%	-2.1%	34.4%	4.8%	

Relative to the island wide market, this segment is higher priced than its big brother, but slower activity wise, at least so far for 2008. Other comparisons: TMK Zone 1-2's price points are slightly more volatile, and the trends for MRI, DOM and Sales to List \$ are slightly more pessimistic.

Next, we look at the supply side of the market, listings: Listings have grown, 13% this year and as a result the Months of Remaining Inventory (MRI) has risen significantly, now at 7.03 months. The other news is that listing prices are falling, albeit not by much. Listing DOM is up again, now at almost 90 days, but the average value for listings \$/sf is down, more than price points, -3.2% vs. -0.1%.

One Bedroom Affordable Market

Relative to the larger market, there has been pretty good activity in this market, and prices have been rock solid. A particular indication of this market's sustainability is the seen in the MRI, which is a very low number (even given that overall activity is down). This is also borne out by the lower DOM and the higher Sales/List ratio. Finally, the List to Sale Price premium shows that sellers expect buyers to accept higher prices, going forward.

ONE BEDROOM FEE-SIMPLE TMK 1-2 MARKET OVERVIEW

	Sold	Price	Intr sf	DOM	Sales/List	\$/sf
2004	569	\$272,766	603	39	98.3%	\$452
2005	621	\$285,812	574	33	99.0%	\$498
2006	576	\$303,029	566	47	97.9%	\$535
2007	574	\$304,015	564	53	97.7%	\$539
2008	455	\$312,184	566	63	97.1%	\$551
	Sold	Price	Intr sf	DOM	Sales/List	\$/sf
2005	9%	4.6%	-9%	-15%	0.8%	10.1%
2006	-7%	6.0%	-1%	41%	-1.2%	7.6%
2007	0%	0.3%	0%	12%	-0.2%	0.6%
2008	-21%	2.7%	0%	20%	-0.6%	2.4%
1 Yr	-21%	3%	0%	20%	-0.6%	2.4%
2 Yr	-11%	2%	0%	16%	-0.4%	1.5%
3 Yr	-9%	3%	0%	24%	-0.7%	3.5%
	MRI	List/Sales Premium				
2006	4.23	101%				
2007	4.52	103%				
2008	6.65	102%				
	Listings	Price	Intr sf	DOM	\$/sf	
2005-2Q-A	135	\$288,046	558	34	\$516	
2006-1Q-A	203	\$305,796	539	56	\$567	
2007-2Q-M	216	\$314,204	541	66	\$581	
2008-1Q-A	252	\$317,114	556	89	\$570	
	Listings	Price	Intr sf	DOM	\$/sf	
2006	56.4%	6.2%	-3.4%	66.9%	9.9%	
2007	6.4%	2.7%	0.3%	17.6%	2.4%	
2008	16.7%	0.9%	2.8%	34.3%	-1.8%	
Yr	Sold	Price	Intr sf	DOM	\$/sf	
1 Yr	16.7%	0.9%	2.8%	34.3%	-1.8%	
2 Yr	11.5%	1.8%	1.5%	25.9%	0.3%	
3 Yr	24.5%	3.3%	-0.1%	39.6%	3.5%	

Relative to the overall market, this projects 43 unit offering is less than 10% of the projected 2008 market (or 7.4% of 2007), a very low figure given the attractiveness of new product. The average size of market units is larger (566 vs. 458 sf), but then again, so is its average age (32 years), and floor level (7<sup>th</sup>), indicating that many walk-up units).

TOTAL ONE-BEDROOM PRODUCT OFFERINGS

Count	Sq Ft	Ave \$	Min \$	Max \$	Ave \$	Min \$	Max \$
43	458	\$313,293	\$243,700	\$353,900	\$884	\$532	\$773

Next, we take each of the smaller market segments (by \$50,000 increments) and examine the micro market relative to the project's offerings, starting with the \$200,000 to \$250,000 one.

Simply put, this is a market that is disappearing, as sellers, understanding they can get much higher prices for their units, migrate upwards to that price segment. That said, most indicators - listings, prices, price per square foot, DOM, Sales Prices - are steady. The Months of Remaining Inventory (MRI) is up because sales are so down.

ONE BEDROOM MARKET \$200,000 to \$250,000

Year	Sold	Price	Int st	DOM	Sales/Lists	\$/ft
2004	229	\$221,359	57.1	45	98.4%	\$388
2005	183	\$223,604	530	36	99.4%	\$422
2006	110	\$227,524	484	56	97.7%	\$470
2007	103	\$230,994	471	43	97.9%	\$491
2008	46	\$227,992	474	55	97.7%	\$481
2005	-20%	1.0%	-7%	-20%	1.0%	8.8%
2006	-40%	1.8%	-9%	-23%	-1.7%	11.4%
2007	-6%	1.5%	-3%	-23%	0.2%	4.4%
2008	-56%	-1.3%	1%	28%	-0.2%	-2.0%
Sold	Price	Int st	DOM	Sales/Lists	\$/ft	
1 Yr	-86%	-1%	1%	28%	-0.2%	-2.0%
2 Yr	-31%	0%	2%	2%	0.0%	1.2%
3 Yr	-34%	1%	-4%	21%	-0.6%	4.6%
2006	4.80	101%				
2007	3.73	101%				
2008	8.44	104%				
	Listings	Price	Int st	DOM	\$/ft	
2005-Q1-A	49	\$228,969	514	37		\$446
2006-Q1-A	44	\$230,220	466	72		\$434
2007-Q1-A	32	\$232,977	482	56		\$504
2008-Q1-A	32	\$236,503	466	90		\$508
	Listings	Price	Int st	DOM	\$/ft	
2006	-10.2%	0.5%	-9.3%	96.8%		10.9%
2007	-27.3%	1.2%	-0.8%	-21.9%		2.0%
2008	0.0%	1.5%	0.7%	59.1%		0.8%
Yr	Sold	Price	Int st	DOM	\$/ft	
1 Yr	0.0%	1.5%	0.7%	59.1%		0.8%
2 Yr	-13.6%	1.4%	0.0%	18.6%		1.4%
3 Yr	-12.5%	1.1%	-3.1%	44.7%		4.6%

Relative to this, the project's proposed market five unit offering is likely to be sold out quickly, simply because there are so few quality offerings on the open market (average floor is 2.7, average year when units were built, 1963).

ONE BEDROOM PRODUCT OFFERINGS, \$200,000 to \$250,000

Count	Sq Ft	Ave \$	Min \$	Max \$	Ave \$	Min \$	Max \$
5	368	\$246,700	\$243,700	\$249,700	\$689	\$681	\$697

The units here are mainly in walk-up buildings located well off the major thoroughfare streets, with poor parking and security.

ONE BEDROOM RESALE COMPS, \$200,000 to \$250,000

Area	Building	Sold	Ave \$	Ave Int \$/ft	DOM	Ave \$/sqft	Ave \$/ft
ALA MOANA DOWNTOWN	Six Twenty Sheridan Harbor Square	3	\$224,000	439	55	97.0%	\$449
HOLIDAY MART	On Emma Gardens	1	\$225,000	574	63	91.8%	\$392
KAPAAKO	Kapiohoni Manoa	2	\$242,000	484	67	97.8%	\$500
KAPOKIAUWARD	Kiuanu Villa	1	\$245,000	431	21	98.8%	\$568
MAKIKI AREA	1040 Kiuanu	1	\$226,000	827	55	94.6%	\$273
	1134 Kiuanu	1	\$230,000	467	44	93.4%	\$471
	Hale Pahi	1	\$225,000	455	29	97.9%	\$493
	Kaunuanu Plaza	1	\$245,000	561	120	98.0%	\$437
	Kaihee Kai	1	\$240,000	489	10	96.4%	\$461
	Keeunuku Hale	1	\$237,000	450	11	99.2%	\$527
	Makiki Colony	2	\$236,000	485	88	94.4%	\$487
	Makiki Palms	1	\$243,000	533	43	98.0%	\$456
	Pacificana Ailias	2	\$240,000	510	10	100.0%	\$471
MOEILLI	Charmont	1	\$236,000	429	16	96.7%	\$550
	Hale Hoaloa	1	\$224,000	395	7	99.6%	\$567
	Kaunana Manor	5	\$234,000	604	111	96.1%	\$387
	Rainbow Terrace	1	\$239,000	570	10	100.0%	\$419
	University Villa	6	\$225,000	494	6	98.3%	\$465
	Waialea, HI	3	\$218,333	445	79	98.1%	\$481
UNIVERSITY	Kiuanu Hale	4	\$238,875	389	42	95.5%	\$609
WAIKIKI	417 Namahana Blvd Tower	1	\$215,000	525	210	100.0%	\$470
	Hawaiian Crown	2	\$236,000	409	11	99.0%	\$577
	Island Colony	3	\$239,833	568	41	95.0%	\$422
	Kalakaia	5	\$224,400	434	56	98.8%	\$518
	Kuhio Village	1	\$230,000	433	41	95.8%	\$531
	Pacific Islander	1	\$232,000	484	7	100.9%	\$500
	Resalee Ltd	11	\$227,945	459	61	96.6%	\$487
	Waikiki Cove	5	\$225,000	550	5	113.1%	\$469
	Waikiki Park Hgls	1	\$245,000	537	16	91.4%	\$456

As seen, most of these buildings are aged, with dated and inefficient designs, poor security and high maintenance costs. In comparison, this is newly built construction located in a very livable neighborhood. As such, we believe that any development that produced such a unit and priced it in this price range would encounter quite a lot of demand.

Next, we look at the market segment immediately above this one.

In relation to the prior segment, this one is much more substantial, inasmuch as most of the cheaper unit sales have migrated into it. Relative to the overall market, this segment has a much better MRI, plus steady prices and a more realistic List to Sales Premium ratio (101%, showing slight optimism on the part of sellers that they will get buyers to pay a 1% extra amount, due to market conditions). On the other hand, the DOM and Sales\$/List\$ indicators are worse than the overall market. Listings are growing faster (25% vs. 16%) in this market than in the overall one, but prices aren't going up as fast (0.2% vs. 0.9%).

ONE BEDROOM MARKET \$250,000 to \$300,000

Year	Sold	Price	Intr \$f	DOM	Sales\$/List\$	\$/sf
2004	169	\$273,179	606	42	98.2%	\$451
2005	200	\$273,194	580	31	99.3%	\$471
2006	161	\$277,516	548	47	97.7%	\$508
2007	175	\$277,375	546	56	97.3%	\$508
2008	147	\$278,040	540	66	96.6%	\$515
	Sold	Price	Intr \$f	DOM	Sales\$/List\$	\$/sf
2005	18%	0.0%	-4%	-28%	1.1%	4.6%
2006	-20%	1.6%	-5%	53%	-1.5%	7.5%
2007	9%	-0.1%	0%	18%	-0.5%	0.3%
2008	-16%	0.2%	-1%	19%	-0.7%	1.3%
	Sold	Price	Intr \$f	DOM	Sales\$/List\$	\$/sf
1 Yr	-16%	0%	-1%	19%	-0.7%	1.3%
2 Yr	-4%	0%	-1%	19%	-0.6%	0.8%
3 Yr	1%	0%	-2%	30%	-0.9%	3.0%
	MRI	List/Sales Premium				
2006	3.65	100%				
2007	4.11	101%				
2008	6.12	101%				
	Listings	Price	Intr \$f	DOM	\$/sf	
2005-2Q-A	33	\$274,087	565	25	\$465	
2006-1Q-A	49	\$277,152	528	50	\$525	
2007-2Q-M	60	\$280,821	519	56	\$541	
2008-1Q-A	75	\$281,421	535	70	\$526	
	Listings	Price	Intr \$f	DOM	\$/sf	
2006	48.5%	1.1%	-6.6%	100.2%	8.3%	
2007	22.4%	1.3%	-1.7%	12.6%	3.0%	
2008	25.0%	0.2%	3.2%	23.4%	-2.9%	
	Sold	Price	Intr \$f	DOM	\$/sf	
1 Yr	25.0%	0.2%	3.2%	23.4%	-2.9%	
2 Yr	23.7%	0.8%	0.7%	18.0%	0.1%	
3 Yr	32.0%	0.9%	-1.7%	43.4%	2.8%	

In comparison between the market and the project, the project's offerings are better priced (\$20,000, on average) but smaller in size. The number of units offered is well under a 10% market share (2006) and 6.2% of market for 2007.

ONE BEDROOM PRODUCT OFFERINGS, \$250,000 to \$300,000

Count	Sq Ft	Ave \$	Min \$	Max \$	Ave \$	Min \$	Max \$
11	358	\$268,700	\$251,200	\$268,200	\$723	\$702	\$744

The average year that these resale units were built in was 1971, making them not very comparable. Thus, we believe there is a good likelihood that this project will be very well received.

ONE BEDROOM RESALE COMPS, \$250,000 to \$300,000

Area	Building	Sold	Ave \$	Ave Int \$f	DOM	Ave \$/sf	\$/sf
ALA MOANA	Alfons Towers Inc	1	\$271,000	730	48	87.4%	\$371
KAPAHULU	Summer Villa	4	\$282,000	542	48	98.4%	\$920
	Sun Haia	2	\$289,750	546	130	97.7%	\$631
KAPIOWARD	King Manor	2	\$292,000	632	16	99.4%	\$462
KAPIOLANI	Aia Wai Plaza	1	\$292,000	602	86	94.2%	\$485
	Marco Polo Apts	1	\$290,000	589	191	90.3%	\$492
	Regency Tower	2	\$286,500	600	139	96.0%	\$478
MAKIKI AREA	1134 Kinau	1	\$285,000	467	51	100.0%	\$667
	1650 Piikoi	1	\$285,000	561	211	98.6%	\$508
	Malia Terrace	1	\$275,000	798	27	92.0%	\$345
	Makiki Bel Aire	1	\$270,000	440	69	96.9%	\$614
	Makiki Plaza	1	\$280,000	715	51	93.6%	\$392
	Makini At Kinau	13	\$286,577	487	6	100.0%	\$614
	Malloch Hale	2	\$282,500	664	50	98.1%	\$425
	Piikoi Tower	2	\$280,000	1,976	1	93.3%	\$142
	Rose Terrace	2	\$287,750	563	116	98.9%	\$511
	Wildier House	2	\$297,250	638	66	97.1%	\$466
MCCULLY	Farm Gardens	2	\$281,500	532	38	98.9%	\$429
MOILILI	Hale Kulanui	4	\$278,250	580	19	99.1%	\$480
	Hale Luana	1	\$255,000	625	67	100.0%	\$408
	Hono Hale Towers	2	\$254,500	481	26	97.6%	\$530
	Kaulana Manor	1	\$252,000	604	36	96.9%	\$417
	Rainbow Place	1	\$285,000	540	48	95.0%	\$528
	Rainbow Place	1	\$270,000	540	27	90.3%	\$500
PUNAHOU	Alexander Gardens	1	\$250,000	446	11	96.5%	\$661
	Banyan Tree Plaza	1	\$284,500	514	70	98.5%	\$573
	Punahou Sunset	1	\$289,000	552	9	99.8%	\$524
	Punahou Wilder	1	\$255,000	594	40	89.5%	\$429
	Tiara Apts	1	\$295,000	629	58	95.2%	\$469
WAIKIKI	418 Namahana	1	\$258,000	436	42	100.0%	\$592
	Aloha Lani	14	\$274,393	415	53	96.6%	\$661
	Bamboo	2	\$263,000	372	18	95.6%	\$707
	Hele Moani	2	\$282,000	523	122	96.3%	\$539
	Hawaiian Crown	2	\$284,000	409	64	99.7%	\$645
	Hawaiian Monarch	1	\$288,000	478	102	96.3%	\$605
	Island Colony	2	\$268,250	620	82	96.5%	\$433
	La Casa	3	\$282,167	559	46	93.9%	\$505
	Pavillion At Waikiki	2	\$280,000	547	107	96.6%	\$512
	Waikiki Imperial Apts	1	\$279,000	516	89	100.0%	\$541
	Waikiki Lanais	2	\$299,474	576	64	100.0%	\$520
	Waikiki Peak Hgts	2	\$280,000	513	9	94.1%	\$546
	Waialua Apts	2	\$287,000	625	87	94.4%	\$459

The next market segment up in price shows about the same steady activity between 2007 and YTD 2008. What is noteworthy is how close in number the 2007 sales are to the projected 2008 sales -- a sign that there is a lot more demand out there than represented by these numbers. Further, the MRI is more favorable here, as is the DOM and the Sales/Listings ratio (as well as the List/Sales Premium). In addition, listings aren't going up as quickly, but the list prices are rising moderately.

ONE BEDROOM MARKET \$300,000 to \$350,000

Year	Sold	Price	Intr st	DOM	Sales/List	\$/sf
2004	106	\$320,190	641	24	98.4%	\$500
2005	135	\$324,079	614	32	98.5%	\$528
2006	187	\$322,789	589	43	97.9%	\$539
2007	165	\$324,272	593	51	98.1%	\$547
2008	151	\$323,509	578	58	96.9%	\$565
	Sold	Price	Intr st	DOM	Sales/List	\$/sf
2005	27%	1.2%	-4%	33%	0.1%	5.7%
2006	38%	-0.4%	-2%	33%	-0.8%	2.1%
2007	-12%	0.5%	-1%	19%	0.2%	1.5%
2008	-9%	-0.2%	-3%	14%	-1.2%	2.4%
	Sold	Price	Intr st	DOM	Sales/List	\$/sf
1 Yr	-8%	0%	-3%	14%	-1.2%	2.4%
2 Yr	-10%	0%	-2%	16%	-0.5%	1.9%
3 Yr	6%	0%	-2%	22%	-0.5%	2.0%
	MRI	List/Sales Premium				
2006	3.40	99%				
2007	4.51	100%				
2008	5.18	101%				
	Listings	Price	Intr st	DOM		\$/sf
2005-Q4-A	24	\$327,442	602	41		\$544
2006-Q4-A	33	\$320,505	573	49		\$580
2007-Q4-M	62	\$325,695	561	76		\$581
2008-1-Q-A	65	\$326,177	585	110		\$558
	Listings	Price	Intr st	DOM		\$/sf
2006	120.9%	-2.1%	-4.8%	19.3%		2.8%
2007	17.0%	1.6%	-2.1%	56.6%		3.8%
2008	4.8%	0.1%	4.4%	44.5%		4.0%
	Yr	Sold	Price	Intr st	DOM	\$/sf
1 Yr	4.8%	0.1%	4.4%	44.5%		-4.0%
2 Yr	10.9%	0.9%	1.1%	50.5%		-0.1%
3 Yr	47.6%	-0.1%	-0.9%	40.1%		0.9%

In comparison with the resale market, the developer units are smaller and the prices on average are lower. Notably, the market units are quite old, on average, built in 1971. Furthermore, they are located, on average on a lower floor.

ONE BEDROOM MARKET \$300,000 to \$350,000

Count	Sq Ft	Ave \$	Min \$	Max \$	Ave \$	Min \$	Max \$
16	517	\$344,763	\$337,100	\$349,400	\$666	\$651	\$675

The share of market that these 16 units represent is under 10% for 2007, and 10.5% for 2008. While the largest of all the segments looked at so far, it is not out of line, certainly it is in line with the other, earlier, segments. Indeed, as seen in the list of comparable units noted below, there are very few projects of a recent vintage.

ONE BEDROOM RESALE MARKET COMPS, \$300,000 to \$350,000

Area	Building	Chd	Ave \$	Ave Intr st	DOM	Ave \$/sf
ALA MOANA	Auktson Plaza	3	\$306,000	583	26	90.5%
MOLEILLI	Crystal Park	1	\$320,500	594	58	98.7%
	Hale Kulani	1	\$305,000	619	8	100.0%
	Haukaun	3	\$324,000	609	22	100.3%
	Kings Gale	2	\$314,000	791	46	107.7%
	Mccully Villa	2	\$311,500	532	48	97.0%
	Seaside Towers	5	\$321,200	557	31	98.6%
	Twenty One Hundred	2	\$327,500	578	165	96.5%
PAWAA	Hale Kahaka	2	\$337,500	608	58	98.6%
	Kapoleial Towers	1	\$320,000	698	1	97.0%
PUNAHOU	Alexander	2	\$325,000	667	111	97.1%
	Kinau Lanais	1	\$305,000	689	30	95.3%
PUNCHBOWL	Lunililo Tower	1	\$315,000	589	32	94.0%
WAIKIKI	442 Lavers St	1	\$320,000	565	200	97.6%
	444 Nahua	4	\$340,000	520	233	94.4%
	Aloha Lani	5	\$312,800	460	55	97.5%
	Bvd Tower	1	\$310,000	587	217	98.7%
	Canal House	4	\$329,500	604	68	93.6%
	Chateau Waikiki	5	\$337,000	554	76	96.7%
	Fairway Villa	3	\$317,000	557	79	94.3%
	Four Paddle	4	\$344,333	553	129	96.1%
	Island Colony	2	\$310,000	597	104	94.8%
	Kaoni Ana	4	\$326,500	648	52	98.0%
	La Casa	8	\$327,225	599	40	98.2%
	Nihau Apts Inc	1	\$327,000	487	9	100.0%
	Pacific Monarch	1	\$340,000	443	277	94.7%
	Pains Inc	1	\$338,000	615	32	100.0%
	Pavilion At Waikiki	5	\$326,400	563	45	97.6%
	Seashore	1	\$335,000	467	42	95.7%
	Villa On Eaton Square	1	\$345,000	593	164	93.6%
	Waikiki Imperial Apts	2	\$315,500	598	21	97.4%
	Waikiki Lanais	1	\$329,500	558	14	103.0%
	Waikiki Skytower	1	\$317,500	602	27	94.8%
	Waimua Apts	1	\$301,000	625	45	97.4%
WAIKIKI Total		62	\$326,239	570	74	96.8%

Finally, the last market segment in the one bedroom market that is germane to these affordable one-bedroom units is the \$350,000 to \$399,000 segment.

This market is a bit more volatile, in terms of activity, but steadier in terms of price. This is shown by the jump in the MRI in 2008, as well in the DOM. That noted, the other induces of the market show it to be stable.

ONE BEDROOM MARKET \$350,000 to \$399,000

Year	Sold	Price	Intr sf	DOM	Sale\$/Lst\$/	S/sf
2004	65	\$375,466	649	36	97.7%	\$578
2005	103	\$370,692	592	36	98.5%	\$626
2006	118	\$376,909	616	45	98.2%	\$612
2007	131	\$371,501	627	59	97.5%	\$592
2008	112	\$375,981	623	70	97.7%	\$604
Sold	56%	-1.3%	-9%	1%	0.8%	8.3%
2005	15%	1.7%	4%	25%	-0.3%	-2.3%
2006	11%	-1.4%	2%	30%	-0.7%	-3.2%
2007	-15%	1.2%	-1%	19%	0.2%	1.9%
Sold	Price	Intr sf	DOM	Sale\$/Lst\$/	S/sf	
1 Yr	-15%	1%	-1%	19%	0.2%	1.9%
2 Yr	-2%	0%	1%	25%	-0.2%	-0.6%
3 Yr	4%	0%	2%	25%	-0.3%	-1.2%
MRI	List/Sales Premium					
2006	5.80	100%				
2007	5.68	101%				
2008	8.57	100%				
Listings	Price	Intr sf	DOM	Sale\$/Lst\$/	S/sf	
2005-2Q-A	29	\$371,134	589	33	\$630	
2006-1Q-A	57	\$375,082	575	56	\$652	
2007-2Q-M	62	\$376,943	584	70	\$646	
2008-1Q-A	80	\$375,457	586	89	\$639	
Listings	Price	Intr sf	DOM	Sale\$/Lst\$/	S/sf	
2006	96.6%	1.1%	-2.4%	72.4%	3.5%	
2007	8.8%	0.5%	1.5%	25.4%	-1.0%	
2008	23.0%	-0.4%	0.7%	26.0%	-1.1%	
Yr	Listed	Price	Intr sf	DOM	Sale\$/Lst\$/	
1 Yr	25.0%	-0.4%	0.7%	26.0%	-1.1%	
2 Yr	18.9%	0.1%	1.1%	25.7%	-1.1%	
3 Yr	44.8%	0.4%	0.0%	41.2%	0.5%	

In comparison with what's available on the market (listings) and the developer units, we note that the average floor for both the developer units and the listings is 13<sup>th</sup>. Finally, the average age of both listings and closed is 33 years.

ONE BEDROOM MARKET \$350,000 to \$399,000

Count	Sq Ft	Ave \$	Min \$	Max \$	Ave \$	Min \$	Max \$
11	516	\$352,382	\$350,600	\$353,900	\$683	\$680	\$686

The share of market of these 11 units is again less than 10%.

Finally, relative to the developer units, the market units are larger and much more expensive.

Unlike earlier segments, there are some comparables drawn from more recent projects (all of which are substantially higher priced than these developer units).

ONE BEDROOM RESALE MARKET COMPS, \$325,000 to \$375,000

Area	Building	Count	Ave \$	Ave Int. sf	DOM	Ave list/ist
ALA MOANA	Summer Palace	3	\$361,333	545	21	99.5%
	Sunset Towers	2	\$371,500	642	54	90.9%
MOILILI	Crystal Park	2	\$328,250	594	4	98.7%
	Hauaten	2	\$331,500	606	13	102.0%
	Kings Gate	3	\$334,000	791	46	107.7%
	Scenic Towers	3	\$326,000	561	28	98.6%
	Twenty One Hundred	2	\$349,750	518	214	97.9%
PANAA	Hale Kahaka	6	\$353,667	606	46	98.6%
PUNAHOU	Alexander	1	\$330,000	667	48	\$495
	Banyan Tree Plaza	1	\$370,000	715	23	96.1%
PUNCHBOWL	950 Prospect	1	\$342,000	523	10	100.9%
	Bel-air Plaza	1	\$333,000	518	30	101.2%
	Dowsett Point	1	\$365,000	771	9	100.0%
	Ka Hale Mo	1	\$358,000	675	39	97.0%
WAIKIKI	444 Nahua	2	\$355,000	524	121	97.2%
	445 Nahua	2	\$330,500	524	82	95.4%
	Ala Wailani	1	\$360,000	818	69	95.9%
	Canal House	3	\$346,667	606	49	95.1%
	Chateau Waikiki	9	\$352,222	553	60	95.7%
	Fairway Villa	1	\$326,000	555	129	95.5%
	Four Paddie	7	\$353,286	553	116	95.5%
	Hale Moani	1	\$325,000	593	61	96.2%
	Iikai Apt Bldg	4	\$354,313	500	167	86.5%
	Island Colony	2	\$360,000	570	56	95.0%
	Kaolu Sunrise	1	\$349,000	627	309	100.0%
	Keoni Ana	2	\$331,000	643	75	98.5%
	La Casa	5	\$334,560	601	36	98.5%
	Leisure Heritage	1	\$360,000	720	4	100.0%
	Lihokalani Gardens	1	\$352,000	549	39	91.4%
	Nihoa Apts Inc	1	\$327,000	487	9	100.0%
	Pacific Monarch	1	\$340,000	443	277	84.7%
	Palms Inc	1	\$336,000	615	32	100.0%
	Pavilion At Waikiki	5	\$342,800	554	44	98.4%
	Seashore	1	\$335,000	467	42	95.7%
	Seaside Suites	2	\$355,000	623	166	95.3%
	Villa On Eaton Square	8	\$354,125	658	110	96.1%
	Waikiki Lanais	1	\$329,500	558	14	103.0%
	Waikiki Skytower	2	\$365,000	585	133	95.6%
	Waikiki Townhouse	1	\$360,000	682	99	95.5%

As seen, these units compare well with what the alternatives are on the market above (given the benefits of location, price, new construction, view), we believe these units should be able to sell out within a period of 0-1 months (similar to Country Club Village 6).

**Two Bedroom Affordable Market**

Relative to the one bedroom market, the two-bedroom market shows a lower activity, but a stable pricing trend. Some of this is due to the bracket creep, wherein many units have seen such price appreciation of late that they now do not fit within these price brackets (especially in this lower end price bracket).

**TWO BEDROOM FEE-SIMPLE CONDO MARKET \$350,000 - \$450,000**

Year	Sold	Price	Intr sf	DOM	Sales/Lists	\$/sf
2004	206	\$389,353	968	46	98.0%	\$402
2005	240	\$398,508	879	41	98.6%	\$453
2006	190	\$401,448	830	56	96.8%	\$484
2007	194	\$400,379	815	67	97.6%	\$481
2008	189	\$401,798	841	62	95.6%	\$478
	Sold	Price	Intr sf	DOM	Sales/Lists	\$/sf
2005	17%	2.4%	-9%	0.6%	12.7%	
2006	-21%	0.7%	-6%	36%	-1.8%	6.7%
2007	2%	-0.3%	-2%	19%	0.9%	1.5%
2008	-3%	0.4%	3%	-8%	-1.1%	-2.8%
	Sold	Price	Intr sf	DOM	Sales/Lists	\$/sf
1 Yr	-3%	0%	3%	-8%	-1.1%	-2.8%
2 Yr	0%	0%	1%	5%	-0.6%	-0.6%
3 Yr	-7%	0%	-1%	16%	-0.7%	1.8%
	MRI	Lists/Sales Premium				
2006	4.3%	10.1%				
2007	4.5%	10.1%				
2008	4.9%	10.2%				
	Listings	Price	Intr sf	DOM		\$/sf
2005-2Q-A	59	\$400,473	871	43		\$460
2006-1Q-A	69	\$404,100	800	69		\$505
2007-2Q-M	75	\$405,771	779	69		\$521
2008-1Q-A	78	\$410,672	818	77		\$502
	Listings	Price	Intr sf	DOM		\$/sf
2006	16.9%	0.9%	-8.2%	60.0%		9.9%
2007	8.7%	0.4%	-2.6%	-0.5%		3.1%
2008	4.0%	1.2%	4.9%	11.5%		-3.6%
	Yr	Listed	Price	Intr sf	DOM	\$/sf
1 Yr	4.0%	1.2%	4.9%	11.5%		-3.6%
2 Yr	6.3%	0.6%	1.2%	5.5%		-0.2%
3 Yr	9.9%	0.9%	-1.9%	23.7%		3.1%

Note how the MRI is one of the strongest ones seen, that the DOM is very low and stable, and the Sales\$ to Lists\$ ratio is also one of the most consistent we've seen.

**TWO BEDROOM MARKET \$350,000 to \$450,000**

Count	Sq Ft	Ave \$	Min \$	Max \$	Ave \$	Min \$	Max \$
48	719	\$399,000	\$399,000	\$399,000	\$555	\$555	\$555

While these 48 affordable units constitute a 25% share of the 2008 estimated market (TID basis), we take note of just how strong this market segment is relative to the entire market (down by double digits, with MRI levels 50% to 200% higher). As commonly happens, new supply often generates new demand (which is to say that the provision of new housing supply at values demonstrably under market convinces a number of potential buyers to become actual buyers).

**TWO BEDROOM RESALE MARKET COMPS, \$400,000 to \$450,000**

Area	Building	Count	Ave \$	Ave Intr	DOM	\$/Intr	Ave	\$/sf
HOLIDAY MART	Coily Tower	1	\$430,000	858	31	95.6%	\$501	
	Kapiolani Bellare	4	\$421,750	943	77	98.1%	\$447	
	Woodrose	1	\$415,000	770	15	97.6%	\$539	
KINAUWARD	One Archer Lane	2	\$442,500	782	86	86.3%	\$566	
MAKIKI AREA	Consulate	1	\$410,000	750	7	95.6%	\$547	
	Fountains At Makiki	1	\$430,000	906	15	97.7%	\$475	
	Healani Hale	1	\$415,000	842	14	97.6%	\$483	
	Lihilo Townhouses	1	\$405,000	963	14	104.4%	\$421	
	Princess Semor Liv	1	\$440,000	709	137	97.9%	\$621	
	Pikoi Arlun	1	\$400,000	962	127	97.6%	\$416	
	Princess Kealeha	1	\$430,000	922	55	93.7%	\$466	
	Wildor House	1	\$430,000	864	41	94.3%	\$498	
	Wildor Repent	2	\$427,000	893	30	98.3%	\$478	
MOLILLI	Comtessa	4	\$430,000	1,044	73	99.2%	\$412	
	Kings Gate	2	\$415,000	933	59	97.2%	\$446	
	Rainbow Plaza	1	\$420,000	760	99	100.0%	\$553	
	Twenty One Hundred	1	\$440,000	778	59	97.8%	\$566	
PAWAA	Hale Kahaka	4	\$423,750	877	80	103.4%	\$483	
	Kapiolani Towers	1	\$405,000	795	5	100.0%	\$509	
PUNAHOU	Banyan Tree Plaza	1	\$435,000	981	174	100.0%	\$443	
	Prospect Chateau	1	\$420,000	792	51	98.8%	\$530	
PUNCHBOWL	Prospect Tower Apts	2	\$428,500	815	120	98.3%	\$527	
	Sly Tower Apts	2	\$415,000	866	32	98.9%	\$479	
	Victoria Plaza	1	\$400,000	855	24	97.7%	\$462	
WAIKIKI	1717 Ala Wai	1	\$420,000	922	45	95.7%	\$466	
	2121 Ala Wai	4	\$418,472	865	108	94.6%	\$530	
	2122 Ala Wai	7	\$417,786	884	38	98.0%	\$611	
	2466 Kuhio At Waikiki	1	\$419,900	966	236	101.2%	\$426	
	Governor Cleghorn	1	\$420,000	889	91	93.5%	\$472	
	Harbor View Plaza	1	\$425,000	801	93	94.9%	\$531	
	Keoni Ana	2	\$425,000	820	172	96.2%	\$518	
	Monie Vista	3	\$413,333	864	60	98.5%	\$504	
	Oahu Surf 2	1	\$438,000	856	148	100.0%	\$512	
	Palms Inc	1	\$432,000	906	139	92.9%	\$477	
	Waikiki Lanais	3	\$425,667	802	47	95.9%	\$532	

In summary, as with the one-bedroom units, these units are positioned very advantageously in the marketplace. Their share of market is very low and thus they should be able to sell out in 2-3 months of release.

**One Bedroom (Unrestricted) Market**

As seen, this market segment has grown dramatically these last few years, as the overall real estate market has taken off. YTD 2008 has seen a downturn in activity, but not in either prices or \$/sf values. The MRI, while not extremely low, is relatively stable. DOM is up this year, but Sales Prices to List Prices are flat.

**ONE BEDROOM TMK 1-2 OPEN MARKET OVERVIEW**

Year	Sold	Price	Intr sf	DOM	Sales/List	\$/sf
2004	94	\$388,042	674	39	97.8%	\$576
2005	180	\$387,014	610	39	98.5%	\$634
2006	184	\$392,135	617	42	98.1%	\$636
2007	213	\$390,681	632	51	97.6%	\$618
2008	168	\$390,919	625	70	97.6%	\$625
<b>Sold</b>						
2005	60%	-0.3%	-9%	-1%	0.7%	10.1%
2006	23%	1.3%	1%	8%	-0.4%	0.3%
2007	16%	-0.4%	2%	21%	-0.5%	-2.8%
2008	-21%	0.1%	-1%	37%	-0.1%	1.1%
<b>Sold</b>						
1 Yr	-21%	0%	-1%	37%	-0.1%	1.1%
2 Yr	-3%	0%	1%	29%	-0.3%	-0.8%
3 Yr	6%	0%	1%	22%	-0.3%	-0.5%
<b>MRI</b>						
2006	5.67	100%				
2007	6.14	102%				
2008	7.57	99%				
<b>Listings</b>						
2005-2Q-A	32	\$376,309	580	31		\$638
2006-1Q-A	87	\$391,800	585	55		\$669
2007-2Q-M	109	\$397,212	594	72		\$660
2008-1Q-A	106	\$387,891	596	85		\$651
<b>Listings</b>						
2006	171.9%	4.1%	-0.7%	74.4%		4.9%
2007	25.3%	1.4%	1.5%	32.3%		-0.1%
2008	-2.8%	-2.3%	0.3%	17.8%		-2.6%
<b>Yr</b>						
1 Yr	-2.8%	-2.3%	0.3%	17.8%		-2.6%
2 Yr	11.3%	-0.5%	0.9%	25.1%		-1.3%
3 Yr	64.8%	1.1%	0.4%	41.5%		0.7%

The average size of the listed units are larger (596 vs. 515 sf), but on a lower floor (12<sup>th</sup> floor vs. 16<sup>th</sup> floor) and aged (on average, built in 1975).

**TOTAL ONE BEDROOM PRODUCT OFFERINGS**

Count	Sq Ft	Ave \$	Min \$	Max \$	Ave \$	Min \$	Max \$
37	515	\$362,584	\$355,100	\$374,800	\$705	\$690	\$728

Relative to the overall market, this project's 37 unit offering some 22% of the projected 2008 market (or 17.4% of 2007). This is a higher threshold than the average market share for the affordable units, but this should not be a significant factor, given the small number of unit offerings (37) and the latent demand for housing in town from the broader market (island wide).

Unlike earlier segments, there are some comparables drawn from more recent projects (all of which are substantially higher priced than these developer units).

**ONE BEDROOM RESALE MARKET COMPS, \$350,000 to \$399,000**

Area	Building	Clsd	Ave \$	Ave Int sf	DOM	Ave \$/sf
KINAUNIVARD	One Archer Lane	5	\$391,400	586	56	95.7%
MAKIKI AREA	1451 Young St	1	\$370,000	567	120	96.1%
	Moa-roa	3	\$376,333	730	42	97.7%
	Ang-smith Lanilua	1	\$369,500	628	55	92.5%
	Wilner Al Piko	3	\$365,833	591	29	96.8%
MOILILI	Twenty One Hundred	1	\$384,500	531	169	100.0%
PAWAA	Hale Kaheka	6	\$387,500	607	67	98.7%
PUNAHOU	Banyan Tree Plaza	2	\$382,500	715	34	95.1%
PUNCHBOWL	Dowssett Point	1	\$385,000	771	9	100.0%
	Ka Hale Mui	1	\$388,000	675	39	97.0%
WAIKIKI	444 Nahua	1	\$370,000	827	9	100.0%
	Canal House	1	\$360,000	598	7	100.0%
	Chateau Waikiki	10	\$373,100	549	74	95.7%
	Four Paddle	7	\$370,714	556	93	96.0%
	Ilikai Apt Bldg	6	\$365,208	500	131	90.6%
	Island Colony	3	\$386,667	568	76	97.1%
	Kalelu Sunrise	1	\$380,000	625	44	98.7%
	Leisure Heritage	1	\$360,000	720	4	100.0%
	Liliuokalani Gardens	3	\$382,467	558	93	104.2%
	Pacific Monarch	1	\$385,000	443	6	105.5%
	Palmis Al Waikiki	1	\$399,000	793	1	100.0%
	Pavilion Al Waikiki	3	\$365,333	563	15	104.3%
	Seaside Suites	2	\$355,000	623	185	95.3%
	Villa On Eaton Square	10	\$384,300	678	88	97.1%
	Waikiki Skytower	2	\$365,000	565	133	95.6%
	Waikiki Townhouse	1	\$360,000	682	99	95.5%
	Waipuna	1	\$399,000	725	115	100.0%

As seen, these units compare well with what is currently on the market, indeed, with the strong location relative to the low price (to say nothing of the attractiveness of new construction), we believe these units should be able to sell out within a period of 3-5 months (not unlike Country Club Village 6).

Now, we turn to the two-bedroom market.

**Two Bedroom (Unrestricted) Market**

As seen in other lower end price segments, the two bedroom one in the \$450,000-\$550,000 price range shows the same pattern of dramatic increase, 2004-2007, as the real estate cycle takes off, and then a slowing in the later years as pricing pressures kick in. Here again, we see a big jump in activity, followed by a downturn this year (as estimated, using YTD data) (indeed, the 3 year trend is zero). The MRI has jumped this year, mainly thanks to a falloff in sales (an occurrence occasioned by a migration out of this price segment into the one above it). Most of the other factors are positive – the price per square foot values are rising. DOM is down and the Sales price to List price ratio is one of the highest in the overall market.

**TWO BEDROOM MARKET SEGMENT \$450,000 - \$550,000**

Year	Sold	Price	Intr sf	DOM	Sales/List	\$/sf	
2004	164	\$495,185	1,124	42	97.7%	\$440	
2005	244	\$493,849	1,013	34	98.8%	\$489	
2006	216	\$491,640	978	65	97.4%	\$503	
2007	331	\$493,281	976	55	99.1%	\$505	
2008	189	\$493,374	987	54	98.1%	\$510	
		Price	Intr sf	DOM	Sales/List	\$/sf	
2005		49%		-10%	-18%	10.7%	
2006		-0.3%		-1%	-1%	10.7%	
2007		-0.4%		-3%	-1.4%	3.1%	
2008		53%		0.3%	-1.7%	0.5%	
		Price	Intr sf	DOM	Sales/List	\$/sf	
2008		-43%		0.0%	-1%	1.0%	
		Price	Intr sf	DOM	Sales/List	\$/sf	
1 Yr		-43%		0%	-1%	1.0%	
2 Yr		5%		0%	0.4%	0.7%	
3 Yr		0%		-2%	-0.2%	1.5%	
		MRI	List/Sales Premium				
2006	6.11	101%					
2007	4.46	100%					
2008	7.89	100%					
		Listings	Price	Intr sf	DOM	\$/sf	
2006-Q4-A	32	\$498,027	1,010	44		\$493	
2006-Q4	110	\$497,421	939	70		\$530	
2007-Q4-M	123	\$495,426	945	72		\$524	
2008-Q4	121	\$495,131	977	86		\$507	
		Listings	Price	Intr sf	DOM	\$/sf	
2006		111.5%		-0.1%	58.6%	7.4%	
2007		11.8%		-0.4%	2.9%	-1.0%	
2008		-1.6%		-0.1%	3.4%	-3.3%	
		Yr	Listed	Price	Intr sf	DOM	\$/sf
1 Yr		-1.6%		-0.1%	3.4%	20.2%	-3.3%
2 Yr		5.1%		-0.2%	2.0%	11.6%	-2.2%
3 Yr		40.5%		-0.2%	-1.0%	27.3%	1.0%

In comparison with the market listed units, the developer offerings are smaller, but on a higher floor (13<sup>th</sup> floor vs. 19<sup>th</sup> floor) and aged (on average, built in 1977).

**TOTAL TWO BEDROOM PRODUCT OFFERINGS**

Count	Sq Ft	Ave \$	Min \$	Max \$	Ave \$	Min \$	Max \$
21	698	\$495,695	\$473,000	\$499,700	\$696	\$678	\$716

The market share represented by these 21 developer units is 11% of the estimated 2008 market (but 6% of the 2007 market). Again, at these prices, there should be more than adequate demand.

In the comp section that follows, the 34 sales at Moana Pacific should be noted in the following sense: the prices here were set over 2 years ago, when the units went to market. As such, they could under-represent by a substantial margin the current values in the market.

**TWO BEDROOM RESALE MARKET COMPS, \$450,000 to \$499,000**

Area	Building	Clsd	Ave \$	Ave Intr sf	DOM	Ave \$/sf	Ave \$/ft
ALA MOANA	Sunset Towers	2	\$477,500	900	46	95.7%	\$531
KAKAAKO	1133 Waimanu	2	\$469,500	732	71	99.0%	\$642
	Imperial Plaza	2	\$490,000	945	32	96.1%	\$519
	Moana Pacific	34	\$477,059	940	1	100.0%	\$508
	Royal Capitol Plaza	4	\$483,500	881	81	97.3%	\$549
KINAUWARD	One Archer Lane	4	\$474,750	804	40	99.1%	\$590
MAKIKI AREA	1450 Young St	1	\$469,000	790	12	100.0%	\$632
	One Kalaelea Senior Liv	10	\$463,250	775	107	97.9%	\$598
	Wildcat Regent	1	\$450,000	835	16	93.9%	\$539
MOULILI	Compass	4	\$465,500	1,117	10	99.5%	\$417
	Kapolei House	1	\$460,000	1,200	41	96.8%	\$383
	Parkland Gardens	1	\$450,000	790	64	125.7%	\$570
	Twenty One Hundred	1	\$453,000	778	68	98.2%	\$582
PAAWA	Hale Kalaelea	1	\$498,000	882	12	100.0%	\$665
PUNAHOU	Banyan Tree Plaza	5	\$478,200	997	52	99.1%	\$440
PUNCHBOWL	Kamaaina	1	\$470,000	812	10	100.2%	\$579
WAIKIKI	1717 Ala Wai	3	\$475,000	928	103	93.9%	\$512
	Ala Wai Terrace	1	\$471,136	743	243	97.1%	\$634
	Alpha Towers	1	\$475,000	965	161	96.0%	\$492
	Chateau Waikiki	2	\$455,750	616	38	95.4%	\$740
	Governor Cleghorn	1	\$450,000	830	13	98.3%	\$542
	Leisure Heritage	1	\$475,000	900	22	95.2%	\$528
	Scandia Towers	1	\$474,000	743	10	100.0%	\$638
	Waipuna	5	\$476,000	937	74	95.3%	\$508

Given the size of the existing market, we think that there is an additional (and substantial) amount of latent demand that goes unsatisfied due to the fact that there has been no new product (supply) in these price ranges in this area in recent times.

On top of that, given the views of these units, their pricing advantage, the fact they compare well against existing construction (while they will be newly built), and particularly given the strong views, we believe these units should be able to sell out within a period of 1-6 months (again, similar to County Club Village 6).

The last of the price segments is the two bedroom one in the \$500,000-\$550,000 price range. It shows a choppy trend, in the sense that it went up in 2005 and down in 2007, then up again last year. This is due to the completion of newly built units in each of the up years (21 units at Lanikaia in 2005 and 43 units from Moana Pacific in 2007). As such, the more natural level of market activity would be between 80 - 100 units, p.a. That said, what is notable is the stability of prices, the fall in DOM and the very steady (and low MRR).

TWO BEDROOM MARKET SEGMENT \$450,000 - \$550,000

Year	Sold	Price	Intr sf	DOM	Sales/List	\$/sf
2004	75	\$522,941	1,146	43	97.0%	\$456
2005	103	\$523,279	1,043	35	98.7%	\$602
2006	83	\$519,270	991	60	97.2%	\$524
2007	140	\$523,314	1,004	55	98.1%	\$521
2008	77	\$524,773	1,012	39	97.8%	\$519
	Sold	Price	Intr sf	DOM	Sales/List <td>\$/sf</td>	\$/sf
2005	37%	0.1%	-9%	-20%	1.7%	10.0%
2006	-19%	-0.8%	-5%	74%	-1.5%	4.4%
2007	69%	0.8%	1%	-10%	0.9%	-0.5%
2008	-45%	0.3%	1%	-28%	-0.3%	-0.5%
	Sold	Price	Intr sf	DOM	Sales/List <td>\$/sf</td>	\$/sf
1 Yr	-45%	0%	1%	-28%	-0.3%	-0.5%
2 Yr	12%	1%	1%	-19%	0.3%	-0.5%
3 Yr	1%	0%	-1%	12%	-0.3%	1.1%
	MRI	List/Sales	Premium			
2006	5.78	102%				
2007	4.11	101%				
2008	5.77	100%				
	Listings	Price	Intr sf	DOM	\$/sf	
2005-2Q-A	20	\$530,970	1,047	45	\$507	
2006-1Q-A	40	\$528,558	963	76	\$549	
2007-2Q-M	48	\$527,855	968	60	\$545	
2008-1Q-A	37	\$527,278	1,048	79	\$503	
	Listings	Price	Intr sf	DOM	\$/sf	
2006	100.0%	-0.3%	-8.1%	70.4%	8.3%	
2007	20.0%	-0.1%	0.5%	-20.9%	-0.6%	
2008	-22.9%	-0.1%	8.3%	31.0%	-7.7%	
	Listed	Price	Intr sf	DOM	\$/sf	
1 Yr	-22.9%	-0.1%	8.3%	31.0%	-7.7%	
2 Yr	-1.5%	-0.1%	4.4%	5.1%	-4.2%	
3 Yr	32.4%	-0.2%	0.2%	26.6%	0.0%	

In comparison with the market listed units, the developer offerings are much smaller, but on a higher floor (20<sup>th</sup> floor vs. 13<sup>th</sup> floor) and aged (on average, built in 1978).

TOTAL TWO BEDROOM PRODUCT OFFERINGS

Count	Sq Ft	Ave \$	Min \$	Max \$	Ave \$	Min \$	Max \$
27	736	\$526,937	\$502,200	\$544,300	\$716	\$683	\$740

The market share represented by these 27 developer units is 35% of the estimated 2008 market (but 19% of the 2007 market). As this is a higher market share, it may take two years, rather than

one, to sell out completely (which is normal in development, as it takes over two years to market and complete a project). That said, these values hold up in comparison with the other resale comps that were sold last year, particularly when considering this is new construction, high location in the building and then unobstructed views on 3 out of the 4 sides (and on the fourth side, views are blocked only up to the 16<sup>th</sup> floor).

TWO BEDROOM RESALE MARKET COMPS, \$500,000 to \$599,000

Area	Building	Closed	Ave \$	Ave Int sf	DOM	Ave s/s/sf	Ave \$/sf
HOLIDAY MART	Princess Liliiani	2	\$525,000	1,086	67	98.8%	\$483
KAKAIAKO	1134 Waimanu	1	\$505,000	747	13	100.0%	\$676
	1350 Ala Moana	3	\$586,333	948	101	97.9%	\$618
	1361 Ala Moana	6	\$567,667	972	79	97.2%	\$584
	Imperial Plaza	9	\$530,667	999	63	97.1%	\$531
	Moana Pacific	108	\$553,538	986	2	99.6%	\$561
	One Archer Lane	7	\$537,423	790	67	98.7%	\$581
KINUAUMARD	1450 Young St	3	\$503,000	742	35	98.8%	\$678
	1451 Young St	3	\$503,333	757	98	98.2%	\$665
	Makiki Manor	1	\$537,000	1,100	75	97.8%	\$488
	Mek-smith Laniloa	5	\$543,800	898	36	97.4%	\$605
	1 Kalaikaua Senior Liv	4	\$536,500	867	75	97.7%	\$619
MOILILI	Sovereign	2	\$527,500	1,312	118	93.6%	\$402
	1717 Ala Wai	3	\$519,000	1,003	90	97.4%	\$518
WAIKIKI	250 Ohua	1	\$565,000	1,067	13	98.3%	\$530
	Aloha Towers	3	\$525,000	1,060	135	96.1%	\$495
	Harbor View Plaza	1	\$500,000	801	29	92.6%	\$524
	Hawelani Monarch	1	\$550,000	1,151	6	89.4%	\$478
	Leisure Heritage	1	\$586,432	955	34	96.5%	\$625
	Lilikalanani Plaza	1	\$530,000	1,040	210	98.3%	\$510
	Marina Towers	1	\$520,000	1,000	94	96.5%	\$520
	Oahu Surf	1	\$520,000	773	60	98.5%	\$673
	Parkview	1	\$550,000	942	9	95.7%	\$584
	Regency Beachwalk	5	\$562,400	693	25	100.0%	\$912
	Scandia	1	\$515,000	1,014	225	98.2%	\$508
	Waialana At Waikiki	2	\$532,500	1,176	126	98.0%	\$453
	Waipuna	10	\$541,700	985	124	98.2%	\$450
Windsor The	1	\$599,000	945	68	100.0%	\$634	

As in the market segment priced immediately below this one, we believe there is substantial latent demand that will absorb these particular units. Again, this is based on the comparative benefits of new construction, central location (and parking), and very strong views. In this case, we foresee that the period until sell-out would be somewhere around 4-8 months. This is based on a competent sales and marketing effort, which includes cohesive sales team, a full sales presentation, a full marketing resulting in a broad market exposure.

CONCLUSION: In light of the project's competitive prices and strong values (driven by location and new construction), these units are in good position to sell expeditiously in the marketplace. What makes this even more compelling is that the views on three out of the four sides of this building are unobstructed and expansive, allowing the developer the luxury of being in a better position than either his new or resale competition. Having such, he can respond flexibly, with good demand, he can either increase his sales velocity or raise his prices (inasmuch as the prices used in this study here had miniscule price additions per unit from a lower to a higher floor).

**VIII. DESCRIPTION OF COMPARABLE NEW PROJECTS IN MARKET**

**AFFORDABLE PROJECTS:** On Oahu, there are no for-sale affordable housing condo projects within the TMK Zone 1-2 (or, for that matter, in the Urban Core, as defined by City Planning). There are two projects outside this area: a for-sale affordable town home project in Kapolei and an affordable high-rise in Waipahu. Both are described below:

**WAIPAHU PLANTATION HIGH-RISE CONDO PRICING, 120% AMI**

Bedrooms/Baths	Interior Sq. Ft.	Est. Maint Fee	Parking	Price Range (F/S)	Est. Ave Price
Jr. 1-Bdrm/1-Bath	362	\$171	1	\$131,500 - \$143,000	\$137,250
1-Bdrm/1-Bath	444	\$208	1	\$182,500 - \$194,500	\$188,500
2-Bdrm/1-Bath	555	\$255	1	\$230,000 - \$242,000	\$236,000
2-Bdrm/1-Bath	555	\$255	1	\$231,000 - \$243,000	\$237,000
3-Bdrm/1-Bath	643	296	2	\$291,000 - \$302,000	\$296,500

This project met with some resistance when it came to market, as many of the potential buyers were unsure whether they wanted to live in a high-rise (as many of them preferred a more traditional, and familiar, single family home).

In comparison with the proposed project, this one suffers a very poor location (there is a long commute to town). In addition, there is a lack of local neighborhood demand capable of buying these units. This can be seen in the concentration of low priced housing in the area, as well as subsidized housing (which carries over into buyer concerns for their personal security). Finally, many in the neighborhood who are potential buyers are not familiar (or comfortable) with living in a high-rise – as such, they have been reticent to make an early commitment to purchasing these units.

The next one met with more success, in large part because it is part of the Second City at Kapolei (and the builder is known and well-respected).

**PHASE ONE, KAPOLEI NOHONA KAI CONDO PRICING, 140% AMI**

Beds	Count	Average Price	Average Sq Ft
2	6	\$303,000	920
3	14	\$396,643	1,159
<b>Grand Total</b>	<b>20</b>	<b>\$326,550</b>	<b>1,086</b>

Relative to Waipahu, it is offering a much bigger unit at a much bigger price, and it has had somewhat better success (in other words, it has not been an immediate sellout). Relative to this project, it suffers from an inferior location in terms of commute to work, as well as a relative dearth of demand (families in the immediate area who would consider moving out of their older unit and into a newer one – something there is little of in Kapolei, as the oldest subdivision there is but 15 years old).

**MARKET PROJECTS:** There is one project that has come to market in the area of this one, 1723 Kalaka'ua. This 120-unit project has been marketed with some success since the beginning of the year, with more than half of their units released and/or reserved. The table below describes the project in specific. The pricing provided therein was estimated, using their current price list as a basis.

**1723 KALAKA'UA UNIT OFFERINGS**

Bed Type	Model (by sq ft)	Count	Ave sq ft	Ave \$	Min \$	Max \$
Studio	407	24	407	\$324,241	\$305,000	\$338,500
	506	24	506	\$397,018	\$385,000	\$411,250
	516	24	516	\$427,946	\$405,000	\$457,000
	544	24	544	\$431,339	\$410,000	\$460,000
1 Total		76	522	\$418,768	\$385,000	\$460,000
		24	703	\$518,607	\$492,000	\$551,000
<b>Grand Total</b>		<b>120</b>	<b>535</b>	<b>\$419,830</b>	<b>\$395,000</b>	<b>\$551,000</b>

As seen, the 1723 Kalaka'ua project's prices are considerably higher than this project, and therefore should not directly interfere with the marketing and sales of this one. Per the table below, this comparison is made obvious:

**1723 KALAKA'UA UNIT OFFERINGS VS HOLOMUA**

Bed Type	Project	Model (by sq ft)	Count	Ave sq ft	Ave \$	
1	1723 Kalaka'ua	506	28	506	\$397,018	
		516	28	516	\$427,946	
		544	28	544	\$431,339	
		<b>1723 Kalaka'ua Total</b>	<b>84</b>	<b>522</b>	<b>\$418,768</b>	
Holomua	Holomua	358	16	358	\$254,850	
		511	16	511	\$363,550	
		512	16	512	\$359,150	
		515	16	515	\$346,350	
	<b>Holomua Total</b>	<b>64</b>	<b>524</b>	<b>\$354,450</b>		
<b>1 Total</b>	<b>Holomua Total</b>	<b>80</b>	<b>484</b>	<b>\$336,090</b>		
2	1723 Kalaka'ua	703	28	703	\$518,607	
		<b>1723 Kalaka'ua Total</b>	<b>28</b>	<b>703</b>	<b>\$518,607</b>	
		Holomua	686	16	686	\$448,725
		697	16	697	\$440,375	
	<b>Holomua Total</b>	<b>700</b>	<b>16</b>	<b>700</b>	<b>\$441,375</b>	
		734	16	734	\$462,025	
		739	16	739	\$463,775	
		749	16	749	\$467,275	
<b>2 Total</b>	<b>Holomua Total</b>	<b>96</b>	<b>719</b>	<b>\$453,925</b>		
		<b>124</b>	<b>716</b>	<b>\$468,531</b>		

This comparison is encouraging for the following reasons, mainly having to do with the fact that 1723 is higher priced:

- It is in an inferior street location, with tremendous traffic in either direction, with the accompanying noise and disruption;
- It is a lower building, without the benefit of higher floors to enjoy the views;
- Its two-bedroom units are smaller in size;

- The views are blocked on two out of three sides by buildings much higher than this one (there is a wall of buildings in both the Waikiki and the Ala Moana direction, plus one immediately across the street to the east).
- There are no park facilities within more than a normal walk.

That said, there are two other new projects that are notable, if not directly competitive.

The first is Moana Vista, which has reserved about half of its 384 market rate units at \$650,000 average price. It is well-located – on Kapiolani Blvd, in between downtown and the Ala Moana shopping center. The developer is coming off of good success at a project across the street, Moana Pacific. All the units are two bedrooms and targeting the middle of the market. They are more expensive, but larger (with potentially more amenities and potentially a higher monthly maintenance fee).

**MOANA PACIFIC PROJECT DESCRIPTION**

Models (by Sq Ft)	Units	Ave Sq Ft	Ave Price	Ave \$/sf
701	64	701	\$481,219	\$686
744	64	744	\$490,344	\$659
800	64	800	\$565,156	\$706
802	64	902	\$854,406	\$726
979	64	979	\$697,969	\$713
1030	64	1,030	\$737,031	\$716
<b>Grand Total</b>	<b>384</b>	<b>859</b>	<b>\$604,354</b>	<b>\$703</b>

The second project was mentioned earlier: Country Club Village 6, a new project in Salt Lake, enjoyed several months ago, selling out in 2 days. Again, their success was due to good location, new product, strong local demand and pricing that was advantageous, relative to the resale market: one-bedroom units priced \$218,000 to \$283,000 and two bedroom units priced from \$321,000 to \$397,500.

The anecdotal description of conditions in the new home marketplace centers on how buyers currently are very attracted by an infill location, wanting to avoid the lengthy commute. They also prefer new construction to resale product. Finally, they are also price conscious, but only in the sense of living within their means. They are not turned off by current interest rates – indeed, they find them favorable. Lastly, they are having to deal with the general perception that the national and local economies might be flipping into a recession, with a positive reading leading to a purchase decision (and vice versa).

**IX. TARGET MARKET AND DEMOGRAPHIC ANALYSIS**

**MARKET OVERVIEW:** Affordably priced housing has always been a chronic and serious problem on the island and, with the recent real estate boom, has only gotten worse. As the very strong residential real estate market cycle has pushed up housing values, it has acted to take housing off the market at the low end (especially), as owners have finally been able to cash out at a profit. Plus, high construction costs make it difficult to expand the housing stock to address the issue of its scarcity.

**DEMOGRAPHIC ANALYSIS:** The market area we define as the Island of Oahu, otherwise known as the City & County of Honolulu. We do this because, in general, people living on a small island identify themselves with the whole island. This is even truer when the island is very remote from all other major land areas.

Furthermore, we consider the whole island (within a 40 mile radius from the site) to be the target market because this particular product – affordable housing - is both scarce and vital.

In accessing long-term population driven housing demand, we will use the numbers from CLARITAS, a well-known demographic forecasting company. Using their household growth projection, which equates roughly to housing demand, we see a potential housing demand annually of almost 3,600 dwelling units since 2001. Note, this figure does not take into account second home demand, which absorbs about 15%-18% of the new home supply annually, and puts additional pressure on the residential market.

When this is compared to the annual production of new housing on Oahu over the same time period, we see a deficit running of some 1,200 homes.

**POPULATION GROWTH DRIVEN HOUSING DEMAND**

Households	5 Yr. Growth	1 Yr. Growth	New Home Production	Annual Housing Deficit
2002	286,731			
2007	304,505	17,774	3,555	2,200
2012	318,079	11,574	2,375	2,000
				375

Looking ahead, the rate of household growth (i.e., housing demand) is projected to slow to around 2,300 dwelling units a year, 2007-2012. We believe that the production of new homes over the next few years will fall to 2,000, resulting in an estimated annual level of unmet demand of 315 households per year.

Our reasons for this are that:

1. The high-rise condominium boom has run its course, and there will be no more 200+ unit projects moving forward, save for the high-end and around Waikiki;
2. The production builders in the state will continue to build, but at a lower level, in response to lower demand due to high prices, high costs and difficult lending environment; and
3. A number of factors, including a low supply of entitled land and a slowing economy.

As such, we foresee a deficit in housing, relative to potential demand. This will make the current shortage of housing even more acute. Thus, any project that provides housing, particularly at the low end, is both timely and meaningful.

Turning now to the specific target market, we begin by looking the demographic segments that would be the ones demanding the units provided by the proposed project.

We do this by looking at the project's specific units and the particular income group that they are dependent on demand coming from. Then, we look to see how numerous a group that is, and whether it is sizable enough to absorb this new supply.

In terms of the target market, the table below shows the income range necessary for a buyer in this target market must make in order to qualify.

**POTENTIAL MARKET'S INCOME AND TENTATIVE PRICING, GIVEN 100% - 140% OF AMI**

People in Household	140% of AMI	120% of AMI	100% of AMI
2	\$86,580	\$74,210	\$61,840
3	\$97,400	\$83,480	\$69,570

TOTAL POTENTIAL MARKET: We then relate this income maximum to the number of potential applicants that could qualify. We arbitrarily used \$50,000 as a cut off, for those making 100% or more of the Area Median Income of \$54,110.

Again, we turn to Claritas for an estimation of the number of people, broken out by income bands that are in a range from \$61,840 to \$97,400 and projected out to June 2009, which is approximately when this project will be on the market.

**POTENTIAL MARKET FOR CONDOS, BUYERS MAKING UNDER 140% AMI**

As of 2009, June	Age 25 - 34	Age 35 - 44	Age 45 - 54	Age 55 - 59	Age 60 - 64	Total Households
Income \$60 - \$74,999	5,163	6,818	7,202	3,245	2,809	25,235
Income \$75 - \$99,999	5,310	6,948	10,694	5,016	3,998	33,964
Totals	10,473	15,766	17,896	8,261	6,807	59,199

This shows that there are roughly 59,000 households on Oahu in the 140% of AMI that could qualify for the total 88 affordable units that will be offered here. If the pricing were set such that buyers from the 120% and 100% of AMI can qualify, then there would be an additional 33,000 potential buyers. We extended the analysis further and found there were approximately 40,100 buyers for the one-bedroom units and 42,375 buyers for the two bedroom ones (note: there is some overlap here). Thus, demographically, there is sufficient potential demand to absorb the supply of units contemplated here.

Note, we are not considering those who are or over 64 years old, although they certainly could qualify and purchase (and constitute an additional 24%, relative to the numbers in the table).

As such, we expect there are enough potential buyers for all of these units.

**X. PROPOSED PROJECTS IN THE MARKET AREA**

Nothing is being proposed in the immediate area. Furthermore, in other locations, such as Kakaako and the north shore, there have been projects that have been canceled due to costs (the Mormon church's Malaekahana project).

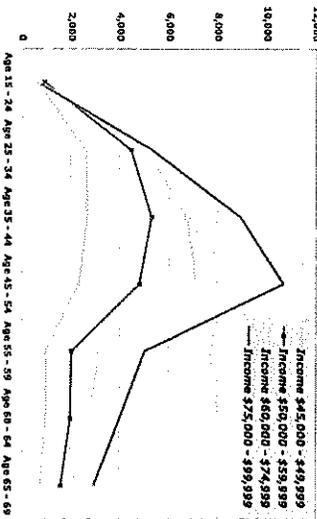
**XI. COMMENTARY & CONCLUSIONS**

While the overall market is transitioning from a strong to a weaker market, we have shown that there are pockets of strong demand in the lower price segments of the urban condominium market. This underscores our belief that an infill project that is well designed, located and priced will be successful. We are also encouraged by recent signs (even better, a growing perception) that the country and the state will avoid a recession.

In terms of demand, we have shown that the trends in the comparable resale market segments are favorable for both the affordable and the market-rate units. Further, in terms of demographics, the potential market is certainly there: the green line in the chart below indicates that there are some 33,000 households on Oahu that could qualify for the 88 affordable units in the proposed project. To be sure, not all are interested in living in a new condominium on the outskirts of Waikiki, but if only half a percent of them were that would be sufficient to sell out the units.

In terms of potential supply, there are comparable for-sale affordable projects on the market in Kapolei and Waipahu, but they are in less desirable locations (and experiencing slower sales because of it). This infill site is in a very central location, and offers any number of savings in terms of commute (2 hours plus a day) and parking (and take the bus).

**Household Demographics: Age & Income**



On top of that, most affordable projects are not for-sale, but for-rent (except the one in Kakaako, which is tentatively planned as a rent-to-own).

The major competition would be the resale market, but those units do not compare well, being dated, aged and not particularly well located.

Relative to the new projects coming out of the ground selling their units at market, there is none that directly compete with the at-market units of this one – they are higher priced and do not have as good a neighborhood or as strong a view plane. Again, there will be competition from the resale market, but (again) these are most likely to be infill projects that are aged and dated, or suburban projects that are located far from the center of town.

Finally, there is ample evidence historically (and recently, at County Club Village 6), that new supply priced advantageously relative to the alternatives, the resale market, sells both more than ample demand to absorb the new units. This is commonly known as getting a 'good deal' and is particularly important to those with limited means (i.e., at the lower end of the income spectrum).

In conclusion, there is more than sufficient demand in this market segment for well-located, newly built units at these general prices and (on the supply side), little competitive interference from both the resale market and other developers. Given this, a well-marketed project such as this has the potential for selling out within 1-8 months of being released.

APPENDIX  
CORRESPONDENCE WITH  
DEPARTMENT OF PLANNING & PERMITTING

C



March 10, 2008

Henry Eng, FAICP  
Director - Department of Planning and Permitting  
City and County of Honolulu  
650 South King Street, 7<sup>th</sup> Floor  
Honolulu, HI 96813

Attention: *Land Use Permits Division*

RE: Proposed 176-unit Residential Condominium Project  
TMK (1) 2-4-6-17 & 18  
1315 Kalakaua Avenue, Honolulu, Hawaii

Dear Mr. Eng

THM Partners LLC, through affiliate KRC Partners LLC, is proposing to develop a 176-unit residential condominium project on 21,339 square feet of land located at 1315 Kalakaua Avenue, Honolulu and identified by Hawaii State Tax Maps as TMK (1) 2-4-6-17 & 18. The tentative name for the project is "Holomua" and our goal is to provide "workforce" housing in urban Honolulu.

THM is working with the State of Hawaii's Hawaii Housing Finance and Development Corporation (HHFDC) to develop the project through their Dwelling Unit Revolving Fund (DURF) program. A minimum of 51% of the units will be priced at a maximum of 140% of the area median income with the balance of the units at market. In order to deliver the units at this level of pricing, we will be requesting processing of the project under HRS Chapter 201H guidelines. As part of our 201H application we will be requesting exemptions from the Land Use Ordinance standards as they relate to height, floor area, setbacks and, possibly, minimum parking requirements. A summary of the project is attached.

Based on review of the City's 201H application requirements and meetings/phone conversations with your staff, we understand we will not meet the City's eligibility requirements for the 201H application. This is primarily because the units will be priced at 140% median income, above the City's minimum affordability (i.e. 10% at 80% median, 20%

THM PARTNERS LLC, 615 Piikoi Street, Suite 808, Honolulu, HI 96814  
Phone: 808.237-5287 Fax: 808 275-3235

at 81%-120% median 30% 121% to 140% median) required for eligibility. Therefore, we anticipate running the 201H application through the State for processing. Of course, we will still prepare all the appropriate documentation (environmental assessment, market study, etc), obtain required approvals, notify the neighborhood board, and meet the other requirements of the application. Further, we understand the Honolulu City Council still would need to approve the final application.

Because we do not meet the City's eligibility requirements and in an effort to save your staff's time and energy reviewing an application, we would appreciate written confirmation by the City that our proposed project does not meet the City's eligibility requirements, particularly as it relates to the minimum affordability requirements, for application into the City's 201H processing program.

Please let me know if you have any questions or comments. I can be reached at (808) 237-5287 or by email at [skrivatsy@thmhawaii.com](mailto:skrivatsy@thmhawaii.com). Thank you for your assistance.

Sincerely,

  
Serge M. Krivatsy, MAI  
Principal

DEPARTMENT OF PLANNING AND PERMITTING  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813  
TELEPHONE: (808) 768-8000 • FAX: (808) 527-6743  
INTERNET: [www.honolulu.gov](http://www.honolulu.gov) • DEPT. WEB SITE: [www.honolulu.gov](http://www.honolulu.gov)



MUFI HANSEN  
DIRECTOR

HENRY ENG, FAICP  
DIRECTOR

DAVID K. FARGUE  
DEPUTY DIRECTOR

2008/ELOG-645(ec)

April 15, 2008

Mr. Serge M. Krivatsy, MAI  
THM PARTNERS LLC  
615 Piikoi Street, Suite 808  
Honolulu, Hawaii 96814

Dear Mr. Krivatsy:

Subject: Determination of Eligibility  
Chapter 201H, Hawaii Revised Statutes  
Proposed For-Sale Residential Project  
1315 Kalakaua Avenue - Pa'awa  
Tax Map Key 2-4-6; 17 and 18

This responds to your letter of March 10, 2008, requesting confirmation that the proposed housing project on the above site will not meet the eligibility requirements for processing by the Department of Planning and Permitting (DPP) of a request for exemptions pursuant to Chapter 201H, Hawaii Revised Statutes (HRS). We confirm that the proposed development, a 176-unit condominium project, will not meet the City eligibility requirements for the processing of a 201H application by the DPP.

Projects proposed to be developed pursuant to Chapter 201H, HRS, are subject to the City's Land and Housing Development Program Rules and Regulations ("the Rules"). Section III-2(a) of the Rules requires that a project developed under this section provide "not less than 10 percent" of its units for families earning less than 80 percent (80%) of the median income for the area, and 20 percent (20%) of the units for families earning between 80 percent (80%) and 120 percent (120%) of median income.

The project as described in your letter contains no provisions to set aside the required number of units for the above target income groups. You indicate that the proposed multi-family apartment building will provide a minimum of 51 percent (51%) or 90 units for sale to families earning up to 140 percent (140%) of the area median income, with the balance of the units at market prices. Since the project does not meet the City's eligibility requirements, you propose to submit a 201H application through the State Hawaii Housing Finance and Development Corporation (HHFDC) for processing. We concur that the proposed project at the above site is not considered an eligible project for processing by the DPP for the purposes of obtaining exemptions from planning, zoning and construction standards for affordable housing pursuant to Chapter 201H-38, HRS. We also confirm that the Honolulu City Council must approve any request for exemptions.

Mr. Serge M. Krivatsy, MAI  
April 15, 2008  
Page 2

It is our understanding that the HHFDC will be requesting comments from the DPP and other agencies and then will submit the request for exemptions directly to the City Council for its action.

If you have any questions, please contact Elizabeth Chinn of our staff at 768-8021.

Very truly yours,

  
Henry Eng, FAICP, Director  
Department of Planning and Permitting

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APPENDIX  
ARCHITECTURAL DRAWINGS

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**CONSTRUCTION NOTES:**

- ALL APPLICABLE CONSTRUCTION WORK SHALL BE DONE IN ACCORDANCE WITH THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION", SEPTEMBER 1984, AS AMENDED AND THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION", SEPTEMBER 1986, OF THE DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF HONOLULU ALSO THE COUNTIES OF KAUAI, MAUI AND HAWAII.
- THE UNDERGROUND PIPES, CABLES OR DUCTLINES KNOWN TO EXIST BY THE ENGINEER FROM HIS SEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTION TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES.
- ALL EXISTING UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS SHALL BE PROTECTED AT ALL TIMES BY THE CONTRACTOR UNLESS SPECIFIED ON THE PLANS TO BE ABANDONED.
- NO CONTRACTOR SHALL PERFORM ANY CONSTRUCTION OPERATION SO AS TO CAUSE FALLING ROCKS, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW INTO EXISTING CITY DRAINAGE SYSTEMS, OR ADJOINING PROPERTIES, STREETS, OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE CONTRACTOR MAY BE CITED AND THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS NECESSARY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE WATER QUALITY AND WATER POLLUTION CONTROL STANDARDS CONTAINED IN HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 54, "WATER QUALITY STDS." AND TITLE 11, CHAPTER 55, "WATER POLLUTION CONTROL", AS WELL AS CHAPTER 14 OF THE REVISED ORDINANCES OF HONOLULU, AS AMENDED. BEST MANAGEMENT PRACTICES SHALL BE EMPLOYED AT ALL TIMES DURING CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY THE CIVIL ENGINEERING BRANCH, D.P.P. AT 768-8084 TO ARRANGE FOR INSPECTIONAL SERVICES AND SUBMIT FOUR (4) SETS OF APPROVED CONSTRUCTION PLANS SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION WORK.
- CONFINED SPACE**  
FOR ENTRY BY CITY PERSONNEL, INCLUDING INSPECTORS, INTO A PERMIT REQUIRED CONFINED SPACE AS DEFINED IN 29 CFR PART 1910.146(b), THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING:
  - ALL SAFETY EQUIPMENT REQUIRED BY THE CONFINED SPACE REGULATIONS APPLICABLE TO ALL PARTIES OTHER THAN THE CONSTRUCTION INDUSTRY, TO INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING:
    - FULL BODY HARNESSES FOR UP TO TWO PERSONNEL.
    - LIFELINE AND ASSOCIATED CLIPS.
    - INGRESS/EGRESS AND FALL PROTECTION EQUIPMENT.
    - TWO-WAY RADIOS (WALKIE-TALKIES) IF OUT OF LINE-OF-SIGHT.
    - EMERGENCY (ESCAPE) RESPIRATOR (10 MINUTE DURATION).
    - CELLULAR TELEPHONE TO CALL FOR EMERGENCY ASSISTANCE.
    - CONTINUOUS GAS DETECTOR (CALIBRATED) TO MEASURE OXYGEN, HYDROGEN SULFIDE, CARBON MONOXIDE AND FLAMMABLES (CAPABLE OF MONITORING AT A DISTANCE OF AT LEAST 20-FT AWAY).
    - PERSONAL MULTI-GAS DETECTOR TO BE CARRIED BY INSPECTOR.
  - CONTINUOUS FORCED AIR VENTILATION ADEQUATE TO PROVIDE SAFE ENTRY CONDITIONS.
  - ONE ATTENDANT/RESCUE PERSONNEL TOPSIDE (TWO IF CONDITIONS WARRANT IT).
- PURSUANT TO CHAPTER 6E, HRS, IN THE EVENT ANY ARTIFACTS OR HUMAN REMAINS ARE UNCOVERED DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL IMMEDIATELY SUSPEND WORK AND NOTIFY THE HONOLULU POLICE DEPARTMENT, THE STATE DEPARTMENT OF LAND AND NATURAL RESOURCES-HISTORIC PRESERVATION DIVISION (692-8015). IN ADDITION, FOR NON-CITY PROJECTS, THE CONTRACTOR SHALL NOTIFY THE CIVIL ENGINEERING BRANCH, D.P.P. (768-8084); AND FOR CITY PROJECTS, NOTIFY THE RESPONSIBLE CITY AGENCY.
- FOR PROJECTS ABUTTING STATE HIGHWAYS' RIGHTS-OF-WAY, THE OWNER OR HIS AUTHORIZED REPRESENTATIVE SHALL NOTIFY THE STATE DEPARTMENT OF TRANSPORTATION, HIGHWAYS DIVISION, OAHU DISTRICT, DRAINAGE DISCHARGE UNIT AT 831-6793 FOR AN ASSESSMENT OF STATE HIGHWAYS PERMIT REQUIREMENTS.
- FOR BENCH MARK, SEE SHEET C-1.

**GRADING NOTES:**

- ALL GRADING WORK SHALL BE DONE IN ACCORDANCE WITH CHAPTER 14, ARTICLES 13, 14, 15, AND 16, AS RELATED TO GRADING, SOIL EROSION, AND SEDIMENT CONTROL OF THE REVISED ORDINANCE OF HONOLULU, 1990, AS AMENDED, AND SOILS LETTER BY GEOLABS, INC., DATED FEBRUARY 12, 2008.
- NO CONTRACTOR SHALL PERFORM ANY GRADING OPERATIONS SO AS TO CAUSE FALLING ROCKS, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW INTO ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE CONTRACTOR MAY BE CITED AND THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS NECESSARY.
- THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST HAZE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS CONTAINED IN THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPT. 60.1 "AIR POLLUTION CONTROL".
- THE UNDERGROUND PIPES, CABLES OR DUCTLINES KNOWN TO EXIST BY THE ENGINEER FROM HIS SEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATIONS IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATIONS FOR THE NEW LINES.
- ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SURFACE WATER FROM DAMAGING THE CUT FACE OF THE EXCAVATIONS OR THE SLOPED SURFACE OF A FILL. FURTHERMORE, ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE SITE.
- ALL SLOPES AND EXPOSED AREAS SHALL BE SOGGED AND PLANTED AS SOON AS FINAL GRADES HAVE BEEN ESTABLISHED. PLANTING SHALL NOT BE DELAYED UNTIL ALL GRADING WORK HAS BEEN COMPLETED. GRADING TO FINAL GRADE SHALL BE CONTINUOUS, AND ANY AREA WITHIN WHICH WORK HAS BEEN INTERRUPTED OR DELAYED SHALL BE PLANTED.
- FILLS ON SLOPES STEEPER THAN 5:1 SHALL BE KEYED.
- THE CITY SHALL BE INFORMED OF THE LOCATIONS OF THE BORROW/DISPOSAL SITE FOR THE PROJECT IN WRITING WHEN THE APPLICATION FOR GRADING PERMIT IS MADE. THE BORROW/DISPOSAL SITE MUST ALSO FULFILL THE REQUIREMENT OF THE GRADING ORDINANCE. THE DEPT. OF PLANNING AND PERMITTING, SITE DEVELOPMENT DIVISION, CIVIL ENGINEERING BRANCH, PERMITTING AND INSPECTION SECTION SHALL BE NOTIFIED OF ANY SUBSEQUENT CHANGES IN THE LOCATION OF BORROW/DISPOSAL SITES (PHONE NO.: 768-8084).
- NO GRADING WORK SHALL BE DONE ON SATURDAYS, SUNDAY AND HOLIDAYS AT ANY TIME WITHOUT PRIOR NOTICE TO THE DIRECTOR, D.P.P., PROVIDED SUCH GRADING WORK IS ALSO IN CONFORMANCE WITH HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 46, "COMMUNITY NOISE CONTROL".
- THE LIMITS OF THE AREA TO BE GRADED SHALL BE FLAGGED BEFORE THE COMMENCEMENT OF THE GRADING WORK.
- ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE WATER POLLUTION CONTROL AND WATER QUALITY STANDARDS CONTAINED IN HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPT. 55, "WATER POLLUTION CONTROL" AND TITLE 11, CHAPT. 54, "WATER QUALITY STANDARDS" AND IF APPLICABLE, THE NPDES PERMIT FOR THE PROJECT.

- WHERE APPLICABLE AND FEASIBLE THE MEASURES TO CONTROL EROSION AND OTHER POLLUTANTS SHALL BE IN PLACE BEFORE ANY EARTH MOVING PHASE OF THE GRADING IS INITIATED.
- TEMPORARY EROSION CONTROLS SHALL NOT BE REMOVED BEFORE PERMANENT EROSION CONTROLS ARE IN-PLACE AND ESTABLISHED.
- TEMPORARY EROSION CONTROL PROCEDURES SHALL BE SUBMITTED FOR APPROVAL PRIOR TO APPLICATION FOR GRADING PERMIT.
- IF THE GRADING WORK INVOLVES CONTAMINATED SOIL AND/OR HAZARDOUS MATERIAL, THEN ALL GRADING SHALL BE DONE IN CONFORMANCE WITH APPLICABLE STATE AND FEDERAL REQUIREMENTS. CONTACT THE SOLID AND HAZARDOUS WASTE BRANCH OF THE STATE DEPT. OF HEALTH FOR MORE INFORMATION (PHONE NO.: 586-4226).
- ALL IMPROVEMENTS THAT ARE NOT PLANNED TO BE DEMOLISHED AND ARE DISTURBED SHALL BE RESTORED OR REPLACED TO ITS ORIGINAL OR BETTER CONDITION AT NO COST TO THE CITY OR OWNER.
- PURSUANT TO CHAPTER 6E, HRS, IN THE EVENT ANY ARTIFACTS OR HUMAN REMAINS ARE UNCOVERED DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL IMMEDIATELY SUSPEND WORK AND NOTIFY THE HONOLULU POLICE DEPARTMENT, THE STATE DEPARTMENT OF LAND AND NATURAL RESOURCES-HISTORIC PRESERVATION DIVISION (692-8015). IN ADDITION, FOR NON-CITY PROJECTS, THE CONTRACTOR SHALL NOTIFY THE CIVIL ENGINEERING BRANCH, D.P.P. (768-8084); AND FOR CITY PROJECTS, NOTIFY THE RESPONSIBLE CITY AGENCY.
- FOR NON-CITY PROJECTS, THE CONTRACTOR SHALL NOTIFY THE CIVIL ENGINEERING BRANCH, D.P.P. AT 768-8084 TO ARRANGE FOR INSPECTIONAL SERVICES AND SUBMIT THREE (3) SETS OF APPROVED CONSTRUCTION PLANS SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION WORK. FOR CITY PROJECTS, THE CONTRACTOR SHALL COORDINATE INSPECTIONAL SERVICES WITH THE RESPONSIBLE CITY AGENCY.
- ALL GRADING AND CONSTRUCTION WORK SHALL IMPLEMENT MEASURES TO ENSURE THAT THE DISCHARGE OF POLLUTANTS FROM THE CONSTRUCTION SITE WILL BE REDUCED TO THE MAXIMUM EXTENT PRACTICABLE AND WILL NOT CAUSE OR CONTRIBUTE TO AN EXCEEDANCE OF WATER QUALITY STANDARDS.
- FOR ALL PROJECTS, WHICH WILL DISTURB ONE (1) ACRE OR MORE OF LAND, THE CONTRACTOR SHALL NOT START CONSTRUCTION UNTIL A NOTICE OF GENERAL PERMIT COVERAGE (NGPC) IS RECEIVED FROM THE DEPARTMENT OF HEALTH, STATE OF HAWAII, AND HAS SATISFIED ANY OTHER APPLICABLE REQUIREMENTS OF THE NPDES PERMIT PROGRAM. ALSO, FOR NON-CITY AND OTHER NON-GOVERNMENTAL AGENCY PROJECTS, THE CONTRACTOR SHALL PROVIDE WRITTEN COPY OF THE NGPC TO THE PERMITTING AND INSPECTION SECTION, CIVIL ENGINEERING BRANCH, D.P.P., AT LEAST SEVEN (7) CALENDAR DAYS BEFORE START OF THE CONSTRUCTION. FOR CITY OR OTHER GOVERNMENTAL PROJECTS, THE CONTRACTOR SHOULD PROVIDE A WRITTEN COPY OF THE NGPC TO THE APPROPRIATE CITY DEPARTMENT OR GOVERNMENTAL AGENCY PER THEIR REQUIREMENTS.
- BUILDING PERMIT FOR RETAINING WALLS SHALL BE OBTAINED PRIOR TO COMMENCEMENT OF GRADING WORK ON SITE.
- NON-COMPLIANCE TO ANY OF THE ABOVE REQUIREMENTS SHALL MEAN IMMEDIATE SUSPENSION OF ALL WORK, AND REMEDIAL WORK SHOULD COMMENCE IMMEDIATELY. ALL COSTS INCURRED SHALL BE BILLED TO THE VIOLATOR. FURTHERMORE, VIOLATORS SHALL BE SUBJECT TO ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES.

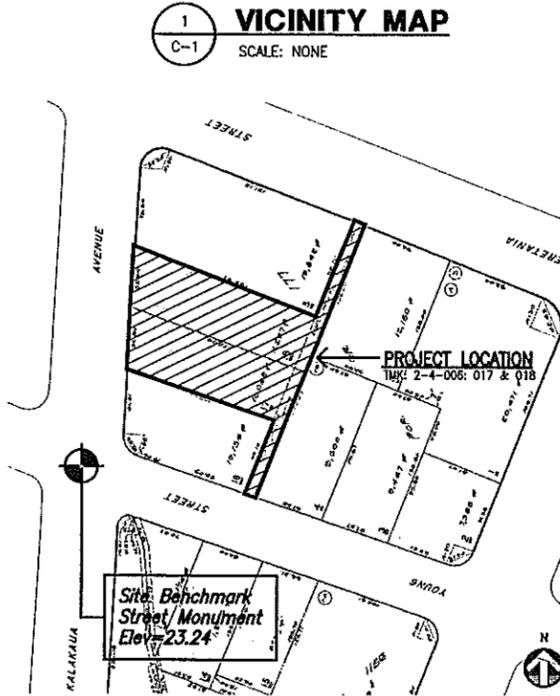
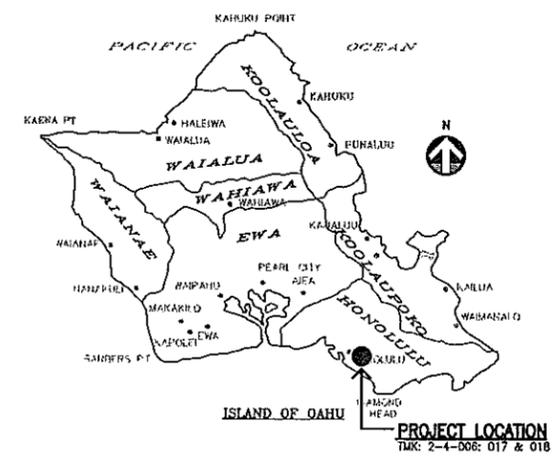
**SEWER NOTES:**

- ALL SEWER CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY'S STANDARD SPECIFICATIONS, SEPT. 1986, THE DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS, SEPT. 1984, CURRENT CITY PRACTICES AND THE REVISED ORDINANCES OF HONOLULU, 1990, AS AMENDED, AND THE DEPT. OF WASTEWATER MANAGEMENT'S DESIGN STANDARDS, VOL. 1, 1993.
- IN THE EVENT THAT ANY CHANGE IN ALIGNMENT OR GRADE FOR THE PROPOSED SEWERS ARE REQUIRED DUE TO UNFORESEEN CONFLICT WITH OTHER UTILITIES, THE ENGINEER IN CHARGE OR THE MAKER OF THE PLANS SHALL BE RESPONSIBLE FOR THE REQUIRED CHANGES WHICH ARE TO BE PRESENTED TO THE DEPARTMENT OF PLANNING AND PERMITTING FOR APPROVAL.
- CRUSHED ROCK CRADLE IS PERMITTED WHERE SOIL IS STABLE. IN AREAS OF UNSTABLE SOIL, THE MAKER OF THE PLANS AND THE CONSTRUCTION ENGINEER WILL DETERMINE THE PIPE SUPPORT REQUIRED.
- TREES IN THE ROAD RIGHT-OF-WAY & CITY SEWER EASEMENT SHALL BE SITUATED A MINIMUM OF 6'-0" FROM THE CITY'S SEWER LINES.
- THE UNDERGROUND PIPES, CABLES OR DUCTLINES KNOWN TO EXIST BY THE ENGINEER FROM HIS RESEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF THE FACILITIES, INCLUDING AND AFFECTING SEWER LINES, IN THE PRESENCE OF THE WASTEWATER INSPECTOR, AND EXERCISE PROPER CARE IN EXCAVATING THE AREA. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL PAY FOR ALL DAMAGED UTILITIES.
- SLOPE FOR SEWER LATERALS SHALL BE 1.00% UNLESS OTHERWISE NOTED.
- BUILDING PLUMBING FACILITIES SHALL BE CONTROLLED BY SEWER LATERAL INVERTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUOUS SEWER SERVICE TO ALL AFFECTED AREAS DURING CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY SEWAGE SPILLS CAUSED DURING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE STATE DEPARTMENT OF HEALTH AND UTILIZE APPROPRIATE SAMPLING AND ANALYZING PROCEDURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PUBLIC NOTIFICATIONS AND PRESS RELEASES.
- THE CONTRACTOR SHALL INSTALL "RAINSTOPPER" MANHOLE INSERTS INTO SEWER MANHOLES WITH TYPE "SA" FRAME AND COVER.
  - FOR ENTRY BY CITY PERSONNEL, INCLUDING INSPECTORS, INTO A PERMIT REQUIRED CONFINED SPACE AS DEFINED IN 29 CFR PART 1910.146(b), THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING:
    - ALL SAFETY EQUIPMENT REQUIRED BY THE CONFINED SPACE REGULATIONS APPLICABLE TO ALL PARTIES OTHER THAN THE CONSTRUCTION INDUSTRY, TO INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING:
      - FULL BODY HARNESSES FOR UP TO TWO PERSONNEL.
      - LIFELINE AND ASSOCIATED CLIPS.
      - INGRESS/EGRESS AND FALL PROTECTION EQUIPMENT.
      - TWO-WAY RADIOS (WALKIE-TALKIES) IF OUT OF LINE-OF-SIGHT.
      - EMERGENCY (ESCAPE) RESPIRATOR (10 MINUTE DURATION).
      - CELLULAR TELEPHONE TO CALL FOR EMERGENCY ASSISTANCE.
      - CONTINUOUS GAS DETECTOR (CALIBRATED) TO MEASURE OXYGEN, HYDROGEN SULFIDE, CARBON MONOXIDE AND FLAMMABLES (CAPABLE OF MONITORING AT A DISTANCE OF AT LEAST 20 FEET AWAY).
      - PERSONAL MULTI-GAS DETECTOR TO BE CARRIED BY INSPECTOR.
    - CONTINUOUS FORCED AIR VENTILATION ADEQUATE TO PROVIDE SAFE ENTRY CONDITIONS.
    - ONE ATTENDANT/RESCUE PERSONNEL TOPSIDE (TWO IF CONDITIONS WARRANT IT).
- ALL SEWER PIPE JOINTS WITHIN EASEMENTS SHALL BE WRAPPED WITH GEOTEXTILE ROOT BARRIER.
- S4C PIPE CRADLE SEALS SHALL BE INSTALLED 10 FEET FROM ALL SEWER MANHOLES TO PREVENT SOIL MIGRATION.

- GEOTEXTILE FABRIC TO ENVELOPE THE PIPE GRADE AND SELECT BACKFILL MATERIAL SHALL BE PROVIDED WHERE WATER OR UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED.
- WHEN CONNECTING TO A LIVE SEWER LINE, THE CONTRACTOR SHALL ABIDE BY ALL CONDITIONS THAT THE STATE DEPT. OF HEALTH SETS FORTH TO MITIGATE ANY WASTEWATER SPILL THAT MAY OCCUR. THE CONTRACTOR SHALL INFORM THE CITY INSPECTOR FIVE (5) WORKING DAYS PRIOR TO THE ACTUAL CONNECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES AND PENALTIES DUE TO ANY SPILLS RESULTING FROM THE CONNECTION.
- FOR SEWER MANHOLE (SMH) ADJUSTMENTS UPWARD <3", SEE DPW STD. DET. S-25. FOR SMH ADJUSTMENTS UPWARDS >3" OR FOR ANY ADJUSTMENTS DOWNWARD, RECONSTRUCT SMH TOP FROM BELOW THE CONE SECTION.
- THE CONTRACTOR SHALL NOTIFY THE INSPECTION SECTION, WASTEWATER BRANCH, DDC AT 768-8788 OR 768-8770 TO ARRANGE FOR INSPECTION SERVICES. SUBMIT 4 SETS OF APPROVED CONSTRUCTION PLANS. CALL 7 DAYS PRIOR TO COMMENCEMENT OF SEWER WORK. THE CONTRACTOR SHALL PAY FOR ALL INSPECTION COSTS.

**TRAFFIC NOTES FOR WORK ON CITY AND COUNTY STREETS**

- A PERMIT SHALL BE OBTAINED FROM THE DEPARTMENT OF TRANSPORTATION SERVICES BEFORE WORK ON ANY PORTION OF A PUBLIC STREET OR HIGHWAY MAY BEGIN. CONSTRUCTION TRAFFIC CONTROL PLANS APPROVED BY THE DEPARTMENT OF TRANSPORTATION SERVICES AND/OR THE DEPARTMENT OF PLANNING AND PERMITTING MUST BE PROVIDED WHEN APPLYING FOR THE PERMIT.
- THE CONTRACTOR SHALL PROVIDE, INSTALL, AND MAINTAIN ALL NECESSARY SIGNS AND OTHER PROTECTIVE FACILITIES, WHICH SHALL CONFORM WITH THE "HAWAII ADMINISTRATION RULES GOVERNING THE USE OF TRAFFIC CONTROL DEVICES AT WORK SITES ON OR ADJACENT TO PUBLIC STREETS AND HIGHWAYS" ADOPTED BY THE DIRECTOR OF TRANSPORTATION, AND THE CURRENT U.S. FEDERAL HIGHWAYS ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAYS, PART VI - TRAFFIC CONTROLS FOR STREET AND HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS".
- WORK ON ANY CITY STREET AREA MAY BE PERFORMED ONLY BETWEEN THE HOURS OF 8:30 A.M. TO 3:30 P.M., MONDAY THROUGH FRIDAY, UNLESS OTHERWISE PERMITTED BY THE DEPARTMENT OF TRANSPORTATION SERVICES.
- DURING WORKING HOURS, THE CONTRACTOR SHALL PROVIDE FOR THROUGH TRAFFIC. DURING NON-WORKING HOURS, ALL TRENCHES SHALL BE COVERED WITH A SAFE NON-SKID BRIDGING MATERIAL AND ALL LANES SHALL BE OPEN TO TRAFFIC.
- AS REQUIRED BY THE DEPARTMENT OF TRANSPORTATION SERVICES, THE CONTRACTOR SHALL PROVIDE OFF-DUTY POLICE OFFICERS TO CONTROL THE FLOW OF TRAFFIC.
- WHERE PEDESTRIAN WALKWAYS EXIST, THEY SHALL BE MAINTAINED IN PASSABLE CONDITION IN ACCORDANCE WITH ADMA 4.1.1(4) AND 4.3, OR OTHER FACILITIES FOR PEDESTRIANS SHALL BE PROVIDED. PASSAGE BETWEEN WALKWAYS AT INTERSECTIONS SHALL LIKEWISE BE PROVIDED.
- DRIVEWAYS SHALL BE KEPT OPEN UNLESS THE OWNERS OF THE PROPERTY USING THESE RIGHTS-OF-WAY ARE OTHERWISE PROVIDED FOR SATISFACTORILY.
- CONTRACTOR SHALL REFERENCE TO THE APPROVAL OF THE DEPARTMENT OF TRANSPORTATION SERVICES AND THE DEPARTMENT OF PLANNING AND PERMITTING, ALL EXISTING TRAFFIC SIGNS, POSTS, AND PAVEMENT MARKINGS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL REPLACE OR REPAIR ALL TRAFFIC SIGN, POSTS, AND PAVEMENT MARKINGS DISTURBED BY HIS ACTIVITIES.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PLANNING AND PERMITTING AT 768-8064 ONE (1) WEEK PRIOR TO ANY WORK TO BE DONE ON SIGNS, POST, AND PAVEMENT MARKINGS.
- NO EQUIPMENT SHALL BE STORED WITHIN STREET RIGHTS-OF-WAY EXCEPT AT LOCATIONS DESIGNATED IN WRITING AND APPROVED BY THE DEPARTMENT OF TRANSPORTATION SERVICES.
- THE PARTNERS, LLC SHALL ENSURE THAT THE CONTRACTOR INSTALLS THE CONSTRUCTION TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE MUTCD AND THE HAWAII ADMINISTRATION RULES AS SPECIFIED IN TRAFFIC NOTE #2.



CIVIL SHEET INDEX	
SHEET NO.	SHEET TITLE
C-1	CIVIL CONSTRUCTION NOTES 1
C-2	CIVIL CONSTRUCTION NOTES 2
C-3	SITE DEMOLITION PLAN
C-4	SITE AND HORIZONTAL CONTROL PLAN
C-5	SITE UTILITY PLAN 1
C-6	SITE UTILITY PLAN 2
C-7	SITE GRADING PLAN
C-8	SITE EROSION CONTROL PLAN
C-9	SITE DRAINAGE PLAN
C-10	CIVIL DETAILS
C-11	CIVIL DETAILS

**APPROVALS:**

\_\_\_\_\_  
DIRECTOR, DEPT. OF PLANNING AND PERMITTING FOR SITE GRADING AND CONSTRUCTION WORK (CITY USE ONLY) DATE

\_\_\_\_\_  
CHIEF, CIVIL ENGINEERING BRANCH, D.P.P. DATE

\_\_\_\_\_  
CHIEF, WASTEWATER BRANCH, D.P.P. DATE

\_\_\_\_\_  
CHIEF, TRAFFIC REVIEW BRANCH, D.P.P. DATE

REVISIONS	NO.	DATE

THE PROJECT WAS PREPARED BY THE ABOVE ENGINEER OR ARCHITECT AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER HIS SUPERVISION.

KAZU YATO, AIA & ASSOCIATES  
1319 KALAKAUA AVENUE  
HONOLULU, HAWAII

CIVIL CONSTRUCTION NOTES 1

DATE	DATE	DATE	DATE
JUL 2008			
DESIGN	CHK	FILE	

SHEET

C-1

**WATER NOTES:**

1. UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND CONSTRUCTION OF WATER SYSTEM FACILITIES AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE CITY AND COUNTY OF HONOLULU BOARD OF WATER SUPPLY'S "WATER SYSTEM STANDARDS", DATED 2002, THE "WATER SYSTEM EXTERNAL CORROSION CONTROL STANDARDS", VOLUME 3, DATED 1991, AND ALL SUBSEQUENT AMENDMENTS AND ADDITIONS.
2. NUTS AND BOLTS FOR FLANGE CONNECTIONS WITHIN METER BOXES SHALL BE BRONZE OR STAINLESS STEEL EXCEPT COUPLING ADAPTERS WHERE "CORE-TEN" (U.S. STEEL) OR "MAYARI" (BETHLEHEM STEEL) MAY BE USED. FLANGE CONNECTIONS OUTSIDE OF METER BOX MAY USE "COR-TEN" OR "MAYARI" TYPE NUTS AND BOLTS.
3. TEST PRESSURE SHALL BE ONE OF THE FOLLOWING:
  - A. PREVAILING LINE PRESSURE LEFT EXPOSED FOR 24 HOURS TO CHECK FOR LEAKS PRIOR TO BACKFILL.
  - B. 150 PSI. DURING THE 30-MINUTE PRESSURE TEST, THE PRESSURE SHALL NOT DROP MORE THAN 10 PSI.
4. THE CONTRACTOR SHALL CHLORINATE THE ENTIRE INSIDE SURFACE OF EACH PIPE AND FITTING WITH DISINFECTION SOLUTION OF 5 OUNCES OF SODIUM HYPOCHLORITE MIXED WITH 10 GALLONS OF WATER. (FOR CONNECTION ONLY).
5. THE PROJECT SHALL PAY THE APPLICABLE WATER SYSTEM FACILITIES AND/OR ONE-TIME SERVICE CHARGE AND FOR THE METER WHICH WILL BE FURNISHED BY BWS AND INSTALLED BY THE CONTRACTOR WHEN THE LATERAL IS INSTALLED.
6. THE CONTRACTOR SHALL NOTIFY BWS CAPITAL PROJECTS DIVISION, CONSTRUCTION SECTION IN WRITING AND SUBMIT SIX (6) SETS OF APPROVED CONSTRUCTION PLANS ONE WEEK PRIOR TO COMMENCING WORK ON THE WATER SYSTEM.
7. THE CONTRACTOR SHALL CUT AND PLUG ALL EXISTING UNUSED LATERALS AT THE MAIN WHETHER OR NOT SHOWN ON THE PLANS. METER AND VALVE BOXES TO BE OR ALREADY ABANDONED SHALL BE DEMOLISHED OF REMOVED AND PROPERLY DISPOSED OF. THE DAMAGED AREA SHALL BE REPAIRED TO AN EQUAL OR BETTER CONDITION THAN THE IMMEDIATE AREA. ALL WORK SHALL BE DONE AT THE EXPENSE OF THE CONTRACTOR.
8. AFTER INSTALLATION OF TAPPING SLEEVE AND VALVE PRIOR TO ACTUAL TAPPING OPERATIONS, THE ASSEMBLY SHALL BE TESTED AT 150 PSI ON BOTH SIDES OF THE VALVE.
9. ALL PLANS APPROVED BY THE BOARD OF WATER SUPPLY ARE BASED SOLELY ON THE ADEQUACY OF THE WATER SUPPLY.
10. FOR METERS 3 INCHES AND LARGER (COMPOUND, F.M., AND DETECTOR CHECK), CONTRACTOR SHALL NOTIFY CUSTOMER CARE DIVISION - SERVICE ENGINEERING SECTION IN WRITING AFTER THE PLAN IS APPROVED, NO LATER THAN 120 DAYS, PRIOR TO WITHDRAWING METER FROM BWS STOREYARD. SUCH NOTICE SHALL INDICATE NUMBER, SIZE, AND TYPE OF METER (COMPOUND, F.M., DETECTOR CHECK) AND APPROXIMATE MONTH AND YEAR METER IS ANTICIPATED TO BE DRAWN OUT. IF THE APPROVED PLAN IS ALLOWED TO LAPSE, THE 120-DAY NOTICE WILL BE VOIDED.
11. BOARD OF WATER SUPPLY'S APPROVAL OF THESE PLANS DOES NOT CONSTITUTE A WATER COMMITMENT. AVAILABILITY OF WATER WILL BE DETERMINED WHEN BUILDING PERMIT IS PRESENTED TO THE DEPARTMENT. WATER COMMITMENT WILL DEPEND UPON THE STATUS OF THE WATER SYSTEM AT THAT TIME. SHOULD WATER SERVICE BE MADE AVAILABLE, THE WATER COMMITMENT WILL BE EFFECTIVE WHEN THE PROJECT RECEIVES AND APPROVED BUILDING PERMIT FROM THE BUILDING DEPARTMENT. ALL WATER COMMITMENTS WILL BE CANCELED IN THE EVENT THE BUILDING PERMIT IS CANCELED.
12. THE PROJECT SHALL BE SUBJECT TO THE BOARD OF WATER SUPPLY'S CROSS-CONNECTION CONTROL REQUIREMENTS PRIOR TO ISSUANCE OF THE BUILDING PERMIT.
13. THE CONTRACTOR IN THE PRESENCE OF THE CONSULTING ENGINEER, WILL FLOW TEST THE MOST CRITICAL HYDRANTS (HYDRANTS WITH THE LEAST FLOW EXPECTED). THE CONSULTING ENGINEER WILL FURNISH TO THE HONOLULU FIRE DEPARTMENT (WITH A COPY TO THE BOARD OF WATER SUPPLY, CAPITAL PROJECTS DIVISION, CONSTRUCTION SECTION) THE FOLLOWING FLOW DATA: STATIC AND RESIDUAL PRESSURES IN PSI, PITOT AND FLOW IN GPM, GENERAL LAYOUT DRAWING SHOWING LOCATION OF HYDRANTS, AND MANUFACTURER OF HYDRANTS.
14. THE INSTALLATION, CHLORINATION, AND TESTING OF THE WATER MAIN AND FACILITIES AFTER THE METER SHALL NOT BE THE RESPONSIBILITY OF THE BOARD OF WATER SUPPLY.
15. THE CONTRACTOR SHALL INSTALL ELECTRONIC MARKERS TO ALL MAINS AND TEST THE ELECTRONIC MARKERS PRIOR TO INSTALLATIONS TO VERIFY PROPER OPERATION. BWS PERSONNEL SHALL VERIFY THE NUMBER AND LOCATIONS OF PLACED ELECTRONIC MARKERS BEFORE FINAL PAVING OF THE PROJECT.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL WATER LINES DURING CONSTRUCTION. THE CONTRACTOR SHALL BE ESPECIALLY CAREFUL WHEN EXCAVATING BEHIND WATER LINES, TEES, AND BENDS WHEREVER THERE IS A POSSIBILITY OF WATER LINE MOVEMENT DUE TO THE REMOVAL OF THE SUPPORTING EARTH BEYOND THE EXISTING REACTION BLOCKS. THE CONTRACTOR SHALL TAKE WHATEVER MEASURES NECESSARY TO PROTECT WATER LINES, SUCH AS CONSTRUCTING SPECIAL REACTION BLOCKS (WITH BWS APPROVAL) AND/OR MODIFYING HIS CONSTRUCTION METHOD.
17. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES AND STRUCTURES AS SHOWN ON THE PLANS ARE FROM THE LATEST AVAILABLE DATA BUT IS NOT GUARANTEED AS TO THE ACCURACY OR THE ENCOUNTERING OF OTHER OBSTACLES DURING THE COURSE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR ALL DAMAGES TO EXISTING UTILITIES. THE CONTRACTOR SHALL NOT ASSUME THAT WHERE NO UTILITIES ARE SHOWN, THAT NONE EXIST.
18. PRIOR TO INSTALLATION, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL BY BOARD OF WATER SUPPLY, THE MANUFACTURER'S CERTIFICATION THAT ALL CAST IRON (GRAY OR DUCTILE) FITTINGS FOR THE PROJECT CONFORM IN ALL RESPECTS TO THE WATER SYSTEM STANDARDS, DATED 2002.
19. POLYGON SHAPE FOR MECHANICAL JOINT GLANDS AS DESCRIBED IN AWWA STANDARD C111 SHALL BE "STRAIGHT-SIDED" OR AN APPROVED EQUAL ON A JOB-TO-JOB BASIS.
20. RE-APPROVAL SHALL BE REQUIRED IF THIS PROJECT IS NOT UNDER CONSTRUCTION WITHIN A PERIOD OF TWO YEARS.
21. THE BACKFLOW PREVENTER DEVICE MUST BE INSTALLED BEFORE METER IS ISSUED.
22. THE CONTRACTOR/DEVELOPER SHALL OBTAIN A NPDES PERMIT PRIOR TO CHLORINATION AND/OR DEWATERING. A COPY OF THE PERMIT SHALL BE SUBMITTED TO THE BOARD OF WATER SUPPLY, CAPITAL PROJECTS DIVISION, CONSTRUCTION SECTION.

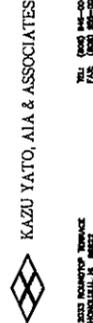
23. PIPE CUSHION SHALL BE OF HIGH RESISTIVITY MATERIAL. THE CONTRACTOR SHALL SUBMIT A SOIL CERTIFICATION THAT HIGH RESISTANT CUSHION MATERIAL HAS A RESISTIVITY GREATER THAN 5,000 OHM-CM. REMAINDER OF THE BACKFILL MATERIAL SHALL BE AS SPECIFIED IN THE WATER SYSTEM STANDARDS. PIPE CUSHION AND BACKFILL MATERIAL SHALL CONTAIN NO HAZARDOUS SUBSTANCES ABOVE REGULATORY ACTION LEVELS, INCLUDING BUT NOT LIMITED TO, ASBESTOS, MERCURY, CHROMIUM, CADMIUM, ZINC, STRONTIUM, AND POLYCHLORINATED BIPHENYLS (PCB).
24. INSTALL 4 MIL THICK, NON-METALLIC, BLUE COLORED, 6 INCHES WIDE WARNING TAPE OVER CENTERLINE OF THE PIPE AND BELOW THE BASE COURSE ALONG THE ENTIRE LENGTH OF TRENCH. TAPE SHOULD BE MARKED WITH "CAUTION WATER LINE BURIED BELOW".
25. THE CONTRACTOR SHALL FURNISH AND INSTALL POLYETHYLENE WRAP, 3 FEET MINIMUM AT ALL TAPS (FOR DI PIPE AND COPPER LATERAL COMBINATION ONLY) AND PLASTIC PIPE (PE TUBING) 3 FEET LONG AFTER METERS FOR ALL SERVICE LATERAL CONNECTIONS.

BWS FLOW REQUIREMENTS			
	F.U.	GPM	GPD
PROPOSED DOMESTIC:	1,672.3	290	52,800
PROPOSED IRRIGATION: (OPERATED OFF-PEAK HOURS)	20	14	200
TOTAL:	1,692.3	290	53,000

FOR ESTIMATING PURPOSES ONLY		
DESCRIPTION OF WORK	ESTIMATE	
<b>N/A DOMESTIC SERVICE</b>		
PREMISE I.D.: <u>NEW</u>		
METER NUMBER: <u>NEW</u>		
NEW 8"x2" FM WATER METER (INCLD. INSTALLATION)	\$7,304.00	\$7,304.00
WATER SYSTEM FACILITIES CHARGE (\$620.85/FU x 50 FU) (\$220.29/FU x 1,642.3 FU)	\$31,042.50 \$362,782.27	\$392,824.77
*CREDIT P/ID _____ S/N _____		
<b>8" FIRE SERVICE</b>		
8"x2" FM METER	N/A	N/A
INSTALLATION CHARGE	N/A	N/A
ONE-TIME CHARGE	\$21,100.00	\$21,100.00
TOTAL =		\$421,228.77

\*CREDITS TO BE DETERMINED WHEN THE BUILDING PERMIT APPLICATION IS SUBMITTED FOR BWS REVIEW AND APPROVAL.

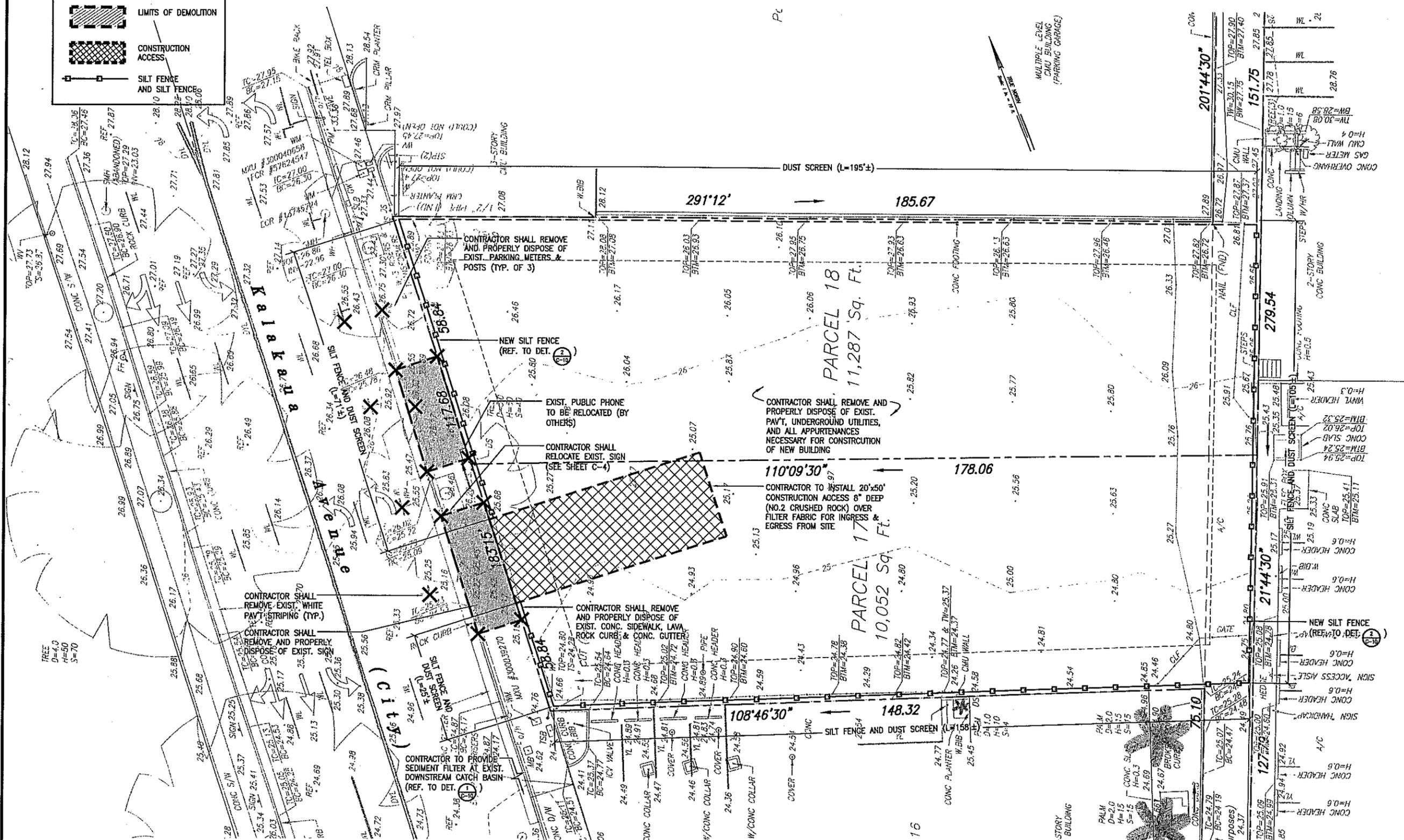
THIS ESTIMATE IS SUBJECT TO CHANGE. A FORMAL WRITTEN QUOTATION MAY BE OBTAINED AND ALL PAYMENTS FOR THE CHARGES SHOWN ON THE QUOTATION MADE WITHIN 30-DAYS AFTER THE CONSTRUCTION PLAN IS APPROVED BY BWS. IF PAYMENTS ARE NOT RECEIVED WITHIN THE 30-DAY PERIOD, THE PROJECT WILL BE SUBJECT TO THE PREVAILING RATES.

REVISIONS									
NO.	DATE								
									
THIS PROJECT WAS PREPARED BY _____ AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.									
HOLOMUA 1319 KALAKAUA AVENUE HONOLULU, HAWAII					CIVIL CONSTRUCTION NOTES 2				
									
DATE	DRAWN	STB	CHECK	TTH	FILE				
JUL 2008									
SHEET									
C-2									

APPROVAL:

**DEMO. PLAN LEGEND**

-  LIMITS OF DEMOLITION
-  CONSTRUCTION ACCESS
-  SILT FENCE AND SILT FENCE



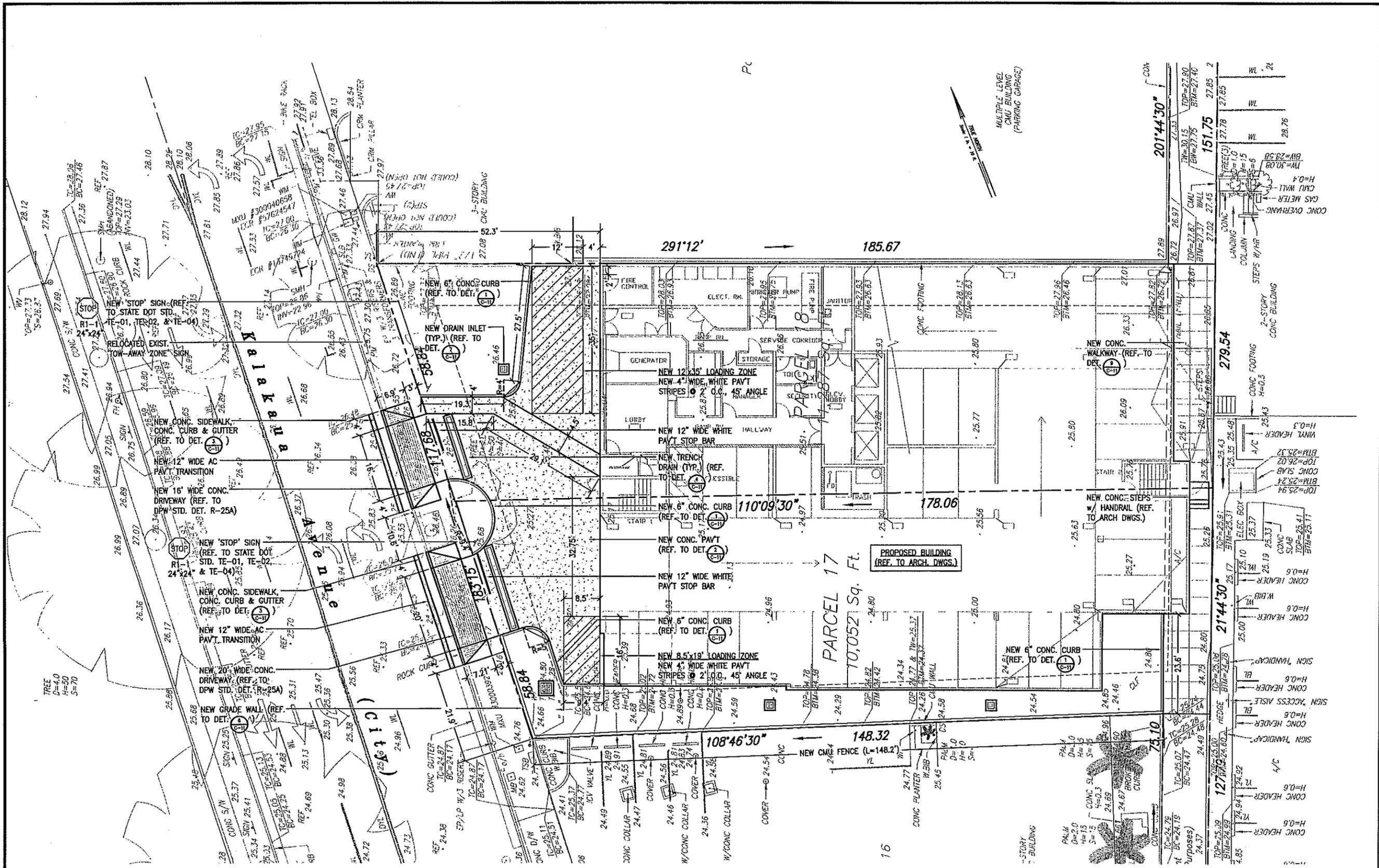
**NOTE:**  
 THE CONTRACTOR SHALL REMOVE EXISTING LAVA ROCK CURBS AT THE NEAREST EXISTING JOINT OUTSIDE OF THE LIMITS OF REMOVAL. ALL EXISTING LAVA ROCK CURBS SHALL BE REMOVED AND DELIVERED TO THE CITY AND COUNTY OF HONOLULU MAINTENANCE YARD, 358 HOOKELA PLACE. CONTACT SUPERINTENDENT MELVIN MIYATA, TEL: 484-7630 TO ARRANGE FOR DELIVERY.

**1 SITE DEMOLITION PLAN**  
 C-3 SCALE: 1"=10'

**APPROVALS:**

DATE: JUL 2008  
 DRAWN BY: [Name]  
 CHECKED BY: [Name]  
 DATE: [Date]  
 DATE: [Date]  
 DATE: [Date]

 <p><b>KAZU YATO, AIA &amp; ASSOCIATES</b>          1319 KALAKAUA AVENUE          HONOLULU, HAWAII</p>		<p>THIS PROJECT WAS PREPARED BY          KAZU YATO, AIA &amp; ASSOCIATES          AND CONSTRUCTION OF THIS          PROJECT WILL BE UNDER MY          SUPERVISION.</p>	
<p><b>HOLOMUA</b>          1319 KALAKAUA AVENUE          HONOLULU, HAWAII</p>			
<p><b>SITE DEMOLITION PLAN</b></p>		<p>NO. DATE</p>	<p>REVISIONS</p>
<p><b>C-3</b></p>		<p>SHEET</p>	



**1 SITE AND HORIZONTAL CONTROL PLAN**  
 SCALE: 1"=10'

DATE		NO.		REVISIONS	
JUL 2008	1				
DRAWN	STB	CHECK	DATE		
<b>SHEET</b>					
<b>C-4</b>					

**KAZUYATO, AIA & ASSOCIATES**

1319 KALAKAUA AVENUE  
HONOLULU, HAWAII

**HOLOMUA**

1319 KALAKAUA AVENUE  
HONOLULU, HAWAII

**PROFESSIONAL ENGINEER**  
 No. 9378-C  
 HAWAII, U.S.A.

**THE PROJECT WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.**

**SITE AND HORIZONTAL CONTROL PLAN**

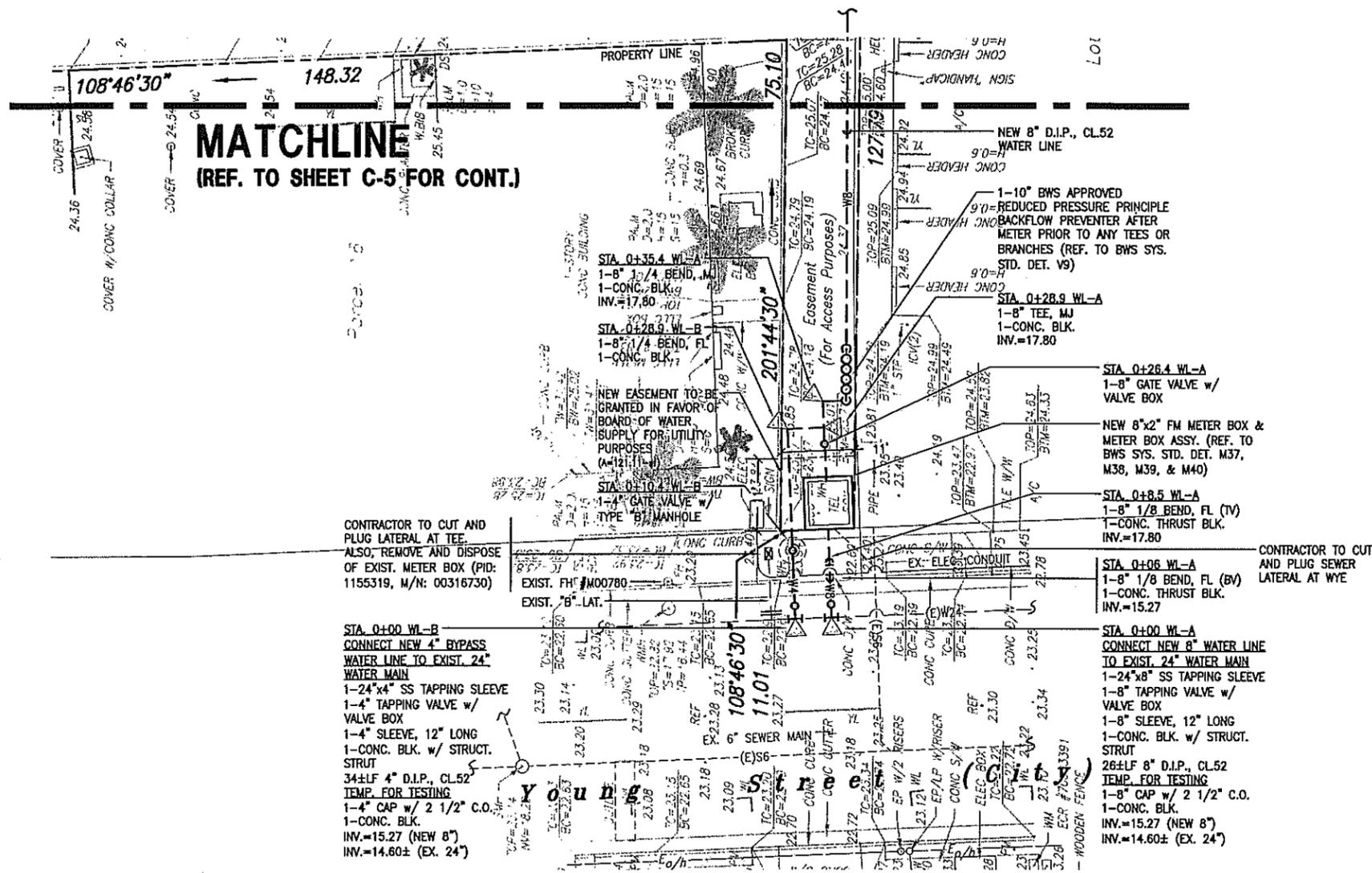
**APPROVALS:**

\_\_\_\_\_ DATE \_\_\_\_\_

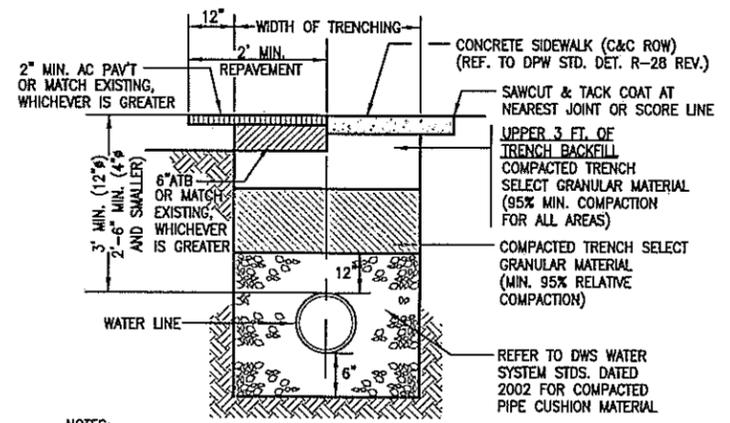
\_\_\_\_\_ DATE \_\_\_\_\_

\_\_\_\_\_ DATE \_\_\_\_\_



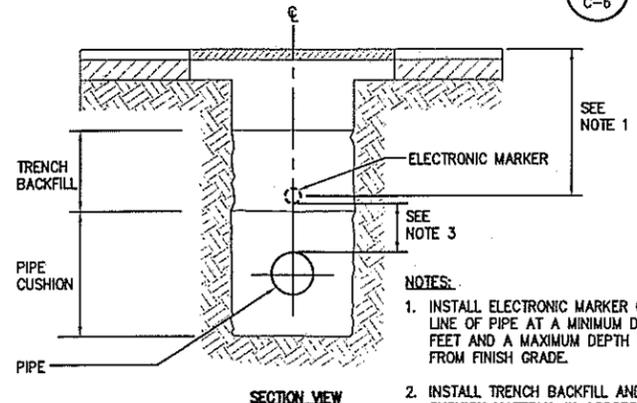


**1 SITE UTILITY PLAN 2**  
 C-6 SCALE: 1"=10'



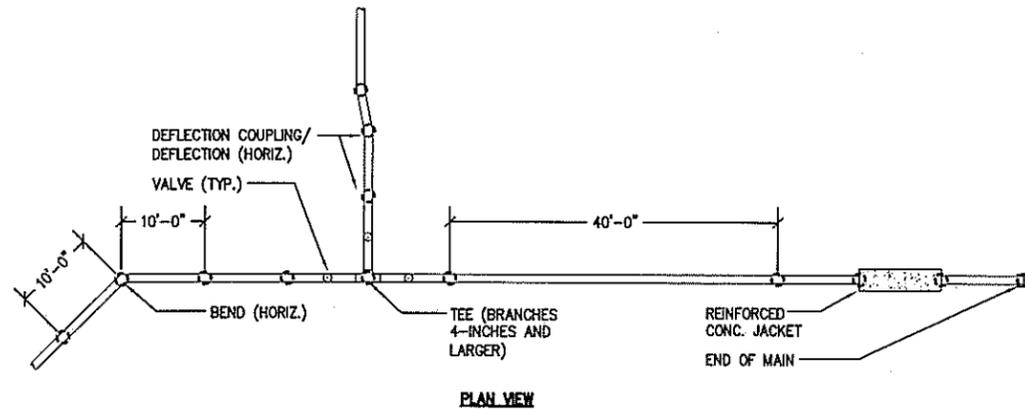
- NOTES:**
- ADHERE TO ALL REQUIREMENTS OF THE WATER SYSTEM STDS., DATED 2002. UTILITY TRENCH BACKFILL AND SUBGRADE SHALL BE PER THE SOILS REPORT RECOMMENDATIONS AS PROVIDED BY GEOLABS, INC.
  - WHERE UNSTABLE SOIL CONDITIONS EXIST, THE UNDERLYING UNSTABLE SOILS SHALL BE REMOVED AND REPLACED WITH CRUSHED ROCK ENCLOSED IN GEOTEXTILE FABRIC WITH THE WIDTH AND DEPTH DETERMINED BY THE SOILS ENGINEER.
  - CONTRACTOR TO EVALUATE SOIL AND PROVIDE ALL NECESSARY CORROSION CONTROL METHODS AS PER THE CURRENT BWS 'WATER SYSTEM EXTERNAL CORROSION CONTROL STANDARDS'.

**2 WATER LINE TRENCH SECTION**  
 C-6 SCALE: NONE



- NOTES:**
- INSTALL ELECTRONIC MARKER OVER CENTER LINE OF PIPE AT A MINIMUM DEPTH OF 2 FEET AND A MAXIMUM DEPTH OF 3 FEET FROM FINISH GRADE.
  - INSTALL TRENCH BACKFILL AND PIPE CUSHION MATERIAL IN ACCORDANCE TO THE PLANS AND SPECIFICATIONS.
  - INSTALL ELECTRONIC MARKER AT A MINIMUM CLEARANCE OF 6-INCHES ABOVE THE PIPE OR CONCRETE JACKET.

**3 TYPICAL ELECTRONIC MARKER INSTALLATION**  
 C-6 SCALE: NONE



**APPROVALS:**

_____	DATE

REVISIONS									
NO.	DATE	BY	CHECK	DATE	BY	CHECK	DATE	BY	CHECK
THIS PROJECT WAS PREPARED BY THE ENGINEER OR ARCHITECT AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER HIS SUPERVISION.									
<b>HOLOMUA</b> 1319 KALAKAUA AVENUE HONOLULU, HAWAII									
<b>SITE UTILITY PLAN 2</b>									
<b>KAZU YATO, AIA &amp; ASSOCIATES</b> 1319 KALAKAUA AVENUE HONOLULU, HAWAII TEL: (808) 948-0000 FAX: (808) 948-0002									
<b>SHEET</b> <b>C-6</b>									

**EARTHWORK SUMMARY:**  
(FOR PERMIT PURPOSES ONLY)  
(CATEGORY 4)

THE ENGINEER HAS ESTIMATED THE QUANTITIES AS FOLLOWS:

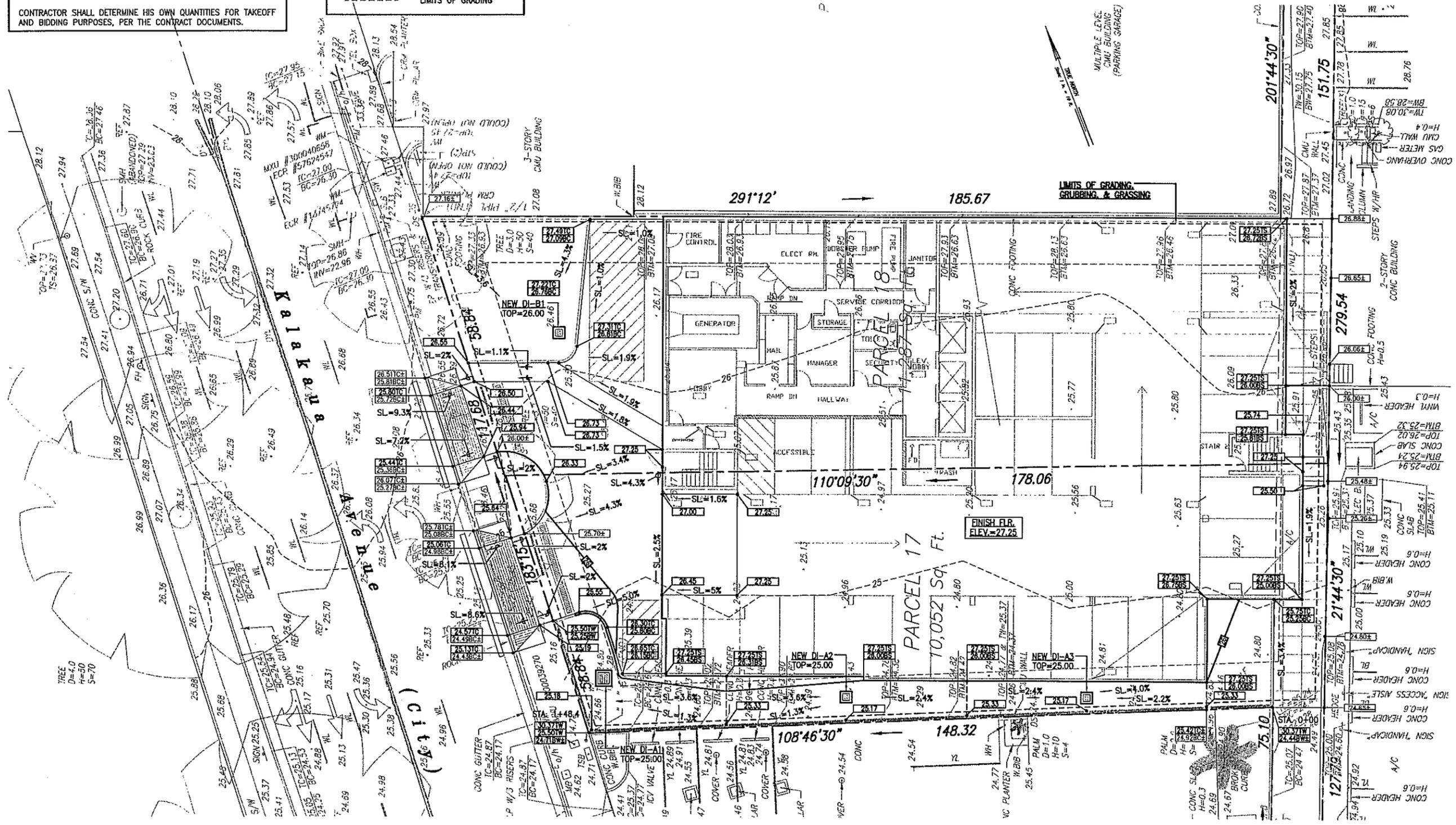
- EXCAVATION = 15 CY
- EMBANKMENT = 800 CY
- GRADED AREA = 18,517 SF/0.43 AC

THE EARTHWORK QUANTITIES WERE TAKEN FROM EXISTING TO FINISH GRADES.

CONTRACTOR SHALL DETERMINE HIS OWN QUANTITIES FOR TAKEOFF AND BIDDING PURPOSES, PER THE CONTRACT DOCUMENTS.

**SITE GRADING LEGEND**

- 25.00 EXIST. GRADE
- 25 — FINISH GRADE
- 25.00± EXIST. SPOT GRADE
- 25.00 FINISH SPOT GRADE
- LIMITS OF GRADING

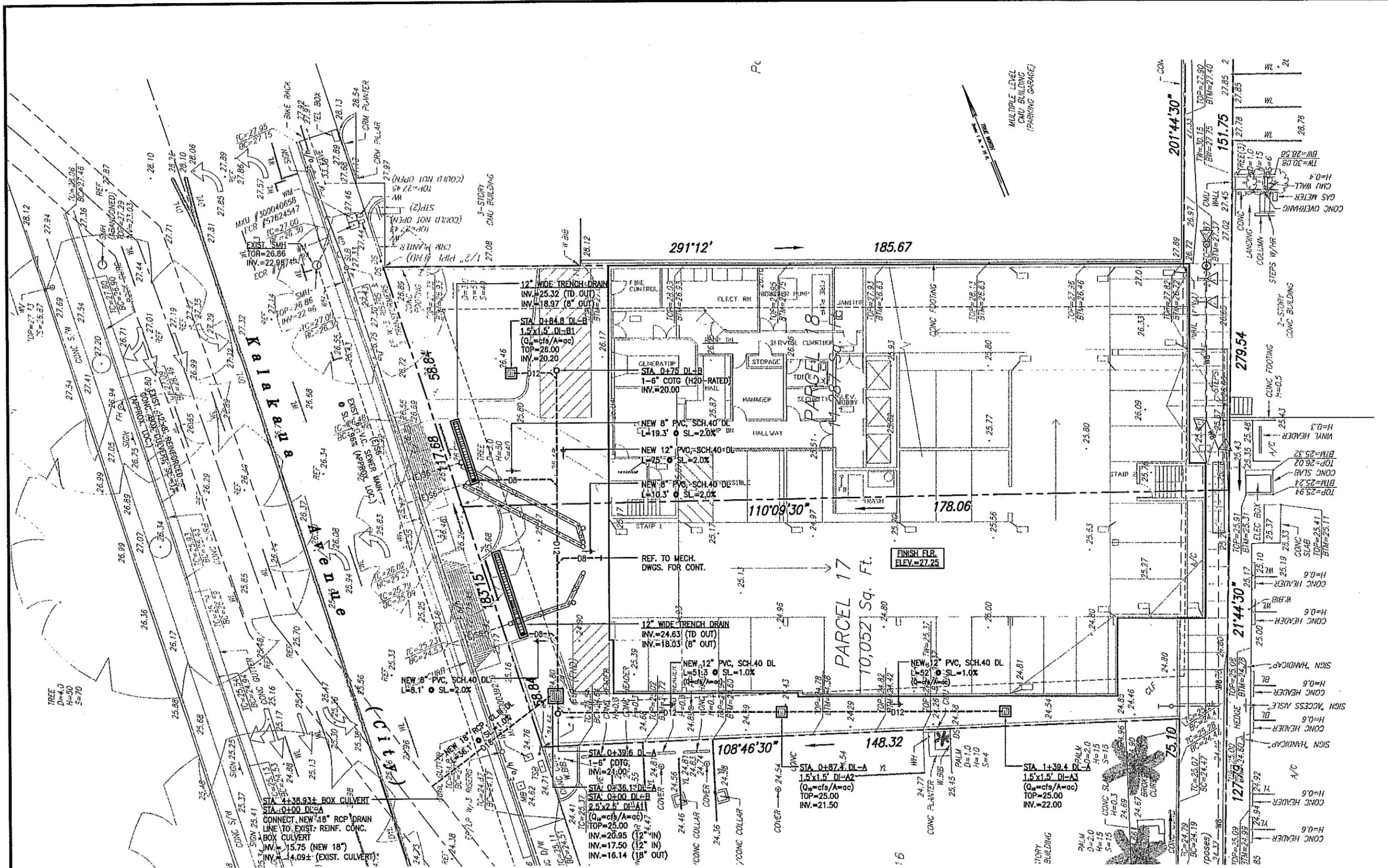


**1 SITE GRADING PLAN**  
SCALE: 1"=10'

APPROVAL:

REVISIONS	
NO.	DATE
THIS PROJECT WAS PREPARED BY THE ENGINEER OR ARCHITECT FOR THE CONSTRUCTION OF THIS PROJECT AND WILL BE UNDER HIS SUPERVISION.	
<b>HOLOKUA</b> 1319 KALAKAUA AVENUE HONOLULU, HAWAII	
<b>KAZU YATO, AIA &amp; ASSOCIATES</b> 1319 KALAKAUA AVENUE HONOLULU, HAWAII	
<b>SITE GRADING PLAN</b>	
DATE	FILE
JUL 2008	
DRAWN	
STB	
CHEK	
TTM	
FILE	
<b>SHEET</b>	
<b>C-7</b>	





**1 SITE DRAINAGE PLAN**  
 C-9 SCALE: 1"=10'

**APPROVALS:**

DATE: APR 2008  
 DRAWN BY: [Signature]  
 CHECKED BY: [Signature]  
 TITLE: [Signature]  
 FILE: [Signature]

NO.	DATE	REVISIONS

THIS PROJECT WAS PREPARED BY  
 KAZU YATO, AIA & ASSOCIATES  
 AND CONSTRUCTION OF THIS  
 PROJECT WILL BE UNDER THE  
 SUPERVISION OF

**KAZU YATO, AIA & ASSOCIATES**  
 1319 KALAKAUA AVENUE  
 HONOLULU, HAWAII

**YAYAYUCHI**  
 LICENSED PROFESSIONAL ENGINEER  
 NO. 8378-C  
 HAWAII, U.S.A.  
 Exp. 04/30/2010

**HOLOMUA**  
 1319 KALAKAUA AVENUE  
 HONOLULU, HAWAII

**SITE DRAINAGE PLAN**

**C-9**

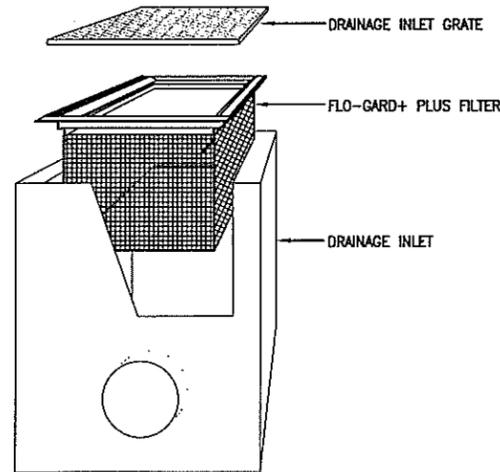
**BEST MANAGEMENT PRACTICE (BMP) NOTES:**

1. INSTALL NEW SILT FENCE AND SEDIMENT FILTERS AT EXISTING CATCH BASINS AND NEW DRAIN INLETS. CLEAN AND MAINTAIN AS REQUIRED.
2. GRASS CUT AND FILL SLOPES WITH COMMON BERBERIA GRASS IMMEDIATELY AFTER GRADING OPERATIONS FOR DUST AND EROSION CONTROL. RE-GRASS AREAS DISTURBED BY CONSTRUCTION ACTIVITIES AND NO LONGER OCCUPIED BY THE CONTRACTOR. PROVIDE EROSION CONTROL BLANKETS FOR SLOPES 3:1 OR GREATER.
3. INSTALL CRUSHED ROCK CONSTRUCTION ACCESS FOR INGRESS/EGRESS FROM THE JOBSITE. CRUSHED ROCK FOR CONSTRUCTION AREAS TO CONFORM WITH NO.2 COURSE WITH THE FOLLOWING GRADATION:

SIEVE SIZE	PERCENT PASSING
3"	100
2-1/2"	90-100
2"	35-70
1-1/2"	0-15
1"	—
3/4"	0-5

4. DUST CONTROL (I.E. DUST SCREENS, WET SUPPRESSION, ETC.) SHOULD BE APPLIED TO REDUCE DUST EMISSIONS. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA (ADJACENT RESIDENTIAL PROPERTY) FREE FROM DUST NUISANCE.
5. GOOD HOUSEKEEPING SHALL BE UTILIZED TO ENSURE PROTECTION OF ROADWAYS FROM MUD, DIRT, AND DEBRIS.
6. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO START OF PROJECT AND BE MAINTAINED UNTIL COMPLETION OF PROJECT.
7. THE FINAL LIFT OF EACH DAY'S WORK SHALL BE COMPACTED TO PREVENT EROSION OF FILL MATERIAL.
8. THE CONTRACTOR SHALL ENSURE THAT ALL TIRES OF CONSTRUCTION VEHICLES ARE SUFFICIENTLY CLEANED OFF SO THAT DIRT OR DEBRIS IS NOT TRACKED OFF THE CONSTRUCTION SITE. WASHING OFF TIRES WITH WATER WILL NOT BE ACCEPTABLE UNLESS THE RUNOFF IS CONTAINED AND DOES NOT ENTER THE STORM DRAIN SYSTEM OR ONTO THE STATE'S R.O.W.

THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION STDS. CONTAINED IN THE HAWAII ADMINISTRATIVE RULES: CHAPT. 11-60, 'AIR POLLUTION CONTROL'. DUST SHALL BE KEPT WITHIN ACCEPTABLE LEVELS AT ALL TIMES, INCLD. NON-WORKING HOURS, WEEKENDS, AND HOLIDAYS IN CONFORMANCE WITH TITLE 11, CHAPTER 80.1-AIR POLLUTION CONTROL, AS AMENDED, OF THE STATE DEPT. OF HEALTH, PUBLIC HEALTH REGULATIONS. THE METHOD OF DUST CONTROL AND ALL COSTS INCURRED THEREFORE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DUST DAMAGE CLAIMS.

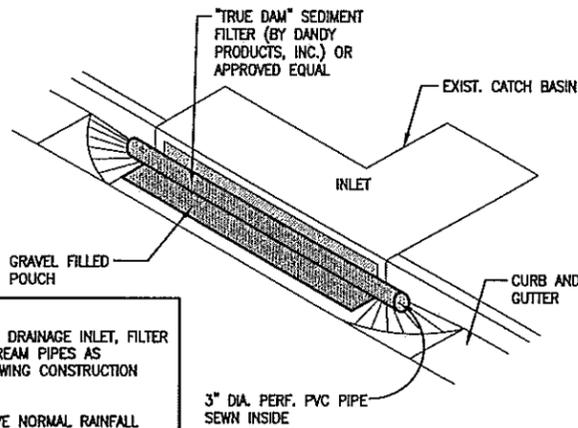


**NOTES:**

1. CONTRACTOR TO PROVIDE INLET FILTER INSERTS AT ALL GRATED INLETS.
2. CONTRACTOR TO INSTALL FILTER INSERT PER MANUFACTURER'S RECOMMENDATIONS.

**4 GRATED INLET FILTER INSERT INSTALLATION DETAIL**

SCALE: NONE



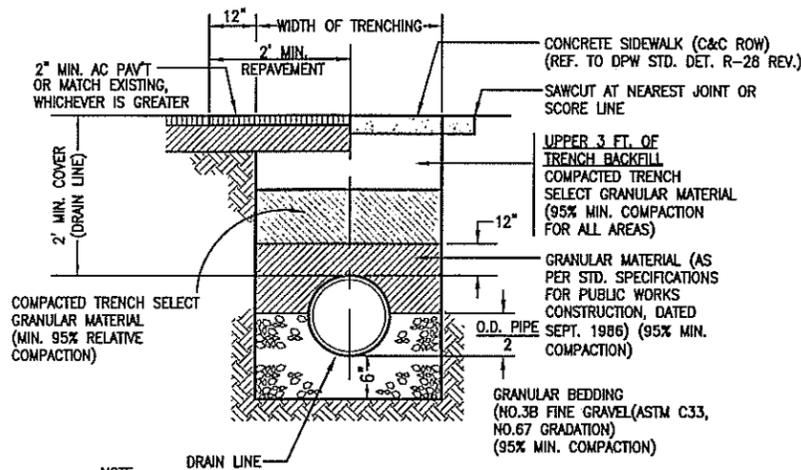
**NOTES:**

CONTRACTOR TO CLEAN DRAINAGE INLET, FILTER FABRIC, AND DOWNSTREAM PIPES AS NECESSARY AND FOLLOWING CONSTRUCTION COMPLETION.

DURING TIMES OF ABOVE NORMAL RAINFALL EVENTS, CONTRACTOR SHALL REMOVE FILTERS AND REPLACE AFTER EVENT HAS PASSED.

**1 SEDIMENT FILTER AT CATCH BASIN**

SCALE: NONE

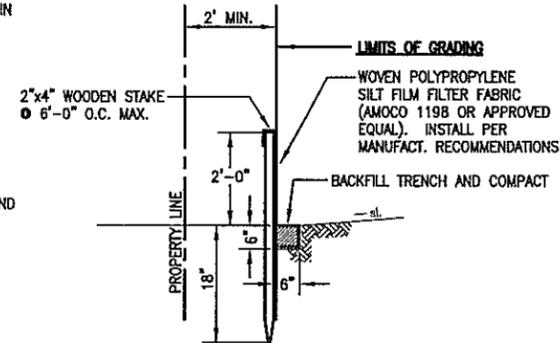


**NOTE:**

1. WHERE UNSTABLE SOIL CONDITIONS EXIST, THE UNDERLYING UNSTABLE SOILS SHALL BE REMOVED AND REPLACED WITH CRUSHED ROCK ENCLOSED IN GEOTEXTILE FABRIC WITH THE WIDTH AND DEPTH DETERMINED BY A LICENSED SOILS ENGINEER (COST TO BE BORNE BY THE CONTRACTOR).

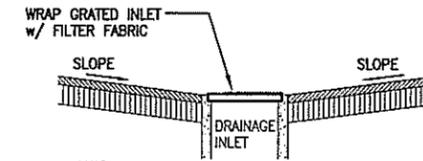
**5 DRAIN LINE TRENCH DETAIL (PRIVATE)**

SCALE: NONE



**2 SILT FENCE DETAIL**

SCALE: NONE



**NOTE:**

CONTRACTOR TO CLEAN DRAINAGE INLET, FILTER FABRIC, AND DOWNSTREAM PIPES AS NECESSARY AND FOLLOWING CONSTRUCTION COMPLETION.

**3 SEDIMENT FILTER AT GRATED INLET**

SCALE: NONE

NO.	DATE	REVISIONS



THIS PROJECT WAS PREPARED BY KAZU YATO, AIA & ASSOCIATES AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.

HOLOMUA  
1319 KALAKAUA AVENUE  
HONOLULU, HAWAII

CIVIL DETAILS

KAZU YATO, AIA & ASSOCIATES  
1319 KALAKAUA AVENUE  
HONOLULU, HI 96813  
TEL: (808) 943-8888  
FAX: (808) 943-8889

DATE	DRAWN	STB	CHECK	TTH	FILE
JUL 2003					

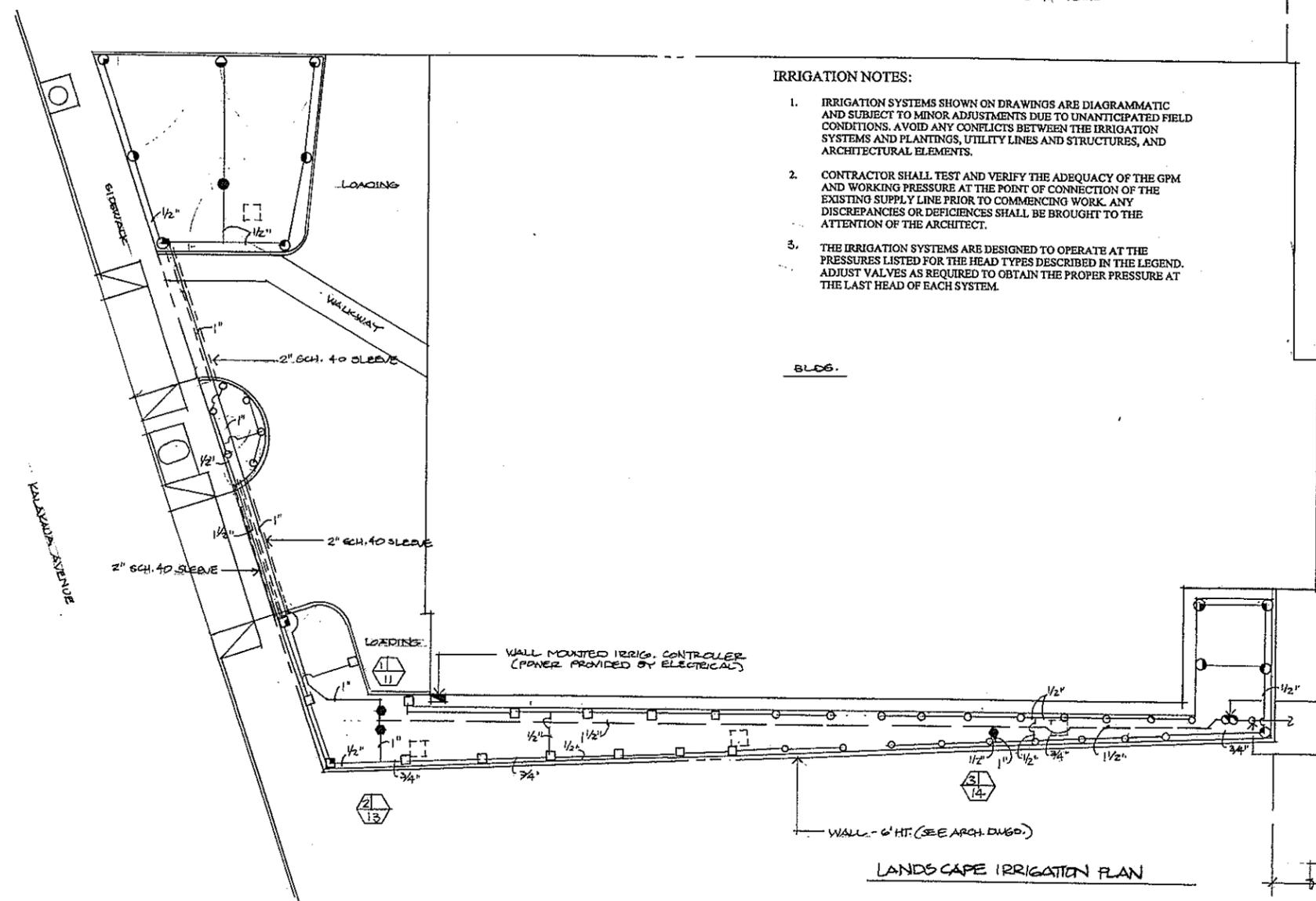
SHEET

C-10

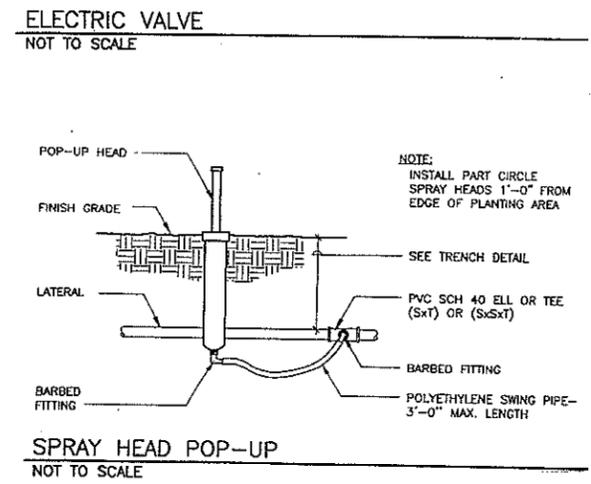
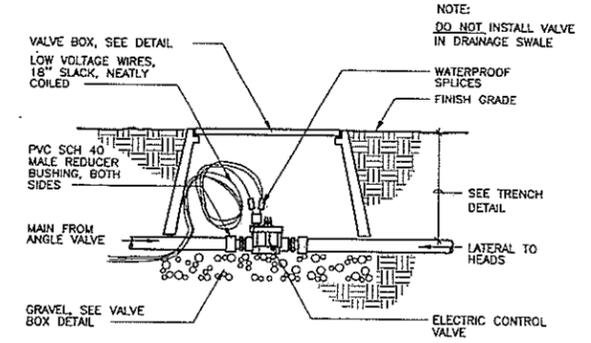
APPROVAL:



REVISIONS	BY

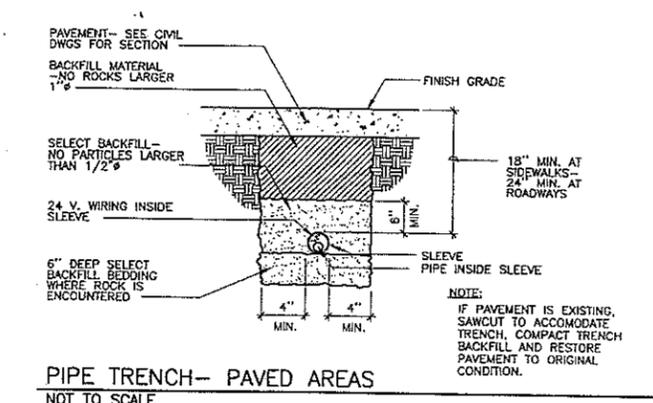
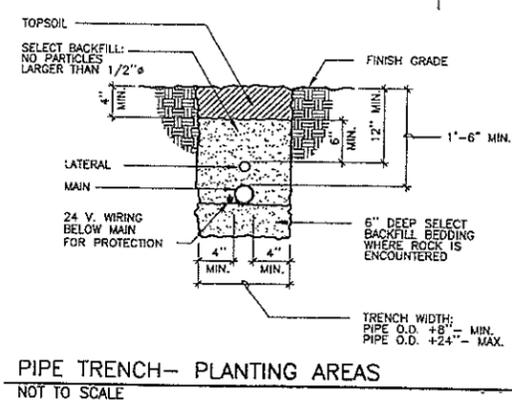
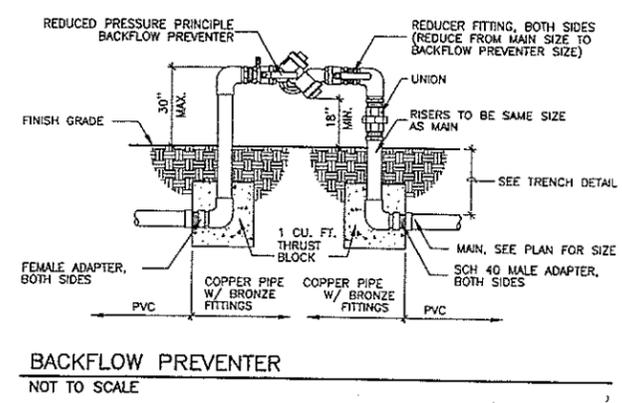


- IRRIGATION NOTES:**
- IRRIGATION SYSTEMS SHOWN ON DRAWINGS ARE DIAGRAMMATIC AND SUBJECT TO MINOR ADJUSTMENTS DUE TO UNANTICIPATED FIELD CONDITIONS. AVOID ANY CONFLICTS BETWEEN THE IRRIGATION SYSTEMS AND PLANTINGS, UTILITY LINES AND STRUCTURES, AND ARCHITECTURAL ELEMENTS.
  - CONTRACTOR SHALL TEST AND VERIFY THE ADEQUACY OF THE GPM AND WORKING PRESSURE AT THE POINT OF CONNECTION OF THE EXISTING SUPPLY LINE PRIOR TO COMMENCING WORK. ANY DISCREPANCIES OR DEFICIENCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
  - THE IRRIGATION SYSTEMS ARE DESIGNED TO OPERATE AT THE PRESSURES LISTED FOR THE HEAD TYPES DESCRIBED IN THE LEGEND. ADJUST VALVES AS REQUIRED TO OBTAIN THE PROPER PRESSURE AT THE LAST HEAD OF EACH SYSTEM.



**IRRIGATION LEGEND**

SYMBOL	DESCRIPTION/MANUFACTURER
1 1/2"	MAINLINE - SCH 40
1/2"	LATERAL - CL 200
---	SLEEVE - 2" SCH 40
⊗	REDUCED PRESSURE BACKFLOW PREVENTER - FIBCO 825Y - 1"
●	CONTROL VALVE - RAINBIRD 100-FEB 1"
③	STATION NO. SIZE
GPM	GPM
⊞	CONTROLLER - RAINBIRD ESP - 6LX PLUS, OUTDOORS - WALL MOUNTED
⊙	SPRAY HEAD - 12" POP UP/RAINBIRD 1812 - 15H/15Q, 30 PSI 15" RADIUS
⊙	SPRAY HEAD - 12" POP UP/RAINBIRD 1812 - 10H/10Q, 30 PSI 10" RADIUS
⊙	SPRAY HEAD - 12" POP UP/RAINBIRD 1812 - 8H, 30 PSI 8" RADIUS

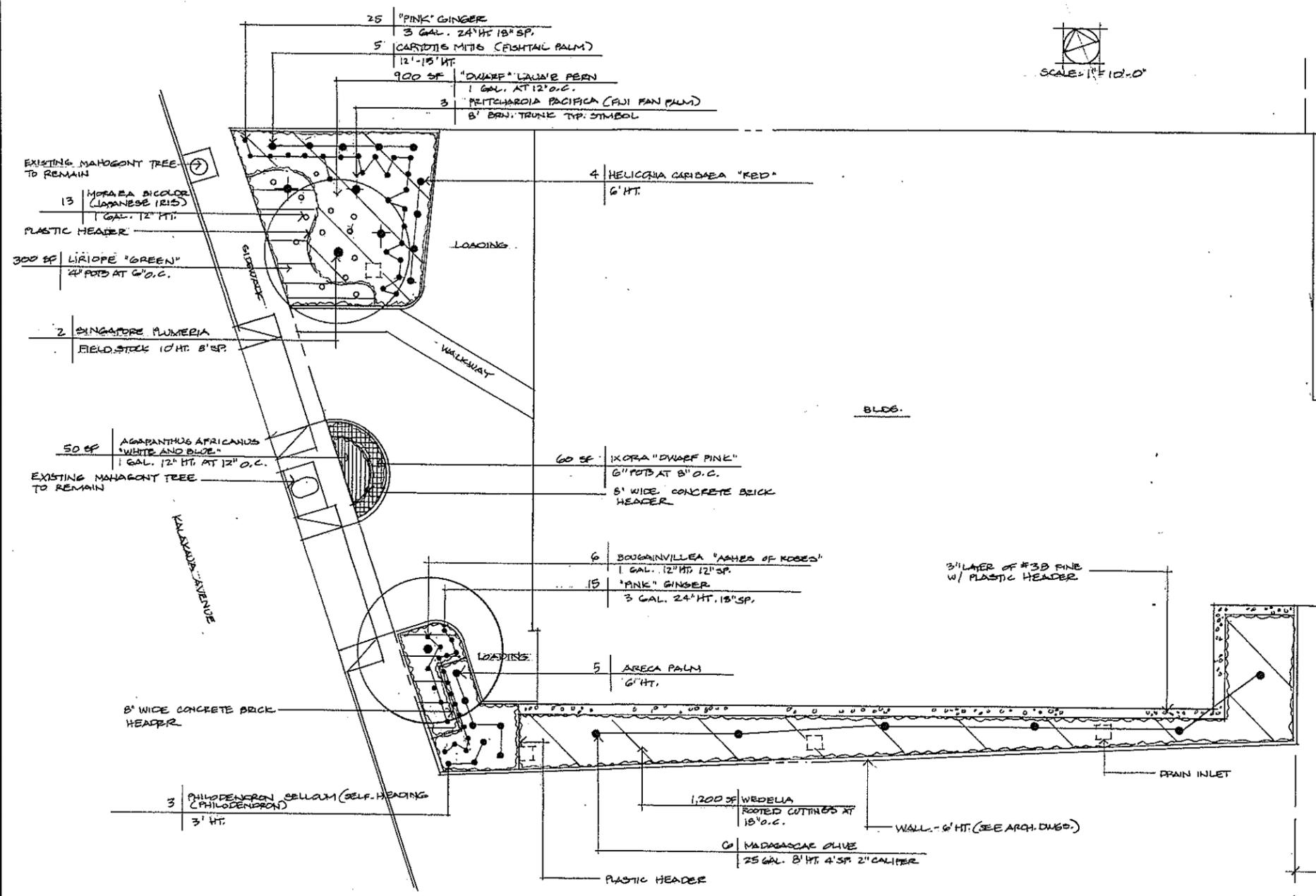
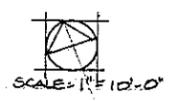


THIS PROJECT WAS PREPARED BY ME OR UNDER MY SUPERVISION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF IT COMPLIES WITH ALL CITY, STATE AND FEDERAL REQUIREMENTS.

**HOLOMUA**  
1319 KALAKAUA AVENUE  
HONOLULU, HAWAII

**KAZUO YATO, AIA & ASSOCIATES**  
2033 BROWNSHIP TERRACE  
HONOLULU, HI 96815  
TEL: (808) 945-0040  
FAX: (808) 955-0025

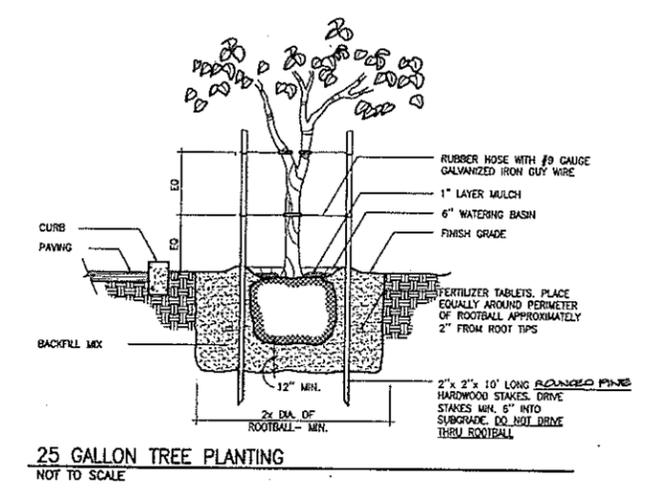
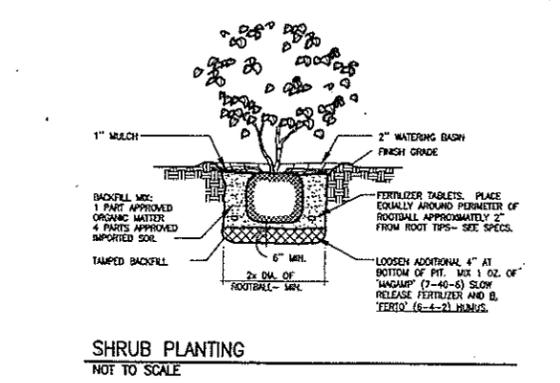
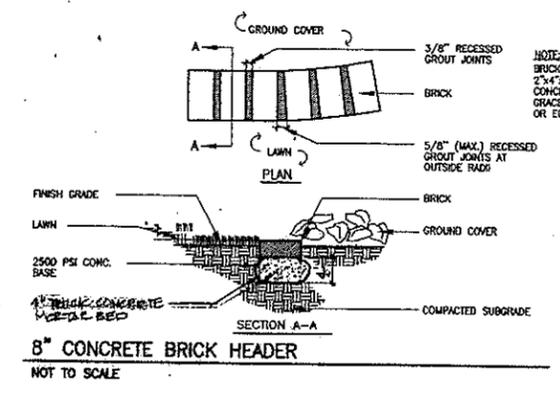
Date 7/2/08  
Scale 1"=10'-0"  
Drawn PF  
Job  
Sheet L-1  
Of 2 Sheets



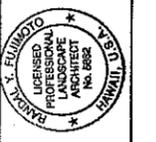
LANDSCAPE PLANTING PLAN

PLANTING NOTES:

1. CONTRACTOR SHALL INSPECT THE SITE AND FIELD CONDITIONS PRIOR TO COMMENCING WITH THE WORK. ANY DISCREPANCIES OR UNUSUAL CONDITIONS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT. BY COMMENCING WITH THE WORK, CONTRACTOR ACCEPTS THE EXISTING CONDITIONS AND RESPONSIBILITY FOR MAINTAINING THOSE CONDITIONS.
2. PLANT QUANTITIES ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AND INSTALL THE NECESSARY PLANTS IN THE QUANTITIES SUFFICIENT TO FULFILL THE DESIGN INTENT AT THE SPACINGS AND LOCATIONS SHOWN.
3. THE MAHOGONY TREES ALONG KALAKAUA AVENUE ARE PROTECTED BY LAW UNDER THE "EXCEPTIONAL TREE" ORDINANCE. CONTRACTOR SHALL PROTECT THESE TREES AT ALL TIMES FROM ALL CONSTRUCTION ACTIVITIES. NO CONSTRUCTION MATERIALS SHALL BE STORED OR DUMPED IN THE EXISTING PLANTING AREAS AROUND THE TREES.
4. INSTALL 4" LAYER OF IMPORTED SCREEN SOIL IN ALL PLANTING AREAS AND INCORPORATE INTO TOP 4" OF THE EXISTING SOIL.
5. INSTALL 1" LAYER OF FINE, DECORATIVE MULCH IN ALL PLANTING AREAS.
6. PLASTIC HEADER - "EDGE KING" OR EQUAL.



REVISIONS	BY



THIS PROJECT WAS PREPARED BY ME OR UNDER MY SUPERVISION AND I AM A LICENSED PROFESSIONAL LANDSCAPE ARCHITECT IN THE STATE OF HAWAII.

**KAZU YATO, AIA & ASSOCIATES**  
 1319 KALAKAUA AVENUE  
 HONOLULU, HAWAII

**KAZU YATO, AIA & ASSOCIATES**  
 FILE: (808) 441-0020  
 FAX: (808) 752-0022  
 2025 KONOHIKO TERRACE  
 HONOLULU, HI 96822

Date: 7/2/08  
 Scale: 1" = 10'-0"  
 Drawn: [Signature]  
 Job:  
 Sheet: L-2  
 Of: Sheets

SOUTH BERETANIA STREET

291'12" 11.00

99.01

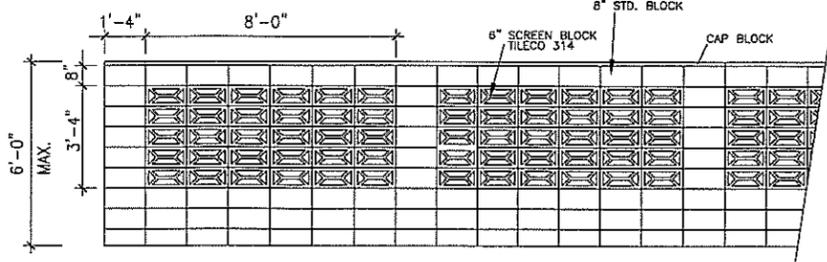
201' 44' 30"

151.75

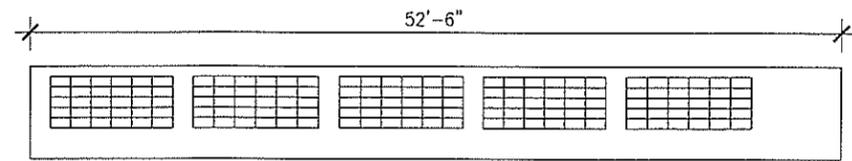
291' 12'

185.67

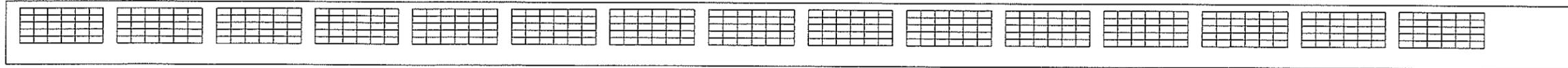
KALAKAUA AVE.



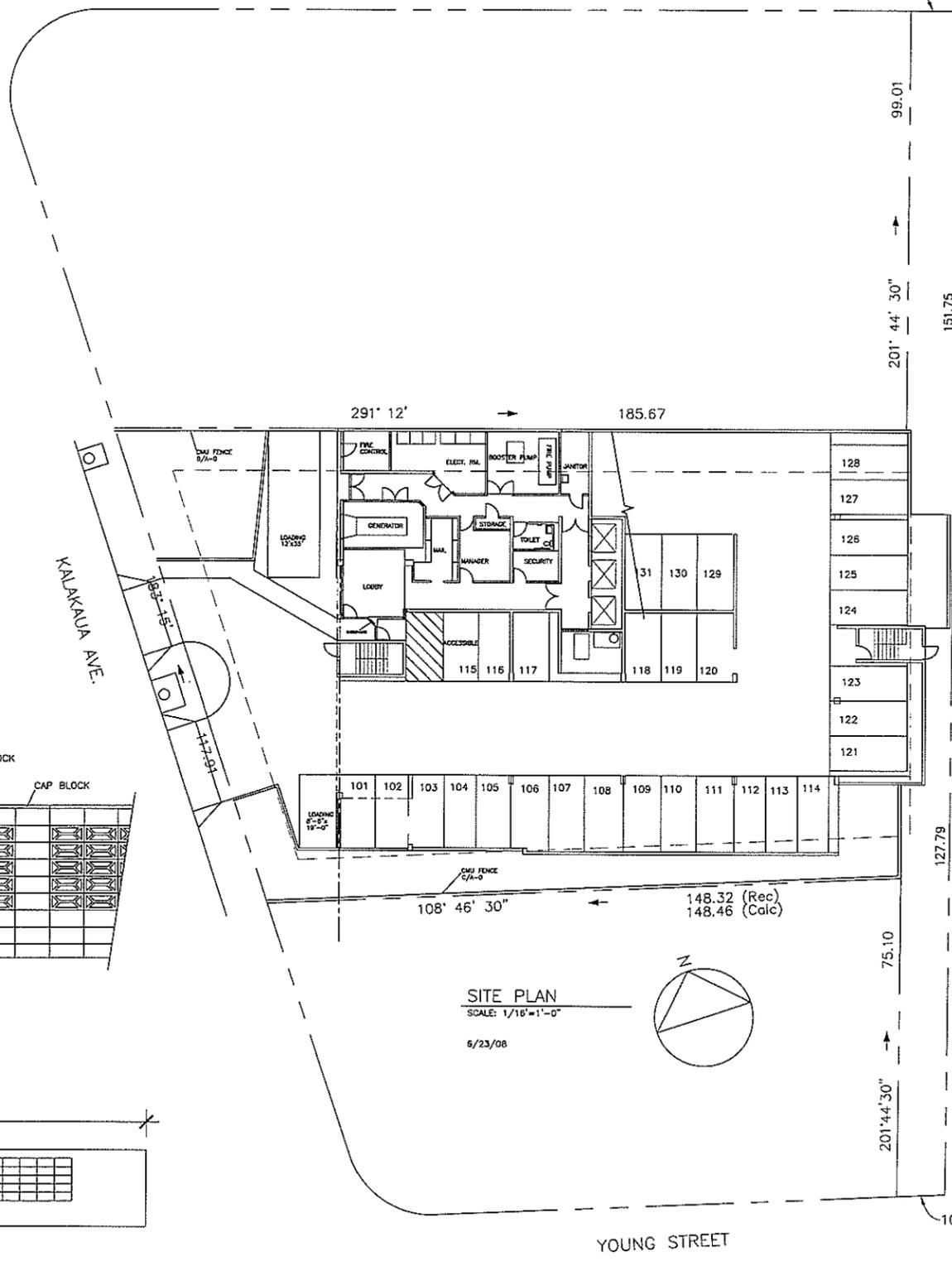
A CMU FENCE ELEVATION



B CMU FENCE ELEVATION SEE DETAIL A/A-0



C CMU FENCE ELEVATION SEE DETAIL A/A-0



SITE PLAN  
SCALE: 1/16"=1'-0"  
6/23/08

PROJECT DATA  
 TMK: 2-4-06:17 & 18  
 LOT AREA=21,339SF  
 ZONE= BMX-3  
 FAR= 2.5 (3.5 MAX. WITH BONUS)  
 ALLOWABLE F.A.=53,347SF  
 TYPE OF CONSTRUCTION=TYPE 1A

PROPOSED F.A.R.=7.26  
 ALLOWABLE FLOOR AREA=154,921SF  
 PROPOSED FA  
 TYP.FL.=9095X16=145,520  
 GRD.FL.=3162  
 GARAGE=730X7+470=5580  
 ROOF=552  
 TOTAL = 154,814SF  
 PROPOSED = 11X16=176 UNITS  
 8 ACCESSIBLE UNITS REQUIRED AND PROVIDED.  
 ACCESSIBLE UNITS SHALL CONFORM TO:  
 ADA ACCESSIBILITY GUIDELINE  
 FAIR HOUSING ACCESSIBILITY GUIDELINES  
 RESIDENTIAL HOUSING ACCESSIBILITY GUIDELINES

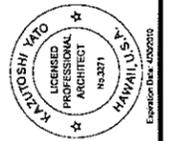
PARKING CALCULATION:  
 5(1BR)X1 16=80  
 6(2BR)X1.5X16=144  
 GUEST PARKING=18  
 TOTAL=242

PARKING PROVIDED:  
 P1 LEVEL=31  
 P2 THRU P7 LEVEL=34X6=204  
 P8 = 10  
 TOTAL=245

NOTE: WHILE THE PROJECT AS DESIGNED INCLUDES THE PARKING COUNT AS REFERENCED ABOVE, THE DEVELOPER IS REQUESTING THE OPTION TO REDUCE THE PARKING BY 34 STALLS IN THE EVENT IT IS REQUIRED TO MAKE THE PROJECT FINANCIALLY FEASIBLE.

6/29/08

NO.	DATE	REVISIONS

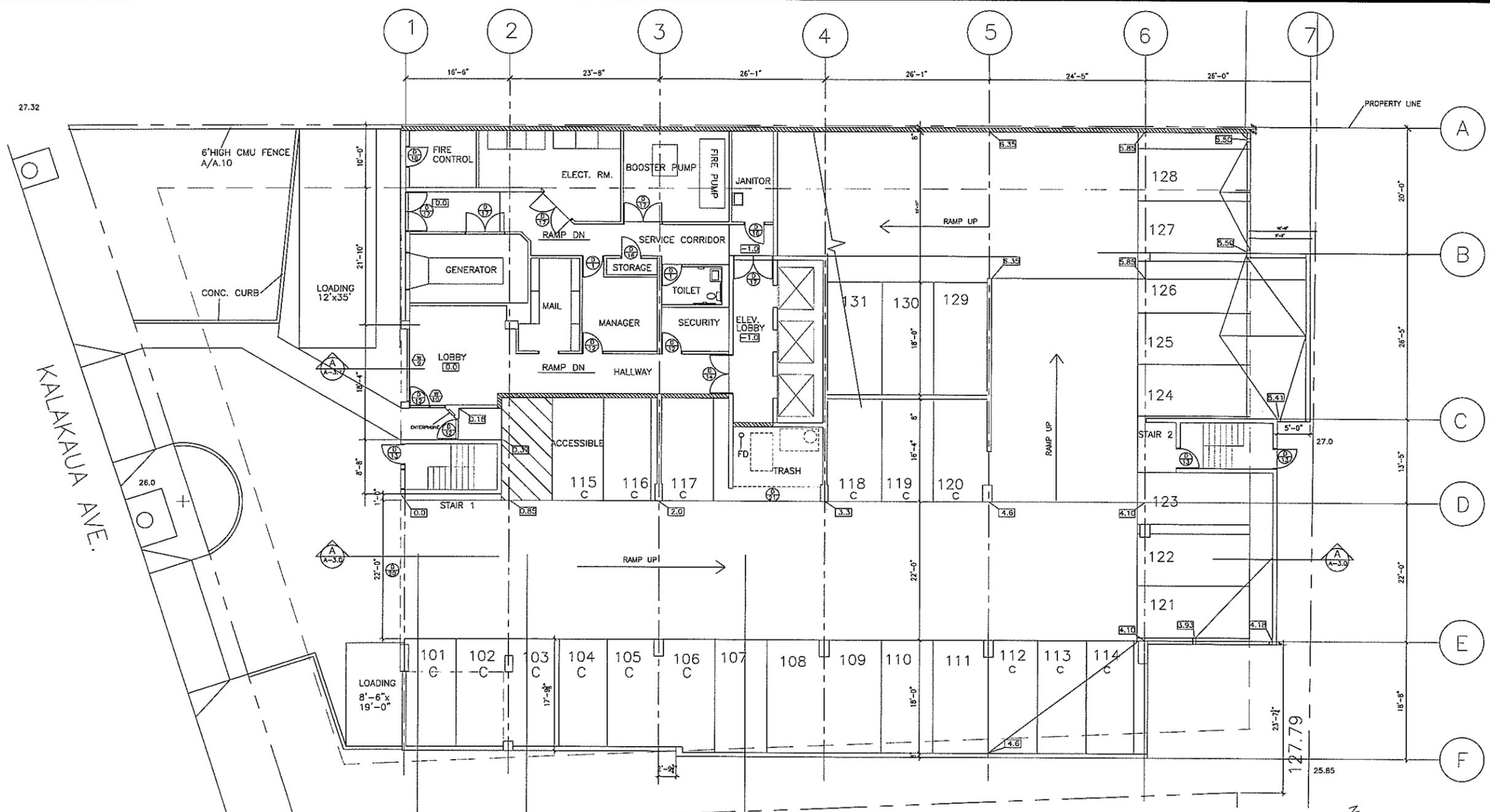


THIS PROJECT WAS PREPARED BY ME OR UNDER MY SUPERVISION AND I AM A LICENSED PROFESSIONAL ARCHITECT. MY PROJECT WILL BE UNDER MY SUPERVISION.

HOLOMUA  
 1319 KALAKAUA AVENUE  
 HONOLULU, HAWAII

KAZU YATO, AIA & ASSOCIATES  
 2033 HONOLULU TERRACE  
 HONOLULU, HI 96822  
 TEL: (808) 943-9416  
 FAX: (808) 943-9002

27.32

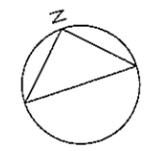


KALAKAUA AVE.

24.69

NOTE:  
 FINISH GRADE SHOWN  $\square$  3.3  
 IS REFERENCED FROM  $\square$  0.0 LOCATED AT GRID 1 AND D.  
 UPPER LEVEL DECK SHALL FOLLOW THE SAME PROFILE.

GROUND FLOOR PLAN  
 SCALE: 1/8" = 1'-0"  
 3154SF  
 7/2/08



NO.	DATE	REVISIONS



THIS PROJECT WAS DEIGNED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.

*Kazu Yato*

HOLOMUA  
 1319 KALAKAUA AVENUE  
 HONOLULU, HAWAII

GROUND FLOOR PLAN

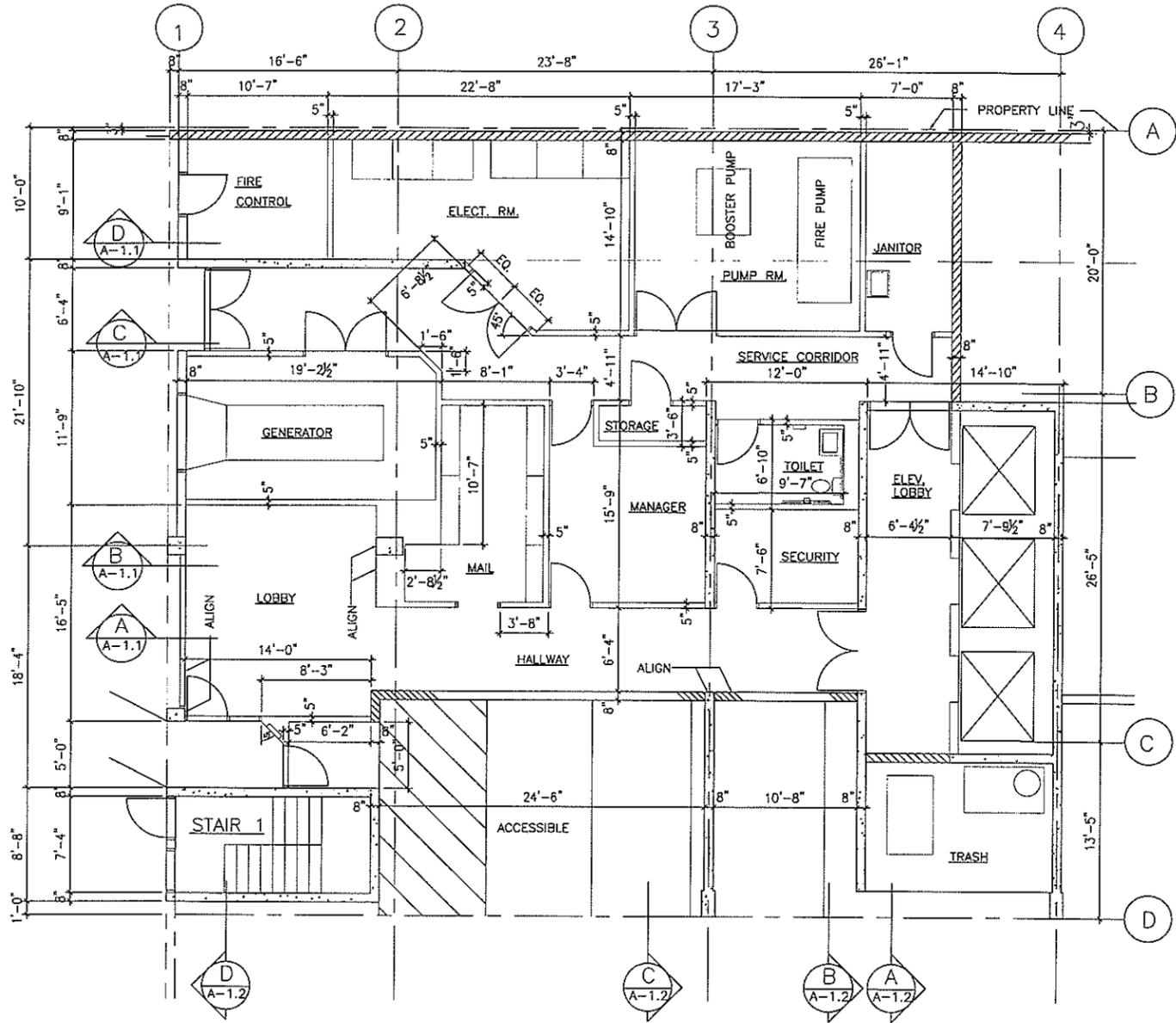
KAZU YATO, AIA & ASSOCIATES  
 TEL: (808) 945-0410  
 FAX: (808) 945-0022

244 UNIVERSITY DRIVE  
 HONOLULU, HI 96822

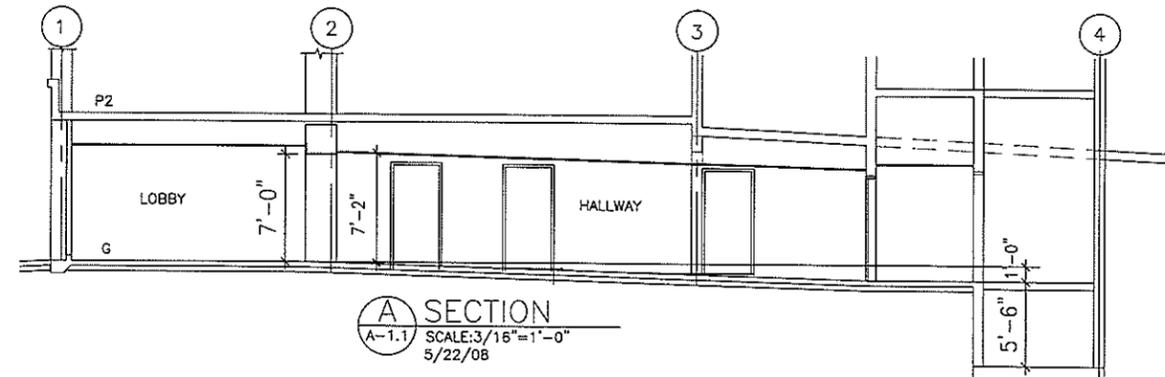
DATE	DRAWN BY	CHECKED BY	FILE

SHEET

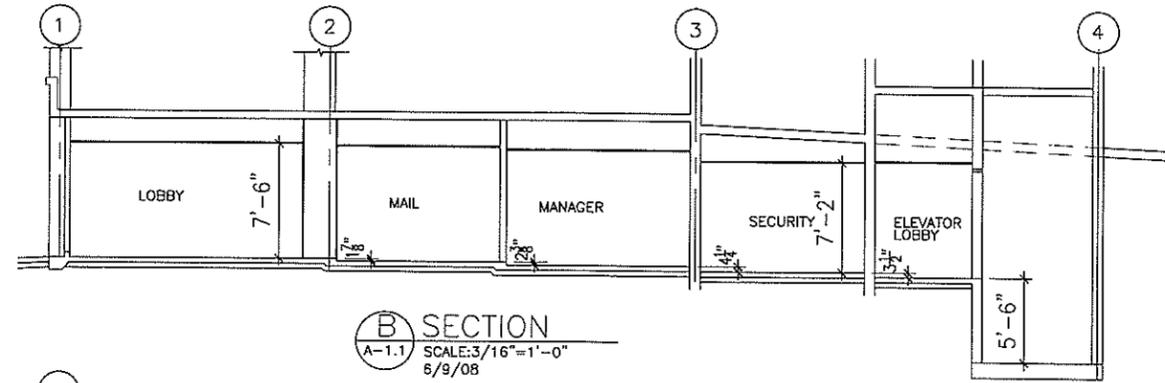
A-1.0



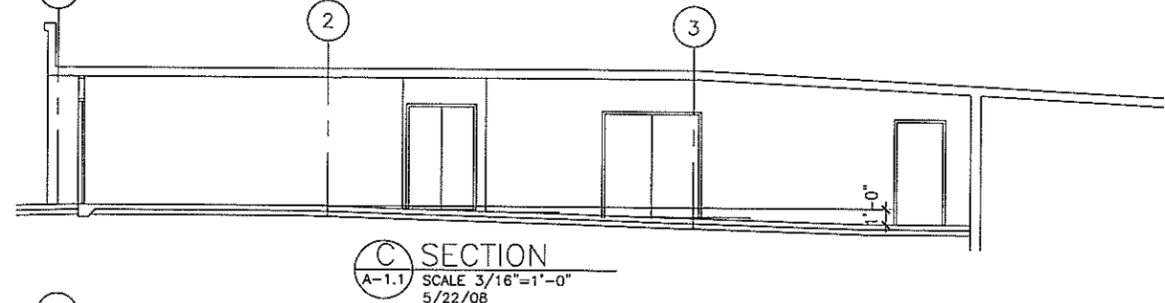
PARTIAL GROUND FLOOR PLAN  
 SCALE 3/16"=1'-0"  
 7/1/08



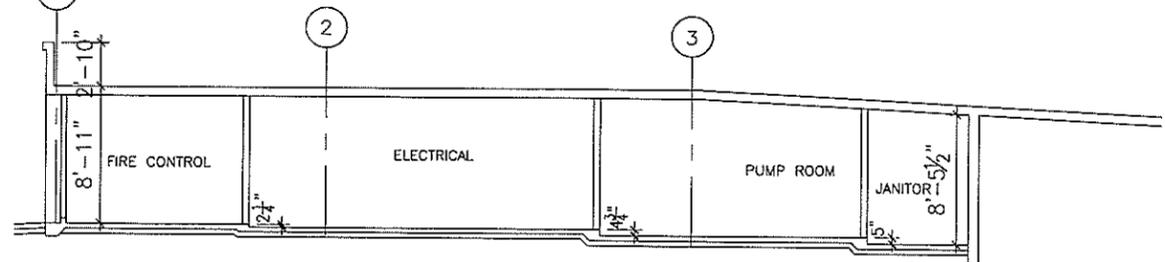
A SECTION  
 A-1.1 SCALE: 3/16"=1'-0"  
 5/22/08



B SECTION  
 A-1.1 SCALE: 3/16"=1'-0"  
 6/9/08

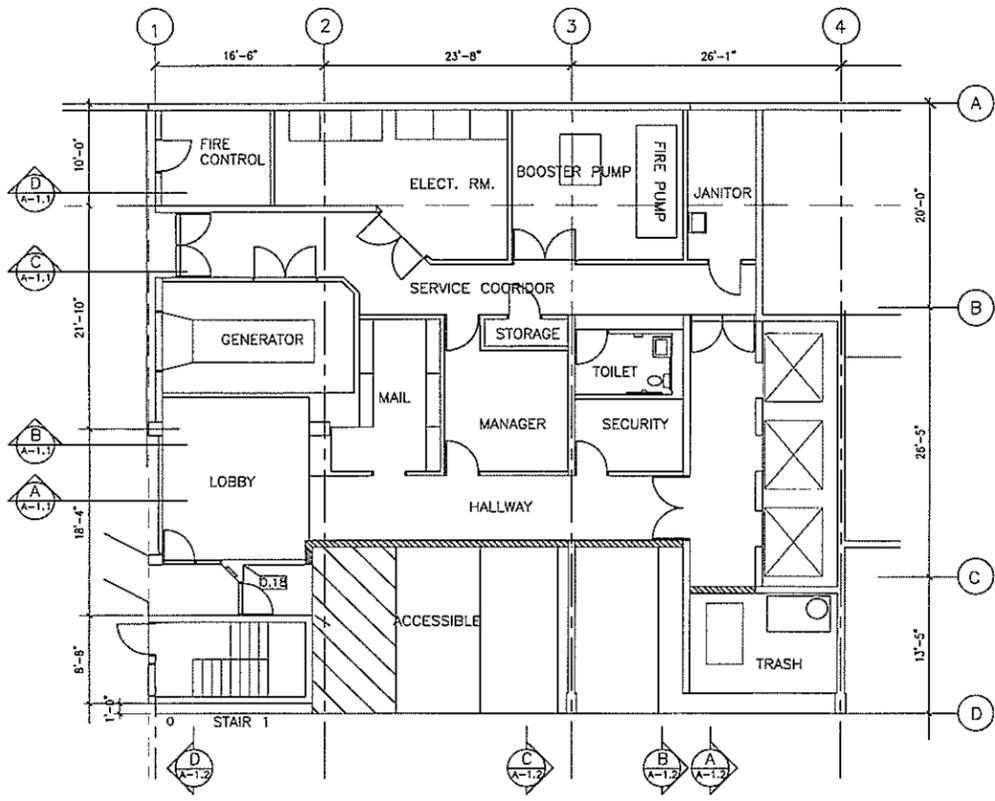


C SECTION  
 A-1.1 SCALE 3/16"=1'-0"  
 5/22/08

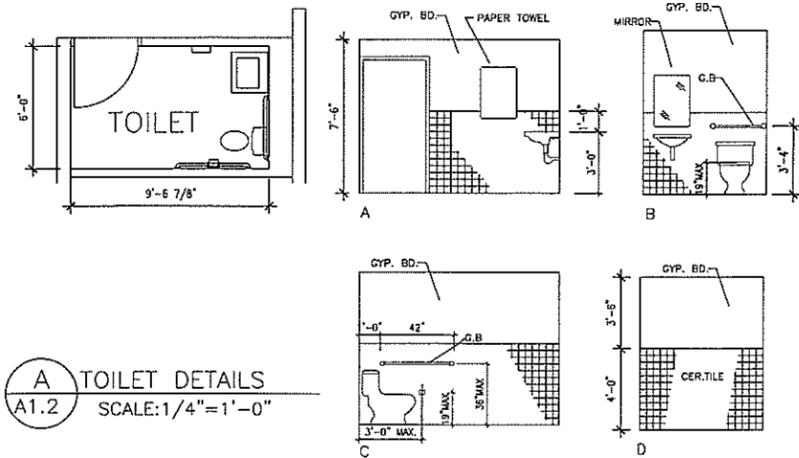


D SECTION  
 A-1.1 SCALE 3/16"=1'-0"  
 7/1/08

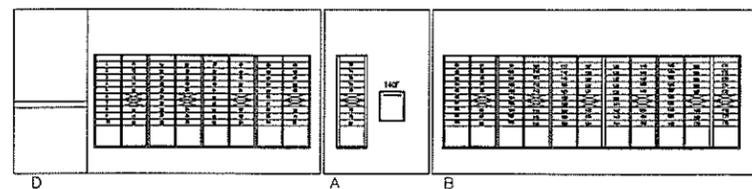
REVISIONS	
NO.	DATE
THIS PROJECT WAS PREPARED BY ME OR UNDER MY SUPERVISION AND I AM A LICENSED PROFESSIONAL ARCHITECT. PROJECT WILL BE UNDER MY SUPERVISION.	
<b>HOLOMUA</b> 1319 KALAKAUA AVENUE HONOLULU, HAWAII	
GROUND FLOOR DETAILS	
<b>KAZU YATO, AIA &amp; ASSOCIATES</b> 2022 KONOHIKOPU TERRACE HONOLULU, HI 96827 TEL: (808) 845-9000 FAX: (808) 251-0028	
DATE	
DRAWN	
AF	
CHECK	
BY	
TITLE	
SHEET	
A-1.1	



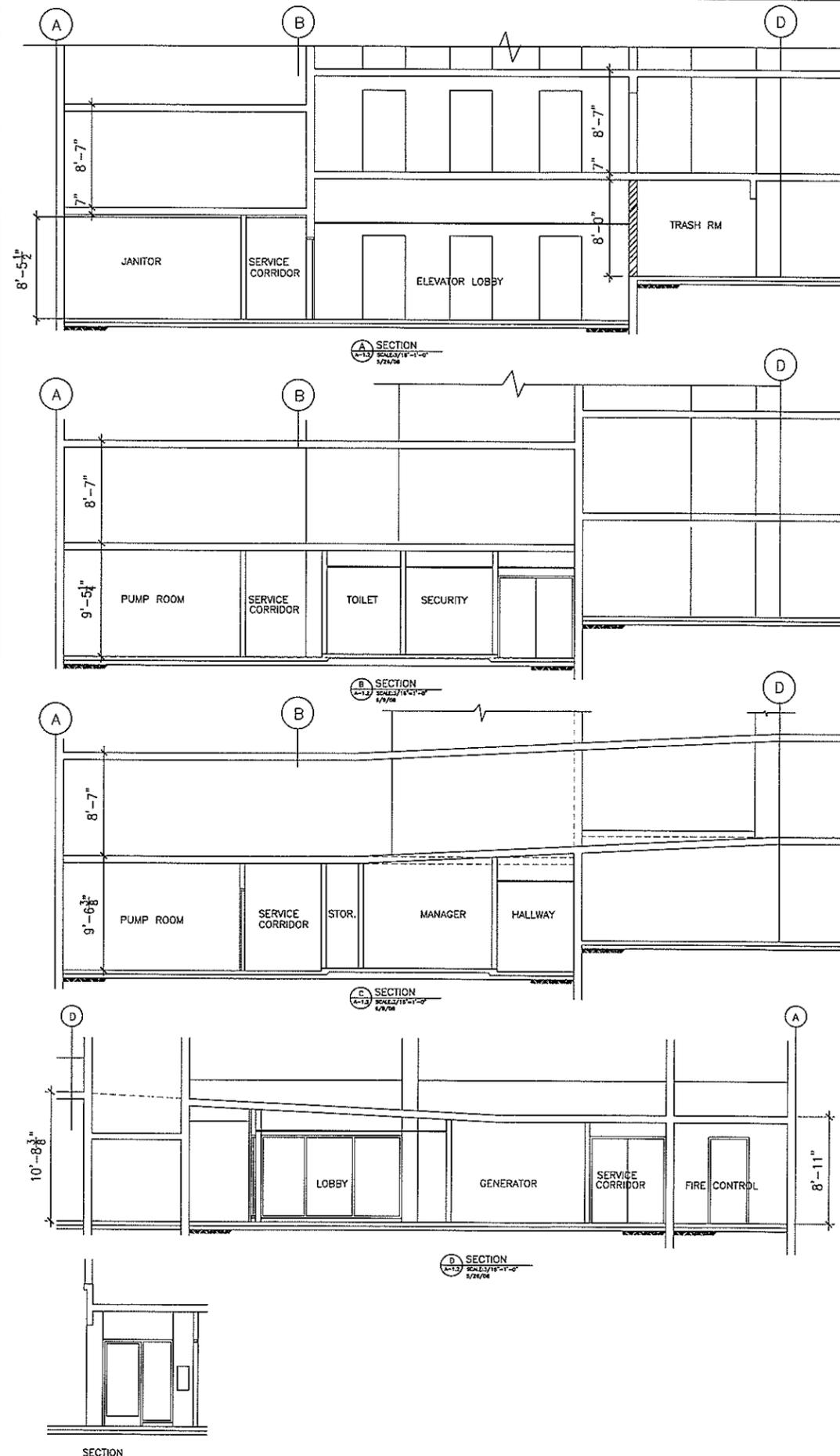
PARTIAL GROUND FLOOR PLAN  
SCALE: 1/8" = 1'-0"  
6/9/08



A TOILET DETAILS  
A1.2 SCALE: 1/4" = 1'-0"



B MAIL ROOM  
A1.2 SCALE: 1/4" = 1'-0"



SECTION

REVISIONS

NO.	DATE

KAZU YATO  
 LICENSED PROFESSIONAL ARCHITECT  
 HAWAII, U.S.A.  
 No. 3371

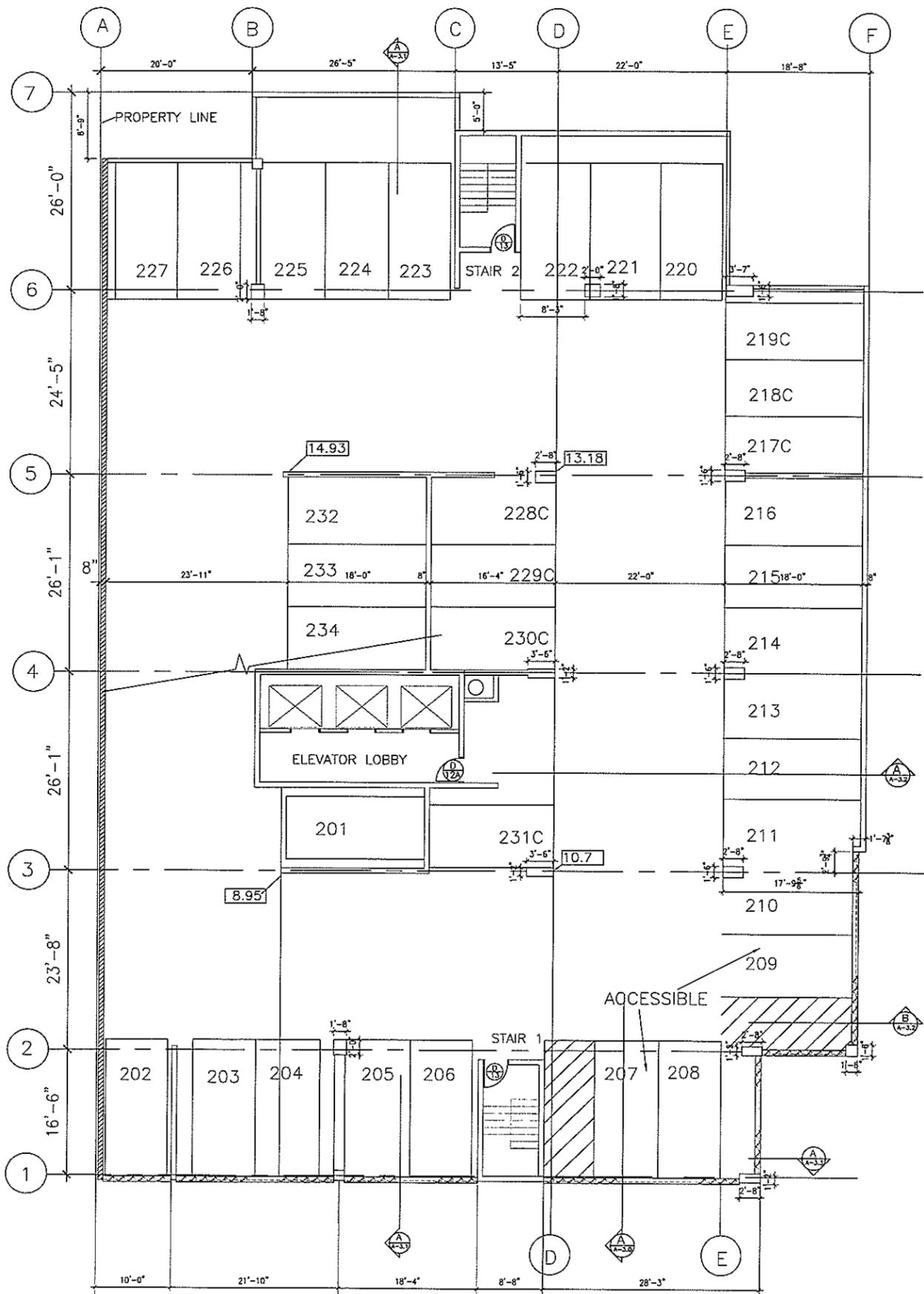
THIS PROJECT WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION. PROJECT WILL BE UNDER MY SUPERVISION.

KAZU YATO

**HOLOMUA**  
 1319 KAKAKAUA AVENUE  
 HONOLULU, HAWAII  
 GROUND FLOOR DETAILS

**KAZU YATO, AIA & ASSOCIATES**  
 2533 BOWEN TERRACE  
 HONOLULU, HI 96822  
 TEL: (808) 945-0010  
 FAX: (808) 955-0022

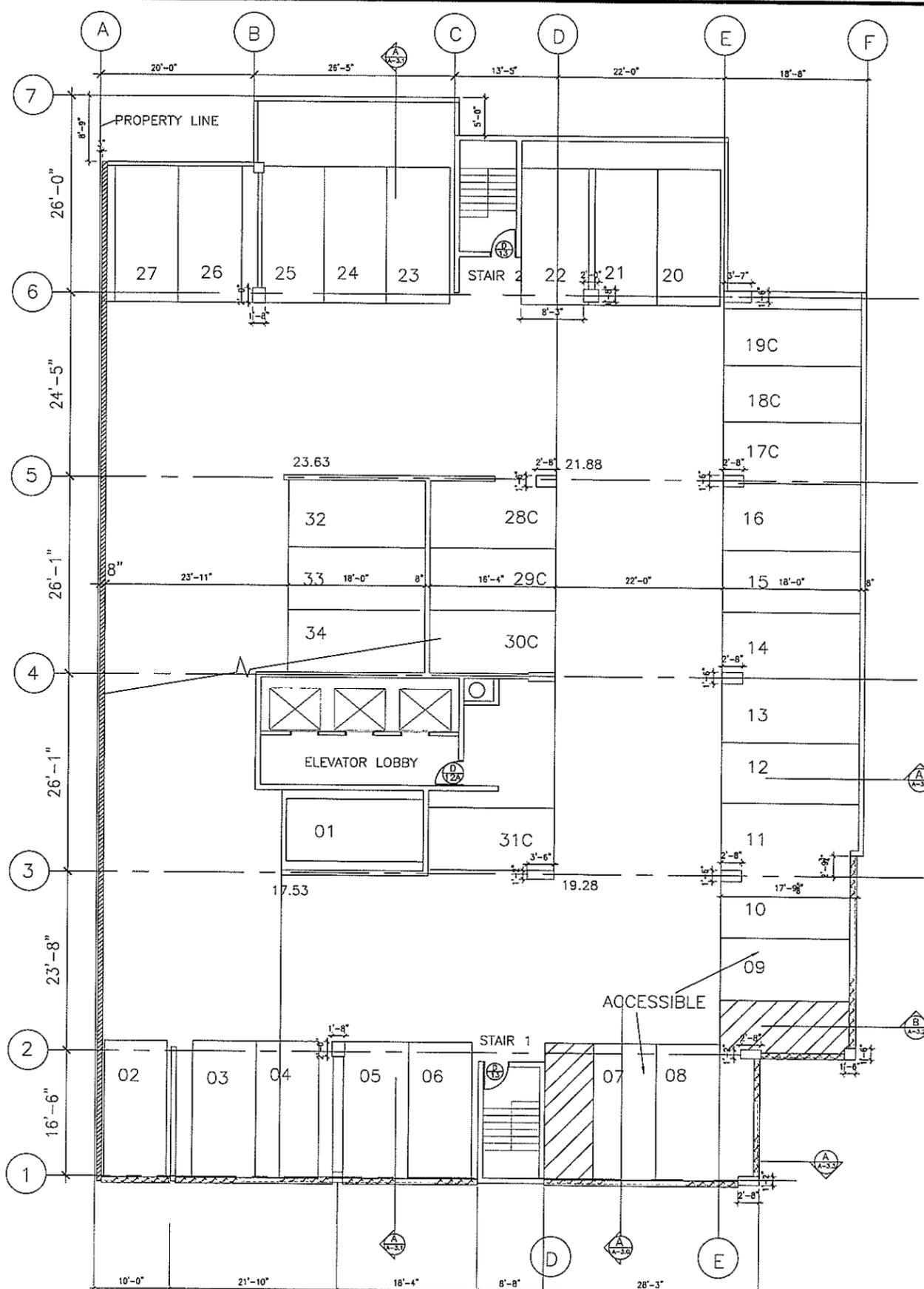
SHEET  
**A-1.2**



P-2 PARKING LEVEL PLAN

SCALE: 1/8" = 1'-0"

729SF - STAIRS AND ELEVATOR W/LOBBY  
7/2/08



TYPICAL PARKING LEVEL PLAN - LEVELS 3, 4, 5, 6 & 7

SCALE: 1/8" = 1'-0"

729SF - STAIRS AND ELEVATOR W/LOBBY  
7/2/08

REVISIONS

NO. DATE



THIS PROJECT WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT SHALL BE UNDER MY SUPERVISION.

*Kazushi Yato*

HOLOMUA  
1319 KALANIANA'OLE AVENUE  
HONOLULU, HAWAII

P-2 PARKING LEVEL PLAN  
TYPICAL PARKING LEVEL PLAN

KAZU YATO, AIA & ASSOCIATES

2023 HOLOMUA TERRACE  
HONOLULU, HI 96822  
TEL: (808) 946-0016  
FAX: (808) 953-0022

DATE

DESIGN

BY

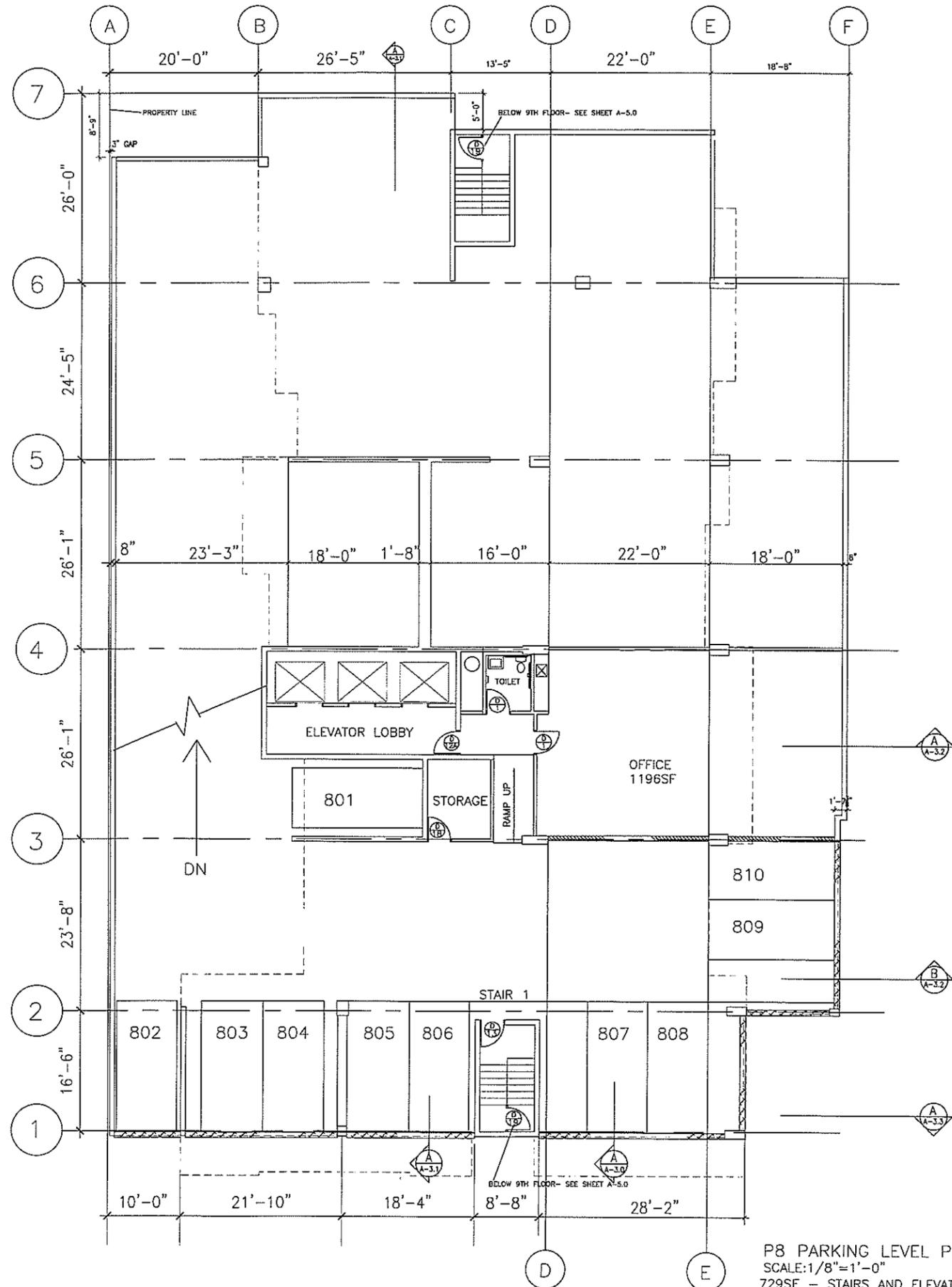
DATE

BY

FILE

SHEET

A-2.0

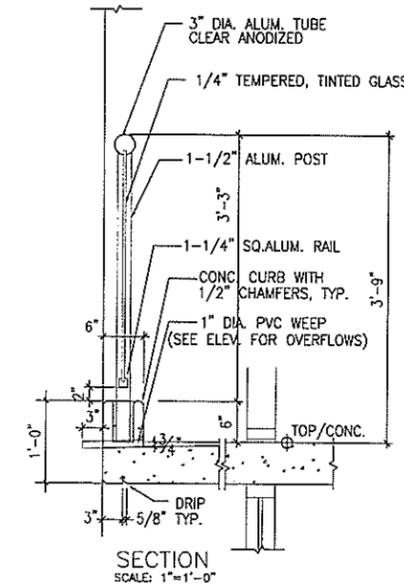
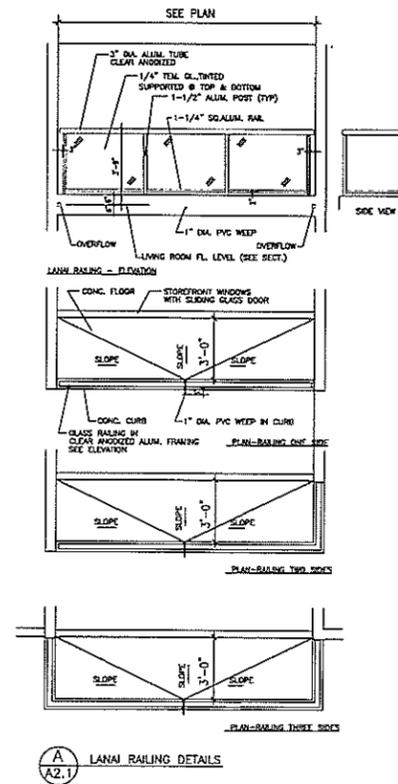


P8 PARKING LEVEL PLAN  
 SCALE: 1/8" = 1'-0"  
 729SF - STAIRS AND ELEVATOR W/LOBBY  
 6/30/08

ROOM FINISH SCHEDULE						
	ROOM	FLOOR	BASE	WALL	CEILING	REMARKS
TYPICAL UNITS	LIVING/DINING	CARPET	NONE	GYP.BD./CONC.	SIM.ACOUST.SPRAY	
	BEDROOM	CARPET	NONE	GYP.BD./CONC.	SIM.ACOUST.SPRAY	
	KITCHEN	RESILIENT	RUBBER	GYP.BD./CONC.	SIM.ACOUST.SPRAY	
	BATHROOM	RESILIENT	RUBBER	GYP.BD./TILE	GYP.BD.	
	CLOSET/STORAGE	RESILIENT	RUBBER	GYP.BD.	SIM.ACOUST.SPRAY	
TYP. FLOOR	CORRIDOR	CARPET	RUBBER	GYP.BD.	ACOUSTIC	
	ELEVATOR LOBBY	CARPET	RUBBER	GYP.BD./CONC.	ACOUSTIC	
	ELECTRICAL RM.	* CONC.	NONE	* CONC.	* CONC.	* NO PAINT ON CONC. * PAINT GYP.BD.
GROUND FLOOR	STAIRWELL	* CONC.	NONE	* CONC.	* CONC.	* NO PAINT
	HALLWAY	CER.TILE	WOOD	GYP.BD.	ACOUSTIC	
	ELEVATOR LOBBY	CER.TILE	WOOD	GYP.BD./CONC.	ACOUSTIC	
	ELECTRICAL RM.	* CONC.	NONE	* GYP.BD./CONC.	* CONC.	* NO PAINT ON CONC. * PAINT GYP.BD.
	MECHANICAL RM.	* CONC.	NONE	* GYP.BD./CONC.	* CONC.	* NO PAINT ON CONC. * PAINT GYP.BD.
	LOBBY	CER.TILE	WOOD	GYP.BD./CONC.	ACOUSTIC	
	MANAGER	CARPET	RUBBER	GYP.BD.	ACOUSTIC	
	SECURITY	CARPET	RUBBER	GYP.BD./CONC.	ACOUSTIC	
	MAIL	CER.TILE	WOOD	GYP.BD.	ACOUSTIC	
	GENERATOR	* CONC.	NONE	* GYP.BD./CONC.	* CONC.	* NO PAINT ON CONC. * PAINT GYP.BD.
	TOILET	CER.TILE	CER.TILE	GYP.BD./CONC. CER.TILE	ACOUSTIC	
	FIRE CONTROL	* CONC.	NONE	* CMU/GYP.BD.	ACOUSTIC	* NO PAINT ON CONC. * PAINT GYP.BD.
GARAGE	SERVICE CORRIDOR	* CONC.	NONE	* CONC./GYP.BD.	* CONC.	* NO PAINT ON CONC. * PAINT GYP.BD.
	JANITOR	* CONC.	NONE	* CONC./GYP.BD.	* CONC.	* NO PAINT ON CONC. * PAINT GYP.BD.
	STAIRWELL	* CONC.	NONE	* GYP.BD./CONC.	* CONC.	* NO PAINT
	TRASH	* CONC.	NONE	* CMU/CONC.	* CONC.	* NO PAINT
	STORAGE	VCT	RUBBER	GYP.BD.	* CONC.	* NO PAINT
	MEETING RM.	RESILIENT	RUBBER	GYP.BD./CONC.	ACOUSTIC	
	ELEVATOR LOBBY	CONC.	NONE	CONC.	CONC.	
	STAIRWELL	* CONC.	NONE	* CONC.	* CONC.	* NO PAINT

NOTE:

1. PARKING AREA, INCLUDING FLOORS, WALLS, COLUMNS AND CEILINGS SHALL NOT BE PAINTED.



REVISIONS

NO.	DATE	DESCRIPTION

THIS PROJECT WAS PREPARED BY ME AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.

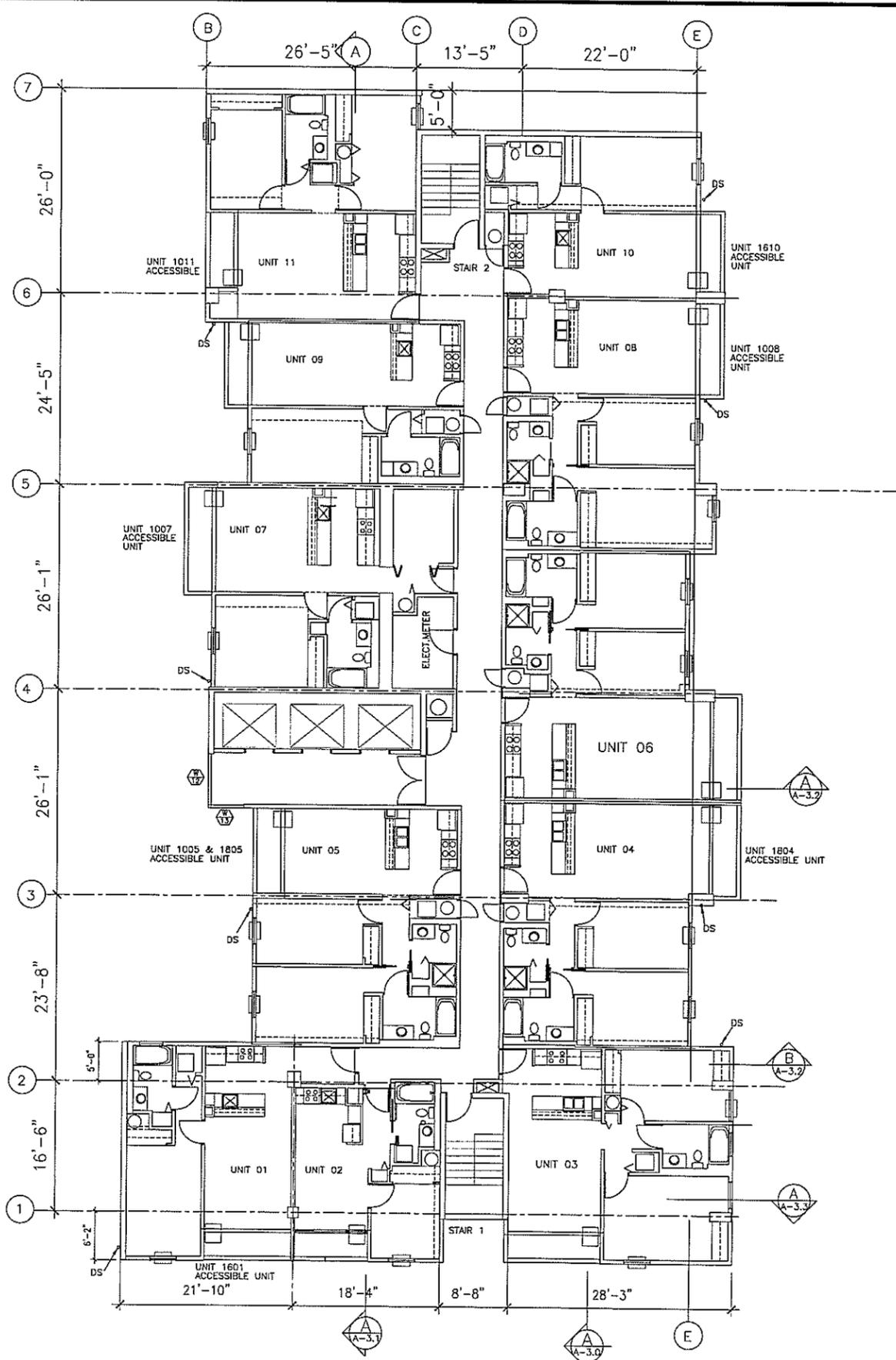
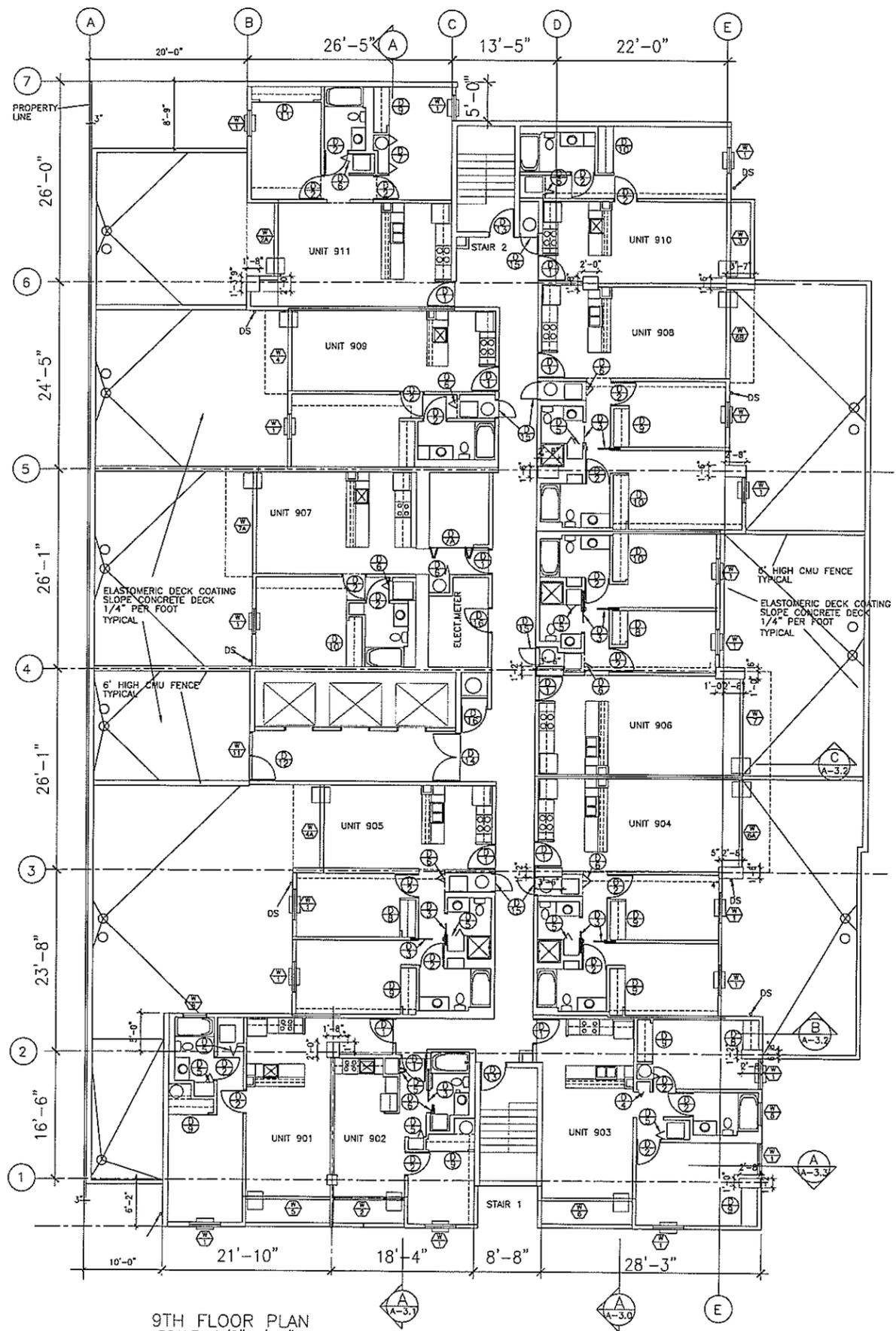
**KAZUO YATO**  
 LICENSED PROFESSIONAL ARCHITECT  
 NO. 3271  
 HAWAII, U.S.A.  
 Expiration Date: 6/30/09

**HOLOMUA**  
 1319 KALAKAUA AVENUE  
 HONOLULU, HAWAII

**KAZUO YATO, AIA & ASSOCIATES**  
 TEL: (808) 945-2002  
 FAX: (808) 945-2002  
 2533 MANUPOI TERRACE  
 HONOLULU, HI 96815

P-8 PARKING LEVEL PLAN

SHEET  
**A-2.1**



NOTE: DOOR AND WINDOW NUMBERS ARE SIMILAR TO 9TH FLOOR

NO.	DATE	REVISIONS

THIS PROJECT WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.

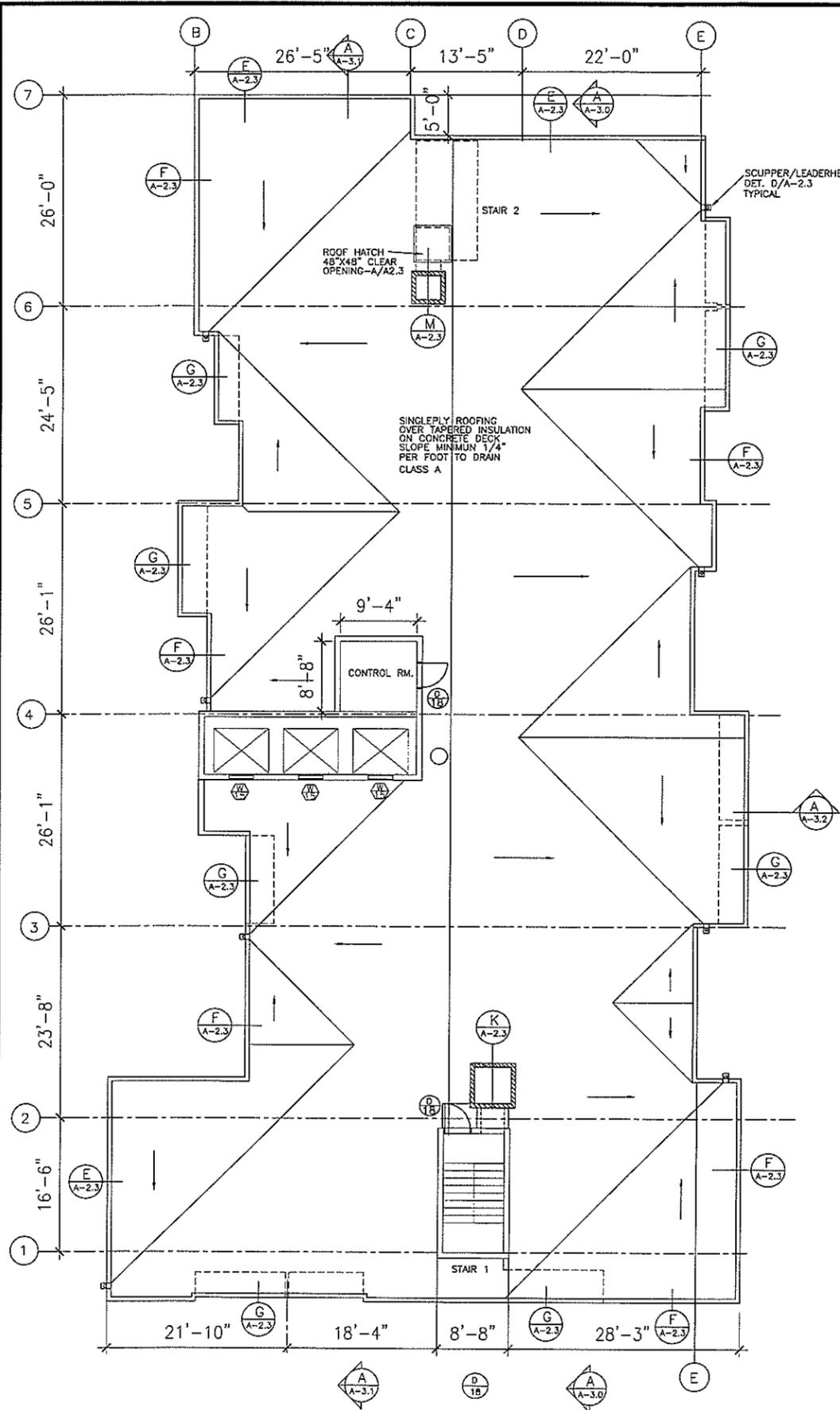
**KAZUO YATO**  
 LICENSED PROFESSIONAL ARCHITECT  
 NO. 3271  
 HAWAII, U.S.A.

**HOLOMUA**  
 1319 KALAKAUA AVENUE  
 HONOLULU, HAWAII

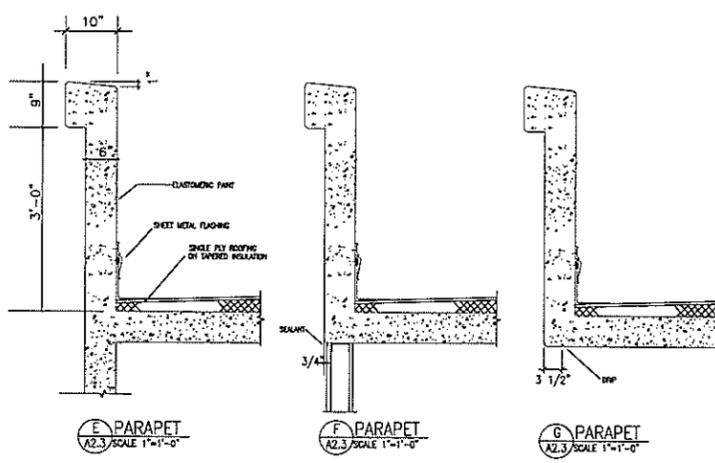
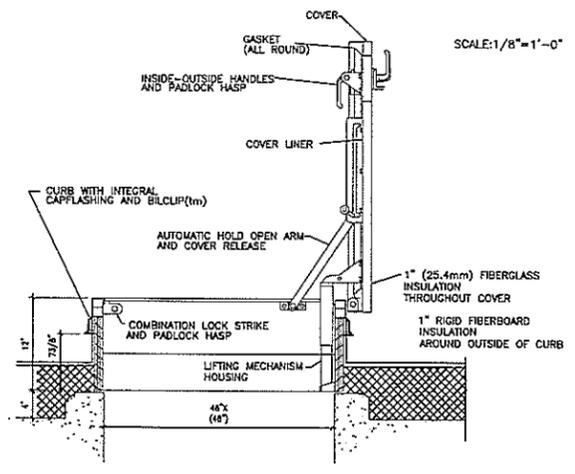
**KAZUO YATO, AIA & ASSOCIATES**  
 1604 KALANANAKU AVENUE  
 HONOLULU, HI 96827  
 TEL: (808) 841-8818  
 FAX: (808) 841-8828

9TH FLOOR PLAN  
 10TH FLOOR PLAN

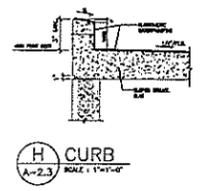
SHEET  
**A-2.2**



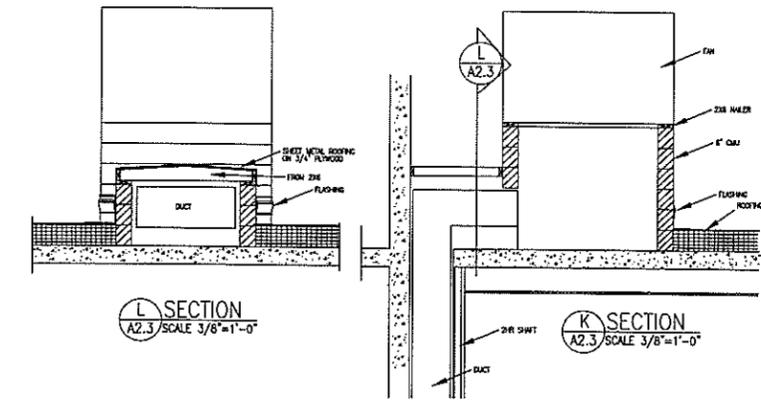
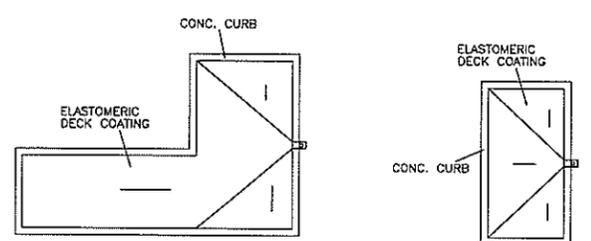
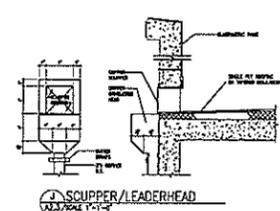
ROOF PLAN  
SCALE: 1/8"=1'-0"  
6/13/08



ROOF PLAN-ELEVATOR HOISTWAY  
SCALE: 1/8"=1'-0"  
6/28/08



ROOF PLAN-STAIR  
SCALE: 1/8"=1'-0"



B DETAIL  
A2.3 SCALE 3"-1'-0"

J SCUPPER/LEADERHEAD  
A2.3 SCALE 1"-1'-0"

C ROOF CURB  
A2.3 SCALE 1"-1'-0"

NO.	DATE	REVISIONS

THIS PROJECT WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT SHALL BE UNDER MY SUPERVISION.

KAZU YATO, AIA  
LICENSED PROFESSIONAL ARCHITECT  
No. 371  
HAWAII, U.S.A.  
CUSTOMER: 000018

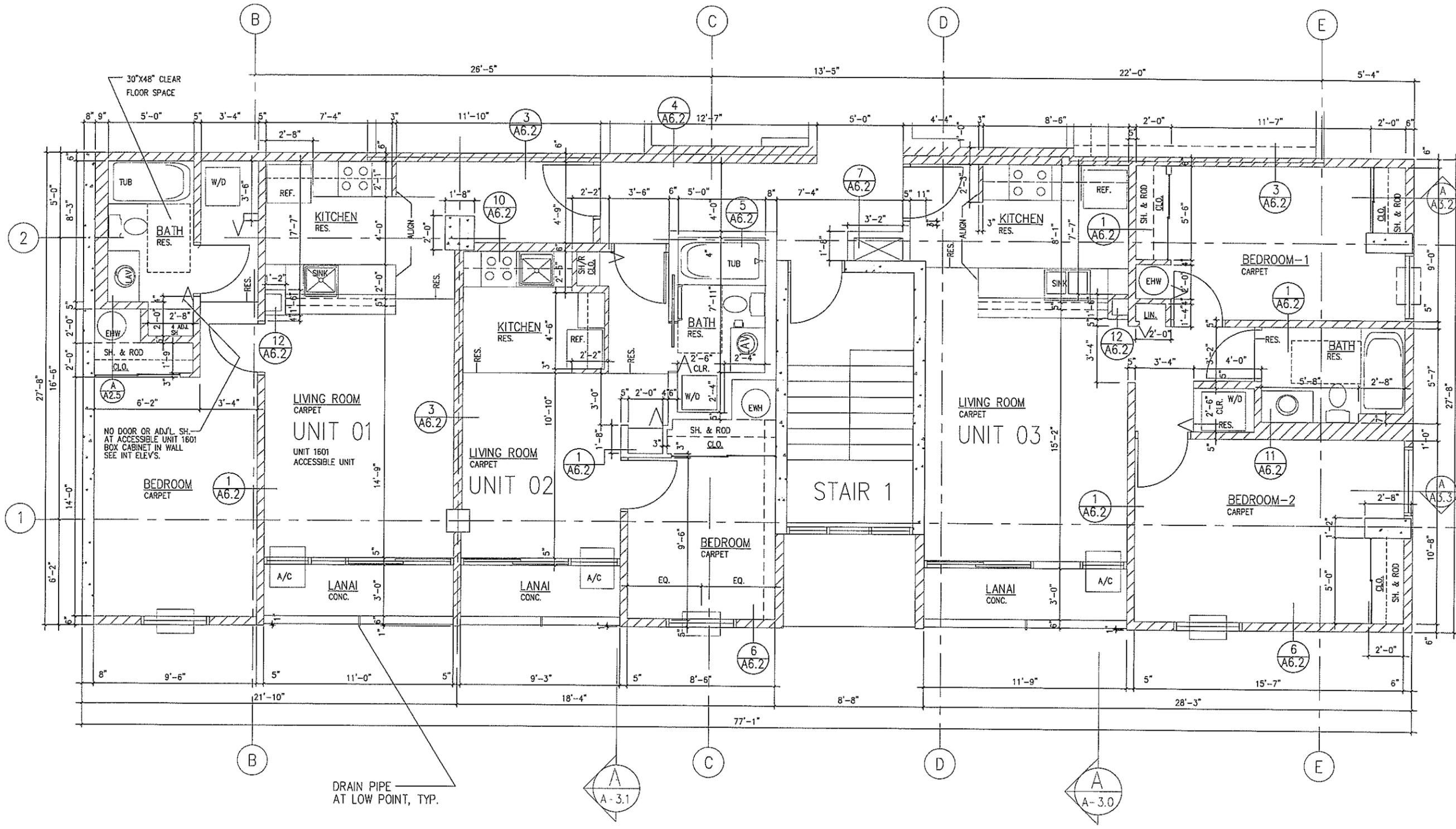
HOLOMUA  
1319 KALAKAUA AVENUE  
HONOLULU, HAWAII

ROOF PLAN

KAZU YATO, AIA & ASSOCIATES  
TEL: (808) 945-2045  
FAX: (808) 945-2012  
3343 HONOLULU TERRACE  
HONOLULU, HI 96822

DATE:    DRAWN BY:    CHECKED BY:    FILE:    SHEET

A-2.3



UNIT PLANS 01, 02 AND 03  
SCALE: 3/8"=1'-0"

NO.	DATE	REVISIONS



THIS PROJECT WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT SHALL BE UNDER MY SUPERVISION.

**HOLOMUA**  
1319 KALAKAUA AVENUE  
HONOLULU, HAWAII

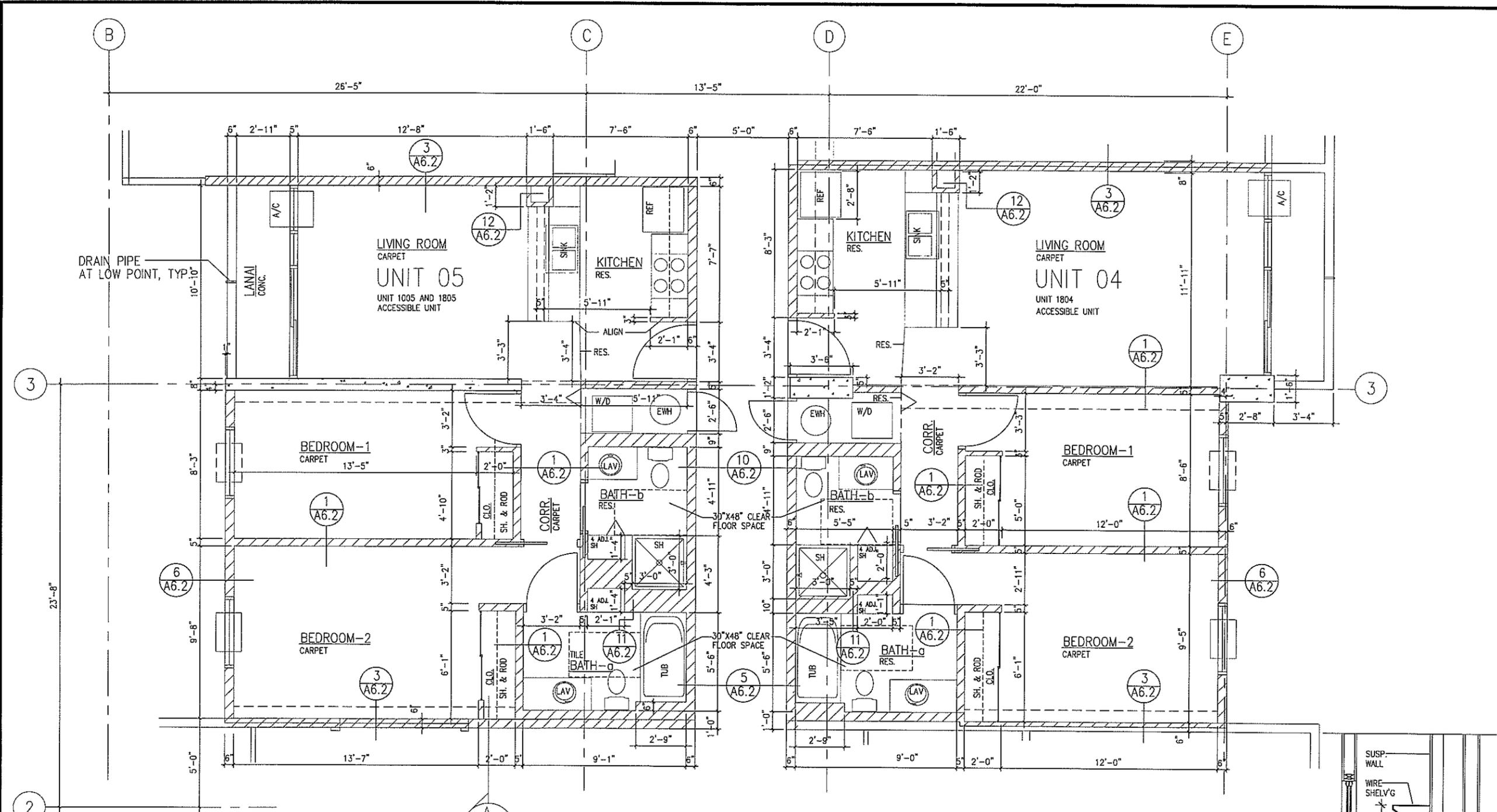
UNIT PLANS 01, 02 AND 03

**KAZU YATO, AIA & ASSOCIATES**  
2022 KONDORU TERRACE  
HONOLULU, HI 96822  
TEL: (808) 943-0240  
FAX: (808) 943-9022

DATE	DRAWN	BY	FILE

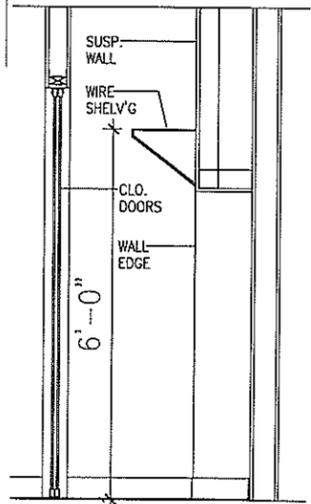
SHEET

A-2.4



UNIT PLANS 04 AND 05  
SCALE 3/8"=1'-0"

NOTE  
UNIT 904 & 905 LIVINGROOMS DO NOT HAVE LANAI, PROVIDE STOREFRONT WALL WITHOUT SLIDERS.  
PROVIDE DRIPP PAN UNDER EA. A/C AT 9th FL.



A  
A2.5 CLOSET SHELF SUPPORT  
SCALE: 3/4"=1'-0"

NO.	DATE	REVISIONS

THIS PROJECT WAS PREPARED BY  
KAZU YATO, AIA & ASSOCIATES  
AND CONSTRUCTION OF THIS  
PROJECT WILL BE UNDER MY  
SUPERVISION.

*Kazu Yato*

**HOLOMUA**  
1319 KALAKAUA AVENUE  
HONOLULU, HAWAII

UNIT PLANS 04 AND 05

**KAZU YATO, AIA & ASSOCIATES**

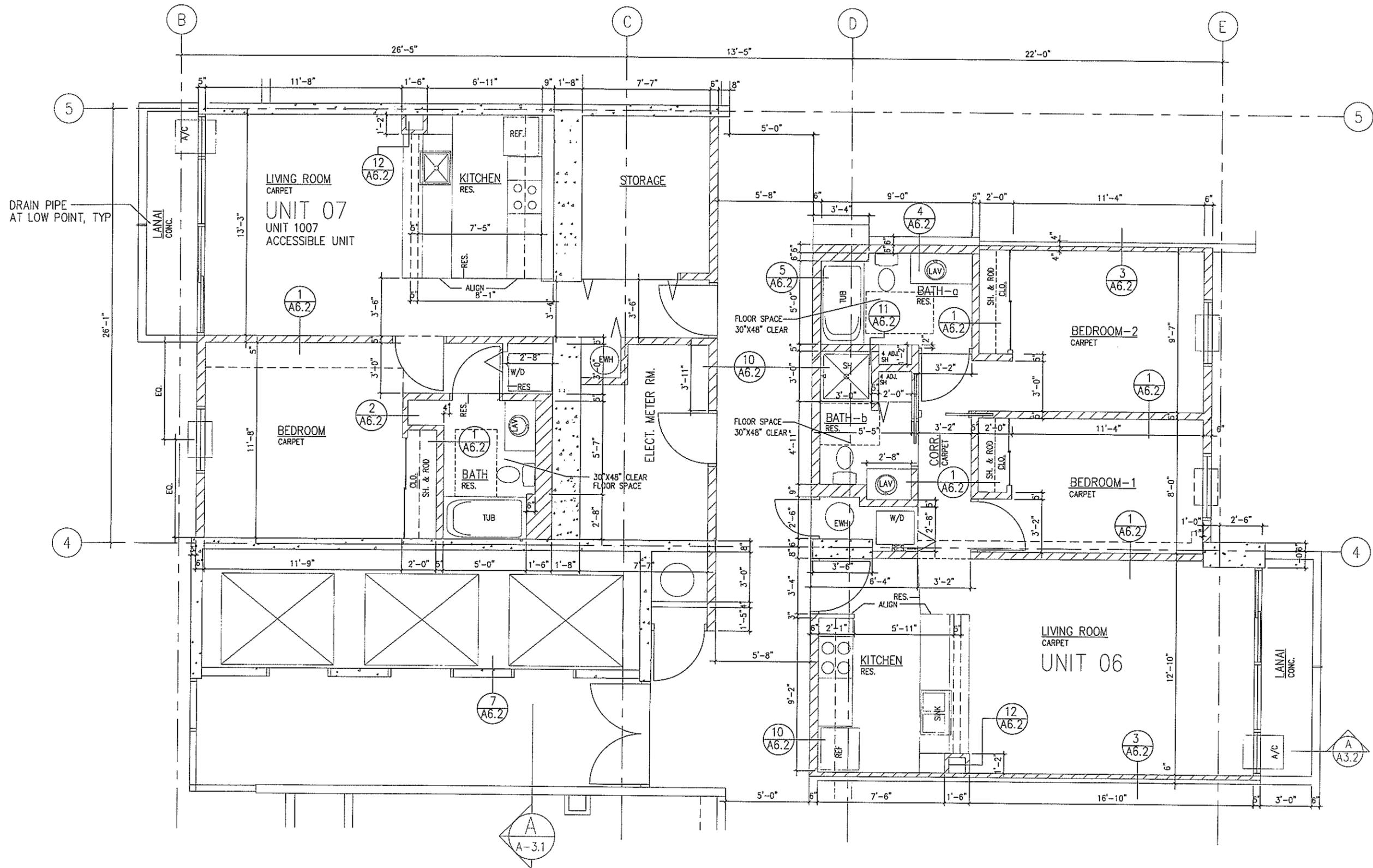
2033 HOUNIOP TERAPIKE  
HONOLULU, HI 96827

TEL: (808) 845-0040  
FAX: (808) 852-0022

DATE	BY	APPROVED	BY	SCALE

SHEET

A-2.5



DRAIN PIPE AT LOW POINT, TYP

**NOTE**  
 UNIT 906 & 907 LIVINGROOMS DO NOT HAVE LANAI, PROVIDE STOREFRONT WALL WITHOUT SLIDERS.  
 PROVIDE DRIPP PAN UNDER EA. A/C AT 9th FL.

**UNIT PLANS 06 AND 07**  
 SCALE 3/8"=1'-0"

NO.	DATE	REVISIONS



THIS PROJECT WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.

*Kazu Yato*

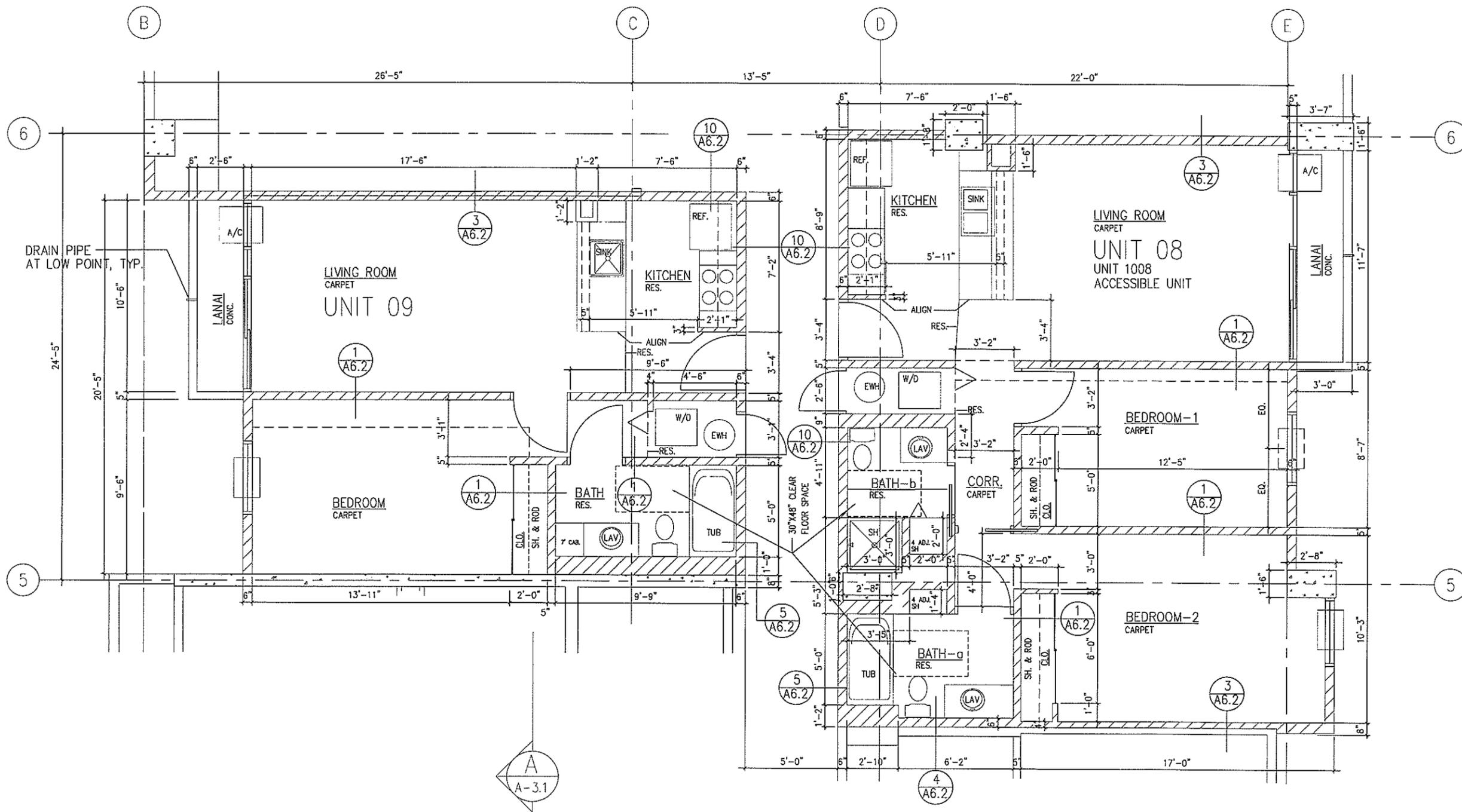
**HOLOMUA**  
 1319 KALAKAUA AVENUE  
 HONOLULU, HAWAII

UNIT PLANS 06 AND 07

**KAZU YATO, AIA & ASSOCIATES**  
 1525 KUMUHOA DRIVE  
 HONOLULU, HI 96813  
 TEL: (808) 944-3444  
 FAX: (808) 944-3022

DATE	DRAWN BY	CHECKED BY	FILE

SHEET  
**A-2.6**

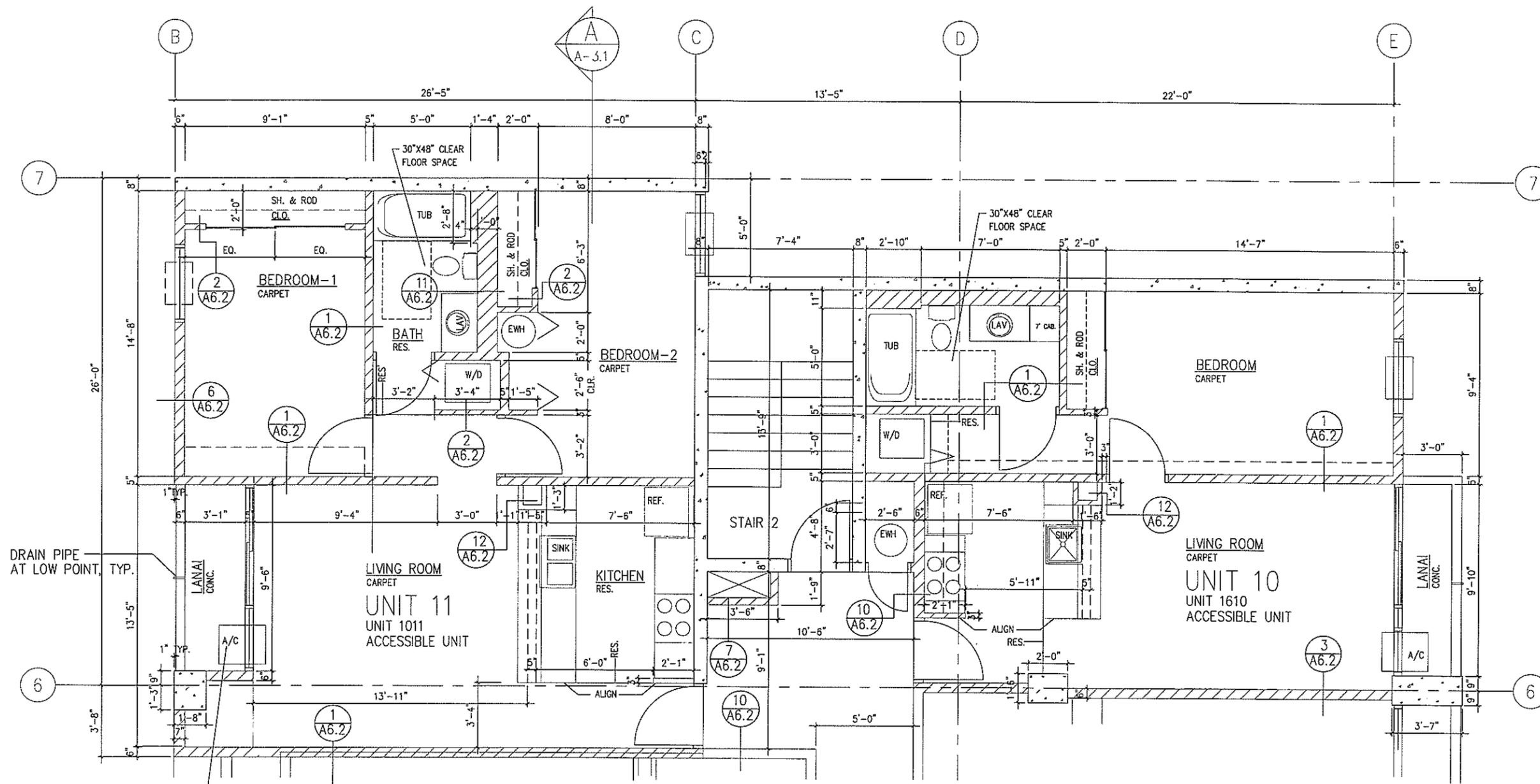


DRAIN PIPE AT LOW POINT, TYP.

**NOTE**  
 UNIT 908 & 909 LIVINGROOMS DO NOT HAVE LANAI, PROVIDE STOREFRONT WALL WITHOUT SLIDERS.  
 PROVIDE DRIPP PAN UNDER EA. A/C AT 9th FL.

**UNIT PLANS 08 AND 09**  
 SCALE 3/8"=1'-0"

NO.		DATE		REVISIONS
THIS PROJECT WAS PREPARED BY ME OR UNDER MY SUPERVISION AND I AM A LICENSED PROFESSIONAL ARCHITECT. PROJECT WILL BE UNDER MY SUPERVISION.				
<b>HOLOMUA</b> 1319 KALAKAUA AVENUE HONOLULU, HAWAII				
UNIT PLANS 08 AND 09				
KAZU YATO, AIA & ASSOCIATES 2033 BOWEN ST. TERRACE HONOLULU, HI 96822 TEL: (808) 845-0040 FAX: (808) 855-0022				
DATE	DRAWN	BY	CHECK	BY
SHEET				
<b>A-2.7</b>				

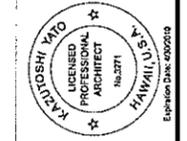


PROVIDE DRIPP PAN UNDER A/C AT 9th FL.

NOTE  
 UNIT 911 LIVINGROOM DO NOT HAVE LANAI, PROVIDE STOREFRONT WALL WITHOUT SLIDERS.

UNIT PLANS 10 AND 11  
 SCALE 3/8"=1'-0"

NO.	DATE	REVISIONS

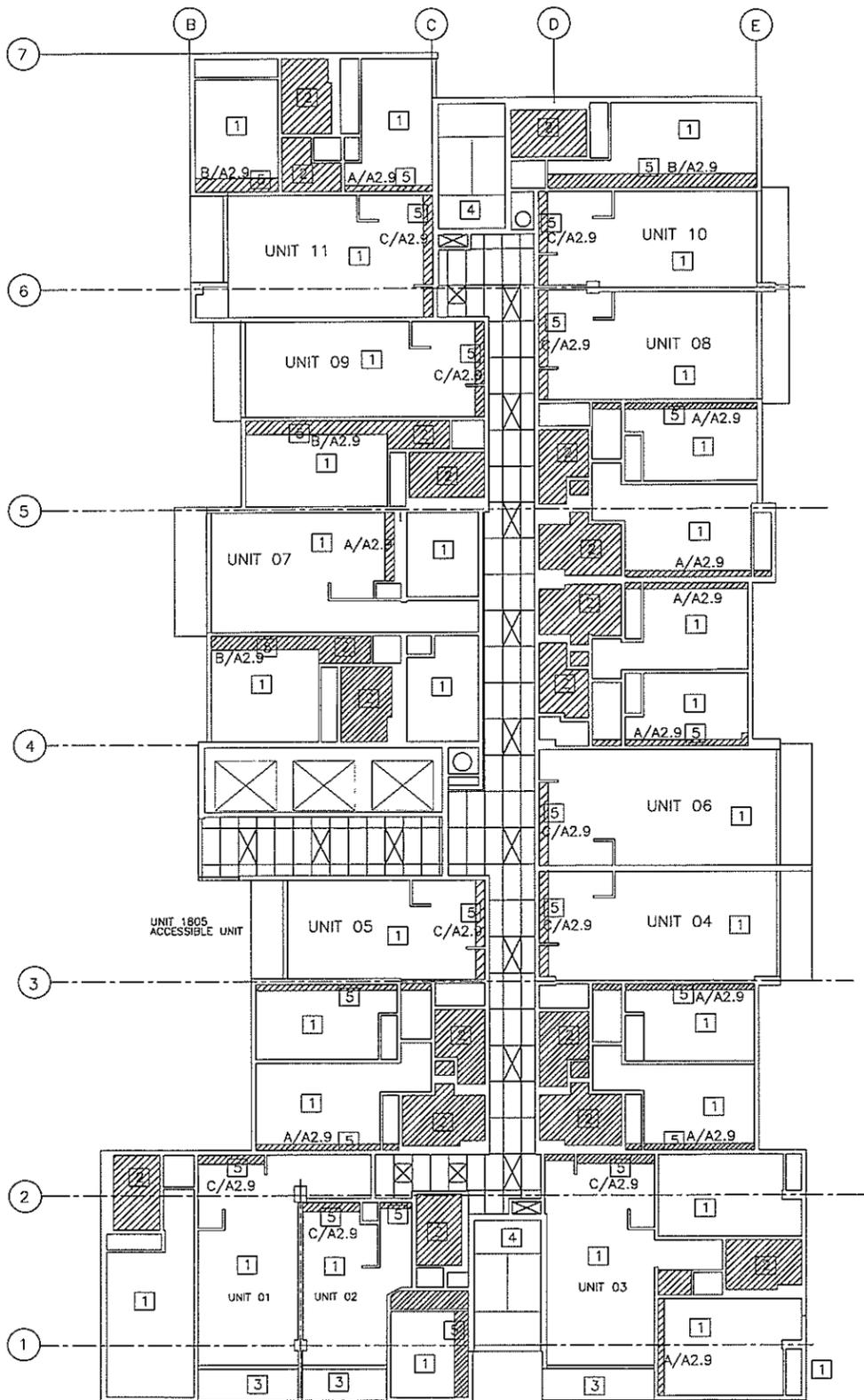


THIS PROJECT WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.

*Kazu Yato*

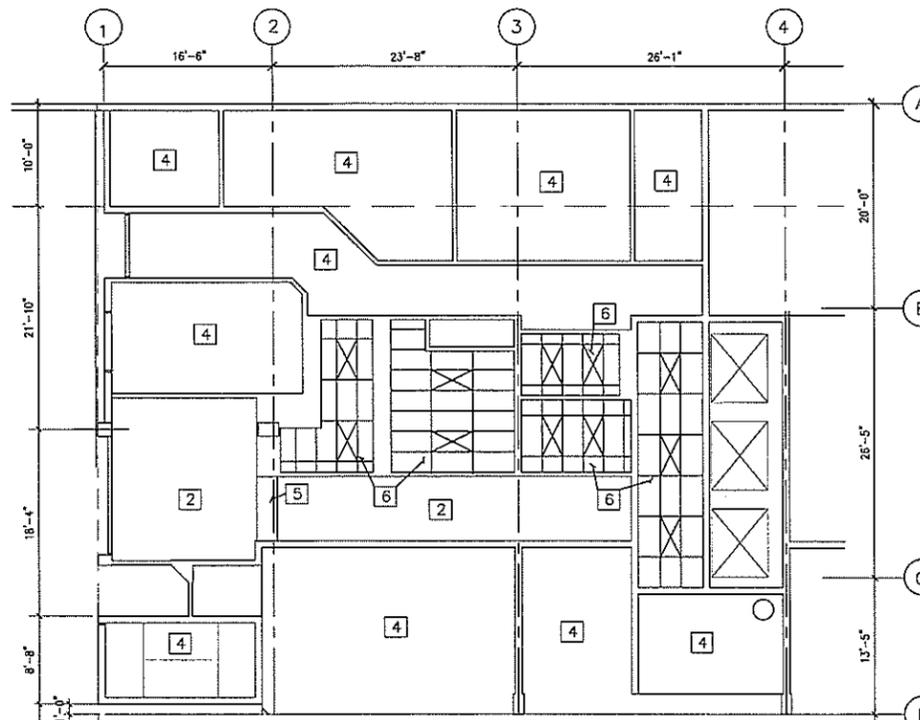
HOLOMUA  
 1319 KALAKAUA AVENUE  
 HONOLULU, HAWAII

KAZU YATO, AIA & ASSOCIATES  
 2633 ROBINSON DRIVE  
 HONOLULU, HI 96822  
 TEL: (808) 845-0010  
 FAX: (808) 855-0022

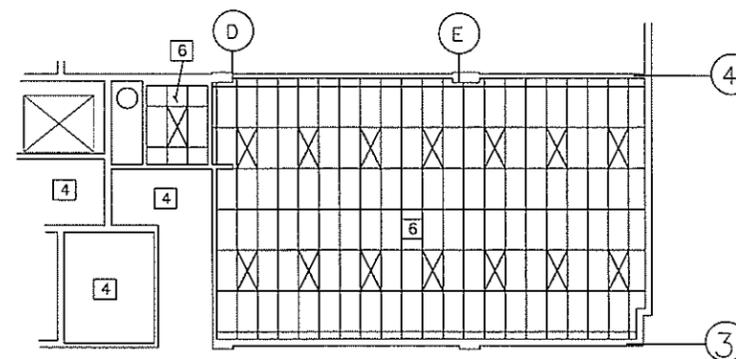


TYPICAL FLOOR REFLECTED CEILING PLAN  
SCALE: 1/8"=1'-0"  
6/30/08

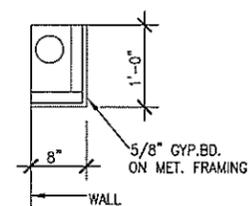
- 1 SIMULATED ACOUSTIC SPRAY ON CONCRETE
- 2 PAINTED GYP.BD. CEILING @ 7'-2" AFF
- 3 CONCRETE-PAINTED
- 4 CONCRETE-NO FINISH
- 5 GYP.BD. SOFFIT, PAINTED
- 6 LAY-IN ACOUSTICAL-(ARMSTRONG CERAMAGUARD)



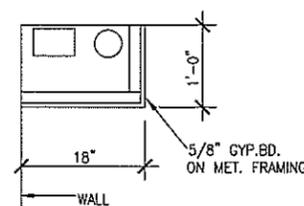
PARTIAL GROUND FLOOR REFLECTED CEILING PLAN  
SCALE: 1/8"=1'-0"  
6/9/08



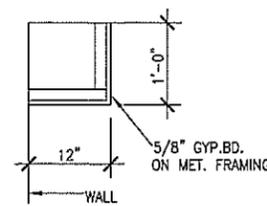
REFLECTED CEILING PLAN-P8 PARKING LEVEL  
SCALE: 1/8"=1'-0"  
6/26/08



A SOFFIT  
A2.9



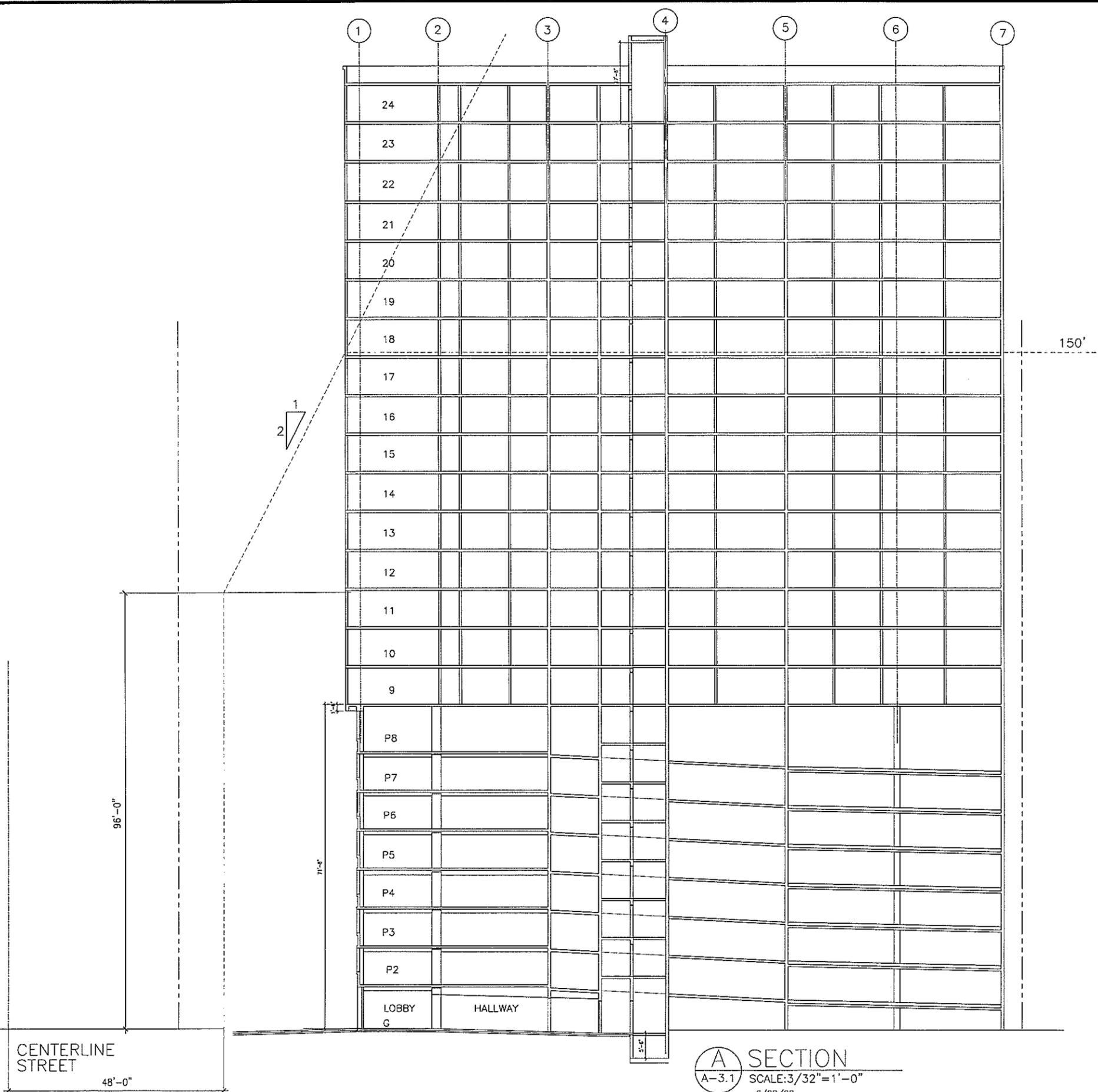
B SOFFIT  
A2.9



C SOFFIT  
A2.9

THIS PROJECT WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.	
<b>HOLOMUA</b> 1319 KALAKAUA AVENUE HONOLULU, HAWAII	
REFLECTED CEILING PLANS	
<b>KAZU YATO, AIA &amp; ASSOCIATES</b> <small>2033 KONOLOPO DRIVE HONOLULU, HI 96822 TEL: (808) 843-0050 FAX: (808) 752-0122</small>	
DATE: _____ DRAWN BY: _____ CHECKED BY: _____ FILED BY: _____	SHEET <h1 style="margin: 0;">A-2.9</h1>





**A SECTION**  
 A-3.1 SCALE: 3/32" = 1'-0"  
 6/28/08

REVISIONS			
NO.	DATE	BY	DESCRIPTION

KAZUHI YATO  
 LICENSED PROFESSIONAL ARCHITECT  
 HAWAII, U.S.A.  
 No. 3371  
 Expiration Date: 09/29/10

THIS PROJECT WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.

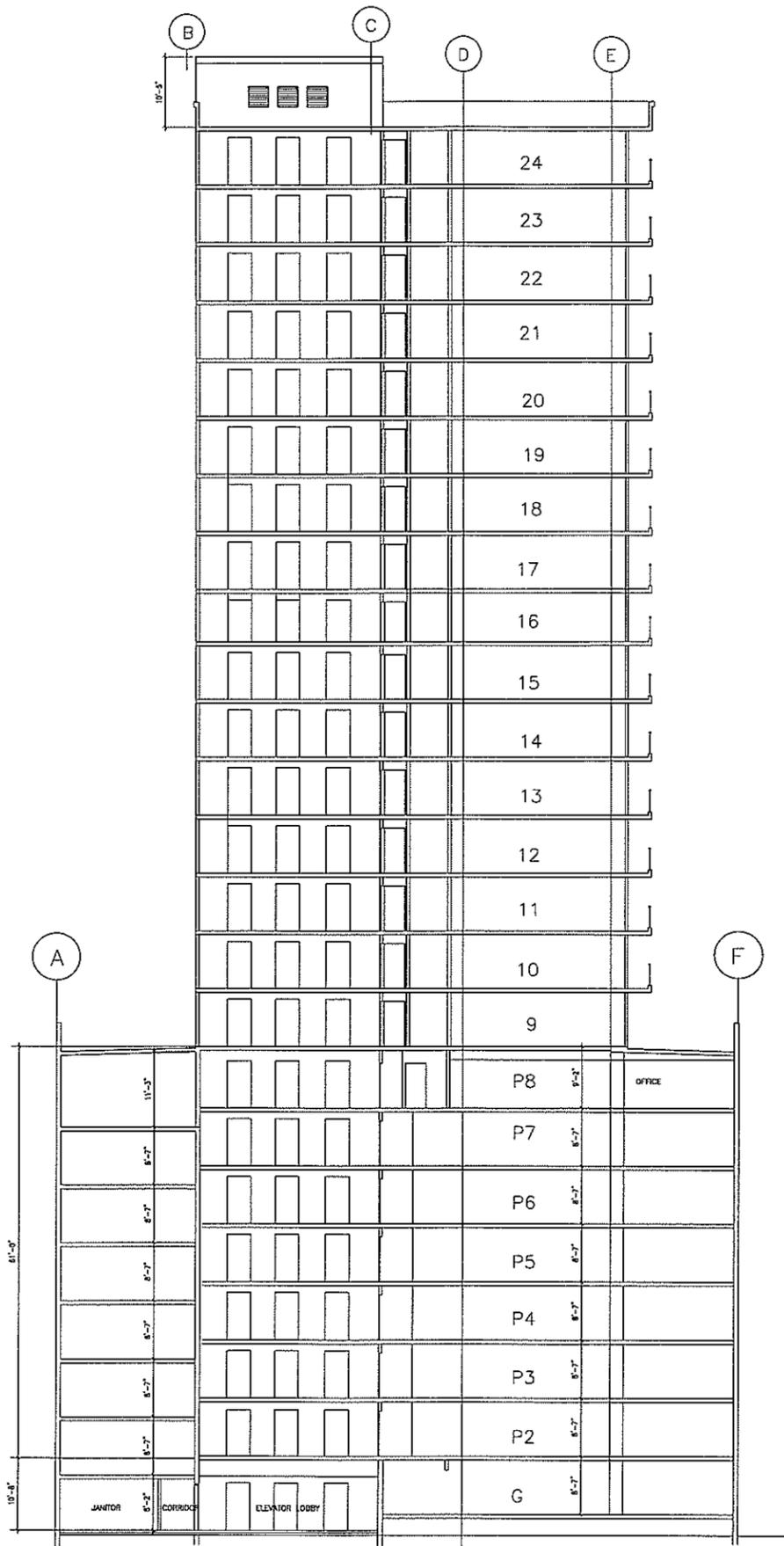
HOLOMUA  
 1319 KALAKAUA AVENUE  
 HONOLULU, HAWAII  
 BUILDING SECTION

KAZU YATO, AIA & ASSOCIATES  
 2033 KONA DRIVE, SUITE 100  
 HONOLULU, HI 96822  
 TEL: (808) 945-0040  
 FAX: (808) 951-0022

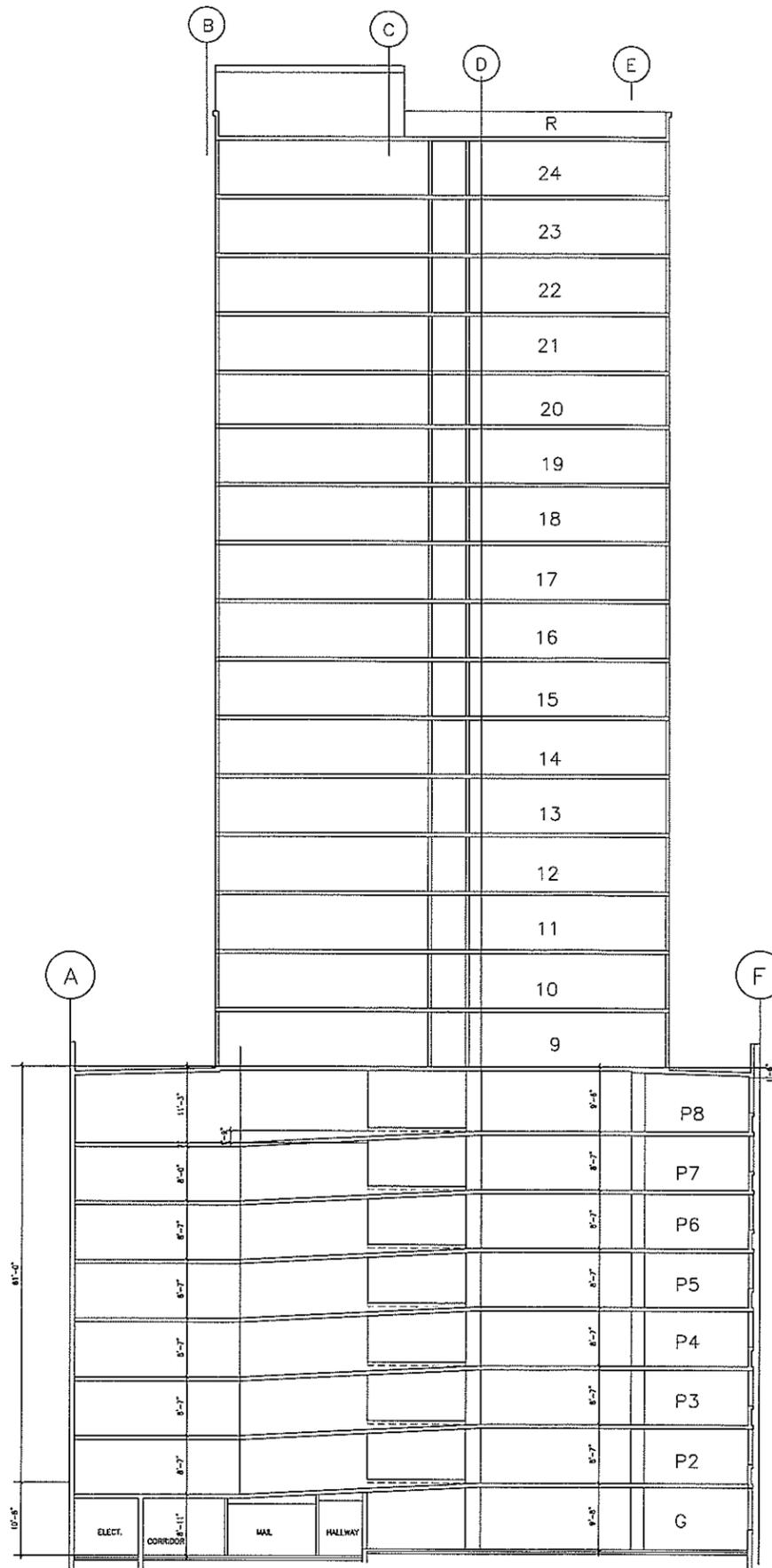
DATE	BY	BY	BY	BY

SHEET

**A-3.1**



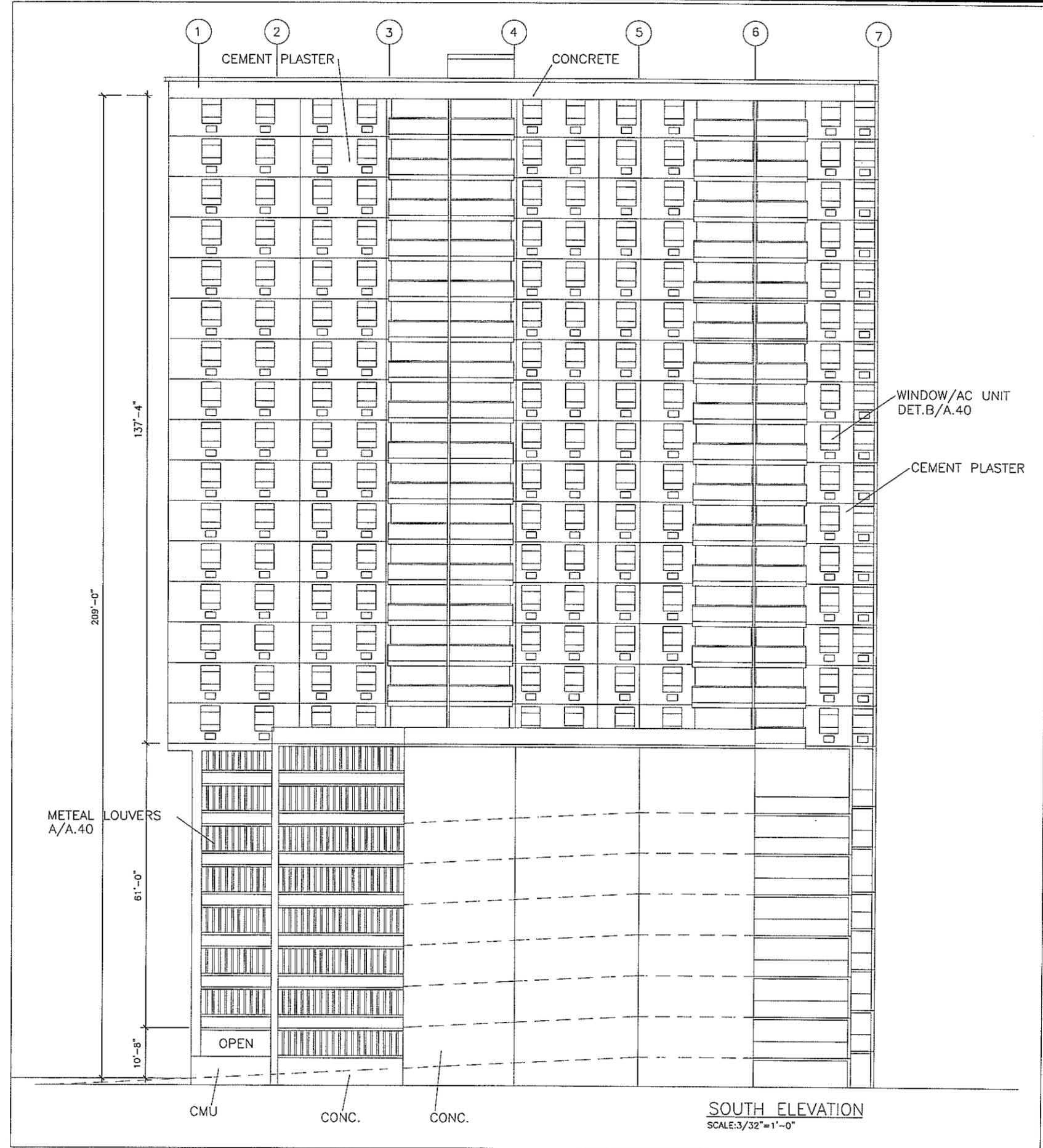
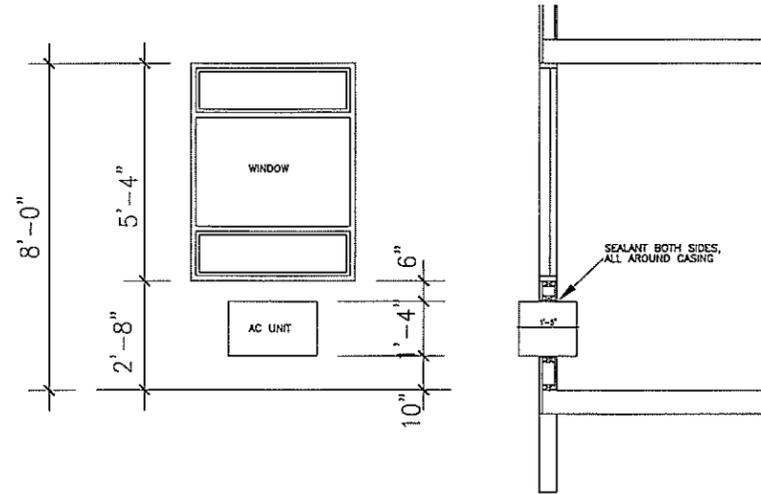
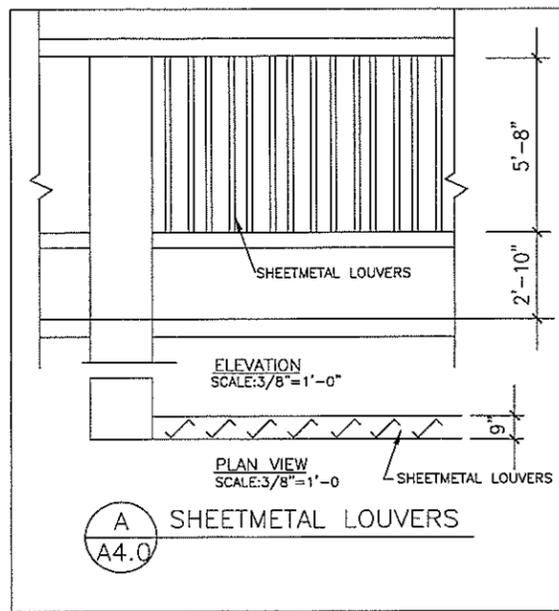
**A SECTION**  
 A-3.2 SCALE: 3/32" = 1'-0"  
 6/28/08



**B SECTION**  
 A-3.2 SCALE: 3/32" = 1'-0"  
 6/28/08

NO.		DATE		REVISIONS	
THIS PROJECT WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.					
<b>HOLOMUA</b> 1319 KALAKAUA AVENUE HONOLULU, HAWAII					
BUILDING SECTION					
 <b>KAZU YATO, AIA &amp; ASSOCIATES</b> 2515 KENYON STREET HONOLULU, HI 96822 TEL: (808) 945-0442 FAX: (808) 945-0092					
DATE	DRAWN	BY	CHECK	BY	FILE
SHEET					
<b>A-3.2</b>					





NO.	DATE	REVISIONS

KAZU YATO  
LICENSED PROFESSIONAL ARCHITECT  
No. 19271  
HAWAII, U.S.A.  
Expiration Date: 02/28/2018

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*Kazu Yato*

**HOLOMUA**  
1919 KALAKAUA AVENUE  
HONOLULU, HAWAII

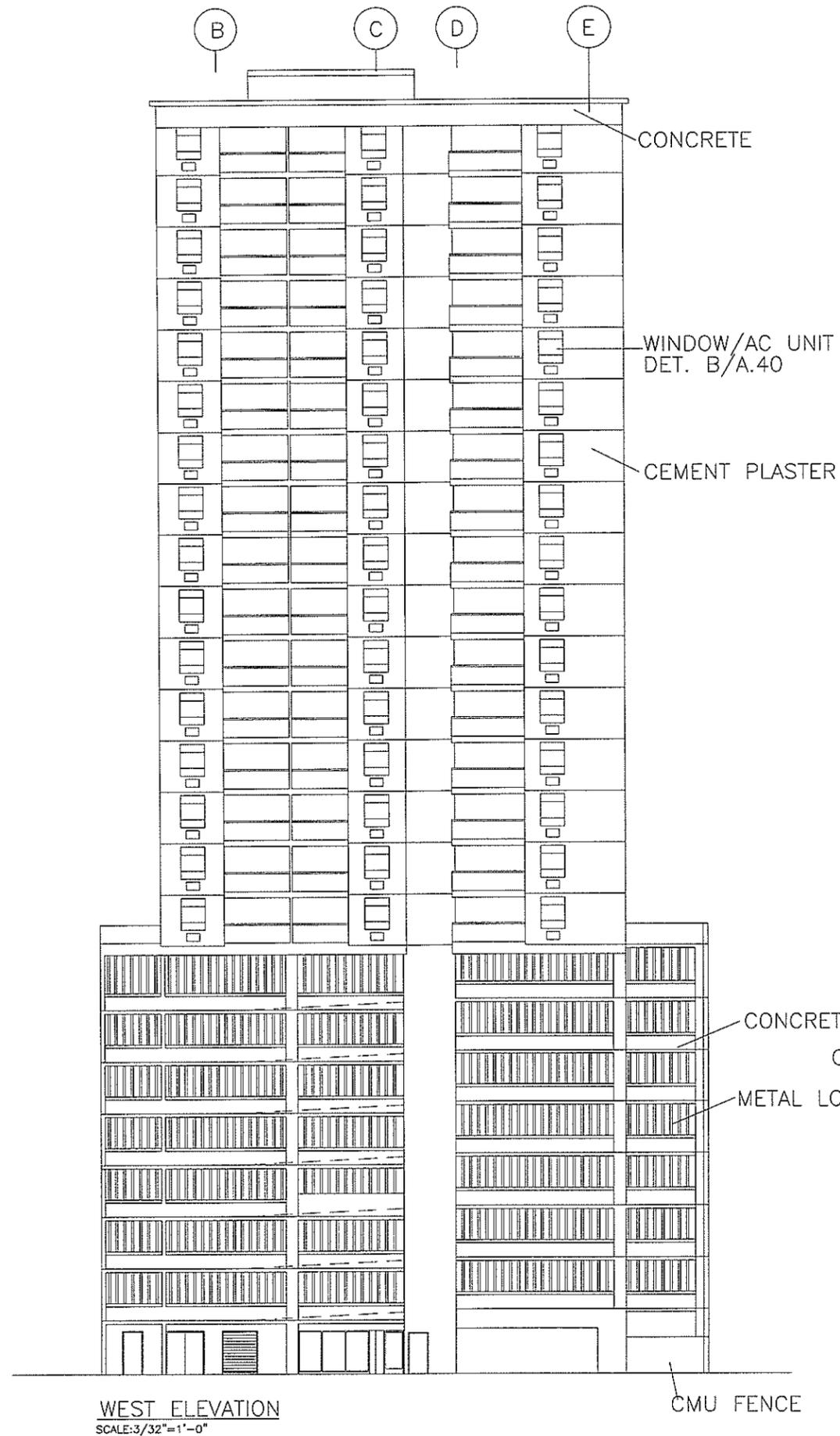
EXTERIOR ELEVATION (SOUTH)

KAZU YATO, AIA & ASSOCIATES  
3324 HANALEI TRAIL  
HONOLULU, HI 96827  
TEL: (808) 944-9045  
FAX: (808) 953-9042

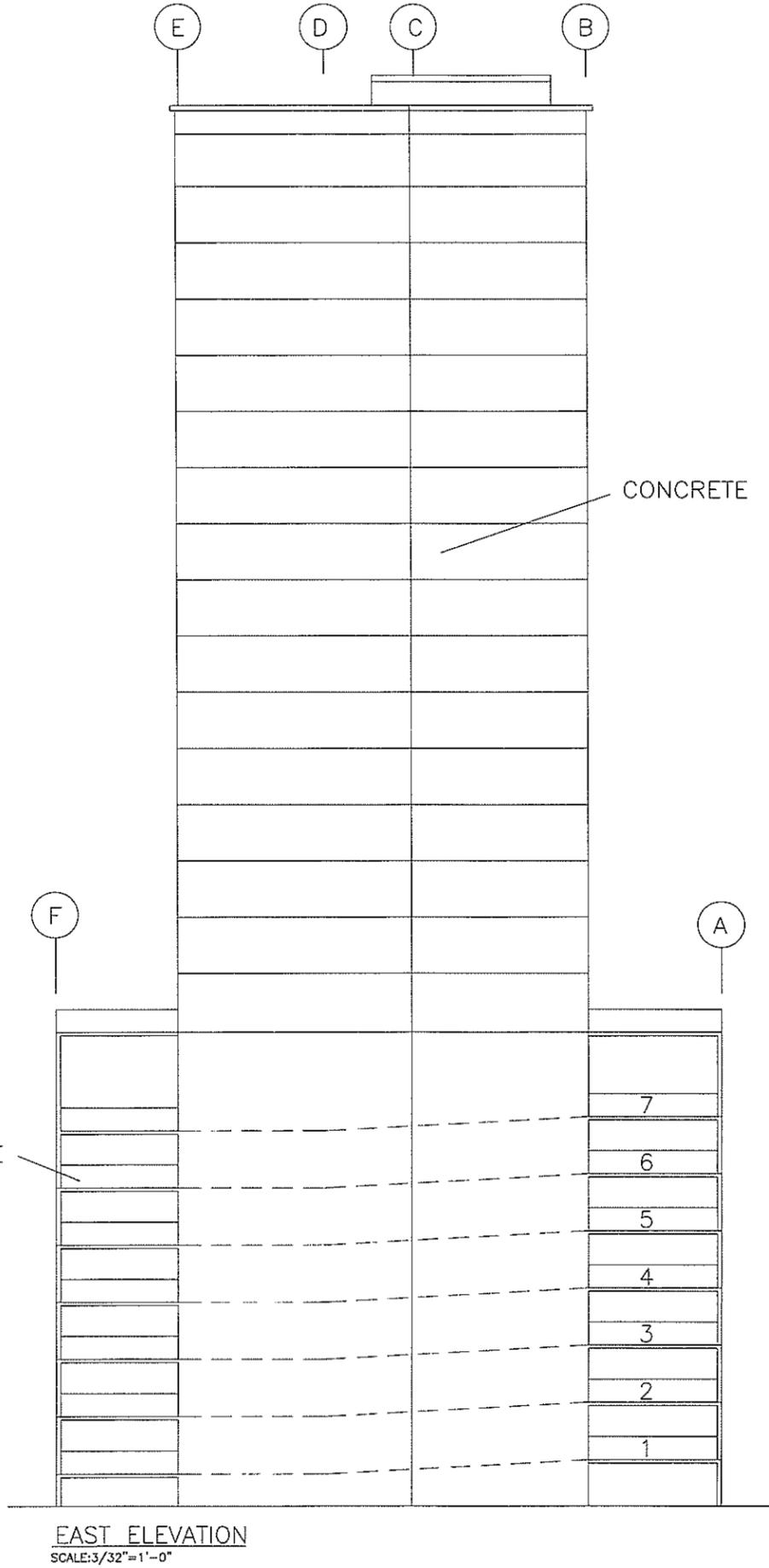
DATE	DESIGN	BY	CHKD	BY	FILE

SHEET

**A-4.0**

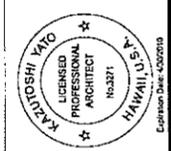


WEST ELEVATION  
SCALE: 3/32" = 1'-0"



EAST ELEVATION  
SCALE: 3/32" = 1'-0"

NO.	DATE	REVISIONS



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KAZU YATO, ARCHITECT  
AND CONSTRUCTION OF THIS  
PROJECT WILL BE UNDER MY  
SUPERVISION.

**HOLOMUA**  
1319 KALAKAUA AVENUE  
HONOLULU, HAWAII

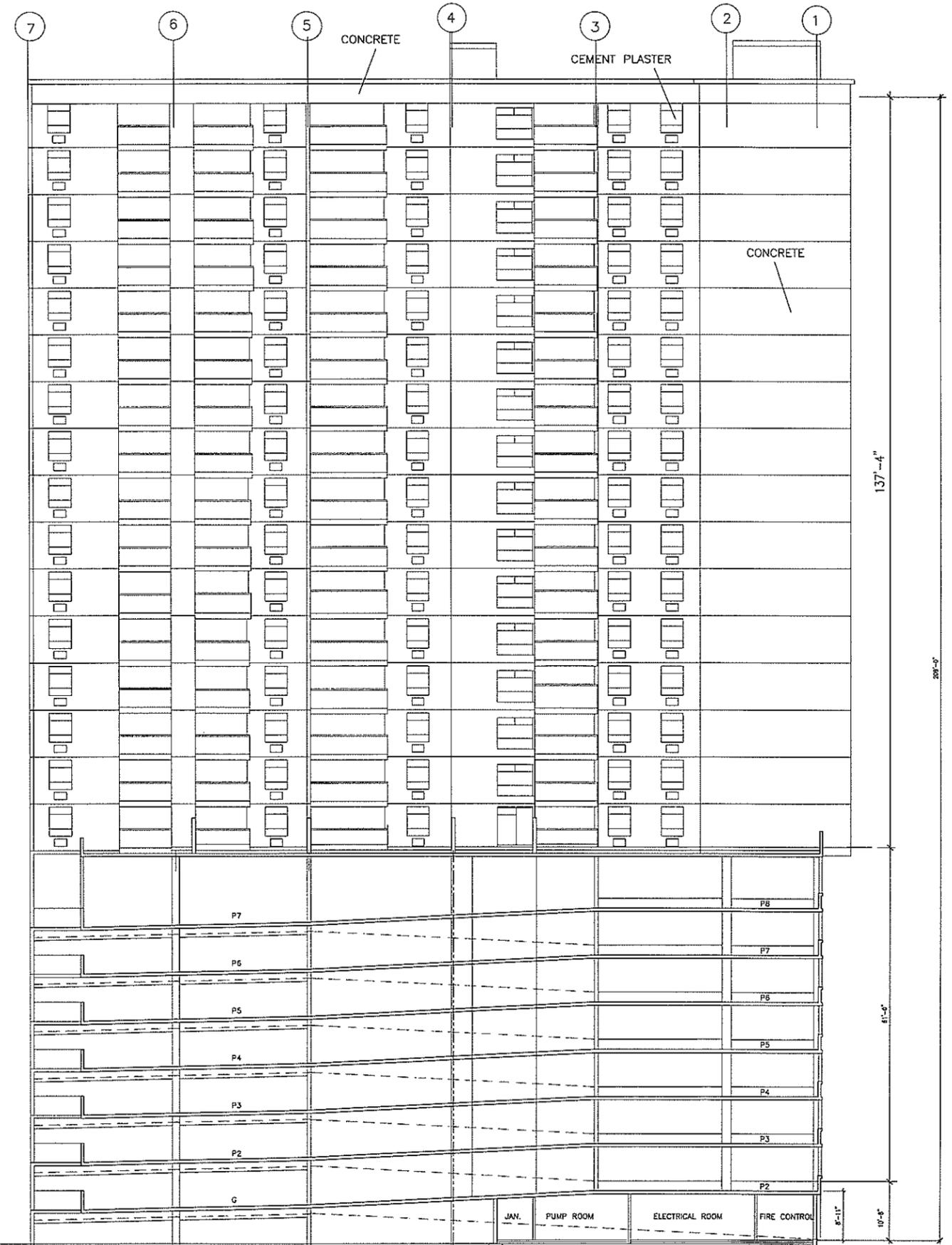
EXTERIOR ELEVATION (EAST-WEST)

**KAZU YATO, AIA & ASSOCIATES**  
2033 HONOLULU TERRACE  
HONOLULU, HI 96822

TEL: (808) 945-0010  
FAX: (808) 952-0052

DATE	DRAWN	BY	CHECK	BY	FILE

SHEET  
**A-4.1**



NORTH ELEVATION/SECTION  
SCALE: 3/32" = 1'-0"

NO.	DATE	REVISIONS



THIS PROJECT WAS PREPARED BY  
KAZUHIRO YATO, ARCHITECT  
AND CONSTRUCTION OF THIS  
PROJECT WILL BE UNDER MY  
SUPERVISION.

*Kazuhiro Yato*

HOLOMUA  
1319 KALAKAUA AVENUE  
HONOLULU, HAWAII

EXTERIOR ELEVATION (NORTH)

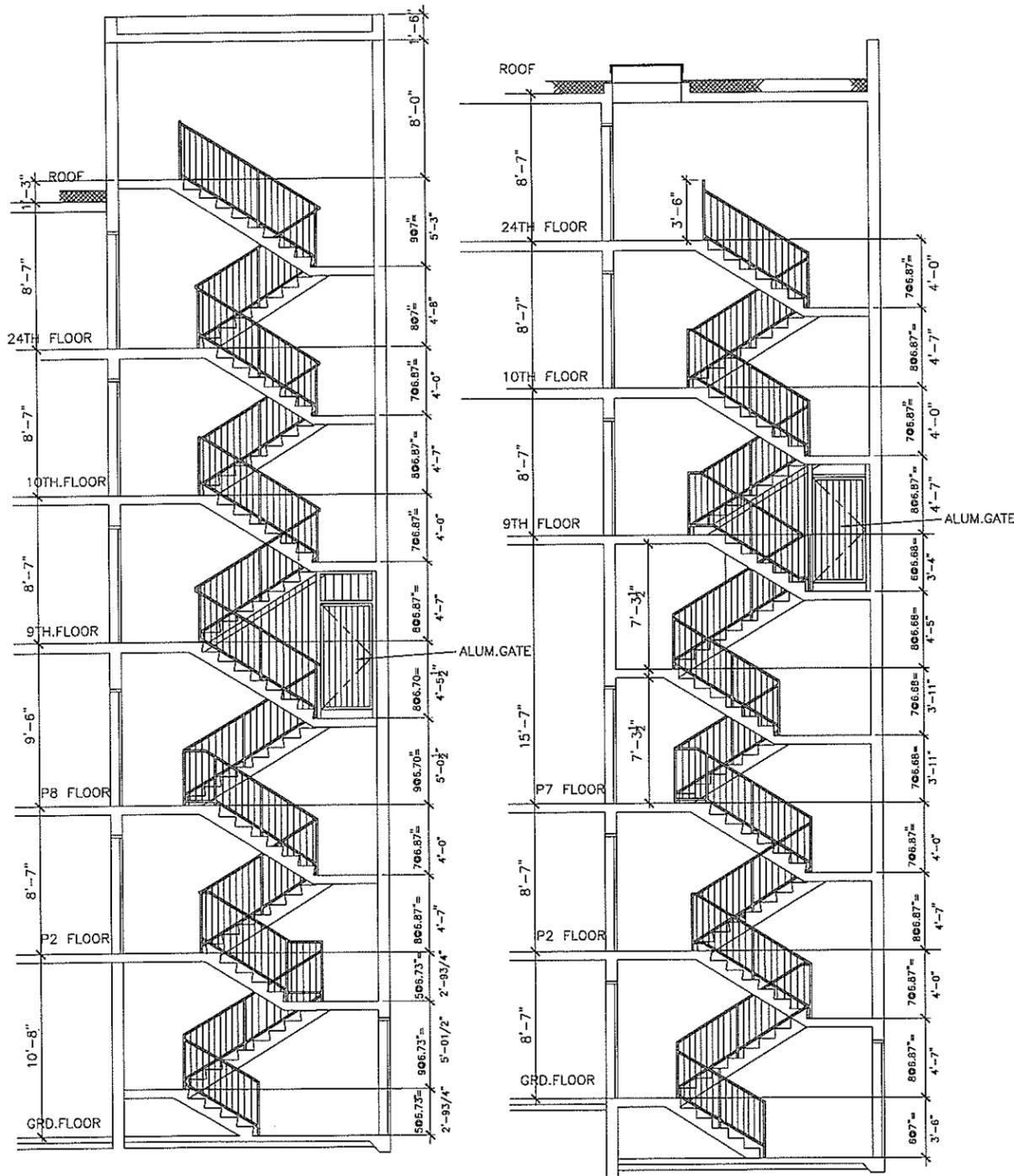
KAZU YATO, AIA & ASSOCIATES

2033 PUNAHOU TERRACE  
HONOLULU, HI 96822

TEL: (808) 945-0010  
FAX: (808) 955-0052

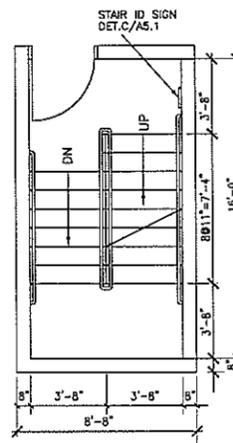
DATE	DRAWN	BY	CHECK	BY	FILE

SHEET  
**A-4.2**

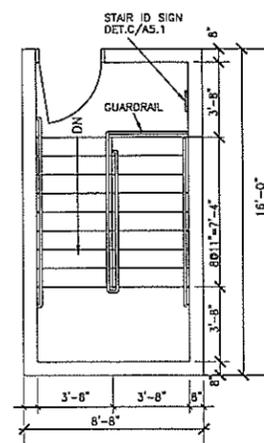


**A** SECTION THRU STAIR NO.1  
A5.0 SCALE: 1/4"=1'-0"

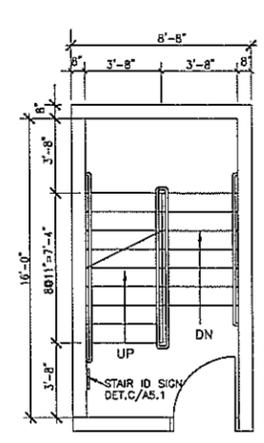
**B** SECTION THRU STAIR NO.2  
A5.0 SCALE: 1/4"=1'-0"



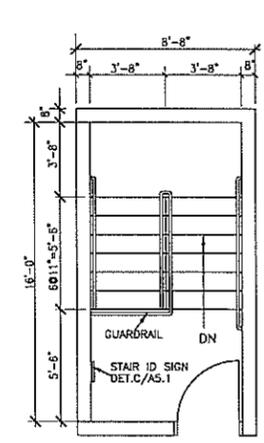
PLAN P8 FLOOR  
SCALE: 1/4"=1'-0"



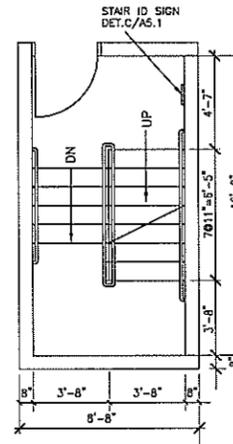
PLAN ROOF  
SCALE: 1/4"=1'-0"



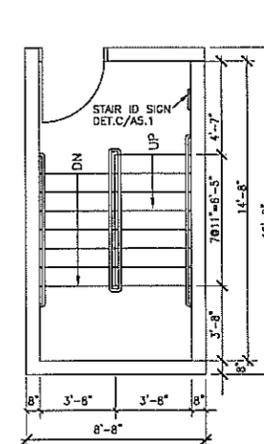
PLAN P7 FLOOR  
SCALE: 1/4"=1'-0"



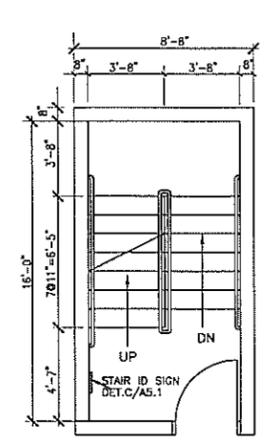
PLAN 24TH FLOOR  
SCALE: 1/4"=1'-0"



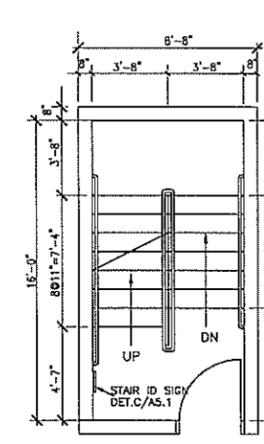
PLAN P2 FLOOR  
SCALE: 1/4"=1'-0"



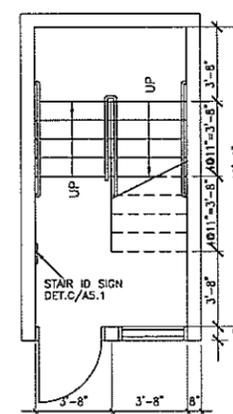
PLAN TYPICAL FLOOR  
SCALE: 1/4"=1'-0"



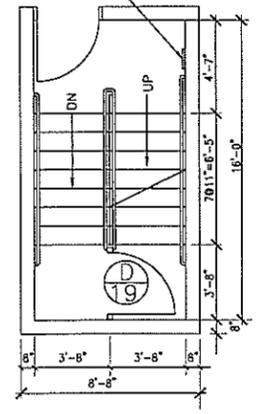
PLAN P2 FLOOR  
SCALE: 1/4"=1'-0"



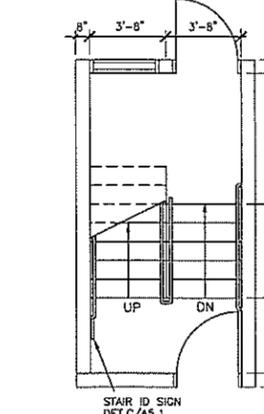
PLAN 10TH FLOOR  
SCALE: 1/4"=1'-0"



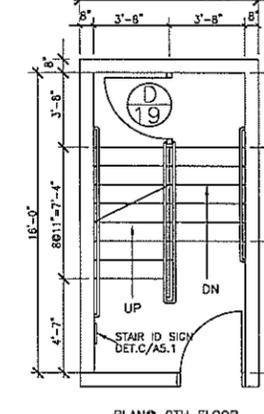
PLAN GROUND FLOOR  
SCALE: 1/4"=1'-0"



PLAN P9 FLOOR  
SCALE: 1/4"=1'-0"



PLAN GROUND FLOOR  
SCALE: 1/4"=1'-0"



PLAN 9TH FLOOR  
SCALE: 1/4"=1'-0"

**C** STAIR NO.1 DETAILS  
A5.0

**D** STAIR NO.2 DETAILS  
A5.0

NO.	DATE	REVISIONS



THIS PROJECT WAS PREPARED BY ME OR UNDER MY SUPERVISION AND I AM A LICENSED PROFESSIONAL ARCHITECT. PROJECT WILL BE UNDER MY SUPERVISION.

*Kazuo Yato*

**HOLOMUA**  
1319 KALAKAUA AVENUE  
HONOLULU, HAWAII

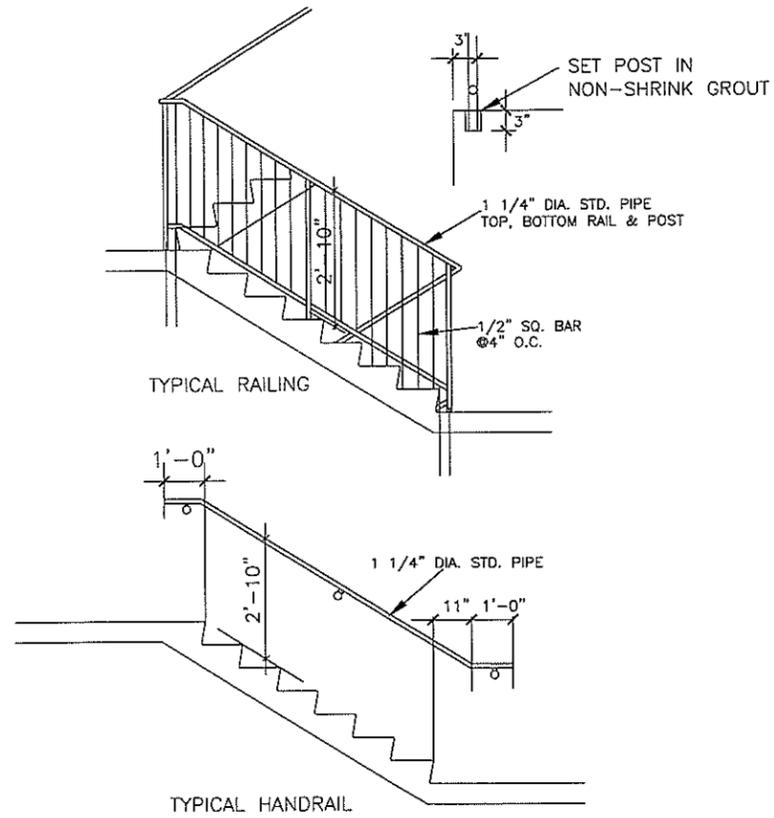
STAIR DETAILS

**KAZU YATO, AIA & ASSOCIATES**  
2033 KOWALIK TERRACE  
HONOLULU, HI 96822  
TEL: (808) 845-0010  
FAX: (808) 852-0022

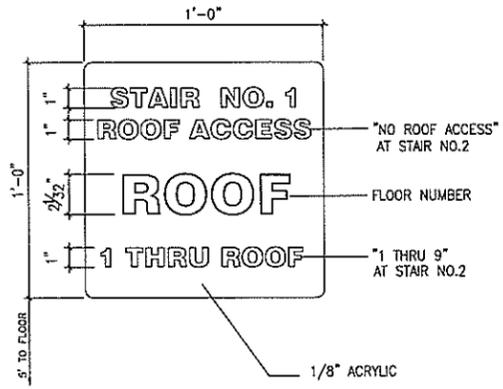
DATE	DRAWN	BY	CHECK	BY	FILE

SHEET

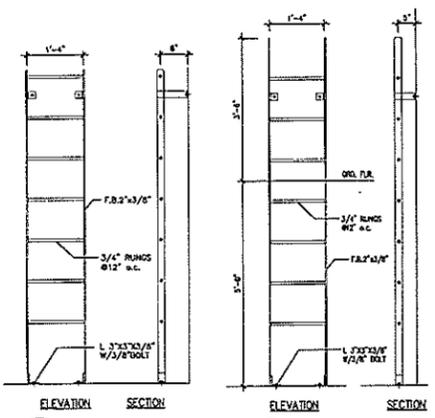
**A-5.0**



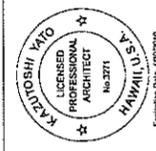
**A** TYPICAL HANDRAIL AND RAILING DETAILS  
A5.1 SCALE: 1/2" = 1'-0"



**D** STAIR IDENTIFICATION SIGN  
A5.1



NO.	DATE	REVISIONS



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*Kazuo Yato*

**HOLOMUA**  
1319 KALAKAUA AVENUE  
HONOLULU, HAWAII

STAIR DETAILS

**KAZU YATO, AIA & ASSOCIATES**

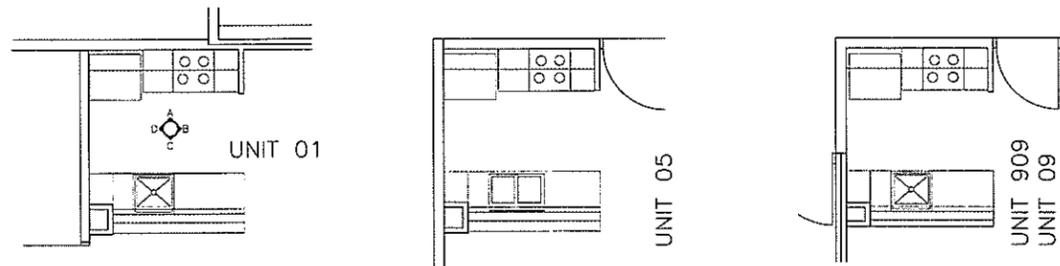
2033 BROWNSVILLE TERRANCE  
HONOLULU, HI 96822

TEL: (808) 843-0800  
FAX: (808) 851-0822

DATE	BY	CHKD	BY	FILE

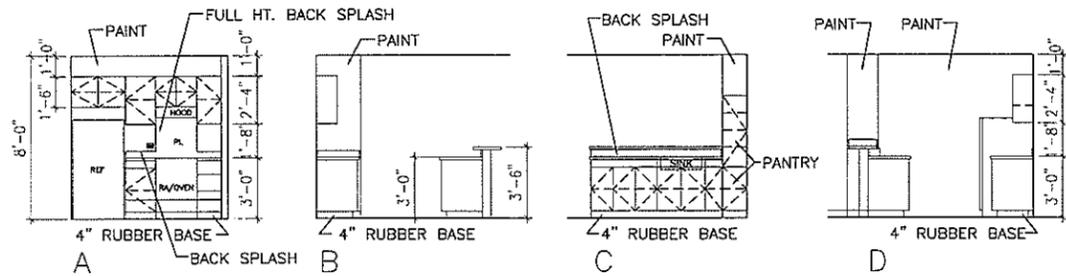
SHEET

**A-5.1**



**KITCHEN TYPE-1 PLANS**

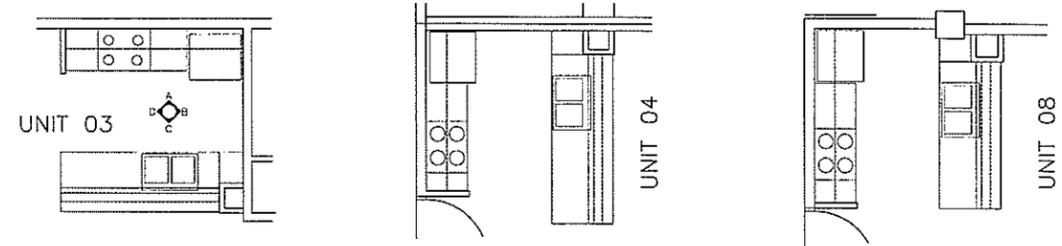
SCALE: 1/4" = 1'-0"



KITCHEN 901-AS SHOWN  
 KITCHEN 01-AS SHOWN  
 KITCHEN 905 (SIM. WITH DBL. SINK)  
 KITCHEN 05 (SIM. WITH DBL. SINK)

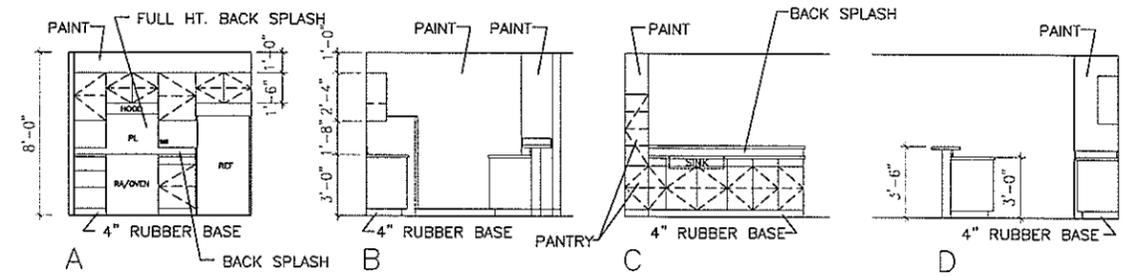
KITCHEN 909 (SIMILAR)  
 KITCHEN 09 (SIMILAR)  
**INTERIOR ELEVATIONS**  
**KITCHEN TYPE-1**  
 SCALE: 1/4" = 1'-0"

**NOTE**  
 KITCHENS 1601, 1005 & 1805 ARE ACCESSIBLE  
 SEE SHT.



**KITCHEN TYPE-2 PLANS**

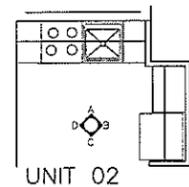
SCALE: 1/4" = 1'-0"



KITCHEN 903-AS SHOWN  
 KITCHEN 03-AS SHOWN  
 KITCHEN 908 (SIMILAR)  
 KITCHEN 08 (SIMILAR)

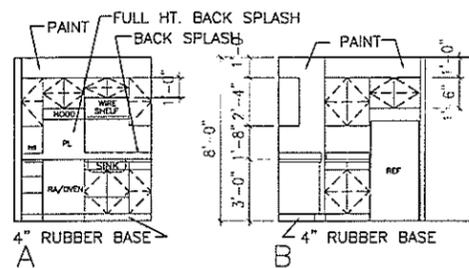
KITCHEN 904 (SIMILAR)  
 KITCHEN 04 (SIMILAR)  
**INTERIOR ELEVATIONS**  
**KITCHEN TYPE-2**  
 SCALE: 1/4" = 1'-0"

**NOTE**  
 KITCHENS 1804 & 1008 ARE ACCESSIBLE  
 SEE SHT.

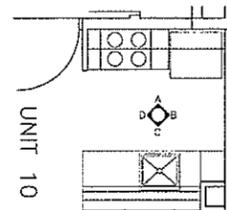


**KITCHEN TYPE-3 PLAN**

SCALE: 1/4" = 1'-0"

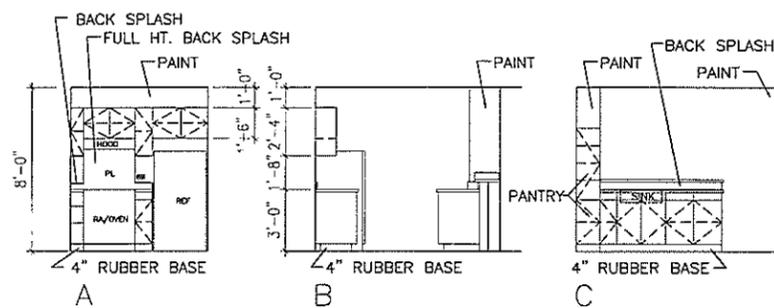


902 KITCHEN  
 02 KITCHEN  
**INTERIOR ELEVATIONS**  
**KITCHEN TYPE-3**  
 SCALE: 1/4" = 1'-0"



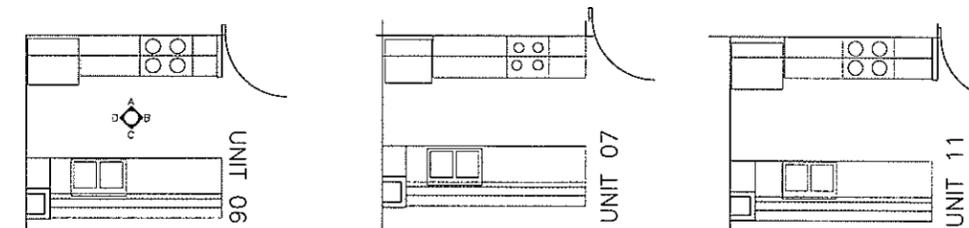
**KITCHEN TYPE-4 PLAN**

SCALE: 1/4" = 1'-0"



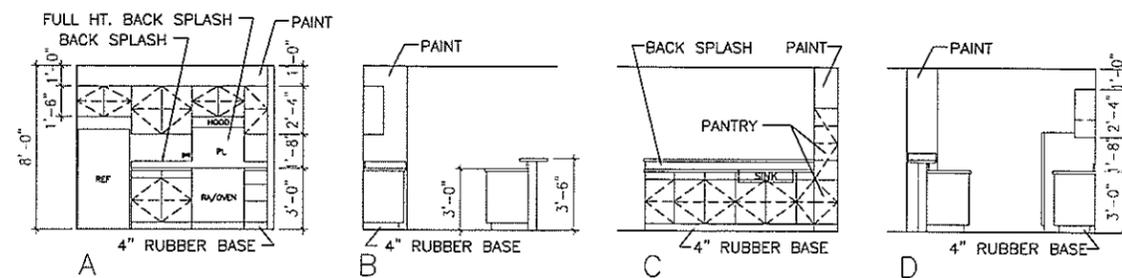
KITCHEN 910  
 KITCHEN 10  
**INTERIOR ELEVATIONS**  
**KITCHEN TYPE-4**  
 SCALE: 1/4" = 1'-0"

**NOTE**  
 KITCHEN 1610 IS ACCESSIBLE  
 SEE SHT.



**KITCHEN TYPE-5 PLANS**

SCALE: 1/4" = 1'-0"



KITCHEN 906-AS SHOWN  
 KITCHEN 06-AS SHOWN

KITCHEN 907 (SIMILAR)  
 KITCHEN 07 (SIMILAR)  
 KITCHEN 911 (SIMILAR)  
 KITCHEN 11 (SIMILAR)  
**INTERIOR ELEVATIONS**  
**KITCHEN TYPE-5**  
 SCALE: 1/4" = 1'-0"

**NOTE**  
 KITCHENS 10007 & 1011 ARE ACCESSIBLE, SEE SHT.  
 VERIFY FLOOR PLANS (TYP.)  
 FIELD MEASURE FOR CABINETS (TYP.)

NO.	DATE	REVISIONS



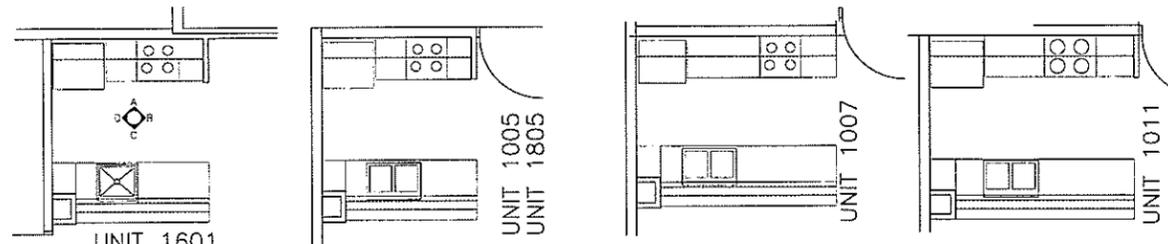
THIS PROJECT WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT SHALL BE UNDER MY SUPERVISION.  
 Kazu Yato, P.E.

**HOLOMUA**  
 1319 KALAKAUA AVENUE  
 HONOLULU, HAWAII  
 KITCHEN INTERIOR ELEVATIONS

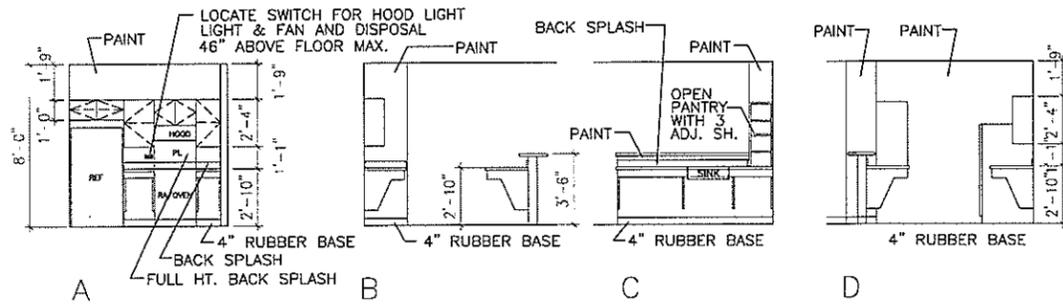
**KAZU YATO, AIA & ASSOCIATES**  
 1319 KALAKAUA AVENUE  
 HONOLULU, HI 96812  
 TEL: (808) 551-6546  
 FAX: (808) 551-9025

DATE	DRAWN	BY	CHECK	BY	FILE

SHEET  
**A-5.2**

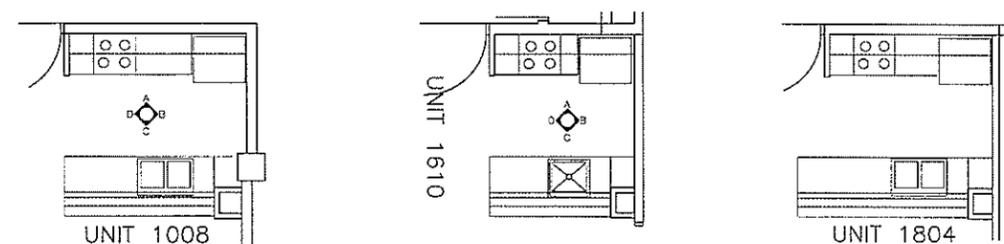


PLANS  
ACCESSIBLE KITCHEN TYPE-1  
SCALE: 1/4" = 1'-0"

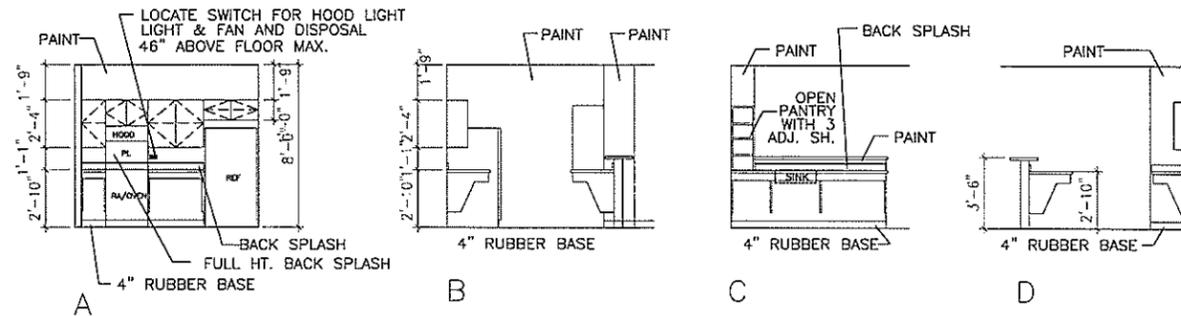


ACCESSIBLE KITCHEN 1601-AS SHOWN  
ACCESSIBLE KITCHEN 1005 (SIM. WITH DBL. SINK)  
ACCESSIBLE KITCHEN 1805 (SIM. WITH DBL. SINK)  
ACCESSIBLE KITCHEN 1007-(SIM. WITH DBL SINK)  
ACCESSIBLE KITCHEN 1011 (SIM. WITH DBL. SINK)

INTERIOR ELEVATIONS  
ACCESSIBLE KITCHEN TYPE-1  
SCALE: 1/4" = 1'-0"



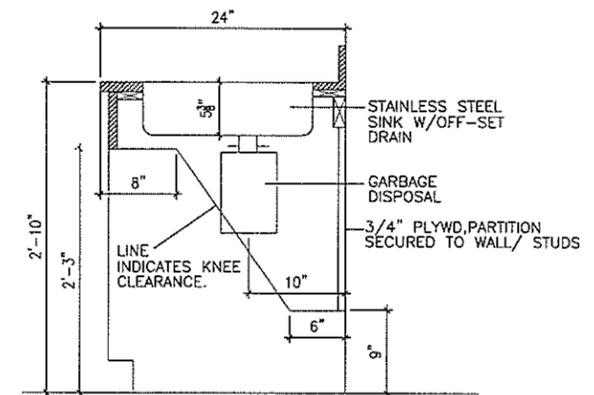
PLANS  
ACCESSIBLE KITCHEN TYPE-2  
SCALE: 1/4" = 1'-0"



ACCESSIBLE KITCHEN 1008-AS SHOWN  
ACCESSIBLE KITCHEN 1610 (SIMILAR WITH SMALL SINK)  
ACCESSIBLE KITCHEN 1804 (SIMILAR)

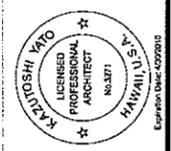
INTERIOR ELEVATIONS  
ACCESSIBLE KITCHEN TYPE-2  
SCALE: 1/4" = 1'-0"

NOTE  
VERIFY FLOOR PLANS (TYP.)  
FIELD MEASURE FOR CABINETS (TYP.)



TYP. SECTION  
AT ACCESSIBLE KITCHEN SINK  
NOT TO SCALE

NO	DATE	REVISIONS



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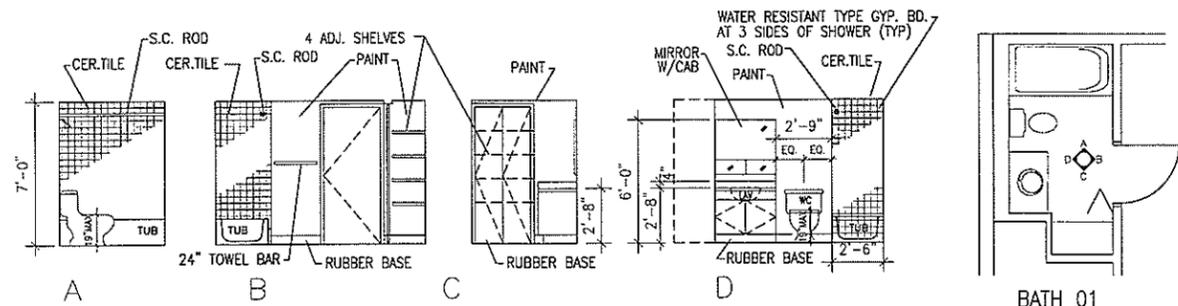
HOLOMUA  
1319 KALAKAUA AVENUE  
HONOLULU, HAWAII

ACCESSIBLE KITCHEN INTERIOR ELEVATIONS

KAZU YATO, AIA & ASSOCIATES  
TEL: (808) 945-0840  
FAX: (808) 945-0822  
2033 KONA DRIVE  
HONOLULU, HI 96822

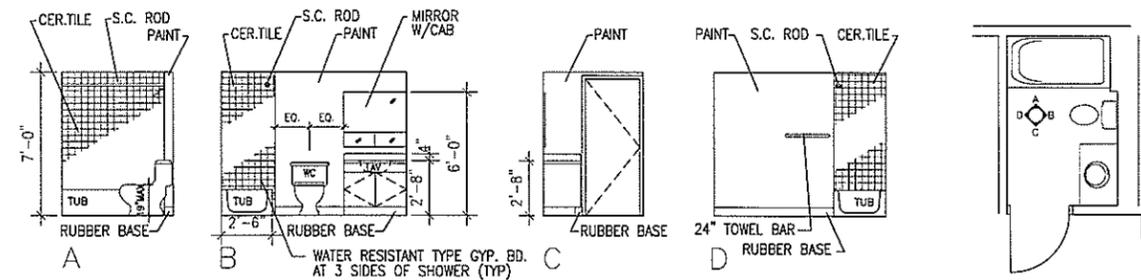
DATE	DRAWN	#	CHECK	BY	FILE

SHEET  
A-5.3



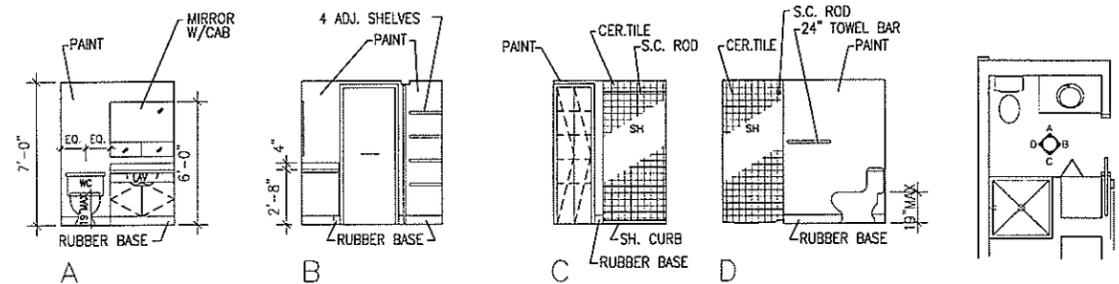
BATH 901  
BATH 01  
NOTE: UNIT 1601 IS ACCESSIBLE  
TYPE-1 BATH ELEVATIONS  
SCALE: 1/4" = 1'-0"

BATH 01  
PLAN  
TYPE-1 BATH  
SCALE: 1/4" = 1'-0"



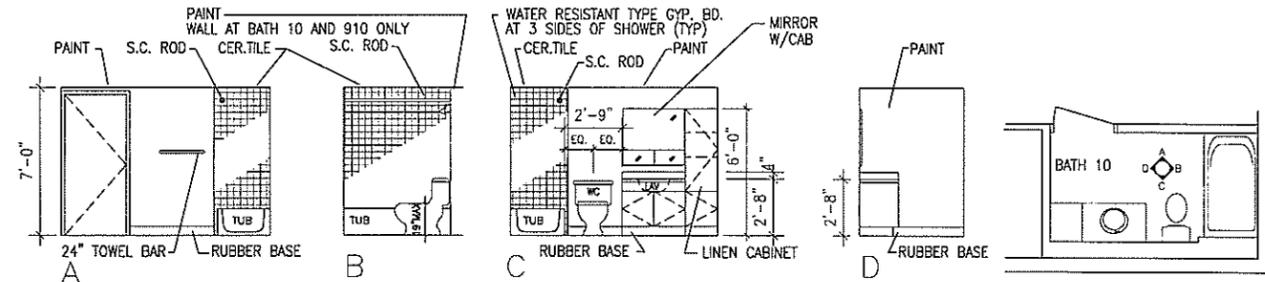
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BATH 03  
BATH 911  
BATH 11  
NOTE: UNIT 1011 IS ACCESSIBLE  
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SCALE: 1/4" = 1'-0"

PLAN  
TYPE-4 BATH  
SCALE: 1/4" = 1'-0"



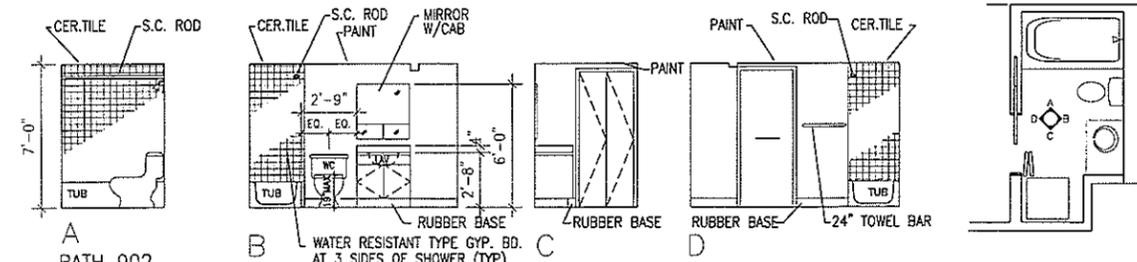
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BATH 908b  
BATH 08b  
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SCALE: 1/4" = 1'-0"

PLAN  
TYPE-2 BATH  
SCALE: 1/4" = 1'-0"



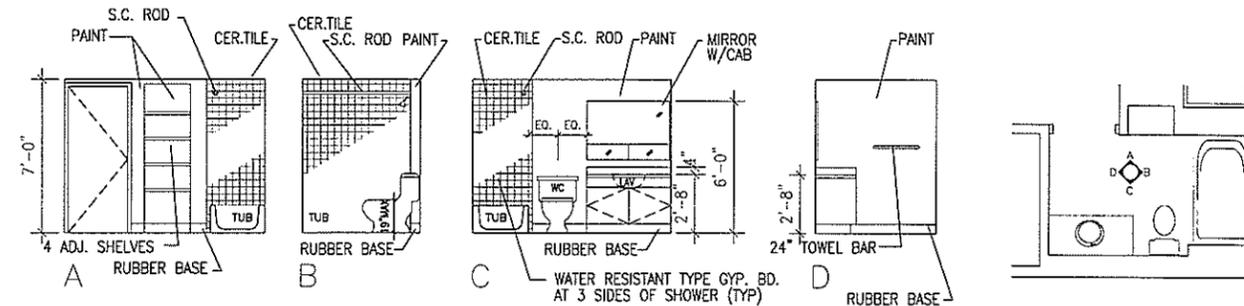
BATH 910-AS SHOWN  
BATH 10-AS SHOWN  
BATH 909-SIMILAR  
BATH 09-SIMILAR  
NOTE: UNIT 1610 IS ACCESSIBLE  
TYPE-5 BATH ELEVATIONS  
SCALE: 1/4" = 1'-0"

PLAN  
TYPE-5 BATH  
SCALE: 1/4" = 1'-0"



BATH 902  
BATH 02  
TYPE-3 BATH ELEVATIONS  
SCALE: 1/4" = 1'-0"

PLAN  
TYPE-3 BATH  
SCALE: 1/4" = 1'-0"



BATH 905a  
BATH 05a  
BATH 906a  
BATH 06a  
NOTE: UNIT 1005 & 1805 ACCESSIBLE  
TYPE-6 BATH ELEVATIONS  
SCALE: 1/4" = 1'-0"

PLAN  
TYPE-6 BATH  
SCALE: 1/4" = 1'-0"

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*Kazu Yato*

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BATHROOM INTERIOR ELEVATIONS

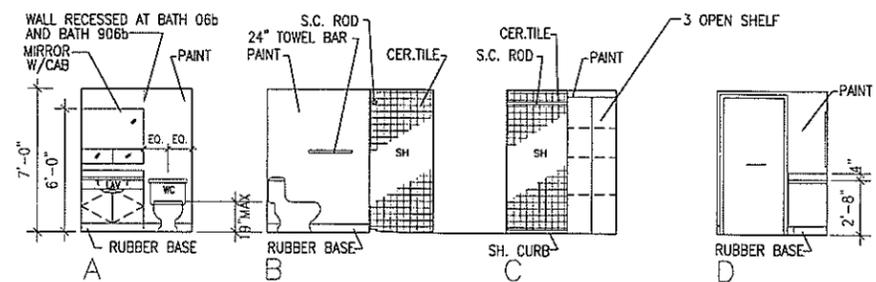
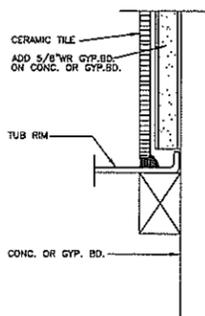
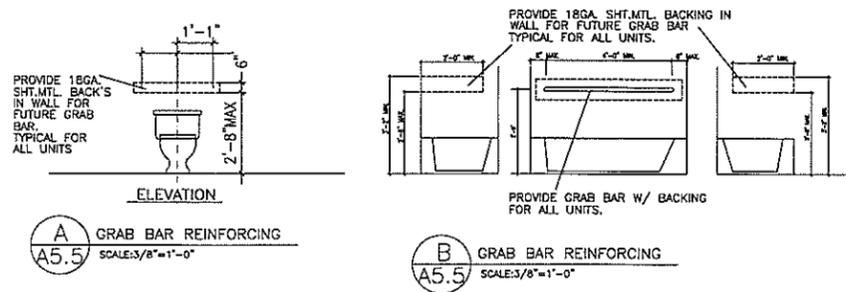
**KAZU YATO, AIA & ASSOCIATES**

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HONOLULU, HI 96812  
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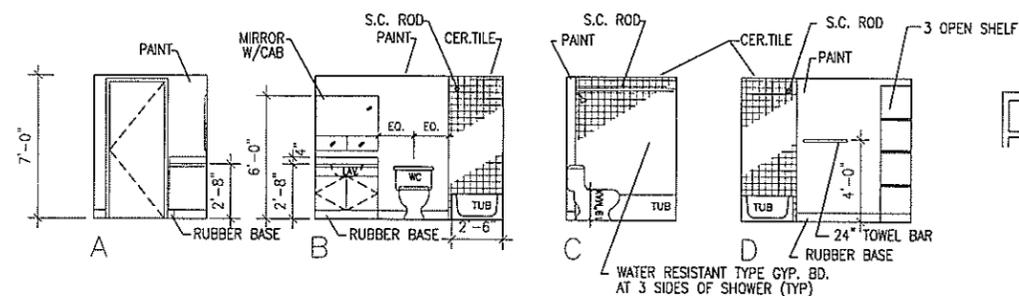
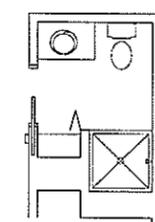
DATE	DRAWN	BY	CHECK	BY	FILE

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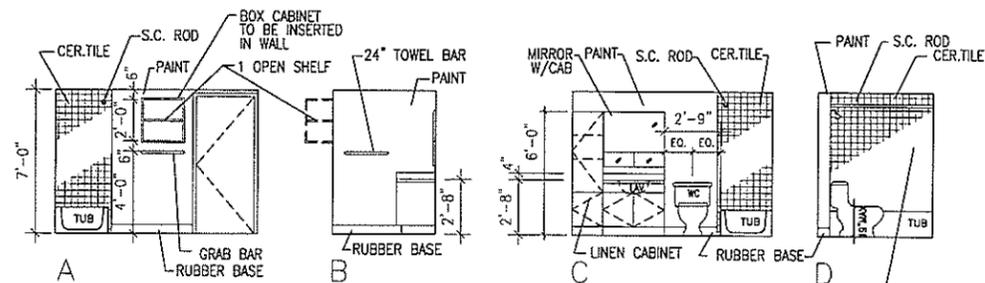
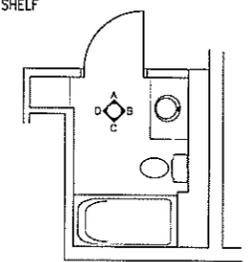
**A-5.4**



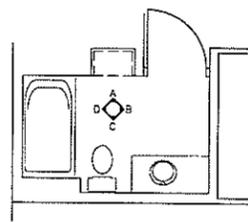
NOTE: UNIT 1005 & 1805 ACCESSIBLE



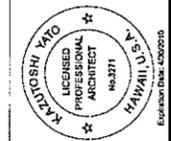
NOTE: UNIT 1007 IS ACCESSIBLE



WATER RESISTANT TYPE GYP. BD. AT 3 SIDES OF SHOWER (TYP)



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HONOLULU, HAWAII

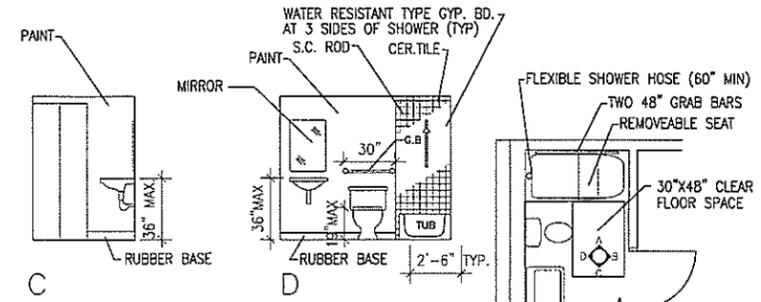
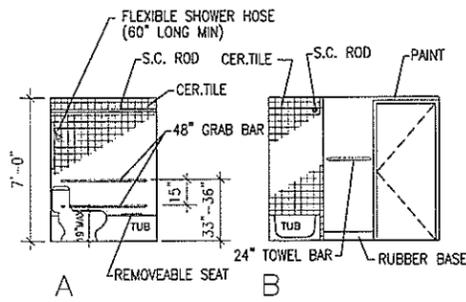
BATHROOM INTERIOR ELEVATIONS

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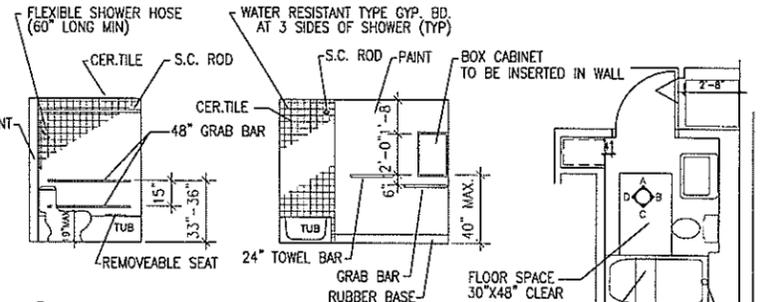
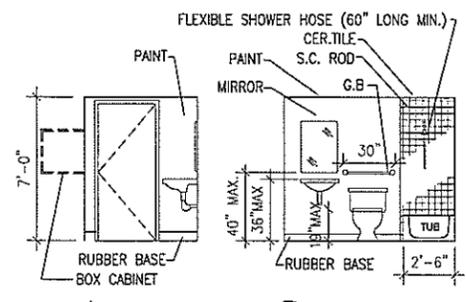
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NOTE  
 VERIFY FLOOR PLANS (TYP.)  
 FIELD MEASURE FOR CABINETS (TYP.)

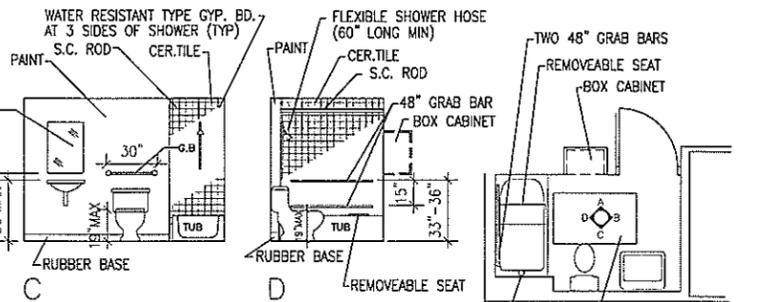
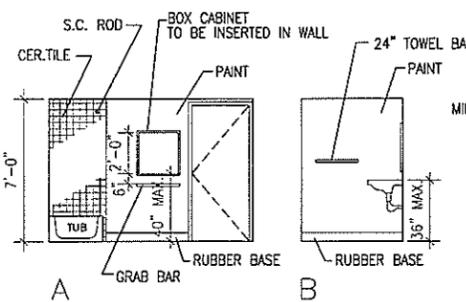
ACCESSIBLE BATH 1601  
 INTERIOR ELEVATIONS  
 ACCESSIBLE BATH TYPE-1  
 SCALE: 1/4" = 1'-0"

PLAN  
 ACCESSIBLE BATH TYPE-1  
 SCALE: 1/4" = 1'-0"



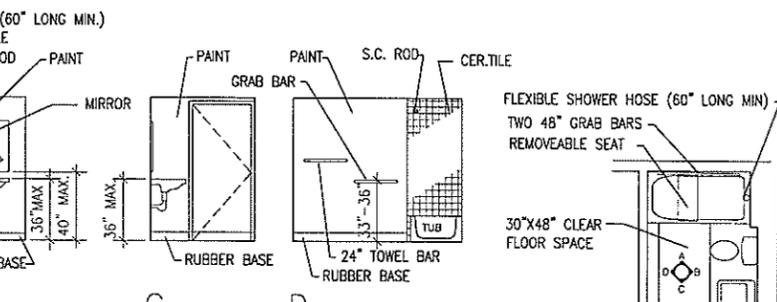
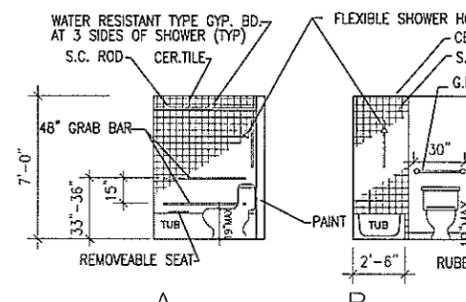
ACCESSIBLE BATH 1007  
 INTERIOR ELEVATIONS  
 ACCESSIBLE BATH TYPE-4  
 SCALE: 1/4" = 1'-0"

PLAN  
 ACCESSIBLE BATH TYPE-4  
 SCALE: 1/4" = 1'-0"



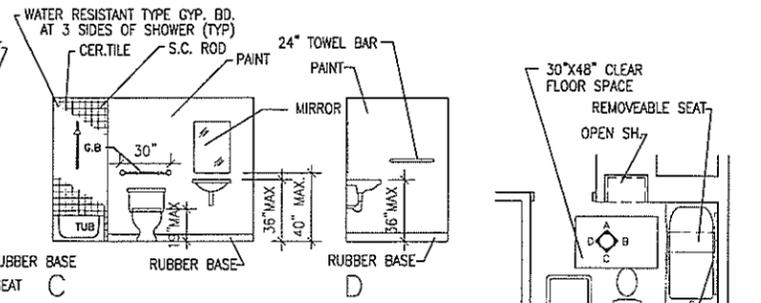
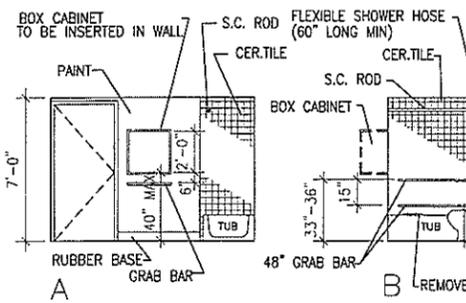
ACCESSIBLE BATH 1804  
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 INTERIOR ELEVATIONS  
 ACCESSIBLE BATH TYPE-2  
 SCALE: 1/4" = 1'-0"

PLAN  
 ACCESSIBLE BATH TYPE-2  
 SCALE: 1/4" = 1'-0"



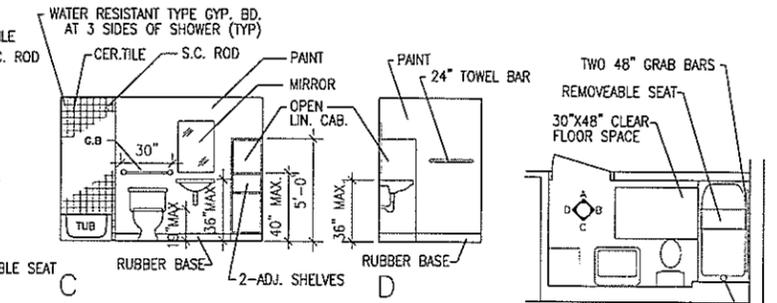
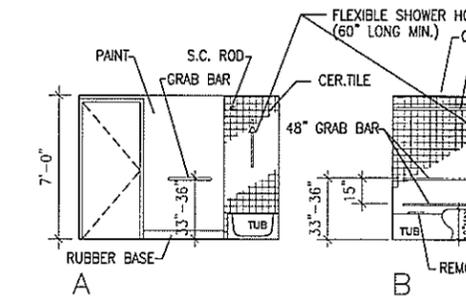
ACCESSIBLE BATH 1011  
 INTERIOR ELEVATIONS  
 ACCESSIBLE BATH TYPE-5  
 SCALE: 1/4" = 1'-0"

PLAN  
 ACCESSIBLE BATH TYPE-5  
 SCALE: 1/4" = 1'-0"



ACCESSIBLE BATH 1005  
 ACCESSIBLE BATH 1805  
 INTERIOR ELEVATIONS  
 ACCESSIBLE BATH TYPE-3  
 SCALE: 1/4" = 1'-0"

PLAN  
 ACCESSIBLE BATH TYPE-3  
 SCALE: 1/4" = 1'-0"



NOTE  
 VERIFY FLOOR PLANS (TYP.)  
 FIELD MEASURE FOR CABINETS (TYP.)

ACCESSIBLE BATH 1610  
 INTERIOR ELEVATIONS  
 ACCESSIBLE BATH TYPE-6  
 SCALE: 1/4" = 1'-0"

PLAN  
 ACCESSIBLE BATH TYPE-6  
 SCALE: 1/4" = 1'-0"

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HONOLULU, HAWAII

ACCESSIBLE BATHROOM INTERIOR ELEVATIONS

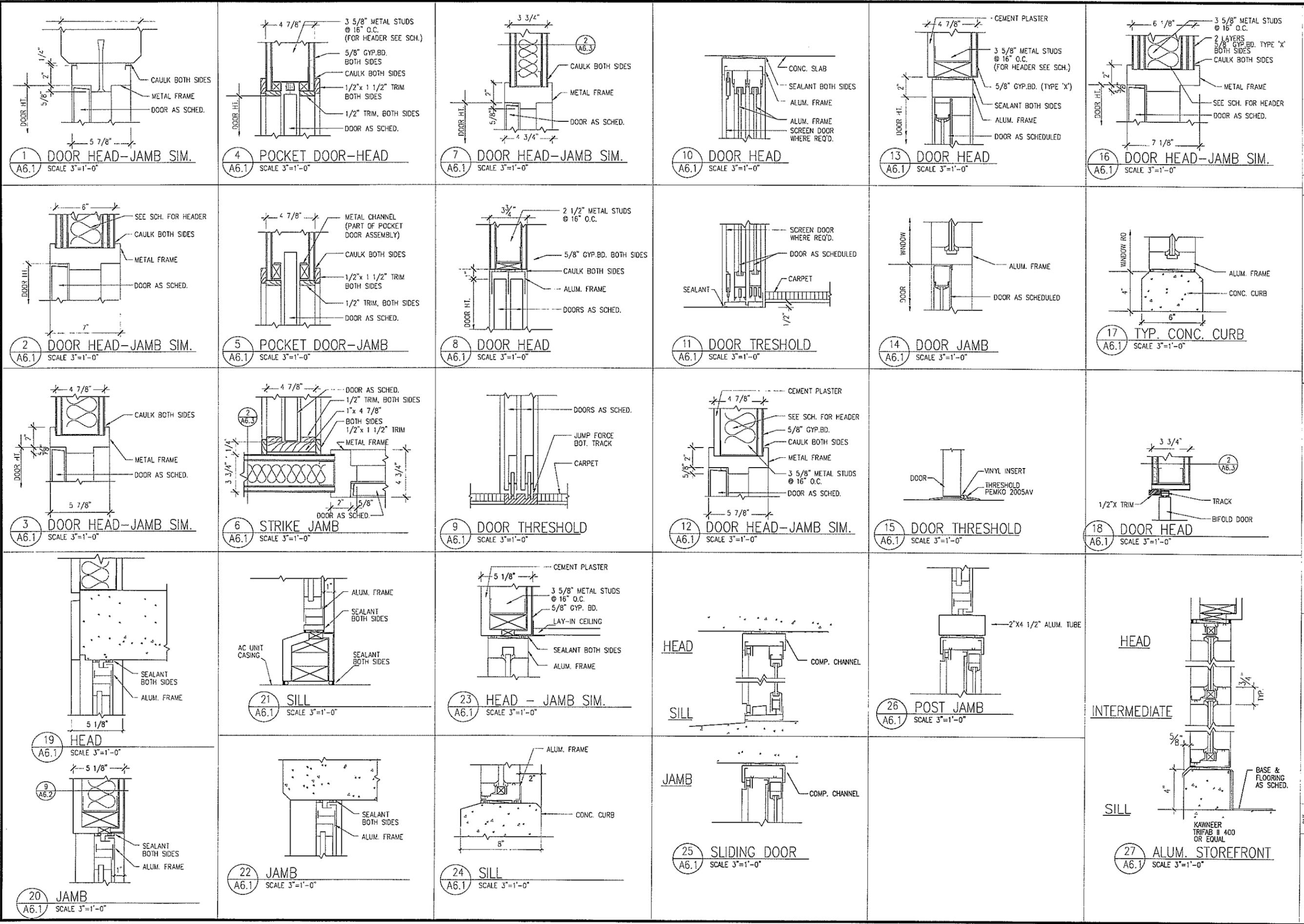
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**A-5.6**





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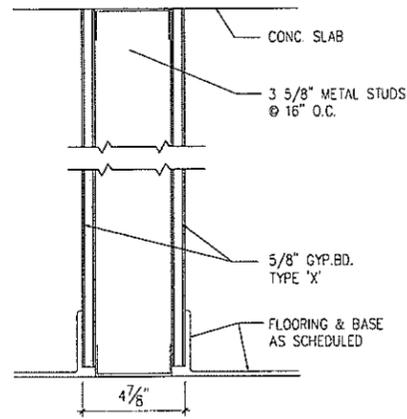
  
 KAZU YATO  
 LICENSED PROFESSIONAL ARCHITECT  
 HAWAII, U.S.A.  
 License No. 12371

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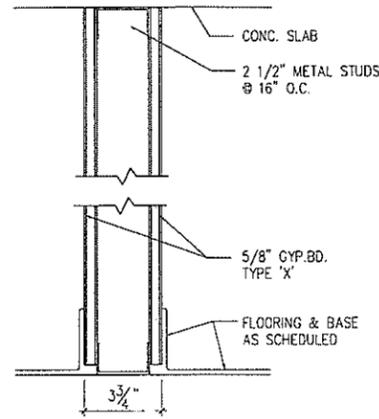
**HOLOMUA**  
 1319 KALAKAUA AVENUE  
 HONOLULU, HAWAII

DOOR DETAILS

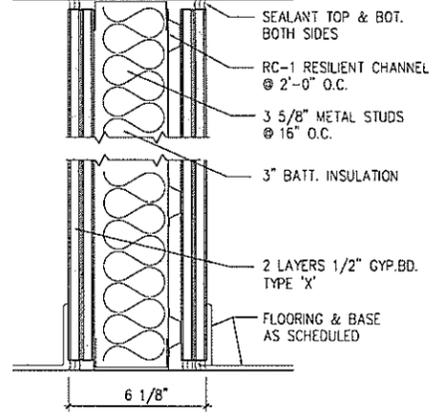
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 2025 KENNEDY DRIVE  
 HONOLULU, HI 96822  
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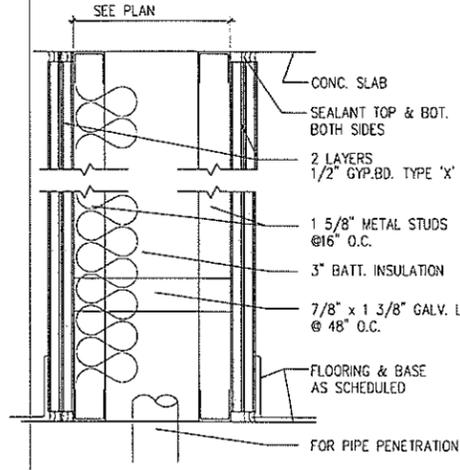
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FIRERATING: ONE HR  
UL DESIGN: #U465  
STC 49



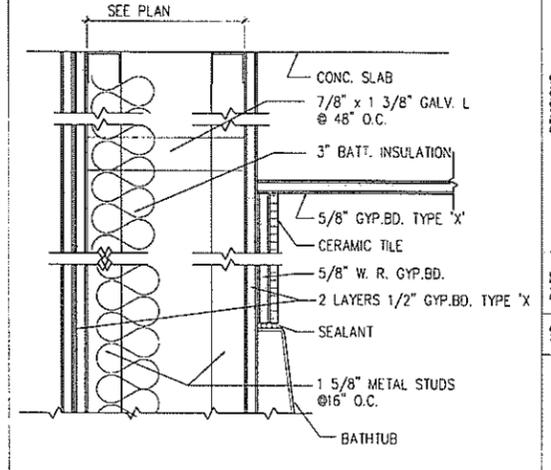
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UL DESIGN: #U465



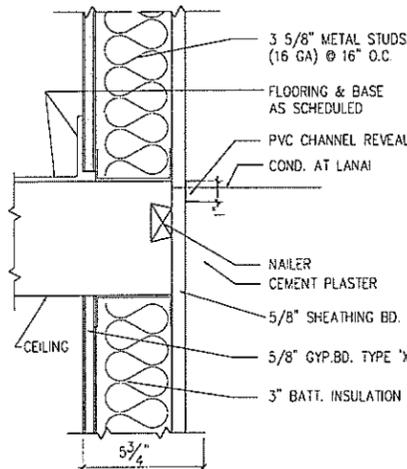
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UL DESIGN: #U454  
STC=60



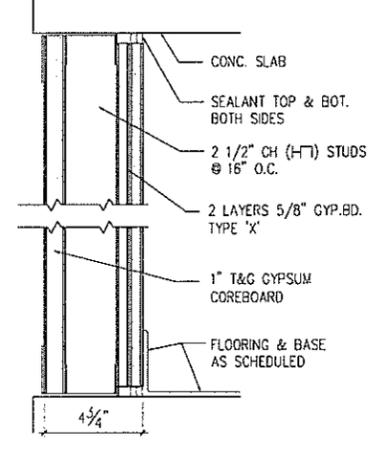
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UL DESIGN: #U412  
STC 55



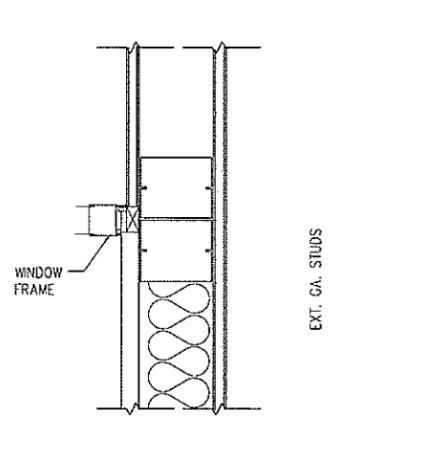
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FIRERATING: ONE HR  
UL DESIGN: #U420



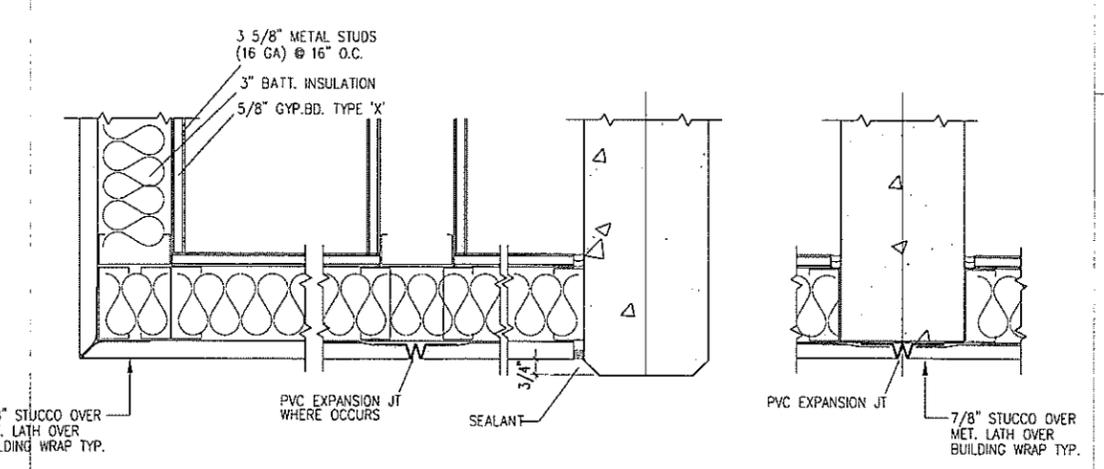
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FIRERATING: ONE HR  
DESIGN: #WP 8005



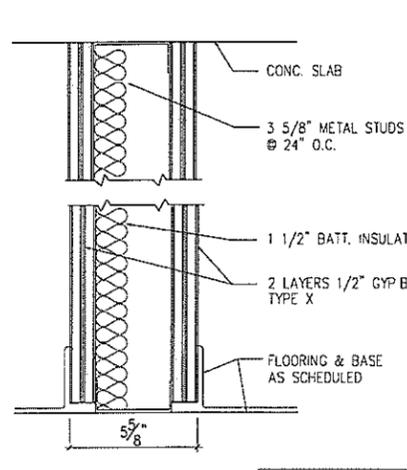
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UL DESIGN: #U438  
STC 40-42



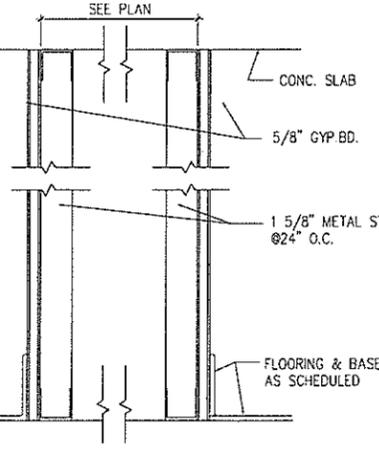
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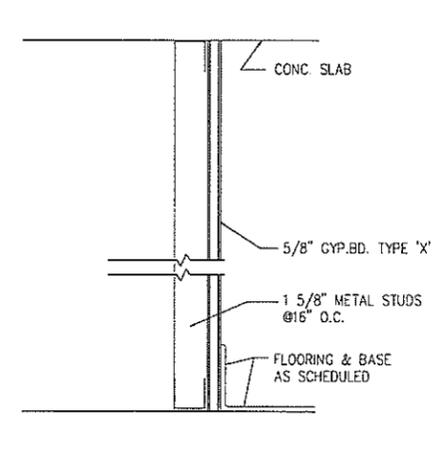
**9 WALL DETAIL**  
A6.2 SCALE 3"=1'-0"  
**9A WALL DETAIL**  
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**9B WALL DETAIL**  
A6.2 SCALE 3"=1'-0"



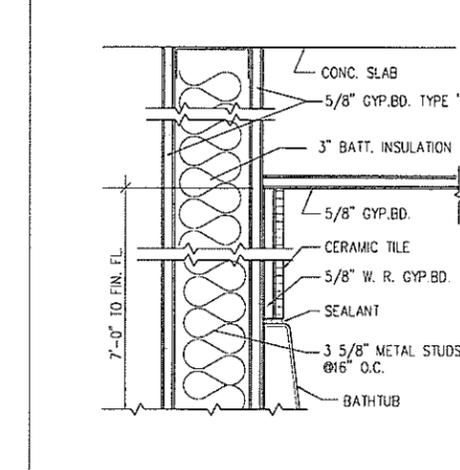
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STC=55



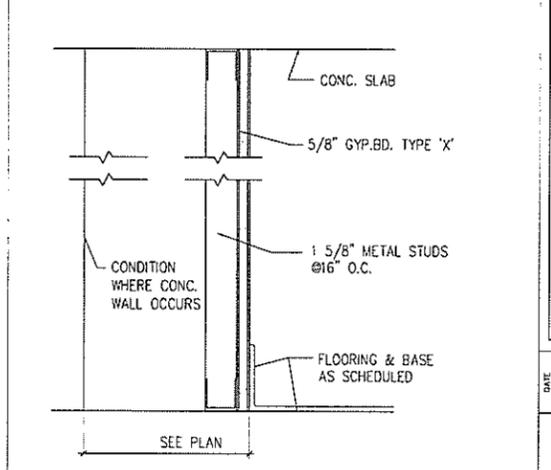
**11 WALL DETAIL**  
A6.2 SCALE 3"=1'-0"  
FIRERATING: 2 HR  
UL DESIGN: #U420



**12 WALL DETAIL**  
A6.2 SCALE 3"=1'-0"



**13 WALL DETAIL**  
A6.2 SCALE 3"=1'-0"



**14 WALL DETAIL**  
A6.2 SCALE 3"=1'-0"  
FIRERATING: ONE HR  
UL DESIGN: #U420

NO.	DATE	REVISIONS

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**A-6.2**

APPENDIX  
ARCHAEOLOGICAL ASSESSMENT

E

**ABSTRACT**

An archaeological Study, including subsurface testing, was conducted on 0.4899-acres of land in Makiki, O'ahu [TMK: (1) 2-4-006: 017 and 018]. The Holomua condominiums, which is located on lands recently utilized for commercial purposes, is slated for a single structure residential condominium on these adjoined tax map keys. No Historic properties were present on the surface of the parcel. Representative subsurface testing revealed that all of the excavated trenches were composed of two strata: the lower stratum was partially impacted by past excavations, possibly related to the construction of the structures previously located on the Property, while the upper stratum was composed of imported fill matrices. With the exception of a few pieces of Historic-type debris (glass and ceramic sherds; combined total N=7) recovered from disturbed subterranean contexts and structural demolition debris observed, no archaeological sites were identified. Adequate documentation of the Property has been completed and no further archaeological work is deemed necessary.

**AN ARCHAEOLOGICAL ASSESSMENT REPORT  
OF 0.4899-ACRES OF LAND IN MAKIKI, ILI OF PAWA`A,  
MAKIKI AHUPUA`A, HONOLULU DISTRICT,  
ISLAND OF O`AHU, HAWAII  
[TMK (1) 2-4-006: 017 AND 018]**

Prepared by:  
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and  
Robert L. Spear, Ph.D.  
Revised April 2008

Prepared for:  
Mr. Serge Krivatsy  
THM Partners LLC  
615 Piikoi Street, Suite 808  
Honolulu, HI 96814

TABLE OF CONTENTS

ABSTRACT..... ii

TABLE OF CONTENTS..... iii

LIST OF FIGURES ..... iv

INTRODUCTION ..... 1

GEOGRAPHIC SETTING..... 1

PROPERTY SOILS ..... 5

PROPERTY VEGETATION..... 5

CLIMATE..... 7

SETTLEMENT PATTERN AND LAND USE PERIOD ..... 7

ORAL HISTORY ..... 7

EARLY TO MID-HISTORIC PERIOD ..... 9

TWENTIETH CENTURY AND CURRENT LAND USE..... 11

PREVIOUS ARCHAEOLOGY..... 11

EXPECTED FINDINGS ..... 14

METHODOLOGY ..... 15

FIELD METHODOLOGY ..... 15

LABORATORY METHODOLOGY ..... 15

FIELDWORK RESULTS..... 15

STRATIGRAPHIC TRENCH 1 (ST-1) ..... 16

STRATIGRAPHIC TRENCH 2 (ST-2) ..... 16

STRATIGRAPHIC TRENCH 3 (ST-3) ..... 19

STRATIGRAPHIC TRENCH 4 (ST-4) ..... 19

STRATIGRAPHIC TRENCH 5 (ST-5) ..... 20

STRATIGRAPHIC TRENCH 6 (ST-6) ..... 20

STRATIGRAPHIC TRENCH 7 (ST-7) ..... 21

STRATIGRAPHIC TRENCH 8 (ST-8) ..... 21

STRATIGRAPHIC TRENCH 9 (ST-9) ..... 22

RECOMMENDATIONS ..... 25

REFERENCES ..... 26

APPENDIX A : LAND GRANT DOCUMENT ..... A

APPENDIX B: 20<sup>TH</sup> CENTURY DOCUMENTATION OF LAND TRANSFER FOR TAX  
MAP KEYS (1) 2-4-006: 017 AND 018 ..... B

APPENDIX C: ARTIFACT DESCRIPTION AND PHOTO ..... C

LIST OF FIGURES

Figure 1: USGS Honolulu Quadrangle Map Showing Property Location..... 2

Figure 2: Tax Map Key [TMK] (1) 2-4-006 Showing the Property Location..... 3

Figure 3: Google Earth Satellite Image Showing Property Location..... 4

Figure 4: Merged Photographs Showing the Property Over View..... 6

Figure 5: Ca. 1881 Map of Waikiki Showing Open-Air Makiki Stream Near the Property..... 8

Figure 6: USGS Honolulu Quadrangle Showing Locations of Selected Archaeological Sites... 12

Figure 7: Property Plan View Map Showing Locations of Stratigraphic Trenches and Various  
Obstacles..... 17

Figure 8: ST-9 South Wall Stratigraphic Sectional Profile Drawing..... 22

Figure 9: Photograph of ST-9 South Wall Stratigraphic Sectional Profile Drawing..... 23

## INTRODUCTION

At the request of Mr. Serge Krivansky of THM Partners, LLC., Scientific Consultant Services, Inc. (SCS) performed an Archaeological Inventory Survey on 0.4899-acres of land within the *āhupuaʻa* of Makiki, if of Pāwa ʻa, Honolulu District (formerly Kona District), Island of Oʻahu, Hawaii; [Tax Map Keys (1) 2-4-006: 017 and 018 (the Property)] (Figures 1 and 2). Fieldwork was conducted on February 7 and 8, 2008 by SCS archaeologists Trisha Drennan, M.Sc., and Guerin Toms, B.A., under the direction of the Principal Investigator Robert L. Spear, Ph.D. Archaeological work was performed in order to investigate the presence or absence of archaeological features and subsurface midden deposits, and to assess the function, age, and construction methods of any features or deposits. Initially, this project was conducted as an Archaeological Inventory Survey; however, because the results of the survey were negative for archaeological sites, the results are being presented in this report as an Archaeological Assessment.

According to the City and County of Honolulu's Real Property Assessment and Tax Billing Information website, the Property is comprised of two tax map parcels: TMK: (1) 2-4-006: 017 (0.2308-acres) and TMK (1) 2-4-006: 018 (0.2591-acres). The development of the Property has been named as the Holomua condominiums and is comprised of a single structure, high-rise condominium that will contain a minimum of 168 residential units. Utilizing heavy equipment, construction will impact the current ground surface ranging to depths of 1.52 meters (5 feet) to 2.44 meters (8 feet) below surface.

## GEOGRAPHIC SETTING

The Property occurs between 10 and 30 feet above mean sea level along the leeward coast of south Oahu. The main body of the Property is bordered by a combination of a major thoroughfare, commercial and residential lands (Figure 3). Kalakaua Avenue, a frequently trafficked road, is located on the Property's western flank. A 7-Eleven store is located on the southern side [TMK: (1) 2-4-006: 016] of the Property while other commercial entities occupy the east [TMK: (1) 2-4-006: 006 and 004] and north [TMK: (1) 2-4-006: 005] flanks. The north flank of the Property is also shared by a large residential condominium identified as the Kulana Hale. Both tax map keys have a narrow easement that provides access to the main body of the Property from Beretania and Young Streets (see Figure 2).

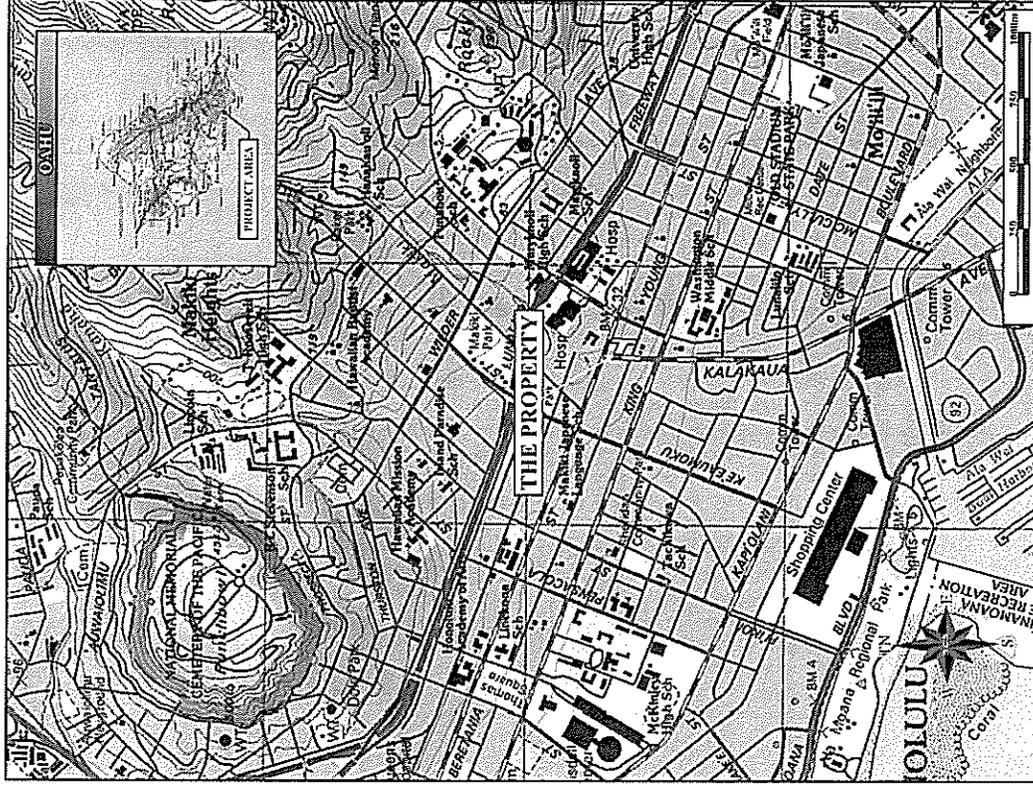


Figure 1: USGS Honolulu Quadrangle Map Showing Property Location.



Figure 3: Google Earth Satellite Image Showing Property Location.

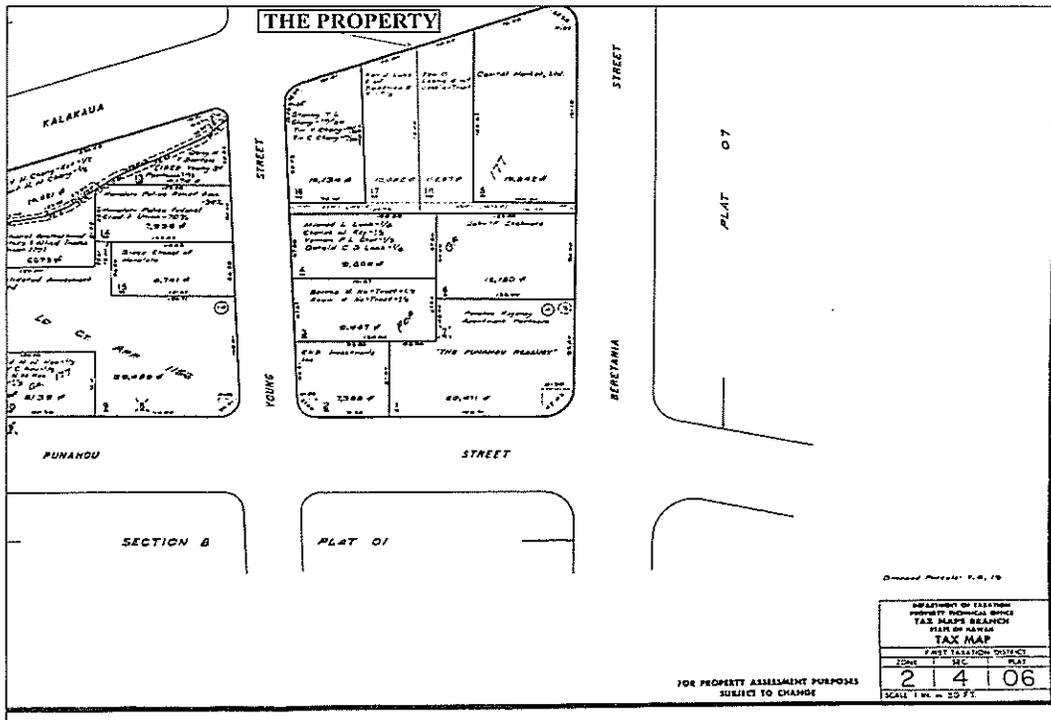


Figure 2: Tax Map Key [TMK] (1) 2-4-006 Showing the Property Location.

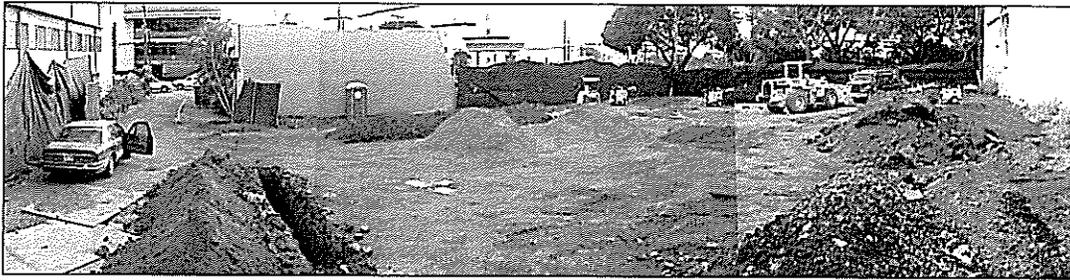


Figure 4: Merged Photographs Showing the Property Over View.

No natural features exist on the Property as extensive alteration occurred during the demolition process of the commercial structures that occupied the Property prior to being subjected to the current archaeological work. Currently, shrubs and low vegetation cover portions of the Property while other portions are occupied by Jas W. Glover (a local general contracting company) heavy equipment associated with piles of used and unused asphalt—some of which were relocated so the Archaeological Assessment could be conducted (Figure 4).

#### PROPERTY SOILS

According to Foote *et al.* (1972:62), the Property is situated within the matrix described as Makiki clay loam (MkA). Makiki clay loam with 0 to 2 percent slopes exists on smooth fans and terraces are also found with rock (basalt) fragments and cinders. Permeability of these soils is moderately rapid with slow runoff and is considered to pose a slight erosional hazard. The acidity of MkA soils is considered medium to strong. Roots in this type of soil can reach to depths of greater than 5 feet.

Subsurface testing of MkA soils within the Property revealed similar but different soil layers (N=2) interpreted as imported matrices (Layer I) with man-made debris (*e.g.*, trash) and disturbed *in situ* (Layer II) mixed with non-local material (*i.e.*, calcareous sand). Roots extending into the Property from trees located outside of the Property's west flank were observed, as stated by Foote *et al.* (1972). Unlike the profile done by Foote *et al.* (1972), excavations during the current survey revealed a lack of cinder; only basalt fragments were observed.

#### PROPERTY VEGETATION

Displayed on the Property were mainly non-native vegetation that included spiny amaranth (*Amaranthus spinosus*), false mallow (*Malvastrum coromandelianum*), hairy abutilon (*Abutilon grandifolium*), prickly sida (*Sida spinosa*), swollen fingergrass (*Chloris barbata*), sandbur (*Cenchrus echinatus*), little ironweed (*Vernonia cinerea*), coat buttons (*Tridax procumbens*), Flora's paintbrush (*Emilia fosbergii*), garden spurge (*Chamaesyce hirta*), ivy gourd (*Coccoloba grandis*), *kili 'o opu* (*Xyilinga nemoralis*), *uhaloa* (*Waltheria indica*), purslane (*Portulaca oleracea*), *Boerhavia coccinea*, and various other vegetation species. Just outside of the western boundary of the Property, next to Kalakaua Avenue, a tree root system has penetrated the Property and was observed in a few of the excavations that were conducted during the current survey.

## CLIMATE

The area in which the Property lies is the dry region of O'ahu's southern area. Rainfall indicators, according to Price (1983:62), relayed that the Property usually receives about 5 inches a year during December and January. Higher elevations within the Makiki Ahupua'a are prone to receive more precipitation due to fog drip and lower temperature climates. Currently, the Property does not receive large amounts of upland wash as the Makiki Stream has been confined to a subterranean context—at least where the Property is located. The closest portion of the Makiki Stream that is open-air is located approximately 250 feet to the north. Maps of the late nineteenth century indicate that the Makiki Stream was once open-air and passed where Kalakaua Avenue now lies on the western side of the Property (Figure 5).

## SETTLEMENT PATTERN AND LAND USE PERIOD

The presentation of general *ahupua'a* settlement patterns is varied given that many theories suggested in Hawaiian archaeology have geographic and topographic aspects taken into consideration when determining *ahupua'a* settlement patterns. *Ahupua'a* land divisions vary in size but generally encompass land from the mountain to the sea, thereby allowing access to marine and mountain resources. For more discussions regarding general *ahupua'a* settlement patterns, please consult Kirch (1985) and Cordy (1974a; 2002:8). In lieu of a presenting a general *ahupua'a* settlement pattern, a settlement pattern—one that utilizes historical (i.e., post-1778 Western Contact) and oral documentation with archaeological documentation—is compiled in this report with regards to the *ahupua'a* of Makiki within which the Property is situated.

The settlement pattern, and timing of land utilization, may be conveniently (and arbitrarily) divided into several general periods: pre-Contact settlement, the early Historic period/early post-Contact, the recent Historic, and present land use. Together, these periods create a synthesis of land use in and near the Property as well as provide a basis on which researchers explored succinct research questions during reconnaissance and sampling work.

## ORAL HISTORY

In *Place Names of Hawaii*, Pukui *et al.* (1974: 182) offer the following: Pāwa'a, the 'ihi (smaller than *ahupua'a* land division), translates literally as "canoe enclosure". Although there are many interpretations regarding the meaning of the name for the area in which the Property is situated, none could be more substantiated than another. Drennan (2007) suggests that "One interpretation of this name is that canoes were brought from the sea by canal up to this area." Makiki, the *ahupua'a*, may refer to "a type of stone used as weights for octopus lures" (*ibid.*:142). The oral interpretations of Pāwa'a and Makiki obtained from Pukui *et al.* (1974)

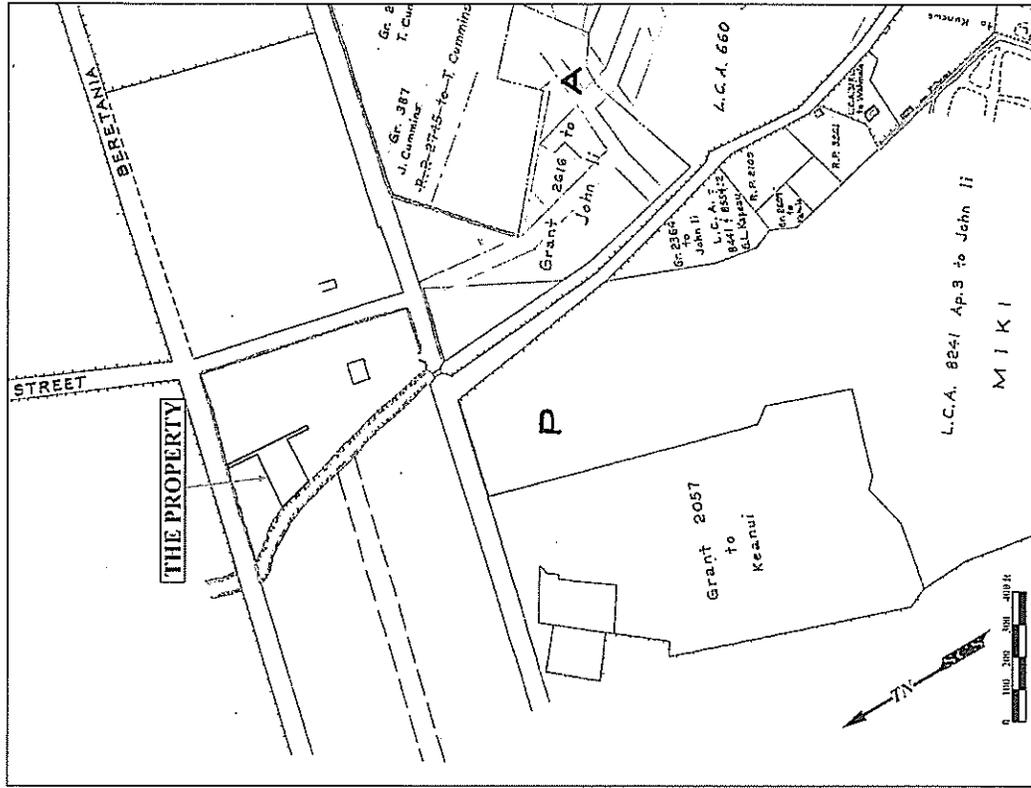


Figure 5: Ca. 1881 Map of Waikiki Showing Open-Air Makiki Stream Near the Property.

remain consistent with seafaring and water dependent subsistence strategies, and further suggest that the area in which the Property is located might have had some type of connection with such water-type activities. However, given the geographic location of Pawa'a and Makiki, it would seem unlikely that such activities associated with seafaring and associated subsistence strategies (e.g., fishing and seafood collecting) were conducted. The more likely reason for such translations could be attributed to folks of those communities that conducted such activities rather than brought those activities to the area specific.

In *Sites of Oahu*, Sterling and Summers (1978) offer a compendium of Traditional archaeological sites, place names, legends, and oral history from pre-Contact to early Historic times, and list three brief stories regarding use of areas *manuka* of the Property (Papakolea, Mauna-laha, and Pauoa) (*ibid*:290). Two of these three stories include geological features (i.e., stones) which are unknown today if they were included into the Hawaiian archaeological record as archaeological sites. Excluding the single landmark (Pohaku-o-Papakolea), two of these stories are located in named, but vague locations.

#### EARLY TO MID-HISTORIC PERIOD

Initial research utilizing the Property tax map did not reveal the presence of Land Commission Awards (LCA) within the Property. However, the Property is a part of Land Grant 177 (see Figure 2 and Appendix A). According to Waihoana 'Aima, an on-line database of Hawaiian landholdings, Land Grant 177 was purchased by Peter J. Gulick in 1849 for \$61.50. Oddly, documentation for Land Grant 177 includes only 3 tax map keys (TMK 1-2-8-02, 1-2-8-03, and 1-2-4), none of which correspond with the location of the Property. However, there is mention in the grant document that states "King & Beretania sis" which partially corresponds with the Property location. TMK (1) 2-4-006 relays that 2 portions of Land Grant 177 exist; one is located at the northwest corner of the King and Punahou Street intersection, while the other portion is bounded by Kalakaua Avenue, Beretania, Punahou, and Young Streets. In any case, the grant document did not give insight as to what type of activities occurred on the land (i.e., where the Property is situated) at the time of the purchase by Mr. Gulick.

Land Grant 177 aside, there are at least six LCA within a quarter-mile radius of the Property (Table 1). The utilization of these particular LCA was identified as house lots (some with auxiliary type features such as travel paths, walls/fences and mammals) rather than the agricultural-type subsistence (e.g., the growing of sweet potato and taro) that Handy and Hardy (1972) had gleaned from various resources that include observers such as Otto von Kotzebue and Abraham Formander who documented the landscapes of the greater Honolulu area during the 1800s and the early 1900s.

Table 1: Land Commission Awards within a Quarter-mile of TMK (1) 2-4-006: 017 and 018.

GENERAL TMK	LCA NUMBER	CLAIMANT NAME	LCA UTILIZATION
(1) 2-3-026	264	Thomas Cummings	House Lot
(1) 2-4-011	387	American Board of Commissioners for Foreign Missions	Unknown; not stated
(1) 2-4-005	529	George Hyatt	House Lot
(1) 2-3-018	3134	William Hodge	House Lot
(1) 2-4-005	3135	James Walker	House Lot, Road/Path, Wall/Fence
(1) 2-4-005	3727	Manuwai	House Lot, Road/Path, Mammals

The type of agriculture that took place in the greater plains of Honolulu was predominantly identified as taro where land conditions (i.e., alluvial fans) were ideal for such a crop relays F.J.F Meyen in Handy and Handy (1972:479). Kotzebue in Handy and Handy (1972) also commented on the valleys upslope of the plains stating that:

Woojoo is the most fertile of the Sandwich Islands, from which Owhyee receives a part of the taro necessary for its consumption. The cultivation of the valleys behind Hanarua is remarkable; artificial ponds support, even on the mountains, the taro plantations, which are at the same time fish ponds; and all kinds of useful plants are cultivated on the intervening dams.

Handy and Handy (1972) also contributes by commenting on the sweet potato cultivation upslope of the Property.

The steep cinder-covered sides of Round Top and Makiki Heights were famous for their sweet-potato plantations. The old Hawaiian name for this area was 'Ujalaka a meaning 'Rolling-sweet-potato'....Kamehameha revived the use of this locality for sweet-potato cultivation....Sweet potatoes flourish in volcanic cinders, with a little infiltration of humus, and in crumbling lava.

The documentation of oral history provided by several nineteenth observers suggests that taro and similar crops could have been cultivated in the Property given the close proximity to Makiki Stream. Although the presence of nearby LCAs suggests that houses dotted the area during the mid-1800s, it seems the dominant, at least the most visible, activity surrounding and including the Property would be agriculture.

## TWENTIETH CENTURY AND CURRENT LAND USE

Post-purchase of the Land Grant 177 in 1849, no documents were found regarding land transfer of TMKs (1) 2-4-006: 017 and 018 until those created during the mid-twentieth Century (Appendix B). According to documents found in the Tax Maps Branch of the State of Hawaii Department of Taxation Property Assessment Division, TMK (1) 2-4-006: 017 (10,052 square feet) was owned by Yau King Kau who sold it in 1946 to Kan Jung Luke and his wife Beatrice Sung Yee. No further transactions are listed until 1968, when Chinn Ho and his spouse Betty Ching had a quitclaim deed and relinquished their Property rights to the same people who bought the Property from Yau King Kau (*i.e.*, Kan Jung Luke and his wife Beatrice Sung Yee). The tax maps branch history sheet did not previously identify Chinn Ho and his spouse being owners of TMK (1) 2-4-006: 017. In any case, the 1968 land transaction seemed to be the last transaction found in the Tax Maps Branch of the Property Assessment Division. According to the City and County of Honolulu's Real Property Assessment and Tax Billing Information website, the current land owner of TMK: (1) 2-4-006: 017 is Geneva Commons LLC of Santa Ana, California.

Like TMK (1) 2-4-006: 017, TMK (1) 2-4-006: 018 had a similar situation regarding documentation of land transfer ownership; no documentation was available regarding the transfer of land from P. Gulick to the second documented owner identified as Yau On Leong and his wife Jessie S. During the 1960s, Yau On Leong and his wife Jessie S. conducted several transactions with Cooke Trust Company LTD, *et al.* Chinn Ho and his wife in 1968 had a quitclaim deed and relinquished their Property rights to Yau On Leong and spouse Jessie. Again, the tax maps branch history sheet did not previously identify Chinn Ho and his spouse being owners of the TMK (1) 2-4-006: 018. At an unknown point in time following the 1968 transaction by Chinn Ho, Geneva Commons LLC acquired the 11,287 square foot TMK.

## PREVIOUS ARCHAEOLOGY

As stated, no previous archaeological studies have been conducted on the Property. However, the following is a sample of archaeological studies conducted within the *ahupua'a* of Makiki. Figure 6 shows the location of these studies discussed below.

McAllister (1933), who conducted one of the earliest O'ahu archaeological surveys utilizing resources such as T.G. Thrum, J.F.G. Stokes, A. Formander, and W.D. Westervelt, recorded no archaeological sites in or in the immediate vicinity of the Property. His sources, however, did relay abundant information regarding various locations *mauka* and *makai* of the Property. Kirch (1985), in his classic study of Hawaiian archaeology, also had no specific mention to the Property locale.



Figure 6: USGS Honolulu Quadrangle Showing Locations of Selected Archaeological Sites.

Tulchin and Hammatt (2004) conducted background research and a field inspection of multiple parcels bounded by Ala Moana Beach Park to the south, Ward Avenue to the northwest, Kalakaua Avenue to the east, and King Street to the north. Their research suggests this general area was an extensive wetland in Traditional times, utilized by Native Hawaiians for fishponds and wetland agriculture. Rice farming was introduced in the later nineteenth century. Dredging and filling of this area was conducted in the early twentieth century. Traditional Period native Hawaiian burials have been documented within Tulchin and Hammatt's study area.

Dreman (2007) conducted an Archaeological Inventory Survey on TMK: (1) 2-4-005: 026 and 027, approximately 300 meters to the west of the Property. The results of that study revealed a single Historic site (State Site 50-80-14-6909) that was relatively dated via glass artifacts (primarily bottles and jars) from the late nineteenth to the mid-twentieth centuries.

Human remains and burials have been documented in several other nearby studies, including the following:

- Sinoto (1979) reported on two burials discovered inadvertently in trenching operations at TMK: (1) 2-4-022: 001 labeled the "Makiki Hawaiian Sugar Planters' Association Experiment Station Burials". Two individuals were found buried in an early Historic context, in dark brown clay loam. The site was designated State Inventory of Historic Places No. 50-80-14-2298 (also known as '50-0a-A5-7' in the B.P. Bishop Museum's numbering system). Site -2298 is located just *marika* of the H-1 Interstate Highway, between Keeaumoku Street, the H-1, Makiki Street, and Wilder Avenue, and is north of the Property.
- Jourdane (1997) documented several burials located in the vicinity of TMK: (1) 2-5-004: 010 in Mānoa.
- Sinoto's (2000) Archaeological Assessment of the 10.5-acre proposed Wal-Mart/Sam's Club Development Area along Keeaumoku Street (TMK: (1) 2-3-16: 009, 012, and 042) included background research and field inspection, but no subsurface testing. Subsequent Archaeological Monitoring resulted in the recovery of several dozen Traditional Period native Hawaiian burials. The results of this on-going project have not been finalized.
- Wineski and Hammatt (2000) documented two Historic Period coffin burials (State Sites 50-80-14-5598) on Kamakee Street between the intersections of Kawaiahao and Waimanu Streets. These adjacent burials were found in a natural (undisturbed) beach sand deposit, which was located under an old ground surface 'A' horizon, and construction fill and pavement.

- Souza *et al.* (2002) documented three burials in Kaka'ako (State Sites 50-80-14-6376, -6377, and -6378).

The historical documentations of the nineteenth and early twentieth centuries, combined with sampled archaeological studies, provide much some insight into the nature of Traditional and historical activities occurring within and near the Property. Through past archaeological research, oral traditions, and historical records, the chronology and settlement pattern of the Makiki *ahupua'a* may be brought into focus.

Generally speaking, the Property is situated in the mid-section of the Makiki *ahupua'a*, where agricultural-type activities (Traditional to early Historic times) would have likely been pursued. Although sporadic, the presence of residential houses in Historic times marked the transition of the area from such activities to urbanization while simultaneously establishing random loci of human burial plots. Previously intact Traditional-type archaeological features (*i.e.*, *heiau*, enclosures, platforms, walls, and including forgotten burial locations) would likely have been adversely impacted during the urbanization thereby giving way to the irrevocable loss of such cultural resources.

#### EXPECTED FINDINGS

The Property was expected to be dominated by introduced fill layers, especially in the upper portions of the stratigraphy given the presence of above ground structures shown in Google Earth (2008) aerial photographs taken prior to the current archaeological study. Below these fill layers, late nineteenth century maps that provided documentation of the once open-air Makiki Stream on the western flank of the Property suggested natural deposits could be intact in the form of stream-type debris (basalt cobbles and pebbles). Documentation of oral history provided by several nineteenth observers relayed that taro and similar crops could have been cultivated in the Property given the close proximity to the Makiki Stream. Human burials were not expected to be found during the current archaeological study also based on the same presumption. Land Commission Awards in the vicinity of the Property also relayed use of various land plots as house lots. The presence of such cultivation practices may have remained in the form of agricultural-type soils (*i.e.*, soils that retain charcoal remnants). Historic artifacts (*e.g.*, ceramic and bottle glass sherds) are also expected during excavation of the Property due to the various change of ownership during the mid-twentieth century.

## METHODOLOGY

### **FIELD METHODOLOGY**

Fieldwork was conducted on February 7 and 8, 2008 by SCS archaeologists Trisha Drennan, M.Sc., and Guerin Tome, B.A., under the direction of the Principal Investigator Robert L. Spear, Ph.D.

Multiple field tasks were completed during the field survey. First, a pedestrian survey was conducted in order to identify archaeological sites and assess Property geographical features. Second, vegetation within the Property was identified using Whistler (1995). Interval spacing of five meters between SCS personnel was employed to ensure adequate coverage of the Property during the survey. Finally, mechanically excavated stratigraphic trenches (ST) were placed in order to locate and subsurface archaeological deposits. These stratigraphic trenches were placed on a contractor provided plan view map showing the sampled horizontal area within the Property confines. Soil stratigraphy encountered during excavation was documented utilizing metric graph paper and United States Department of Agriculture (USDA) *Munsell Soil Color Charts*. All measurements were recorded in metric. If found, portable archaeological materials—soils sampled included—were collected and recorded with applicable provenience and placed in plastic and paper bags for laboratory analysis.

### **LABORATORY METHODOLOGY**

All field notes, digital photographs, and collected archaeological materials (including those materials suspected of being archaeological in nature) were curated at the SCS laboratory in Honolulu. All stratigraphic profiles have been drafted for presentation within this report. Representative plan view sketches showing location and morphology of identified sites/features/deposits were illustrated. All retrieved artifacts were cleaned, sorted, and analyzed. All metric measurements and weights were also recorded for quantitative analysis. All data were clearly recorded on standard laboratory forms.

## FIELDWORK RESULTS

The current archaeological investigation did not identify any archaeological sites through pedestrian survey or subsurface testing. The two areas that were unable to be excavated were the two asphalt alleys that are currently utilized as driveways and are considered crucial to the current operation of the Property and nearby businesses. The presence of used and new asphalt piles and heavy equipment on the Property did not hamper archaeological investigations. Nine stratigraphic trenches were strategically placed in order to investigate the subsurface deposits of the Property. The trenches revealed two stratigraphic layers. Demolition debris from previous

commercial structures was present within Layer I for all stratigraphic trenches placed throughout the Property (Figure 7).

Layer II, with some variation, was generally the same throughout the sampled Property which suggests the disturbance of the *in situ* soil was selective (*i.e.*, excavation for the Property's previous above structures occurred at pre-selected areas rather than the entire Property being excavated down to grade). Layer II provided no cultural material (modern debris included). Thus, excavation terminated. A total of seven Historic-type artifacts (six ceramic sherds and 1 glass sherd) were recovered from trench backfill piles. These artifacts were analyzed, digitally photographed and are displayed in this report within Appendix C. Table 2 summarizes the general results of the nine stratigraphic trench excavations below followed by detailed excavation matrix descriptions. Since the nine stratigraphic trenches contained relatively similar strata, only one representative photograph and stratigraphic profile (ST-9) will be utilized in this report to portray strata found in the Property.

### **STRATIGRAPHIC TRENCH 1 (ST-1)**

ST-1 was placed in the northwest quadrant of the Property on an area that was relatively level. The ground surface, which has been altered via mechanical means as a result of demolition activities, is partially covered by low vegetation and basalt gravel. The excavation of ST-1 revealed a total of two strata. Layer I (0–125 cmbs) was a semi-compact, very fine to very coarse crumbly structured, dark brown (10YR 3/3, moist) silty clay loam with approximately 20 percent of its matrix composed of imported basalt gravel and cobble fill. Modern debris such as metal, glass, and a red clay pipe fragment (probable pottery sherd) was observed coming from the excavation of Layer I. A sampled stratigraphic profile of the trench's west wall suggested that Layer I was the most impacted of the two strata within the trench due to the presence of imported material (*i.e.*, basalt gravel) and modern debris. Layer II (125–191 cmbs) was a compact, very fine to coarse crumbly structured, dark yellowish brown (10YR 3/4, moist) silty clay with approximately 10 percent of its matrix comprised of imported basalt cobbles. The lack of cultural material (modern debris included) suggests that Layer II had not been impacted and could therefore be considered as having not been disturbed. Thus, excavation was terminated.

### **STRATIGRAPHIC TRENCH 2 (ST-2)**

Like ST-1, ST-2 was placed on the Property's northwest quadrant slightly perpendicular to the south of ST-1, in an area that was considered relatively level and covered by imported basalt gravel. The excavation of ST-2 revealed a total of two strata. Layer I (0–87 cmbs) was a semi-compact, very fine to very coarse crumbly structured, mottled dark brown (7.5YR 3/2, moist)

Table 2: Summary of Stratigraphic Trenches Excavated on TMK: (1) 2-4-006: 017 and 018.

Unit	Orientation (magnetic)	Horizontal Dimensions (m)	Maximum Depth (m)	Strata Amount	Archaeological Material Observed	Additional Comments
ST-1	170°350°	9.4 x 0.45	1.87	2	None	Layer I contains modern debris, Layer II not disturbed
ST-2	38°268°	10.0 x 0.45	1.50	2	None	Layer I contains modern debris, Layer II not disturbed
ST-3	106°236°	10.5 x 0.45	1.55	2	None	Layer I contains modern debris, Layer II not disturbed
ST-4	151°331°	9.5 x 0.45	2.00	2	3 Porcelain cup sherds	Layer I contains modern debris, Layer II not disturbed
ST-5	78°258°	10.1 x 0.45	1.70	2	3 Porcelain bowl sherds	Layer I contains modern debris, Layer II contains calcareous sand inclusions
ST-6	175°355°	5.1 x 0.45	1.55	2	None	Layer I contains modern debris, Layer II not disturbed
ST-7	81°261°	5.0 x 0.45	1.43	2	None	Layer I contains modern debris, Layer II not disturbed
ST-8	107°190°	8.0 x 0.45	1.60	2	None	Layer I contains modern debris, Layer II not disturbed
ST-9	99°279°	12.0 x 0.45	1.60	2	1 Bottle Glass Shard	Layer I contains modern debris, Layer II contains calcareous sand inclusions

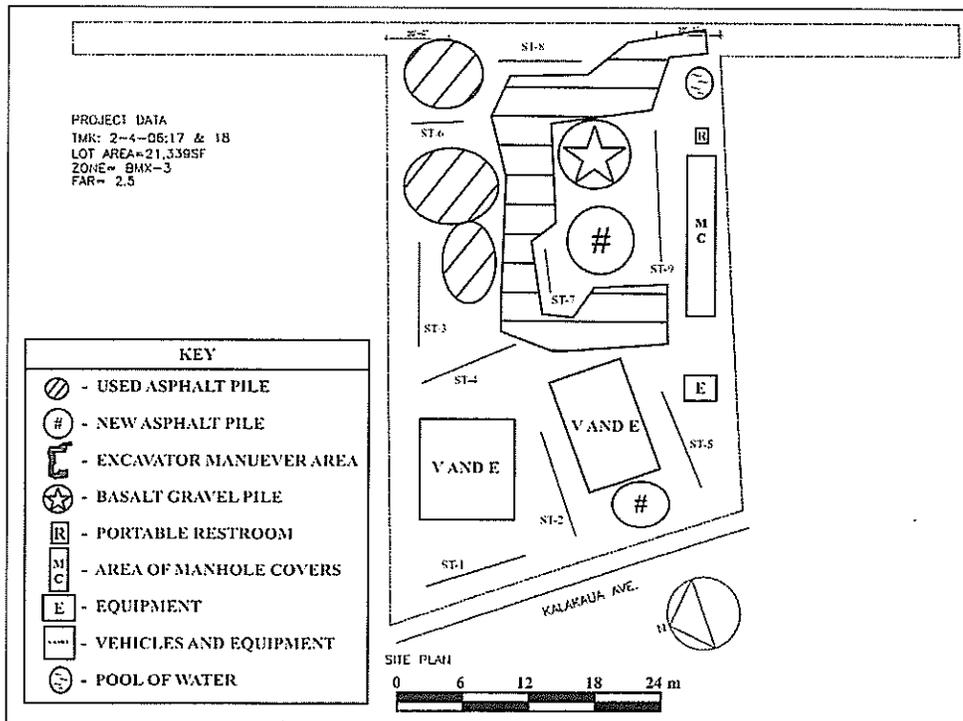


Figure 7: Property Plan View Map Showing Locations of Stratigraphic Trenches and Various Obstacles.

silty clay loam and dark brown (10YR 3/3, moist) clay silt with sub-rounded basalt pebble pockets and vegetative roots (<2 mm diameter). Layer I also contained modern debris such as glass, metal (e.g., subsurface utility pipes, copper wire), and white tile. A few sub-rounded basalt cobbles were also observed within Layer I. Mirroring the stratigraphic profile of ST-1, the sampled stratigraphic profile of the trench's north wall suggested that again, Layer I was the more impacted of the two exposed strata due to the presence of imported material and modern debris. Layer II (87-163 cmbs) was a compact, very fine to coarse crumbly structured, dark brown (10YR 3/3, dry) clay silt. The lack of cultural material (modern debris included) suggests that Layer II had not been impacted and could therefore be considered as having not been disturbed. Thus, excavation was terminated.

#### **STRATIGRAPHIC TRENCH 3 (ST-3)**

ST-3 was placed in the north-half of the Property, near the Property's north boundary specifically in an area that was considered relatively level and covered by imported basalt gravel. The excavation of ST-3 revealed a total of two strata. Layer I (0-85 cmbs) was a semi-compact, very fine to very coarse crumbly structured, mottled dark brown (7.5YR 3/2, moist) silty clay loam and dark brown (10YR 3/3, moist) clay silt with sub-rounded basalt pebble pockets and vegetative roots (<2 mm diameter). Layer I also contained a piece of copper wire and a few sub-rounded basalt cobbles. The sampled stratigraphic profile of the trench's south wall suggested that Layer I was the more impacted of the two exposed strata due to the presence of imported material and modern debris. Layer II (85-155 cmbs) was a compact, very fine to coarse crumbly structured, dark brown (10YR 3/3, dry) clay silt. The lack of cultural material (modern debris included) suggests that Layer II had not been impacted and could therefore be considered as having not been disturbed. Thus, excavation was terminated.

#### **STRATIGRAPHIC TRENCH 4 (ST-4)**

ST-4 was placed on the Property's northwest quadrant west of ST-3 specifically in an area that was considered relatively level and covered by imported basalt gravel. The excavation of ST-4 revealed a total of two strata. Layer I (0-100 cmbs) was a semi-compact, very fine to very coarse crumbly structured, mottled dark brown (7.5YR 3/2, moist) silty clay loam and dark brown (10YR 3/3, moist) clay silt with sub-rounded basalt pebble pockets and vegetative roots (<2 mm diameter). Layer I also contained metal (e.g., iron/steel pipe, wire for concrete, a modern spoon and fork) and a few sub-rounded basalt cobbles. The sampled stratigraphic profile of the trench's north wall suggested that Layer I was the more impacted of the two exposed strata due to the presence of imported material and modern debris. Layer II (100-180 cmbs) was a compact, very fine to coarse crumbly structured, dark brown (10YR 3/3, dry) clay silt. The lack

of cultural material (modern debris included) suggests that Layer II had not been impacted and could therefore be considered as having not been disturbed. Thus, excavation was terminated. Three porcelain cup sherds were recovered from the trench backfill, unfortunately from unknown proveniences within ST-4. A definitive conclusion by the SCS Laboratory analysis regarding if these ceramic sherds were indeed archaeological in nature (*i.e.*, greater than 50 years old) could not be reached as these type of sherds can be found in modern trash contexts.

#### **STRATIGRAPHIC TRENCH 5 (ST-5)**

ST-5 was placed on the Property's southwest quadrant specifically on an area that was considered relatively level and covered by imported basalt gravel. The excavation of ST-5 revealed a total of two strata. Layer I (0-120 cmbs) was a semi-compact, very fine to very coarse crumbly structured, mottled dark brown (7.5YR 3/2, moist) silty clay loam and dark brown (10YR 3/3, moist) clay silt with sub-rounded basalt pebble pockets and vegetative roots (<2 mm diameter). Layer I produced a piece of concrete with rebar, likely a piece of foundation from the structure that was previously on the Property prior to the Archaeological Inventory Survey. The sampled stratigraphic profile of the trench's south wall suggested that Layer I was the more impacted of the two exposed strata due to the presence of imported material and modern debris. Layer II (120-170 cmbs) was a compact, very fine to coarse crumbly structured, dark yellowish brown (10YR 3/4, moist) sandy clay silt. The presence of the sand (calcareous-type) inclusions suggests that Layer II was affected by excavation for structures previously located on the Property. Due to the lack of cultural material within Layer II, excavation terminated. Like ST-4, three porcelain cup sherds were recovered from the trench backfill, unfortunately from unknown proveniences within ST-5. A definitive conclusion by the SCS Laboratory analysis regarding if these ceramic sherds were indeed archaeological in nature (*i.e.*, from the Historic Period) could not be reached as these type of sherds can be found in modern trash contexts. However, the various designs and colors of these particular artifacts suggest a Chinese theme and as such, are suspected of being archaeological in nature rather than those ceramic sherds found in ST-4.

#### **STRATIGRAPHIC TRENCH 6 (ST-6)**

ST-6 was placed on the Property's northeast quadrant specifically in an area that was considered relatively level and covered by waste asphalt removed from Young Street and placed on the Property. The excavation of ST-6 revealed a total of two strata. Layer I (0-82 cmbs) was a semi-compact, very fine to very coarse crumbly structured, mottled dark brown (7.5YR 3/2, moist) silty clay loam and dark brown (10YR 3/3, moist) clay silt with sub-rounded basalt pebble pockets and vegetative roots (<2 mm diameter). Other than the demolition debris on the surface

of ST-6, Layer I produced no cultural material. The sampled stratigraphic profile of the trench's west wall suggested that Layer I was the more impacted of the two exposed strata, due to the presence of imported material. Layer II (82–155 cmbs) was a compact, very fine to coarse crumbly structured, dark brown (10YR 3/3, dry) clay silt. The lack of cultural material (modern debris included) suggests that Layer II had not been impacted and could therefore be considered as having not been disturbed. Thus, excavation was terminated.

#### STRATIGRAPHIC TRENCH 7 (ST-7)

ST-7 was placed on the middle portion of Property next to two piles of basalt gravel and new asphalt in an area that was considered relatively level and covered by imported basalt gravel. The excavation of ST-7 revealed a total of two strata. Layer I (0–80 cmbs) was a semi-compact, very fine to very coarse crumbly structured, mottled dark brown (7.5YR 3/2, moist) silty clay loam and dark brown (10YR 3/3, moist) clay silt with sub-rounded basalt pebble pockets and vegetative roots (< 2 mm diameter). Layer I produced a piece of copper wire, plastic, glass, aluminum foil and basalt gravel and mixed matrices. The sampled stratigraphic profile of the trench's south wall suggested that Layer I was the more impacted of the two exposed strata, due to the presence of imported material. Layer II (80–153 cmbs) was a compact, very fine to coarse crumbly structured, dark brown (10YR 3/3, dry) clay silt. The lack of cultural material (modern debris included) suggests that Layer II had not been impacted and could therefore be considered as having not been disturbed. Thus, excavation was terminated.

#### STRATIGRAPHIC TRENCH 8 (ST-8)

ST-8 was placed in the eastern half of the Property, south of the waste asphalt pile located near the northeast corner in an area that was considered relatively level and covered by a degrading asphalt surface. The excavation of ST-8 revealed a total of two strata. Layer I (0–62 cmbs) was a semi-compact, very fine to very coarse crumbly structured, mottled dark brown (7.5YR 3/2, moist) silty clay loam and dark brown (10YR 3/3, moist) clay silt with sub-rounded basalt pebble pockets and vegetative roots (< 2 mm diameter). The excavation of Layer I revealed that an intermittent layer of crushed coral was laid under the current asphalt surface. In addition to the crushed coral, modern debris (e.g., metal) was also observed coming from Layer I contexts. The sampled stratigraphic profile of the trench's east wall suggested that Layer I was the more impacted of the two exposed strata due to the presence of imported material. Layer II (62–145 cmbs) was a compact, very fine to coarse crumbly structured, dark brown (10YR 3/3, dry) clay silt. The lack of cultural material (modern debris included) suggests that Layer II had not been impacted and could therefore be considered as having not been disturbed. Thus, excavation was terminated.

#### STRATIGRAPHIC TRENCH 9 (ST-9)

ST-9 was placed on the southeast quadrant of the Property just south of the new asphalt and gravel piles in an area that was considered relatively level and covered by imported basalt gravel. The excavation of ST-9 revealed a total of two strata (Figures 8 and 9).

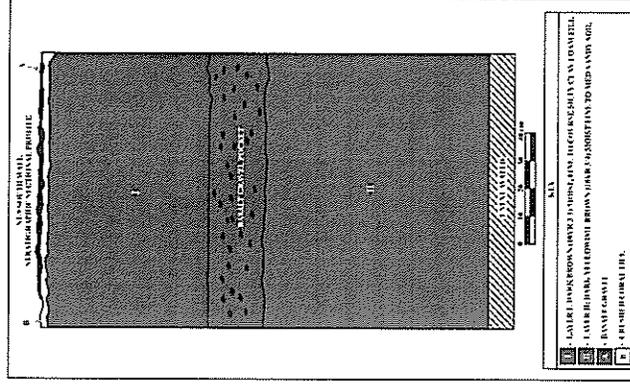


Figure 8: ST-9 South Wall Stratigraphic Sectional Profile Drawing.

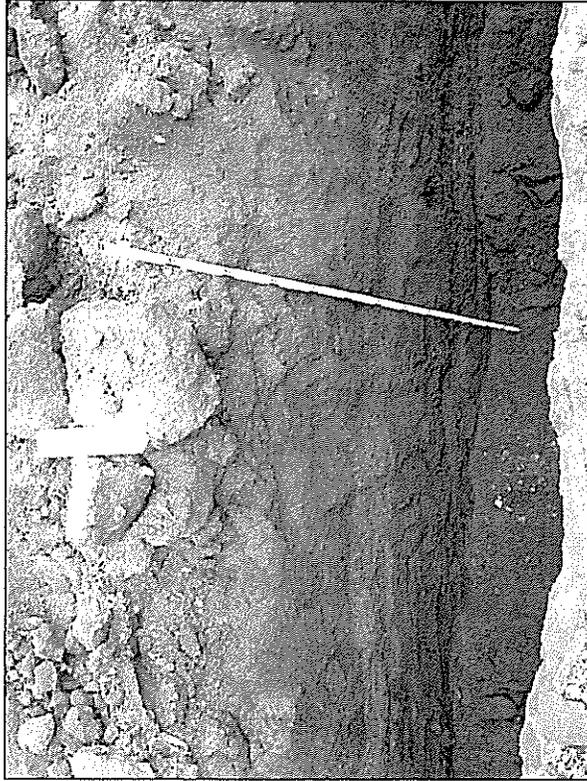
Layer I (0–80 cmbs) was a semi-compact, very fine to coarse crumbly structured, dark brown (10YR 3/3, moist) silty clay loam that contained pockets of imported basalt gravel. The excavation of Layer I revealed the presence of modern debris such as metal (e.g., wire, a pipe), glass, and a 10 percent composition of small-to-medium sized sub-rounded basalt cobbles. The excavation of Layer II also revealed that an intermittent layer of crushed coral was laid under the current surface the old asphalt was probably removed during the partial removal of the parking

## DISCUSSION AND CONCLUSION

Through the pedestrian survey and subsurface testing, the archaeological investigation of the 0.4899-acre Property yielded no archaeological sites. Nine stratigraphic trenches (ST-1 through ST-9) of various lengths and depths were placed at various points throughout the Property to provide sampling of subsurface contexts and to test subsurface soil deposits for human alteration and influence. Excavation results revealed the presence two layers: a disturbed Layer I that consisted of imported matrices and demolition debris; and a minimally disturbed, but mostly intact, Layer II. The presence of calcareous sand, a non-local matrix, in Layer II within Stratigraphic Trenches 5 and 9 suggests the matrix in this stratum was minimally disturbed/impacted by former excavation activities in the southern half of the Property, specifically in TMK (1) 2-4-006: 017. The nine stratigraphic trenches also revealed the dearth of datable organic material (e.g., charcoal, vertebrae and invertebrate remains) necessary for relative dating an archaeological site (given one was identified). The few collected artifacts (N=7; see Table 2) from the backfill of Stratigraphic Trenches 4, 5, and 9 suggests the lack of *in situ* subsurface features containing artifacts—in this case Historic-type (i.e., greater than 50 years old) artifacts combined with the depth of the stratigraphic trenches—failed to support the presence of intact archaeological sites (Traditional or Historic) within the Property.

Based upon previous archaeological research, LCA information, and other limited archival research of historical and oral documentation, several classes of archaeological features were thought to occur within the Property. The location of the Property on the plains of *mauka* Honolulu, in this case bordering the Makiki Stream, was suggestive that the project was likely utilized for the cultivation of *taro* and like-crops from the early Historic times probably extending from Traditional times. Available archaeological data relating to this agricultural practice would include, but not be limited to, stone and earthen terraces, alignments, free-standing walls, and water irrigation ditches (*auwai*). Artifacts suggested to accompany *taro* production may include lithic artifacts such as basalt cores, adzes, flakes, and, as has been recovered previously, food (e.g., *poi*) pounders. Potentially, agricultural layers from Traditional times through the present would possibly be amenable to observation through the presence of oxidation and reduction layers as well as charcoal layers depicting burning or clearing episodes prior to, or after, cultivation.

As suggested by past research in the area of Makiki, the Property could have contained evidence for agriculture possibly accompanied by temporary, small scale habitation from Traditional through early Historic times. Archaeological remains associated with these activities



**Figure 9: Photograph of ST-9 South Wall Stratigraphic Sectional Profile Drawing.**

lot that once occupied the southeast quadrant of the Property. The sampled stratigraphic profile of the trench's south wall suggested that Layer I was the more impacted of the two exposed strata due to the presence of imported material. Layer II (80–169 cmbs) was a compact, very fine to coarse crumbly structured, dark yellowish brown (10YR 3/4, moist) sand clay silt. The lack of cultural material (modern debris included) suggests that Layer II had not been impacted and could therefore be considered as having not been disturbed. Thus, excavation terminated. A ferrous metal pipe fragment and a Historic bottle glass sherd were observed in ST-9's backfill pile of ST-9. The bottle glass sherd was recovered for laboratory analysis for relative dating purposes, and based on the artifact's embossing, SCS Laboratory analysis of the single bottle glass base sherd indicated that the artifact was part of a bottle manufactured between 1940 and 1954.

could include Traditional lithic remains (adzes, flakes, etc.), faunal remains (subsistence), and charcoal denoting hearths (temporary campsites, etc.). Later period occupation could be reflected not only by the preceding artifacts, but also by structures associated with small-scale *taro* production (e.g., walls) and Historic artifacts such as metal, ceramic, and glass assemblages.

LCA information gleaned from a small sample of LCAs surrounding the Property indicated that those LCAs were primarily utilized as house lots. Thus, archaeological available data reflecting this land use could include stone alignments, pavements, and walls, composed of Traditional and Historic artifacts such as those previously mentioned. Agricultural soils, although small scale for household purposes, would be represented by charcoal layers and/or oxidation and reduction layers, these depicting specific agricultural use of the area over time. However, the acid intensity of the Makiki clay loam suggests an effect could be the opposite (*i.e.*, not observed at all).

However, none of the archaeological, structural, and artifactual classes listed above were identified within the Property. Three possible scenarios may have attributed to the absence of intact archaeological features or associated midden and artifacts (charcoal included) within the strategically placed stratigraphic trenches: (1) the Property contained agriculturally affected soils that resided in Layer I and have since been intensely disturbed by mechanical means via past construction and previous demolition and subsequent exportation of such materials; (2) the acid intensity of the soils within the Property as described by Foote *et al.* (1972) may have degraded the datable organic materials enough so that none could be observed, and if organic materials were present, then those materials were probably not mixed in with the soil for a long period of time; or (3) no Traditional-style (pre- and circa-1778) cultural activities (e.g., agriculture, fire making, food consumption) occurred on the Property.

#### RECOMMENDATIONS

Excavation suggested for the Holomua condominiums is to be conducted to depths between 1.52 meters (5 feet) and 2.44 meters (8 feet)—the same type of matrix identified as the slightly disturbed and culturally sterile Layer II—should be found at the same depth and condition as that found in the current archaeological work. Layer I throughout the Property was established as disturbed and interpreted as containing imported fill and demolition debris. Based primarily on the negative results of the Archaeological Assessment, no further archaeological work regarding TMK: (1) 2-4-006: 017 and 018 is recommended.

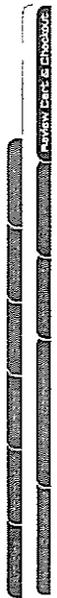
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APPENDIX A : LAND GRANT DOCUMENT



DOCUMENT DELIVERY      Change password      Log out

Land Grants Documents

Grant Number (LG)	177	Source Book	1
Grantee: Atupua a	Gulick, Peter J. Waikiki, King & Berantania sts, Honolulu	Acres: Year	61.5 ACS 1849
District	Kona	Cancelled	
Island	Oahu	TMK	1-2-8-02, -03, 1, 2-4

Miscellaneous

No. 177, Gulick, Peter J., Pawaa III, Waikiki Atupuaa, District of Kona, Island of Oahu, Vol. 1, pps. 336-337 [LG Reel 1, 00369-00369.tif]  
 No. 177  
 Royal Patent

Kamehameha III, By the Grace of God, King of the Hawaiian Islands, by this Royal Patent, makes known, unto all men, that he has for himself and his successors in office, this day granted and given, absolutely, in Fee Simple unto Peter J. Gulick, his faithful and loyal disposed subject for the consideration of Sixty one dollars & fifty Cents (\$61.50), paid into the Royal Exchequer, all that certain piece of Land situated at Pawaa, Waikiki in the Island of Oahu and described as follows:

Commencing at stream at mauka bridge, and running along 5 feet makai of makai ditch of Marika road 78 610 Chains to East corner (25 Chains beyond Mr. Clark's South corner) then from stream at lower bridge, and running along 5 feet mauka of mauka ditch of makai road 73 210 Chains to South corner of this, then direct to East corner above mentioned, including all between this line and the Pawaa stream.

Road Reserved

Containing 61 1/2 Acres, more or less, excepting and reserving to the Hawaiian Government, all mineral or metallic mines of every description.

To have and to hold the above granted Land in Fee Simple, unto the said Peter J. Gulick his Hawaiian, Heirs and Assigns forever, subject to the taxes to be from time to time imposed by the Legislative Council equally, upon all landed Property held in Fee Simple.

In Witness whereof, I have hereunto set my Hand, and caused the Great Seal of the Hawaiian Islands to be affixed, at Honolulu, this 29 day of November, 1819

<http://www.hawaii.com/purchase.asp>

2/12/2008

Received of P. J. Guilck \$51.50 for Land as per Patent No. 177.  
Treasurer Office, December 15, 1849  
For the Minister of Finance, William Jarrett

(Page 337)

Heleu 177

Pahapaia Sina Nui

Ma keia palapala sila nui ke Itoiro aku nei o Kamahameha III, ke Alii nui a ke Akua i kona lokomakali i hoonoho al maluna o ke Hawaii Pae Aina, i na kama a pau, i keia la, nona hoi, e no kona mau hope aii, ua hawi iho aku ole ma ko ano aloho la Peter J. Guilck i kona wahi kama i manaio pono la i keia nui ma a pau e waiho la ma Pawa, Waiuku ma ka Moku o Oahu, a penei hoi ka waiho ana o na Moku.

E hoemaka ma ke kahawai ma ka Ahinaka mauka, e holo ana 6 kama mauka o ka auwaha eia, mahele o ka auwaha mauka la 78 010 Kaula ma hiki i ke kahi Hihina lio 25 Kaula ma o aku o ke kahi Hema o ke Mr. Clark, Alaila ma ke kahawai ma ke auwaha mauka, e holo ana 6 kama mauka o ka auwaha eia mauka o ka auwaha mauka la 70 210 Kaula ma hiki i ke kahi Hema o keia, Alaila holo paha i hiki i ke kahi Hihina i keia mauka, e hoopuni ana i keia mauka, ma keia pahana a hiki i ke kahawai o Pawa.

Ua hookoe ia kahi o ke auwaha i hele al mamua

A maloko o ia Apana 61 112 eka a o iki aku, emi iki mai paha.  
Eia ke kumu o ka lilo ana ua hawi mai oia hoko o ka waihana waiwai o ke Aupuni i na Dala he Kananoakumamakahi ma Hapalua, Aka, ua koe i ke Aupuni na mahu mahu a ma na mahu mauka a pau.

No Peter J. Guilck, ua aia la i Hawaii, na ma mau loa aku no, ma ke ano aloho, a ma ko na mau hele, a ma ko na waihana, ua pili ma ke auwaha a ke Pae Ahinaka o keia mauka i keia mauka a pau i keia mauka i keia mauka.

A i mea e ika'i ua kau wau i ko'u inoa, a ma ke sila nui o ke Hawaii Pae Aina ma Honolulu i keia la 29 o Novemaba, 1849

(Inoa) Kamahameha  
(Inoa) Koni Ana

Land Patent Grant 177, Guilck, Peter J., Pawa II, Waikiki Ahupuaa, District of Kona, Island of Oahu, 61.5 Acre, 1849

APPENDIX B. 20<sup>TH</sup> CENTURY DOCUMENTATION OF LAND TRANSFER FOR TAX  
MAP KEYS (1) 2-4-006: 017 AND 018



SCS PROJECT 921 ARTIFACT ANALYSES

ST-4 Backfill

- 1) Two porcelain cup rim sherds (fitted) with handle attachment, glazed, exterior decorated with blue strip paralleling rim under glaze.
- 2) One porcelain cup base sherd, glazed, partial manufacturer's stamp (blue color) under glaze of base exterior

ST-5 Backfill

- 1) One porcelain bowl rim sherd, glazed, exterior decorated with orange/red transfer print and yellowish paint over glaze, interior decorated with gray vegetation (grass) patterns over glaze.
- 2) One porcelain bowl body sherd (fits with above rim sherd), glazed, exterior decorated with orange/red transfer print and yellowish paint over glaze, interior decorated with gray vegetation (grass) patterns over glaze.
- 3) One porcelain bowl rim/body/base sherd, glazed, exterior decorated with orange/red transfer print and yellowish paint over glaze, interior decorated with gray vegetation (grass) patterns over glaze.

ST-9 Backfill

- 1) One clear glass bottle base sherd, embossed. Base embossment: 1<sup>st</sup> line (arched): 23 manufacturer's stamp 5, 2<sup>nd</sup> line (cursive, horizontal): Duraglas. Bottle manufacturer: Owen Illinois Glass Company of Toledo, Ohio. Bottle manufacturer date (based on manufacturer's stamp and the utilization of the word Duraglas): post 1940 to 1954.



C2

C1

APPENDIX  
TRANSPORTATION IMPACT  
ANALYSIS REPORT

F

*Draft Report*

# Holomua Transportation Impact Analysis



**FEHR & PEERS**  
TRANSPORTATION CONSULTANTS

160 W. Santa Clara St., Ste. 675  
San Jose, CA 95113

April 2008

Project LA08-2243

Draft Report

# Holomua Transportation Impact Analysis

Prepared for:  
KRC Partners LLC

Prepared by:  
Fehr & Peers

April 2008

LA08-2243

**TABLE OF CONTENTS**

**EXECUTIVE SUMMARY** .....i  
 Project Traffic Estimates.....i  
 Project Intersection Impacts and Improvements .....i  
 Site Access, On-Site Circulation, and Parking .....i  
 transit, bicycle and pedestrian impacts .....ii

**1. INTRODUCTION** .....1  
**2. EXISTING CONDITIONS** .....5  
 Existing Roadway Network.....5  
 Existing Pedestrian and Bicycle Facilities .....5  
 Existing Transit Facilities.....6  
 Level of Service Method.....6  
 Existing Intersection Levels of Service.....8  
 Field Observations.....9

**3. BACKGROUND CONDITIONS**.....13  
 Background Traffic Estimates.....13  
 Background Roadway Improvements .....13  
 Background Intersection Levels of Service .....13

**4. PROJECT CONDITIONS**.....16  
 Project Traffic Estimates.....16  
 Project Intersection Levels of Service .....17  
 Intersection Impact Criteria.....17  
 Intersection Impacts .....22  
 Site Access, On-Site Circulation and Parking .....22  
 Pedestrian, Bicycle, and Transit Impact Criteria .....24  
 potential impacts to non-automobile modes.....24

**APPENDICES**

Appendix A: Existing Traffic Counts  
 Appendix B: Intersection Level of Service Calculations  
 Appendix C: Approved and Pending Projects

**LIST OF FIGURES**

Figure 1 Project Study Area.....2  
 Figure 2 Site Plan .....3  
 Figure 3 Existing Transit Facilities.....7  
 Figure 4 Existing Peak-Hour Volumes and Geometries.....10  
 Figure 5 Background Peak-Hour Volumes .....15  
 Figure 6 Project Trip Distribution .....18  
 Figure 7 Project Trip Assignment .....19  
 Figure 8 Project Peak-Hour Volumes .....20

**LIST OF TABLES**

Table 1 Existing Transit Service .....8  
 Table 2 Signalized Intersection Level of Service Definitions Using Average Control Vehicular Delay .....9  
 Table 3 Existing Intersection Levels of Service.....11  
 Table 4 Background Intersection Levels of Service .....14  
 Table 5 Project Trip Generation Rates and Estimates.....17  
 Table 6 Project Intersection Levels of Service .....21  
 Table 7 Project Parking Requirements.....23

## EXECUTIVE SUMMARY

This report presents the results of the transportation impact analysis (TIA) for the proposed development of the 21,000+ square feet (s.f.) vacant site at 1315 Kalakaua Avenue located between Beretania Street and Young Street in the City and County Honolulu on the island of Oahu. The Holonua condominiums (Holonua) will provide 176 moderately-priced residential condominiums.

The analysis was conducted to identify any potential significant adverse impacts of the project on the surrounding transportation system and to recommend mitigation measures, if needed. Project transportation impacts were evaluated following the guidelines of the City and County of Honolulu and standard traffic engineering practice. Eleven intersections in the vicinity of the project site were studied under three scenarios: Existing, Background and Project Conditions. Background Conditions include traffic from approved but not yet constructed developments plus other regional growth and forms the basis of comparison for determining intersection impacts.

### PROJECT TRAFFIC ESTIMATES

The amount of traffic generated by the project was estimated based on rates published in *Trip Generation, 7<sup>th</sup> Edition* (Institute of Transportation Engineers, 2002) for the High-Rise Residential Condominium/Townhouse land use (232) category. The project is estimated to generate 736 new daily vehicle trips, 60 new AM peak-hour vehicle trips, and 67 new PM peak-hour vehicle trips. Residents will enjoy multiple opportunities to use non-automobile modes including biking and walking to nearby destinations for shopping and dining, as well as commuting and making recreation trips via transit.

### PROJECT INTERSECTION IMPACTS AND IMPROVEMENTS

Significant intersection impacts were identified by comparing intersection operating levels (i.e., levels of service) and, for those intersections operating unacceptably, the change in average delay and volume-to-capacity ratio. Based on this approach and impact criteria, only one intersection (Beretania Street at Keeaumoku Street) is projected to operate unacceptably, but the project would have a less than significant impact at this location. A subsequent evaluation at this intersection indicates that existing plus project traffic volumes only would result in acceptable operations; this indicates that the deficient operation is caused by traffic from cumulative development and not solely by project traffic.

### SITE ACCESS, ON-SITE CIRCULATION, AND PARKING

Access to the site is provided by two driveways on Kalakaua Avenue, both of which will be restricted to right-in/right-out only operation. While this configuration will result in some circuitous travel for some project residents and guests because of the Beretania/King Street one-way couplet, the number of project-generated vehicles traveling an additional distance due to the driveway configuration is approximately 20 or less during each peak hour, or less than one vehicle every three minutes.

On-site circulation will be provided via an internal drive aisle providing access to parking inside the building. The width of aisles and length of parking stalls will provide adequate circulation. As such, site access and on-site circulation is considered adequate, and no changes are recommended.

Similarly, the proposed project parking supply meets the minimum parking requirement as defined by the Revised Ordinances of Honolulu (ROH). A surplus of three spaces is projected based on current code and a supply of 245 spaces.

## TRANSIT, BICYCLE AND PEDESTRIAN IMPACTS

The project site is within 650 feet of bus stops on three transit corridors within the study area. Given the projected resident demographics and proximity to transit, residents are expected to use the bus to commute and travel to other regional destinations. However, the number of anticipated riders could be accommodated by the existing system capacity and no significant impacts are anticipated.

Implementation of the proposed project will not conflict with any existing or proposed bicycle or pedestrian facility and will not significantly increase demand or hazards for these modes of travel. Cyclists will have direct access to the Young Street bike route, which is more conducive to bicycle travel than either King or Beretania Streets. Thus, no significant impacts are anticipated.

## 1. INTRODUCTION

This report presents the results of the transportation impact analysis (TIA) for the Holomua condominiums project (Holomua) located at 1315 Kalaikaua Avenue between Beretania and Young Streets in the City and County of Honolulu, Hawaii. The project will provide 176 moderately-priced residential condominium units. Access to the project site, which is currently vacant, will be provided by a right-in/right-out driveway on Kalaikaua Avenue. Construction of the project is expected to be completed by the middle of 2010 and occupied by residents shortly thereafter.

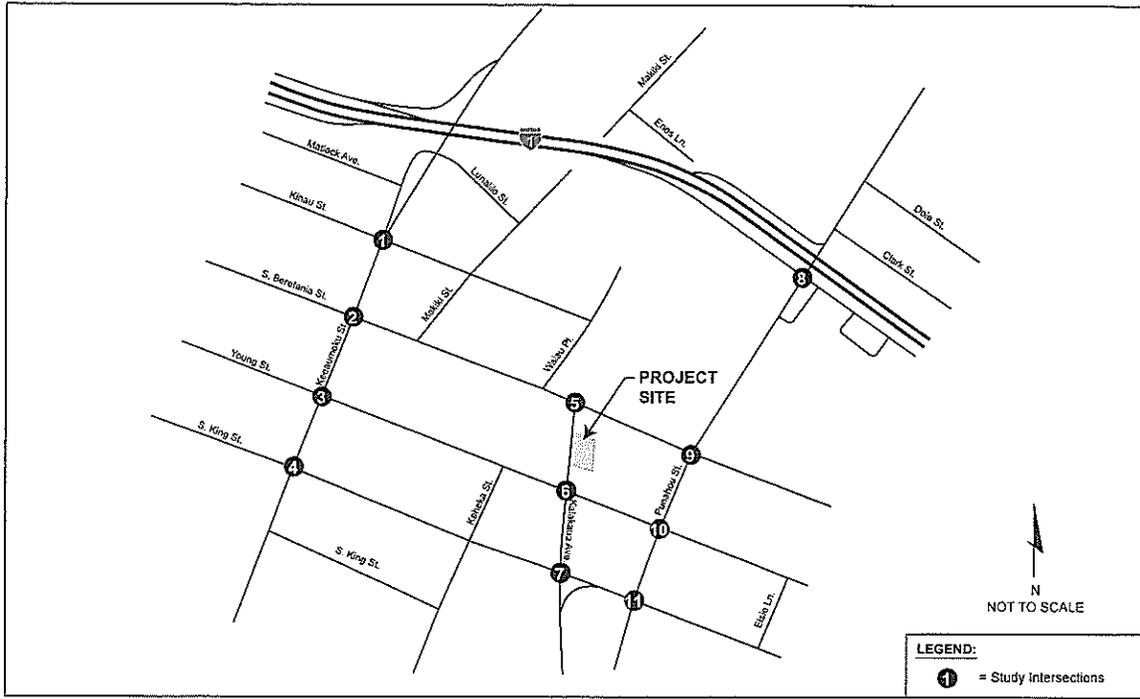
The analysis was conducted to identify potential effects of the proposed project on the surrounding transportation system and to recommend appropriate improvements to mitigate any significant impacts. Figure 1 presents the project location, surrounding roadway system, and study intersections. The site plan is shown on Figure 2.

Project transportation impacts were estimated following the guidelines of the City and County of Honolulu and standard traffic engineering practice. The analysis evaluated the operations of the following 11 key intersections near the site:

1. Keeaumoku Street and Kinau Street
2. Keeaumoku Street and S. Beretania Street
3. Keeaumoku Street and Young Street
4. Keeaumoku Street and S. King Street
5. Kalaikaua Avenue and S. Beretania Street
6. Kalaikaua Avenue and Young Street
7. Kalaikaua Avenue and S. King Street
8. Punahou Street and Lunaliio Freeway (H-1) Eastbound Off-Ramp
9. Punahou Street and S. Beretania Street
10. Punahou Street and Young Street
11. Punahou Street and S. King Street

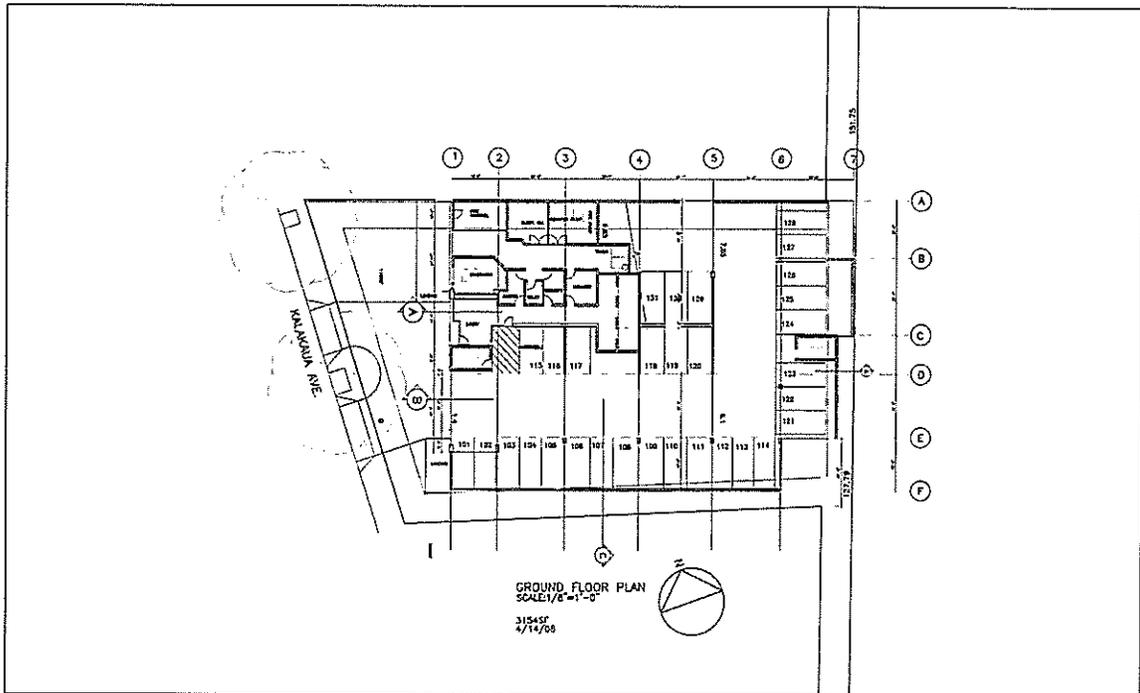
The operations of the study intersections were evaluated during the weekday morning (7:00 to 9:00 AM) and afternoon (4:00 to 6:00 PM) peak hours for the following five scenarios:

- Scenario 1:** Existing Conditions (2008) – Existing volumes obtained from turning movement counts representing the peak one-hour vehicle flow.
- Scenario 2:** Opening Year (2010) without Project Conditions – Existing peak-hour volumes multiplied by a growth factor plus traffic from approved but not yet constructed developments in the area. The traffic growth factor was developed based on historical growth in traffic counts for this area. This scenario is the basis from which project impacts are determined.
- Scenario 3:** Opening Year (2010) with Project Conditions – Opening Year (2010) without Project volumes plus the new traffic generated by the proposed project.



On-site vehicle circulation, site access, and parking were reviewed and compared to industry design standards and City code requirements where applicable. The effect of the project on existing and proposed bicycle, pedestrian, and transit facilities and services was also assessed.

The remainder of this report is divided into three chapters. The existing transportation system serving the site and the current operating conditions of the study roadways are described in Chapter 2. Intersection operations under Opening Year (2010) without Project Conditions are discussed in Chapter 3. Chapter 4 describes Opening Year (2010) with Project Conditions, including the method used to estimate the amount of project traffic added to the surrounding roadways and its impact on the transportation system. This chapter also includes a discussion of site access, on-site circulation, and parking, as well as the project's potential impact on non-automobile modes.



## 2. EXISTING CONDITIONS

This chapter describes the existing conditions of the roadway facilities, pedestrian and bicycle facilities, transit service, traffic volumes, and intersection operations. This chapter also includes a discussion of the method used to calculate intersection levels of service and the corresponding results.

### EXISTING ROADWAY NETWORK

Regional access to the project site is provided via H-1, the Lunalilo Freeway. Local access to the site is provided via Keeaumoku Street, Punahou Street, King Street, Beretania Street, Young Street, and Kalakaua Avenue. This section describes the existing roadway network, which is illustrated on Figure 1.

*Lunalilo Freeway (H-1)* extends along the southern edge of Oahu with the Ewa (west) end terminating at Kalaheo Boulevard in Kapolei and the Diamond Head (east) end terminating at Kilauea Avenue near Kahala Mall. Near the project site, the Lunalilo Freeway includes three mixed-flow lanes in each direction. Partial access between the freeway and the site is provided at Lunalilo Street (via Keeaumoku Street), Pikoai Street, Punahou Street, and Alexander Street.

*Keeaumoku Street* is generally an arterial lane street extending from Kona Street at Ala Moana Center to the mauka side of Nehoa Street. Within the study area, this street includes two through lanes in each direction plus turn lanes. Keeaumoku Street crosses over the Lunalilo Freeway but no direct access to the freeway is provided at the overcrossing.

*Punahou Street*, near the project site, is a four-lane mauka-makai arterial street. Punahou Street extends mauka of the Lunalilo Freeway where it becomes Manoa Road at the intersection of Nehoa Street. At the makai end of the street, Punahou Street terminates at Philip Street near Washington Middle School.

*Kalakaua Avenue* is a four-lane street extending from S. Beretania Street near the project site into Waikiki and through Kapiolani Park. Kalakaua Avenue forms the western boundary of the project site and will serve as the only vehicular access point for the site. On-street parking is provided on Kalakaua Avenue in the mauka-bound direction along the project site frontage.

*Beretania Street* is a five-lane, one-way, Ewa-bound street extending from University Avenue and to North King Street near Liliha Street. On-street parking is prohibited in the makai curb lane during the morning commute period.

*King Street* is a five-lane, one-way, Diamond Head-bound street extending from Kapiolani Avenue near Kapaehulu Avenue to its Ewa terminus at Middle Street. King and Beretania Street form a one-way couplet that serves substantial cross-town traffic volumes. Similar to Beretania Street, parking is prohibited in the mauka curb lane during the evening commute period.

*Young Street* is a two-lane roadway parallel to and located between King and Beretania Streets linking Isenberg Street and Victoria Street. Young Street provides for two-way travel and includes on-street parking in the immediate vicinity of the project site.

*Kinau Street* is a two-lane, primarily one-way collector street extending between Alapai Street and Waiolu Place, and is parallel to Beretania Street. Between Keeaumoku Street and Waiolu Place, Kinau Street provides for two-way travel.

## EXISTING PEDESTRIAN AND BICYCLE FACILITIES

### Pedestrian Facilities

Pedestrian facilities comprise sidewalks, crosswalks, and off-street paths that are intended to provide safe and convenient routes for pedestrians to access destinations such as institutions, businesses, public transportation, and recreation facilities. Near the project site, a continuous sidewalk is provided on both sides of Kalakaua Avenue and Beretania, Punahou and Young Streets. Crosswalks are located at all of the study intersections.

### Bicycle Facilities

Bicycle facilities comprise paths (Class I), lanes (Class II), and routes (Class III). Bicycle paths are paved trails that are separate from roadways. Bicycle lanes are separate areas on roadways designated for bicycle use by striping, pavement legends, and signs. Bicycle routes are roadways designated for bicycle use by signs only but may not include substantial width for bicycle travel. Currently, Young Street is designated as a bicycle route, but no separate bicycle lanes are provided near the project site.

### EXISTING TRANSIT FACILITIES

The Bus, operated by the City and County of Honolulu, serves the entire island of Oahu. Routes 1, 2, 5, 6, and 13 provide service near the project site. Figure 3 shows the existing transit facilities in the study area.

Route 1 provides limited stop service. The intersections with service nearest to the project site are S. King/S. Beretania Streets and S. King/Punahou Streets. Routes 2 and 13 provide service along S. Beretania and S. King Streets with stops nearest to the project site located at the S. King Street/Kalakaua Avenue intersection. Route 5 provides service along Keeaumoku and Punahou Streets, and Route 6 provides service along S. Beretania and S. King Streets. The stops located nearest the project site provided by Routes 5 and 6 are the intersections of S. King/Punahou Streets and S. Beretania Street/Kalakaua Avenue. Table 1 summarizes hours of operation and service frequencies for these bus routes.

The City Department of Transportation Services (DTS) is developing a Bus Service Improvement Plan. Included in the plan, the following services were recently implemented: Route A is a 17-mile City Express service connecting Waipahu and Pearlridge with Downtown and the University of Hawaii. Route B is a major limited-stop service between Kailani and Waikiki. Route C is a 36-mile City Express connecting the Leeward Oahu area with central Honolulu. Of these routes, Route B services the project site with stops at the intersections of S. King Street/Keeaumoku Street, S. Beretania Street/Keeaumoku Street, and S. Beretania Street/Kalakaua Avenue. See Table 1 for hours of operation and service frequencies for all routes within the immediate vicinity of the project site.

**TABLE 1  
EXISTING TRANSIT SERVICE**

Route	Serviced Intersections near Project Site	Weekday Operating Hours	AM and PM Peak-Hour Commute Headway
1	S. King Street & S. Beretania Street	4:20a - 12:15a	10
1	S. King Street & Punahou Street	4:30a - 12:30a	10
2 & 13	S. King Street & Kalakaua Avenue	4:40a - 10:30a 3:20 p - 12:30a	5-10 5-10
5	S. King Street & Punahou Street	5:35a - 9:25p	30-60
5	S. Beretania Street & Kalakaua Avenue	6:05a - 9:50p	30-60
6	S. King Street & Punahou Street	5:45a - 9:35p	15-30
6	S. Beretania Street & Kalakaua Avenue	6:30a - 10:15p	15-30
B	S. King Street & Keaunohoku S. Beretania & Keaunohoku S. Beretania & Kalakaua	5:00a - 9:00p	15

Source: City & County of Honolulu DTS website, March 2008.

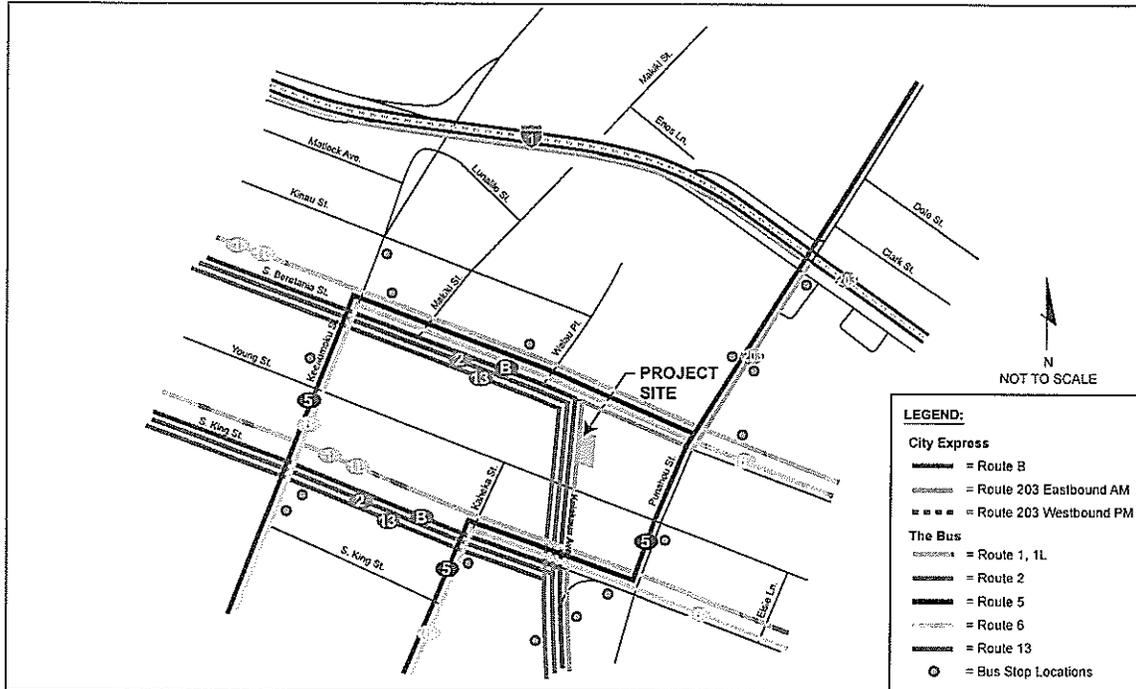
**LEVEL OF SERVICE METHOD**

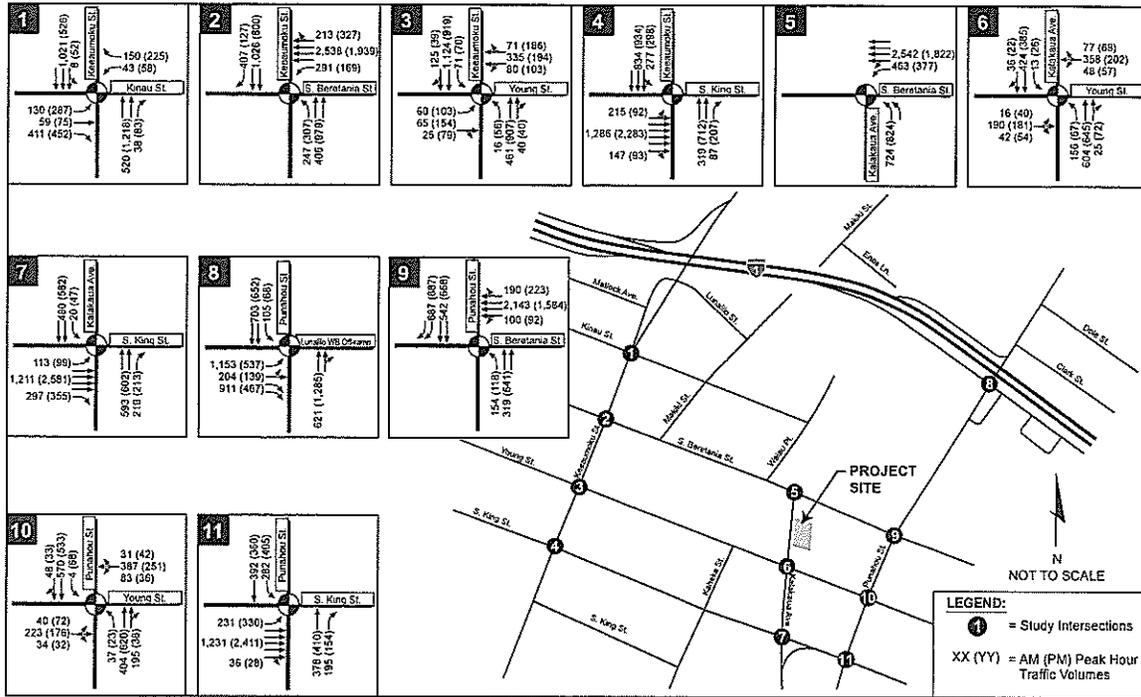
The operations of roadway facilities are described with the term level of service (LOS). LOS is a qualitative description of traffic flow based on such factors as speed, travel time, delay, and freedom to maneuver. Six levels are defined from LOS A, with the least congested operating conditions, to LOS F, with the most congested operating conditions. LOS E represents "at-capacity" operations. Operations are designated as LOS F when volumes exceed capacity, resulting in stop-and-go conditions.

The City and County of Honolulu has not established an officially adopted minimum acceptable level threshold regarding operating conditions of intersections. However, LOS D has been recognized in past studies as the minimum acceptable intersection LOS; therefore, LOS D is considered the minimum acceptable operating LOS for intersections in this TIA.

**Signalized Intersections**

The level of service method for signalized intersections approved by the City and County of Honolulu analyzes intersection operations based on average control vehicular delay, as described in Chapter 16 of the 2000 Highway Capacity Manual (HCM) by the Transportation Research Board. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay for signalized intersections is calculated using Synchro analysis software and is correlated to a LOS designation as shown in Table 2.





**EXISTING PEAK-HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS**

**FIGURE 4**

**TABLE 2**  
**SIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS**  
**USING AVERAGE CONTROL VEHICULAR DELAY**

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	55.1 to 80.0
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80.0

Source: Highway Capacity Manual, Transportation Research Board, 2000.

**EXISTING INTERSECTION LEVELS OF SERVICE**

The operations of the key intersections were evaluated during the weekday AM and PM peak hours. Intersection operations were evaluated using the highest one-hour volume counted between each of the 7:00 to 9:00 AM and 4:00 to 6:00 PM peak commute periods. Traffic counts were conducted at the 11 study intersections in February and March 2008. The traffic counts are included in Appendix A. Figure 4 presents the existing AM and PM peak-hour turning movement volumes at the study intersections. Figure 4 also includes the existing intersection lane configurations and traffic control devices.

Existing intersection lane configurations, signal timings, and peak-hour turning movement traffic volumes were used to determine the existing levels of service. The results of the LOS analysis are presented in Table 3 and the corresponding LOS calculation sheets are included in Appendix B. The volume-to-capacity (V/C) ratio for each location is presented in addition to delay for informational purposes. As shown in Table 3, all of the study intersections operate at an acceptable LOS D or better during both peak-hours.

**FIELD OBSERVATIONS**

Field observations of the key intersections were conducted to verify the calculated operations. In general, observations indicated that most of the study intersections are operating at or near the calculated levels of service. In general, the peak direction of travel is makai-bound (southbound) and Ewa bound (westbound) in the morning, and the opposite directions during the evening peak period. For some turning movements, the directionality is not nearly so pronounced. Also, PM peak hour traffic volumes are generally higher than those during the morning period. Specific descriptions of key intersections or issues are described below.

**TABLE 3  
EXISTING INTERSECTION LEVELS OF SERVICE**

Intersection	Count Date	Peak Hour	Delay <sup>1</sup>	LOS <sup>2</sup>	V/C <sup>3</sup>
1. Keeaumoku Street and Kinau Street	02/26/08	AM PM	10.1 11.8	B B	0.61 0.67
2. Keeaumoku Street and S. Beretania Street	03/11/08	AM PM	49.8 40.3	D D	0.99 0.94
3. Keeaumoku Street and Young Street	03/19/08	AM PM	10.0 9.7	A A	0.65 0.57
4. Keeaumoku Street and S. King Street	03/12/08	AM PM	12.3 20.4	B C	0.60 0.78
5. Kalakaua Avenue and S. Beretania Street	03/06/08	AM PM	15.5 14.4	B B	0.75 0.66
6. Kalakaua Avenue and Young Street	02/28/08	AM PM	11.5 9.0	B A	0.61 0.54
7. Kalakaua Avenue and S. King Street	03/25/08	AM PM	12.8 18.3	B B	0.52 0.75
8. Punahou Street and Lunalilo Freeway (H-1) EB Off-Ramp	03/04/08	AM PM	17.1 14.2	B B	0.77 0.74
9. Punahou Street and S. Beretania Street	03/05/08	AM PM	28.2 21.9	C C	0.90 0.72
10. Punahou Street and Young Street	03/28/08	AM PM	11.5 8.7	B A	0.62 0.52
11. Punahou Street and S. King Street	03/27/08	AM PM	22.0 41.3	C D	0.6 0.98

Notes:  
<sup>1</sup> Whole intersection weighted average control delay expressed in seconds per vehicle calculated using methods described in the 2000 HCM.  
<sup>2</sup> LOS = Level of service. LOS calculations conducted using the Synchro level of service analysis software package.  
<sup>3</sup> V/C = Volume-to-Capacity Ratio  
 Unacceptable operations are shown in bold typeface.  
 Source: Feir & Peers, April 2008.

Based on our observations, vehicle queues were longer on Beretania Street during the AM peak hour as vehicles traveled towards downtown. At Keeaumoku Street, Ewa-bound queues periodically extended back past Maiki Street, and in some cases nearly to Kalakaua Avenue during the morning commute period. Queues also extended back from Punahou Street but did not affect any upstream intersections.



Beretania/Keeaumoku Intersection Looking North

Queues between King and Beretania Street intersections on Keeaumoku Street consistently extended back through the Young Street intersection in between, especially during the PM peak period. However, vehicles typically were able to clear the downstream signal within one cycle. Queues and delays on the Young Street approaches were shorter and were not substantially affected by congestion on the primary thoroughfare. At Keeaumoku and King Street, lengthy queues were observed on all approaches during both periods with longer delays experienced during the evening peak period. Again, vehicles typically cleared the intersection in one cycle and overall intersection operations were consistent with calculated results.



Projected Site Frontage on Kalakaua Avenue

Due to the two-phase signal operation at the Kalakaua Avenue/Beretania Street intersection, queues that did form were able to clear regularly. Queues extended past the project site during both the AM and PM peak periods, sometimes to Young Street; however, gaps were available for vehicles to exit the on-street spaces along the site frontage and from the adjacent gas station/convenience market. Even when queues did not extend past the future site driveway, left-turning vehicles from Beretania Street to Kalakaua Avenue would make it difficult for vehicles to turn left out of the site.

Congestion in the Punahou Street corridor, especially north of Beretania Street is exacerbated during the AM peak hour by traffic from several schools in the area. These include Punahou School, Maryknoll Grade and High Schools, and St. Clements School on the mauka side of H-1, as well as Washington Middle School and Bingham Tract School Campus on the makai side. Similar to other locations, vehicle queues that did form were generally temporary and cleared during most cycles through the peak hours.

### 3. BACKGROUND CONDITIONS

This chapter discusses the operations of the study intersections under Background Conditions. Background Conditions are defined as conditions prior to completion of the proposed development and serve as the basis to identify project impacts. This scenario provides decision-makers with a description of conditions that will occur regardless of project implementation.

#### BACKGROUND TRAFFIC ESTIMATES

Traffic volumes for Background Conditions comprise of existing volumes multiplied by a 2.0 % annual growth factor plus traffic generated by approved but not yet constructed developments in the area. Approved projects account for local growth within the immediate study area, while the growth factor accounts for regional growth in traffic volumes. The project is estimated to be completed by the second quarter of 2010 or approximately two years from the time existing counts were collected. Thus, a growth factor of 1.04 was applied to the existing traffic volumes at the 11 study intersections to estimate projected Year 2010 traffic demands. According to City/County staff, the three approved projects in the area include the following:

- the new 48,263 square foot Hale Pawa office building on the Diamond Head side of Keeaumoku Street between Beretania and Young Streets
- the Shriners Hospital Modernization Project located on the Ewa side of Punahou Street between H-1 and Beretania Street, and
- the 141,000 square foot Aloha Island Self Storage facility on the Ewa side of Kalakaua Avenue between Young and King Streets

Available traffic projections were obtained from the respective traffic studies or were estimated based on standard trip rates and traffic engineering practice (see Appendix C). Background Condition volumes are shown in Figure 5.

#### BACKGROUND ROADWAY IMPROVEMENTS

No capacity changes to any of the study intersections are planned or fully funded at this time. Thus, no roadway improvements were assumed under this scenario.

#### BACKGROUND INTERSECTION LEVELS OF SERVICE

LOS calculations were conducted for the 11 study intersections to evaluate their operations under Background Conditions. The results of the LOS analysis are presented in Table 4. Appendix B contains the corresponding calculation sheets.

As shown in Table 4, all but one of the study intersections operate at an acceptable LOS D or better during both peak-hours under this scenario. With the addition of traffic from approved projects and future regional growth, operations at the Beretania Street/Keeaumoku Street intersection are projected to degrade from LOS D to LOS E during both peak hours. The impacts of the proposed project are discussed in the next chapter.

TABLE 4  
BACKGROUND INTERSECTION LEVELS OF SERVICE

Intersection	Peak Hour	Delay <sup>1</sup>	LOS <sup>2</sup>	VIC <sup>3</sup>
1. Keeaumoku Street and Kinau Street	AM	10.9	B	0.65
	PM	12.9	B	0.72
2. Keeaumoku Street and S. Beretania Street	AM	68.3	E	1.09
	PM	57.5	E	1.07
3. Keeaumoku Street and Young Street	AM	11.3	B	0.70
	PM	13.7	B	0.75
4. Keeaumoku Street and S. King Street	AM	13.6	B	0.64
	PM	22.8	C	0.85
5. Kalikaua Avenue and S. Beretania Street	AM	16.9	B	0.70
	PM	16.2	B	0.70
6. Kalakaua Avenue and Young Street	AM	12.7	B	0.68
	PM	9.7	A	0.56
7. Kalakaua Avenue and S. King Street	AM	13.3	B	0.55
	PM	20.4	C	0.80
8. Punahou Street and Lunalilo Freeway (H-1) EB Off-Ramp	AM	20.7	C	0.80
	PM	14.8	B	0.75
9. Punahou Street and S. Beretania Street	AM	35.9	D	0.87
	PM	24.0	C	0.79
10. Punahou Street and Young Street	AM	12.4	B	0.64
	PM	10.3	B	0.54
11. Punahou Street and S. King Street	AM	23.9	C	0.71
	PM	50.6	D	1.02

Notes:  
<sup>1</sup> Whole intersection weighted average control delay expressed in seconds per vehicle calculated using methods described in the 2000 HCM.

<sup>2</sup> LOS = Level of service. LOS calculations conducted using the Synchro level of service analysis software package.

<sup>3</sup> VIC = Volume-to-Capacity Ratio

Unacceptable operations are shown in bold typeface.

Source: Ferris & Perry, April 2008.

## 4. PROJECT CONDITIONS

The impacts of the proposed project on the surrounding roadway system are discussed in this chapter. First, the method used to estimate the amount of net new traffic generated by the project is described. Then, the results of the level of service calculations for Project Conditions are presented. Project Conditions are defined as Background Conditions plus traffic generated by the proposed project. A comparison of intersection operations under Background and Project Conditions are presented and the impacts of the project on the study intersections are discussed. This is a realistic evaluation of conditions with already approved development and the proposed project in place.

Other issues addressed in the chapter include potential impacts to non-automobile travel modes and issues regarding site access, on-site circulation, and parking.

### PROJECT TRAFFIC ESTIMATES

The amount of traffic added to the roadway system by the project is estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. The first step estimates the amount of added traffic to the roadway network. The second step estimates the direction of travel to and from the project site. The trips are assigned to specific street segments and intersection turning movements during the third step. The results of the process for the proposed project are described in the following sections.

#### Trip Generation

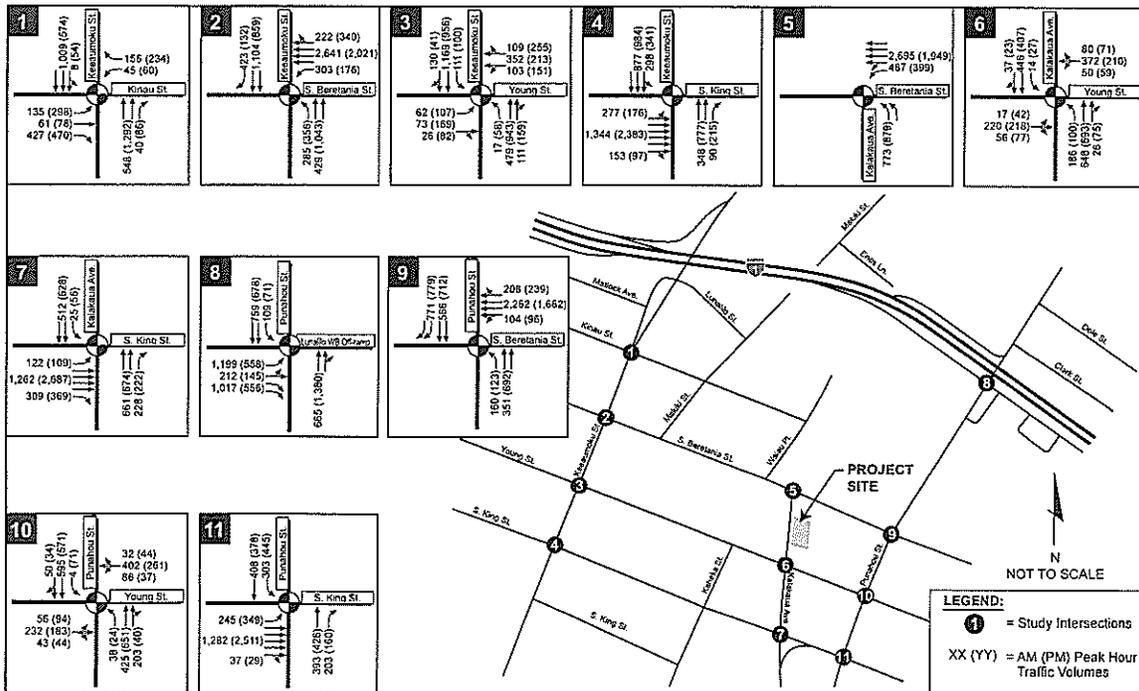
The amount of traffic generated by the project was estimated based on rates published in *Trip Generation, 7<sup>th</sup> Edition* (Institute of Transportation Engineers, 2002). ITE describes the land use characteristics for the High-Rise Residential Condominium/Townhouse (Land Use Code 232) as condominiums/townhouse units that are located in buildings with three or more levels (floors). This description matches the project's description of a 23-story residential building. However, the ITE rates published for this use are based on a small number of national trip generation surveys. ITE does not recommend using trip generation studies that are based on low number of studies without further review. Accordingly, we compared ITE rates for high-rise condominiums with those published for the High-Rise Apartment land use category (222). The daily and peak hour rates for high-rise apartments are based on a larger number of studies, but are slightly lower than the condominium rates. Based on this comparison and the fact that this project falls within the range of survey data, we used the High-Rise Condominium rates to estimate vehicle trip generation for the Holomua project. As shown in Table 5 on the next page, the project is estimated to generate 736 new daily trips, 60 new AM peak-hour trips (11 inbound and 49 outbound), and 67 net new PM peak-hour trips (42 inbound and 25 outbound).

#### Trip Distribution

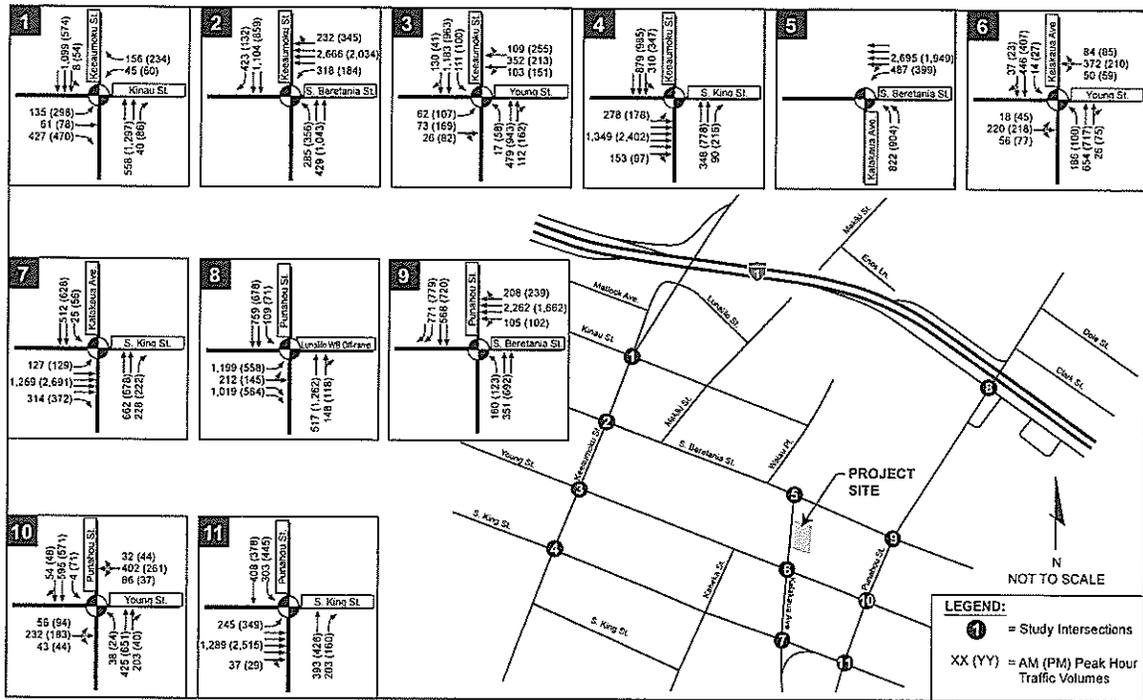
The directions of approach and departure for the project traffic were estimated based on existing travel patterns and the relative locations of complementary land uses. The major directions of approach and departure form the project trip distribution pattern, as illustrated on Figure 6.

#### Trip Assignment

The trips generated by the project were assigned to the roadway system based on the directions of approach and departure discussed above. Figure 7 shows the AM and PM peak-hour project trips assigned to each turning movement at the study intersections. Project trips were added to background traffic volumes to establish intersection volumes for Project Conditions, as shown on Figure 8.

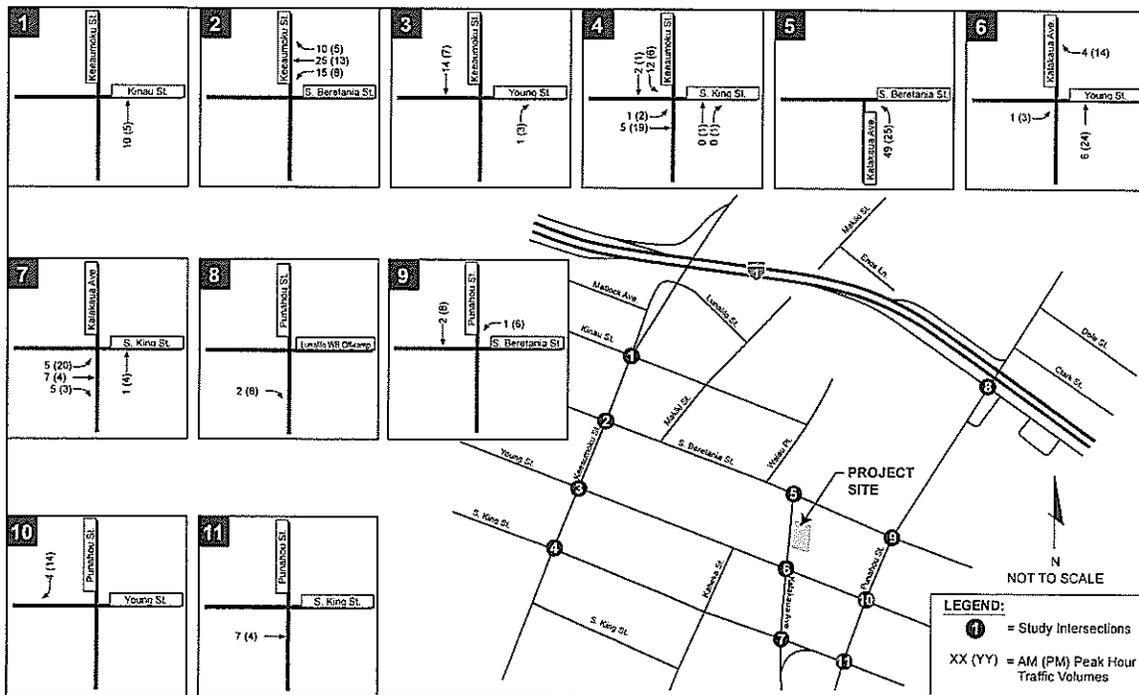






PROJECT PEAK-HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS

FIGURE 6



PEAK-HOUR TURNING MOVEMENT VOLUMES  
 PROJECT TRIP ASSIGNMENT

FIGURE 7

TABLE 6  
PROJECT INTERSECTION LEVELS OF SERVICE

Intersection	Peak Hour	Background				Project			
		Delay <sup>1</sup>	LOS <sup>2</sup>	V/C <sup>3</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	V/C <sup>3</sup>	Δ in Delay <sup>4</sup>	Δ in V/C <sup>4</sup>
1. Keeaumoku Street and Kinau Street	AM	10.9	B	0.65	11.0	B	0.65	+0.1	0.000
	PM	12.9	B	0.72	13.0	B	0.72	+0.1	0.000
2. Keeaumoku Street and S. Beretania Street	AM	66.3	E	1.09	71.0	E	1.09	+2.7	0.000
	PM	57.5	E	1.07	59.3	E	1.08	+1.8	+0.010
3. Keeaumoku Street and Young Street	AM	11.3	B	0.70	11.4	B	0.70	+0.1	0.000
	PM	13.7	B	0.75	13.7	B	0.74	0.0	-0.010
4. Keeaumoku Street and S. King Street	AM	13.6	B	0.64	13.8	B	0.65	+0.2	+0.010
	PM	22.8	C	0.80	23.1	C	0.85	+0.3	0.000
5. Kalakaua Avenue and S. Beretania Street	AM	16.9	B	0.80	18.0	B	0.82	+1.1	+0.020
	PM	16.2	B	0.70	16.6	B	0.70	+0.4	0.000
6. Kalakaua Avenue and Young Street	AM	12.7	B	0.68	12.8	B	0.68	+0.1	0.000
	PM	9.7	A	0.56	10.0	B	0.58	+0.3	+0.020
7. Kalakaua Avenue and S. King Street	AM	13.3	B	0.55	13.4	B	0.55	+0.1	0.000
	PM	20.4	C	0.80	20.5	C	0.80	+0.1	0.000
8. Punahou Street and Lunalilo Freeway (H-1) EB Off-Ramp	AM	20.7	C	0.80	20.7	C	0.80	0.0	0.000
	PM	14.8	B	0.75	14.9	B	0.75	+0.1	0.000
9. Punahou Street and S. Beretania Street	AM	35.9	D	0.97	35.9	D	0.97	0.0	0.000
	PM	24.0	C	0.79	24.1	C	0.79	+0.1	0.000
10. Punahou Street and Young Street	AM	12.4	B	0.64	12.4	B	0.64	0.0	0.000
	PM	10.3	B	0.54	10.3	B	0.54	0.0	0.000
11. Punahou Street and S. King Street	AM	23.9	C	0.71	24.1	C	0.71	+0.2	0.000
	PM	50.6	D	1.02	50.8	D	1.02	+0.2	0.000

Notes:

1. Whole intersection weighted average control delay expressed in seconds per vehicle calculated using methods described in the 2000 HCM.
  2. LOS = Level of service. LOS calculations conducted using the Synchro level of service analysis software package.
  3. Volume-to-capacity ratio (V/C).
  4. Change in delay or V/C between Background and Project Conditions.
- Bold** typeface denotes intersections with unacceptable operations.  
Source: Fehr & Peers, April 2008.

Typically, if the base or background condition LOS is already E or F, significance is defined in terms of change in the amount of delay and/or V/C ratio as calculated by the HCM operational method. As conditions become more congested, and especially when intersection approaches become over-saturated, the calculation of delay can vary somewhat even with small changes in traffic. In some cases, a small increase in traffic can actually result in a small decrease in delay because the LOS calculations are based on weighted delay. In addition, normal changes in intersection delay or V/C can be expected on a day-to-day basis as traffic volumes vary by up to 10 percent. Based on this information, a significant impact is defined to occur when the projected change in average control delay is more than five (5) seconds and the change in V/C is more than 0.01 or approximately one (1) percent of capacity.

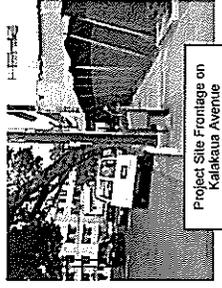
**INTERSECTION IMPACTS**

Based on the impact criteria specified above, the proposed project would not have a significant impact at any of the study intersections. While the Beretania Street/Keeaumoku Street intersection is projected to operate unacceptably, this condition is due to the addition of traffic from already approved projects plus growth plus traffic from the project. When project traffic is added directly to existing volumes, the resulting operations at this location would be LOS D with 52.3 and 41.7 seconds of delay during the AM and PM peak hours, respectively. This exercise illustrates that the unacceptable operating level at the Beretania Street/Keeaumoku intersection in the future is caused by the cumulative effect of future traffic and not solely by the project.

**SITE ACCESS, ON-SITE CIRCULATION AND PARKING**

**Site Access**

Access to the site is proposed to be provided by two driveways on Kalakaua Avenue, each of which will be restricted to right turns only (i.e., left-turns in and out will not be permitted). Thus, all project traffic will access the project site in the mauka-bound direction on Kalakaua Avenue. This restriction is appropriate given the volume of traffic (1,270 vehicles during each peak hour) and queuing that currently exists on Kalakaua Avenue along the project site frontage. Though this restriction will lead to some circuitous travel patterns in the project vicinity, the existing layout of streets already requires this similar pattern for existing surrounding land uses. Appropriate signage should be installed indicating to inbound and outbound drivers that both driveways do not permit left turns.



Construction of the makai site driveway will require a reduction in the length of the existing loading zone painted on the curb at the makai property line with the adjacent service station/convenience market. Maintaining a loading zone at this location is appropriate to serve all properties along this block and will also limit the time during which a vehicle parks adjacent to the makai project site driveway. The mauka driveway is assumed to primarily be used by vehicles exiting the site or those that require additional room to maneuver.

**On-Site Circulation**

Vehicle circulation is proposed to be provided by a two-way drive aisle that provides access to parking spaces inside the building. Scaled distances from the site plan on Figure 2 show that the drive aisle is approximately 22 feet wide and serves 18-foot parking spaces. These dimensions meet the minimum parking dimension standards as outlined in the Revised Ordinances of Honolulu (ROH), Section 21, Article 6 and will allow for

adequate two-way circulation and access to parking spaces. Visitor spaces will be located immediately inside the building.

Where the drive aisle intersects the back of the sidewalk on Kalakaua Avenue, adequate sight distance should be provided to allow drivers to see pedestrians. This requires that drivers be able to see at least 8 feet in each direction down the sidewalk before the front of their vehicle crosses the back of walk.

To facilitate walking, a separate pedestrian path should be provided from the sidewalk to the front doors of the building. This helps to separate vehicle traffic from pedestrian activity and minimizes potential conflicts.

Overall, site access and on-site circulation are considered adequate. With adequate sight distance at the driveway and a pedestrian path to the street, we do not recommend any additional changes to the site plan.

#### Parking

This discussion compares the proposed parking supply on the project site to the number of spaces required by the ROH. Section 21, Article 6 of the ROH outlines the minimum number of off-street parking required by type and/or size of land use. Applicable to the proposed project, the following parking requirements apply:

1. Floor area of dwelling unit is 600 s.f. or less: 1 parking space per unit
2. Floor area of dwelling unit is more than 600 s.f. but less than 800 s.f.: 1.5 parking spaces per unit
3. Floor area of dwelling unit is 800 s.f. or more: 2 parking spaces per unit
4. One guest parking space per 10 units

As proposed the project will supply 80 units with areas of 600 s.f. or less, and 95 units with a floor area ranging between 601 s.f. and 800 s.f. This results in a minimum requirement of 242 parking spaces for the project. Table 7 summarizes the number of parking spaces required for the proposed development based on the ROH. The project supply of 245 spaces satisfies the minimum parking code requirements.

Dwelling Unit Size	Number of Units	Spaces Required <sup>1</sup>	Spaces Provided
600 s.f. or less	80	80	
More than 600 s.f. but less than 800 s.f.	95	144	
<i>Subtotal</i>	<i>176</i>	<i>224</i>	
Guest Parking		18	
	<b>Total</b>	<b>242</b>	<b>245</b>

1. Revised Ordinances of Honolulu (ROH), Section 21, Article 6  
Source: City/County of Honolulu website, 2008.

## PEDESTRIAN, BICYCLE, AND TRANSIT IMPACT CRITERIA

### Transit Impact Criteria

Significant impacts to transit services would occur if the project or any part of the project:

- creates a substantial increase in transit demand that could not be accommodated by existing adjacent transit capacity; or
- causes a substantial increase in delay or operating cost to a transit provider; or
- conflicts with transit policies adopted by the City and County of Honolulu or the State of Hawaii for their respective facilities in the study area.

### Pedestrian and Bicycle Impact Criteria

Chapter V. (Transportation & Utilities) of the General Plan for the City and County of Honolulu identifies policies to maintain and enhance existing pedestrian and bicycle networks, as well as policies to reduce dependence on the use of the single occupant automobile. Using the General Plan as a guide, significant impacts to pedestrian and bicycle facilities would occur when the project or an element of the project:

- creates a hazardous condition that currently does not exist for pedestrians or bicyclists, or otherwise interferes with pedestrian accessibility to the site and adjoining areas; or
- creates substantial increase in demand for bicycle and pedestrian facilities where none currently exist or creates conditions that would lead to overcrowding on existing facilities; or
- conflicts with an existing or planned pedestrian or bicycle facility; or
- conflicts with policies related to bicycle and pedestrian activity adopted by the City and County of Honolulu.

Construction-related impacts on pedestrian and bicycle activity are generally not considered significant, since those impacts are temporary.

## POTENTIAL IMPACTS TO NON-AUTOMOBILE MODES

### Transit Impacts

Based on the travel characteristics of the proposed residents and the propensity for transit use in Honolulu, the project is expected to generate a substantial number of walk, bike and transit trips due to the expected resident demographics, the proximity to available routes and stops, and the higher than average use of transit by Honolulu residents. Numerous retail and restaurant opportunities exist within a short walking distance of the site, including the existing Foodland store on Beretania Street Ewa of Kalakaua Avenue. In addition, all transit lines in the immediate study area can be accessed at stops within a 650-foot walk of the project site.

According to US Census data, 11.6% of commute trips to work are made by transit and taxicabs in the City. This means that an estimated 10 trips and possibly more will be made via transit during the peak hour. These trips would be distributed to most of the routes and stops and would only add a negligible number of riders to existing routes. Implementation of the project would also not substantially affect bus transit operations because: 1) the project would not significantly impact traffic operations, and 2) the project is not proposing

any changes to the configuration of Kalakaua Avenue along the site frontage. Therefore, the project would not significantly impact the bus transit system or operations.

***Pedestrian and Bicycle Impacts***

Currently, sidewalks are provided within typical walking distances on all streets in the immediate vicinity of the project site. In addition, crosswalks are provided at all signalized intersections plus a midblock pedestrian signal on Beretania Street at the Foodland store entrance. While the project will generate pedestrian demand for sidewalks in the area, the volume could be accommodated by the existing facilities. Lastly, project implementation will not conflict with any planned pedestrian facilities. Based on this evaluation, the project is not expected to significantly impact pedestrian circulation, and no improvements are recommended.

Young Street is a designated bicycle route and provides a more attractive alternative to cycling with lower traffic speeds and volumes than King and Beretania Streets. Residents will have direct access to Young Street via Kalakaua Avenue or the sidewalk (for makai-bound riders). In general, the existing off-site bicycle facilities can reasonably accommodate the increased bicycle demand and the project does not conflict with any existing or planned facility; therefore, the project is expected to have a less-than-significant impact to the bicycle system. However, the project should provide bike racks and/or lockers on-site and in highly visible locations to encourage biking and to discourage theft.

**APPENDIX A:  
EXISTING TRAFFIC COUNTS**

VEHICLE TURNING MOVEMENT COUNT - SUMMARY																					
Intersection of: Keasomuku Street and: Beretania Street Location: Honolulu, Hawaii										Counted by: LT Date: March 11, 2008 Weather: Sunny, Warm Entered by: AG			Day: Tuesday								
TIME	TRAFFIC FROM NORTH on: Keasomuku Street					TRAFFIC FROM SOUTH on: Keasomuku Street					TRAFFIC FROM EAST on: Beretania Street					TRAFFIC FROM WEST on: Beretania Street					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U+TN	TOTAL	RIGHT	THRU	LEFT	U+TN	TOTAL	RIGHT	THRU	LEFT	U+TN	TOTAL	RIGHT	THRU	LEFT	U+TN	TOTAL	
<b>AM</b>																					
07-0-15	53	184	0	0	237	93	93	0	0	186	48	538	57	0	643	0	0	0	0	0	1065
15-30	64	195	0	0	259	118	74	0	0	192	52	589	63	0	703	0	0	0	0	0	1155
30-45	103	242	0	0	345	101	68	0	0	169	51	664	71	0	786	0	0	0	0	0	1300
45-00	122	286	0	0	408	88	61	0	0	149	49	683	74	0	806	0	0	0	0	0	1353
08-0-15	118	332	0	0	450	99	44	0	0	143	61	603	83	0	747	0	0	0	0	0	1310
15-30	87	268	0	0	355	92	51	0	0	143	54	538	77	0	669	0	0	0	0	0	1168
30-45	64	231	0	0	295	79	45	0	0	124	44	485	65	0	594	0	0	0	0	0	1013
45-00	72	195	0	0	267	64	57	0	0	121	38	472	59	0	569	0	0	0	0	0	957
2 Hr Totals	683	1905	0	0	2588	0	734	483	0	1227	397	4571	549	0	5517	0	0	0	0	0	9332
<b>1 Hr Totals</b>																					
07-08	342	808	0	0	1150	0	400	296	0	696	200	2473	265	0	2938	0	0	0	0	0	4684
715-815	407	1026	0	0	1433	0	406	247	0	653	213	2538	291	0	3042	0	0	0	0	0	5128
730-830	430	1099	0	0	1529	0	380	224	0	604	215	2488	305	0	3008	0	0	0	0	0	5141
745-845	391	1068	0	0	1459	0	358	201	0	559	208	2309	299	0	2816	0	0	0	0	0	4854
08-09	341	997	0	0	1338	0	334	197	0	531	197	2098	284	0	2579	0	0	0	0	0	4448
<b>PEAK HOUR</b>																					
730-830	430	1099	0	0	1529	0	380	224	0	604	215	2488	305	0	3008	0	0	0	0	0	5141
<b>PM</b>																					
04-0-15	40	185	0	0	225	209	53	0	0	262	59	273	24	0	356	0	0	0	0	0	844
15-30	37	181	0	0	218	189	49	0	0	237	62	243	36	0	341	0	0	0	0	0	816
30-45	37	194	0	0	231	267	78	0	0	345	68	392	35	0	495	0	0	0	0	0	1071
45-00	32	215	0	0	247	209	69	0	0	278	77	390	47	0	514	0	0	0	0	0	1095
08-0-15	28	172	0	0	200	212	79	0	0	291	84	343	43	0	470	0	0	0	0	0	961
15-30	30	219	0	0	249	231	84	0	0	315	98	314	44	0	456	0	0	0	0	0	1020
30-45	71	173	0	0	244	191	63	0	0	254	122	287	51	0	460	0	0	0	0	0	958
45-00	68	192	0	0	260	201	66	0	0	267	108	262	48	0	418	0	0	0	0	0	945
2 Hr Totals	343	1642	0	0	1885	0	1778	536	0	2316	678	2604	328	0	3510	0	0	0	0	0	7711
<b>1 Hr Totals</b>																					
04-05	140	786	0	0	926	0	643	240	0	1189	260	1208	142	0	1706	0	0	0	0	0	3827
415-515	134	772	0	0	906	0	648	272	0	1219	231	1358	161	0	1820	0	0	0	0	0	3944
430-530	127	808	0	0	935	0	670	307	0	1280	237	1430	160	0	1925	0	0	0	0	0	4148
445-545	151	778	0	0	929	0	693	292	0	1195	281	1334	125	0	1900	0	0	0	0	0	4035
05-06	187	758	0	0	945	0	835	292	0	1127	412	1206	100	0	1804	0	0	0	0	0	3984
<b>PEAK HOUR</b>																					
430-530	127	800	0	0	927	0	679	307	0	1286	227	1439	169	0	1935	0	0	0	0	0	4148

VEHICLE TURNING MOVEMENT COUNT - SUMMARY																					
Intersection of: Keasomuku Street and: Kinau Street Location: Honolulu, Hawaii										Counted by: LT Date: February 26, 2008 Weather: Sunny, Warm Entered by: AG			Day: Tuesday								
TIME	TRAFFIC FROM NORTH on: Keasomuku Street					TRAFFIC FROM SOUTH on: Keasomuku Street					TRAFFIC FROM EAST on: Kinau Street					TRAFFIC FROM WEST on: Kinau Street					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U+TN	TOTAL	RIGHT	THRU	LEFT	U+TN	TOTAL	RIGHT	THRU	LEFT	U+TN	TOTAL	RIGHT	THRU	LEFT	U+TN	TOTAL	
<b>AM</b>																					
07-0-15	175	3	0	0	178	7	120	0	0	126	42	7	0	49	71	11	39	0	121	484	
15-30	205	5	0	0	210	10	134	0	0	144	40	2	0	48	68	5	44	0	117	519	
30-45	261	1	0	0	262	16	137	0	0	153	43	13	0	56	105	12	28	0	145	616	
45-00	264	2	0	0	266	5	140	0	0	145	31	21	0	37	122	24	41	0	187	631	
08-0-15	281	0	0	0	281	7	109	0	0	116	30	7	0	37	122	24	41	0	187	631	
15-30	228	2	0	0	230	7	127	0	0	134	20	13	0	33	119	9	22	0	150	545	
30-45	173	1	0	0	174	5	109	0	0	114	16	10	0	26	98	15	21	0	134	448	
45-00	167	1	0	0	168	8	110	0	0	118	19	5	0	24	101	17	14	0	132	442	
2 Hr Totals	0	1762	15	0	1777	65	995	0	0	1060	247	0	78	0	325	800	111	228	0	1137	4299
<b>1 Hr Totals</b>																					
07-08	0	905	11	0	916	38	540	0	0	578	162	0	43	0	205	360	46	128	0	534	2233
715-815	0	1021	8	0	1029	38	520	0	0	568	160	0	43	0	193	411	59	130	0	600	2360
730-830	0	1042	5	0	1047	35	513	0	0	548	124	0	54	0	178	462	63	108	0	633	2408
745-845	0	954	5	0	959	24	485	0	0	509	97	0	51	0	148	455	66	101	0	622	2238
08-09	0	857	4	0	861	27	455	0	0	482	85	0	35	0	120	440	65	98	0	603	2066
<b>PEAK HOUR</b>																					
730-830	0	1042	5	0	1047	35	513	0	0	548	124	0	54	0	178	462	63	108	0	633	2408
<b>PM</b>																					
04-0-15	140	9	0	0	149	13	335	0	0	348	87	10	0	97	102	23	91	0	216	810	
15-30	155	5	0	0	160	16	268	0	0	283	42	10	0	52	78	19	71	0	166	643	
30-45	159	3	0	0	162	18	248	0	0	266	39	15	0	55	98	13	45	0	156	619	
45-00	124	17	0	0	141	29	330	0	0	359	70	24	0	94	56	26	69	0	150	784	
05-0-15	120	17	0	0	137	13	218	0	0	231	60	10	0	70	134	19	91	0	244	742	
15-30	143	15	0	0	158	23	322	0	0	345	56	8	0	64	124	18	82	0	224	814	
30-45	89	23	0	0	112	27	258	0	0	285	46	21	0	67	108	13	60	0	181	685	
45-00	99	13	0	0	112	17	212	0	0	229	49	2	0	51	91	28	48	0	167	559	
2 Hr Totals	0	889	102	0	1091	155	2331	0	0	2486	449	0	101	0	560	831	158	557	0	1545	5673
<b>1 Hr Totals</b>																					
04-05	0	558	34	0	592	75	1181	0	0	1256	238	0	60	0	298	374	80	276	0	730	2858
415-515	0	518	42	0	560	75	1124	0	0	1199	211	0	60	0	271	408	76	276	0	758	2788
430-530	0	526	52	0	578	83	1218	0	0	1301	225	0	58	0	283	452	75	287	0	814	2976
445-545	0	476	72	0	548	92	1268	0	0	1360	232	0	63	0	295	462	75	302	0	830	3042
05-06	0	451	68	0	519	80	1150	0	0	1230	211	0	41	0	252	457	78	281	0	816	2817
<b>PEAK HOUR</b>																					
445-545	0	476	72	0	548	92	1268	0	0	1360	232	0	63	0	295	462	75	302	0	839	3042

VEHICLE TURNING MOVEMENT COUNT - SUMMARY														Counted by: L/TEP		Date: March 12, 2008		Day: Wednesday			
Intersection of: Keasamoku Street and: King Street Location: Honolulu, Hawaii														Weather: Sunny, Warm		Entered by: AG					
TIME	TRAFFIC FROM NORTH on: Keasamoku Street					TRAFFIC FROM SOUTH on: Keasamoku Street					TRAFFIC FROM EAST on: King Street					TRAFFIC FROM WEST on: King Street					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U+TH	TOTAL	RIGHT	THRU	LEFT	U+TH	TOTAL	RIGHT	THRU	LEFT	U+TH	TOTAL	RIGHT	THRU	LEFT	U+TH	TOTAL	
<b>AM</b>																					
07:0-15	153	45	0	198	21	66	0	87	0	0	0	0	0	0	36	324	50	0	420	705	
15-30	176	62	0	238	14	63	0	77	0	0	0	0	0	0	35	375	77	0	487	802	
30-45	208	73	0	281	22	96	0	118	0	0	0	0	0	0	42	362	55	0	459	858	
45-00	233	67	0	300	26	78	0	104	0	0	0	0	0	0	33	264	37	0	334	738	
08:0-15	217	75	0	292	25	82	0	107	0	0	0	0	0	0	37	285	46	0	368	767	
15-30	185	83	0	268	32	69	0	101	0	0	0	0	0	0	41	304	71	0	416	785	
30-45	166	74	0	240	24	77	0	101	0	0	0	0	0	0	33	332	64	0	429	770	
45-00	174	69	0	243	33	81	0	114	0	0	0	0	0	0	36	317	57	0	410	767	
2 Hr Totals	0	1512	548	0	2060	197	612	0	0	809	0	0	0	0	0	293	2563	467	0	3323	6192
<b>1 Hr Totals</b>																					
07-08	0	770	247	0	1017	83	303	0	0	386	0	0	0	0	0	146	1325	229	0	1700	3103
715-815	0	834	277	0	1111	87	319	0	0	406	0	0	0	0	0	147	1285	215	0	1648	3165
730-830	0	843	288	0	1141	105	325	0	0	430	0	0	0	0	0	153	1215	209	0	1577	3148
745-845	0	801	299	0	1100	107	306	0	0	413	0	0	0	0	0	144	1185	218	0	1547	3060
08-09	0	742	301	0	1043	114	308	0	0	423	0	0	0	0	0	147	1238	238	0	1623	3089
<b>PEAK HOUR</b>																					
715-815	0	834	277	0	1111	87	319	0	0	406	0	0	0	0	0	147	1286	215	0	1646	3165
<b>PM</b>																					
04:0-15	210	83	0	293	32	188	0	230	0	0	0	0	0	0	26	454	30	0	510	1033	
15-30	208	73	0	281	42	208	0	250	0	0	0	0	0	0	21	412	22	0	455	1076	
30-45	205	84	0	289	36	182	0	218	0	0	0	0	0	0	24	398	26	0	448	1015	
45-00	292	78	0	370	32	185	0	217	0	0	0	0	0	0	24	351	24	0	429	1016	
05:0-15	206	73	0	281	36	185	0	232	0	0	0	0	0	0	22	294	22	0	338	851	
15-30	168	63	0	232	29	149	0	178	0	0	0	0	0	0	23	284	20	0	327	737	
30-45	174	67	0	241	23	151	0	174	0	0	0	0	0	0	25	292	23	0	340	765	
45-00	168	53	0	221	26	147	0	173	0	0	0	0	0	0	23	256	21	0	300	834	
2 Hr Totals	0	1764	574	0	2358	256	1416	0	0	1672	0	0	0	0	0	186	2771	188	0	3147	7177
<b>1 Hr Totals</b>																					
04-05	0	1065	318	0	1383	142	773	0	0	916	0	0	0	0	0	95	1645	102	0	1842	4140
415-515	0	1063	308	0	1371	146	771	0	0	917	0	0	0	0	0	91	1485	94	0	1670	3926
430-530	0	934	296	0	1230	133	712	0	0	846	0	0	0	0	0	93	1357	92	0	1542	3610
445-545	0	843	281	0	1124	120	681	0	0	801	0	0	0	0	0	94	1251	89	0	1434	3359
05-06	0	719	256	0	975	114	643	0	0	757	0	0	0	0	0	93	1126	86	0	1305	3037
<b>PEAK HOUR</b>																					
04-05	0	1065	318	0	1383	142	773	0	0	916	0	0	0	0	0	95	1645	102	0	1842	4140

VEHICLE TURNING MOVEMENT COUNT - SUMMARY														Counted by: AM		Date: March 12, 2008		Day: Wednesday			
Intersection of: Keasamoku Street and: Young Street Location: Honolulu, Hawaii														Weather: Sunny, Warm		Entered by: AG					
TIME	TRAFFIC FROM NORTH on: Keasamoku Street					TRAFFIC FROM SOUTH on: Keasamoku Street					TRAFFIC FROM EAST on: Young Street					TRAFFIC FROM WEST on: Young Street					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U+TH	TOTAL	RIGHT	THRU	LEFT	U+TH	TOTAL	RIGHT	THRU	LEFT	U+TH	TOTAL	RIGHT	THRU	LEFT	U+TH	TOTAL	
<b>AM</b>																					
07:0-15	15	202	20	0	238	1	121	1	0	123	3	45	12	0	60	7	14	2	0	23	444
15-30	15	230	13	0	258	3	141	4	0	148	9	52	9	0	70	9	10	12	0	31	507
30-45	20	243	13	0	276	3	143	7	0	153	12	52	15	0	79	4	0	3	0	13	521
45-00	25	236	11	0	272	3	103	12	0	118	7	40	8	0	55	10	13	4	0	27	472
08:0-15	35	210	12	0	257	1	123	8	0	132	10	47	15	0	73	8	12	4	0	24	486
15-30	28	229	12	0	269	0	124	0	0	133	18	42	15	0	73	14	13	8	0	35	510
30-45	21	229	11	0	261	3	116	14	0	133	17	45	10	0	72	15	17	11	0	43	509
45-00	24	236	14	0	274	4	119	12	0	135	16	48	12	0	76	13	22	9	0	44	520
2 Hr Totals	183	1616	106	0	2105	18	990	67	0	1075	80	371	97	0	555	80	107	53	0	240	3978
<b>1 Hr Totals</b>																					
07-08	75	912	57	0	1044	10	508	24	0	542	31	189	44	0	264	30	43	21	0	94	1944
715-815	65	919	49	0	1063	10	510	31	0	551	38	191	48	0	277	31	41	23	0	95	1986
730-830	108	918	46	0	1074	7	493	36	0	536	45	181	54	0	280	36	44	10	0	90	1989
745-845	103	904	45	0	1059	7	460	43	0	516	50	174	49	0	273	47	55	27	0	129	1977
08-09	109	904	49	0	1061	8	482	43	0	533	59	182	53	0	294	50	64	32	0	146	2034
<b>PEAK HOUR</b>																					
08-09	108	904	49	0	1061	8	482	43	0	533	59	182	53	0	294	50	64	32	0	146	2034
<b>PM</b>																					
04:0-15	13	209	12	0	234	11	157	19	0	187	21	37	10	0	68	17	28	14	0	59	548
15-30	7	211	33	0	251	13	151	14	0	178	28	32	16	0	76	18	28	15	0	61	566
30-45	9	223	12	0	244	16	223	17	0	256	32	50	17	0	99	18	38	19	0	75	674
45-00	13	226	22	0	261	16	265	19	0	301	50	64	21	0	135	19	48	20	0	87	764
05:0-15	9	191	14	0	214	2	204	12	0	218	49	39	20	0	108	19	44	33	0	95	636
15-30	8	178	22	0	209	6	214	8	0	226	55	41	5	0	101	23	24	31	0	78	815
30-45	9	193	11	0	213	3	183	18	0	204	67	30	16	0	113	18	28	16	0	58	568
45-00	11	218	11	0	240	3	189	18	0	210	38	40	11	0	89	11	38	20	0	69	608
2 Hr Totals	79	1650	137	0	1866	70	1587	125	0	1782	340	333	116	0	789	141	274	168	0	583	5020
<b>1 Hr Totals</b>																					
04-05	42	869	70	0	990	56	797	69	0	922	131	183	64	0	378	72	142	68	0	282	2572
415-515	38	851	81	0	970	47	844	62	0	953	159	185	74	0	418	74	158	87	0	319	2660
430-530	59	819	70	0	928	40	907	56	0	1003	186	194	63	0	443	79	154	103	0	336	2710
445-545	39	789	69	0	897	27	867	57	0	951	221	174	62	0	457	77	142	100	0	319	2824
05-06	37	781	58	0	876	14	700	56	0	860	209	150	52	0	411	69	132	100	0	301	2448
<b>PEAK HOUR</b>																					
430-530	39	819	70	0	928	40	907	56	0	1003	186	194	63	0	443	79	154	103	0	336	2710

VEHICLE TURNING MOVEMENT COUNT - SUMMARY														Counted by: EP		Date: February 28, 2008		Day: Thursday			
Intersection of: Kalakaua Avenue and: Young Street Location: Honolulu, Hawaii														Weather: Sunny, Warm		Entered by: AG					
TIME	TRAFFIC FROM NORTH on: Kalakaua Avenue					TRAFFIC FROM SOUTH on: Kalakaua Avenue					TRAFFIC FROM EAST on: Young Street					TRAFFIC FROM WEST on: Young Street					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U+LN	TOTAL	RIGHT	THRU	LEFT	U+LN	TOTAL	RIGHT	THRU	LEFT	U+LN	TOTAL	RIGHT	THRU	LEFT	U+LN	TOTAL	
AM																					
07-0-15	5	76	0	0	81	1	153	32	0	186	26	61	6	0	93	10	42	7	0	59	478
15-30	6	77	3	0	86	1	155	42	0	198	22	73	5	0	100	9	48	5	0	62	448
30-45	9	86	2	0	97	8	168	51	0	227	22	103	10	0	135	10	57	2	0	69	528
45-00	10	114	3	0	127	7	147	38	0	192	18	95	14	0	127	12	52	4	0	68	515
08-0-15	11	147	5	0	163	9	134	25	0	169	15	86	19	0	120	11	33	5	0	49	500
15-30	10	128	4	0	142	8	122	21	0	151	13	87	14	0	114	7	34	3	0	44	451
30-45	8	117	2	0	127	6	109	16	0	131	10	65	11	0	106	3	27	2	0	32	386
45-00	8	121	6	0	135	7	112	15	0	134	14	82	9	0	105	5	29	4	0	38	412
2 Hr Totals	67	886	25	0	958	47	1110	240	0	1397	140	673	89	0	801	67	322	32	0	421	3677
1 Hr Totals																					
07-08	30	353	8	0	391	17	633	163	0	813	68	333	35	0	436	41	199	18	0	258	1918
715-815	36	424	13	0	473	25	604	156	0	785	77	356	48	0	481	42	190	16	0	248	1989
730-830	40	475	14	0	529	32	571	135	0	738	68	372	57	0	497	40	176	14	0	230	1994
745-845	35	506	14	0	559	30	512	100	0	642	56	354	58	0	468	33	146	14	0	193	1862
08-09	37	513	17	0	567	30	477	77	0	584	52	340	53	0	445	28	123	14	0	165	1759
PEAK HOUR	40	475	14	0	529	32	571	135	0	738	68	372	57	0	497	40	176	14	0	230	1994
PM																					
04-0-15	13	103	8	0	124	12	182	22	0	216	26	38	6	0	68	17	41	11	0	69	477
15-30	8	97	3	0	108	12	168	18	0	198	22	48	5	0	75	13	44	6	0	63	444
30-45	2	93	3	0	98	13	153	13	0	169	22	58	10	0	90	18	55	9	0	82	459
45-00	10	85	0	0	114	14	171	23	0	208	18	51	14	0	83	13	59	14	0	77	482
05-0-15	6	102	9	0	117	26	153	18	0	197	15	45	19	0	80	16	39	11	0	66	469
15-30	4	95	5	0	104	19	158	13	0	190	13	47	14	0	74	7	37	6	0	50	418
30-45	7	121	3	0	131	29	163	18	0	208	10	45	11	0	66	18	25	12	0	53	458
45-00	3	109	3	0	109	17	147	8	0	172	14	42	9	0	65	16	40	10	0	66	412
2 Hr Totals	53	609	43	0	695	142	1305	131	0	1578	140	373	88	0	601	116	331	79	0	526	3610
1 Hr Totals																					
04-05	33	388	23	0	444	51	684	76	0	811	88	193	35	0	316	81	190	40	0	291	1862
415-515	26	387	24	0	437	55	655	72	0	782	77	203	48	0	328	60	188	40	0	288	1845
430-530	22	385	26	0	433	72	646	67	0	784	68	202	57	0	327	54	181	40	0	275	1819
445-545	27	413	26	0	466	88	645	70	0	803	56	189	58	0	303	52	151	43	0	246	1816
05-06	20	421	20	0	461	91	621	55	0	767	52	160	53	0	265	55	141	39	0	235	1748
PEAK HOUR	33	388	23	0	444	51	684	76	0	811	88	193	35	0	316	81	190	40	0	291	1862

VEHICLE TURNING MOVEMENT COUNT - SUMMARY														Counted by: LT		Date: March 6, 2008		Day: Thursday				
Intersection of: Kalakaua Avenue and: Beretania Street Location: Honolulu, Hawaii														Weather: Sunny, Warm		Entered by: AG						
TIME	TRAFFIC FROM NORTH on: Kalakaua Avenue					TRAFFIC FROM SOUTH on: Kalakaua Avenue					TRAFFIC FROM EAST on: Beretania Street					TRAFFIC FROM WEST on: Beretania Street					TOTAL N + S + E + W	
	RIGHT	THRU	LEFT	U+LN	TOTAL	RIGHT	THRU	LEFT	U+LN	TOTAL	RIGHT	THRU	LEFT	U+LN	TOTAL	RIGHT	THRU	LEFT	U+LN	TOTAL		
AM																						
07-0-15					0					0	183	0	183	513	0	513					0	789
15-30					0					0	186	0	186	592	0	592					0	865
30-45					0					0	197	0	197	659	0	659					0	853
45-00					0					0	179	0	179	675	0	675					0	871
08-0-15					0					0	162	0	162	622	0	622					0	940
15-30					0					0	148	0	148	587	0	587					0	857
30-45					0					0	127	0	127	471	0	471					0	724
45-00					0					0	135	0	135	429	0	429					0	705
2 Hr Totals	0	0	0	0	0	0	0	0	0	0	0	0	1317	0	0	4522	0	0	0	0	0	6803
1 Hr Totals																						
07-08	0	0	0	0	0	0	0	745	0	745	0	2433	399	0	2832	0	0	0	0	0	3577	
715-815	0	0	0	0	0	0	0	724	0	724	0	2542	493	0	3005	0	0	0	0	0	3729	
730-830	0	0	0	0	0	0	0	686	0	686	0	2517	518	0	3035	0	0	0	0	0	3721	
745-845	0	0	0	0	0	0	0	616	0	616	0	2335	541	0	2876	0	0	0	0	0	3492	
08-09	0	0	0	0	0	0	0	572	0	572	0	2089	565	0	2654	0	0	0	0	0	3228	
PEAK HOUR	0	0	0	0	0	0	0	724	0	724	0	2542	493	0	3005	0	0	0	0	0	3725	
PM																						
04-0-15					0					0	241	0	241	471	0	471					0	846
15-30					0					0	219	0	219	427	0	427					0	726
30-45					0					0	243	0	243	493	0	493					0	829
45-00					0					0	164	0	164	460	0	460					0	708
05-0-15					0					0	193	0	193	415	0	415					0	720
15-30					0					0	224	0	224	354	0	354					0	663
30-45					0					0	176	0	176	378	0	378					0	658
45-00					0					0	139	0	139	318	0	318					0	550
2 Hr Totals	0	0	0	0	0	0	0	1589	0	1589	0	3317	797	0	4114	0	0	0	0	0	5713	
1 Hr Totals																						
04-05	0	0	0	0	0	0	0	867	0	867	0	1851	395	0	2246	0	0	0	0	0	3113	
415-515	0	0	0	0	0	0	0	818	0	818	0	1795	382	0	2177	0	0	0	0	0	2996	
430-530	0	0	0	0	0	0	0	824	0	824	0	1722	377	0	2099	0	0	0	0	0	2923	
445-545	0	0	0	0	0	0	0	757	0	757	0	1608	287	0	1895	0	0	0	0	0	2752	
05-06	0	0	0	0	0	0	0	732	0	732	0	1466	422	0	1888	0	0	0	0	0	2600	
PEAK HOUR	0	0	0	0	0	0	0	867	0	867	0	1851	395	0	2246	0	0	0	0	0	3113	

VEHICLE TURNING MOVEMENT COUNT - SUMMARY																					
Intersection of: Punahou Street and: Lunalilo Pkwy (I-1) EB Off Ramp/Bingham Street Location: Honolulu, Hawaii													Counted by: LT		Date: March 4, 2008		Day: Tuesday				
													Weather: Sunny, Warm		Entered by: AG						
TIME	TRAFFIC FROM NORTH on: Punahou Street					TRAFFIC FROM SOUTH on: Punahou Street					TRAFFIC FROM EAST on: Bingham Street					TRAFFIC FROM WEST on: I-1 EB Off Ramp					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U+TN	TOTAL	RIGHT	THRU	LEFT	U+TN	TOTAL	RIGHT	THRU	LEFT	U+TN	TOTAL	RIGHT	THRU	LEFT	U+TN	TOTAL	
<b>AM</b>																					
07:0-15	189	24	0	183	23	53	0	106	0	0	0	0	0	0	182	25	331	0	548	837	
15-30	222	24	0	245	22	103	0	125	0	0	0	0	0	0	279	43	330	0	652	1023	
30-45	220	28	0	257	48	163	0	231	0	0	0	0	0	0	240	29	305	0	574	1002	
45-00	235	23	0	278	64	160	0	229	0	0	0	0	0	0	201	54	297	0	642	1140	
08:0-15	244	30	0	274	30	125	0	155	0	0	0	0	0	0	341	78	221	0	640	1058	
15-30	220	25	0	245	22	136	0	158	0	0	0	0	0	0	352	63	229	0	643	1045	
30-45	210	22	0	232	32	112	0	144	0	0	0	0	0	0	310	51	140	0	501	877	
45-00	147	25	0	172	65	155	0	220	0	0	0	0	0	0	372	101	154	0	627	1018	
2 Hr Totals	0	1686	201	0	1887	306	1053	0	0	1359	0	0	0	0	2377	444	2000	0	4827	8073	
<b>1 Hr Totals</b>																					
07-08	0	865	99	0	964	157	525	0	0	682	0	0	0	0	1002	151	1253	0	2416	4062	
715-815	0	950	105	0	1055	164	587	0	0	731	0	0	0	0	1151	204	1153	0	2506	4294	
730-830	0	848	108	0	1054	164	600	0	0	764	0	0	0	0	1224	224	1051	0	2499	4317	
745-845	0	929	100	0	1029	148	529	0	0	677	0	0	0	0	1294	246	856	0	2426	4132	
08-09	0	821	102	0	923	149	528	0	0	677	0	0	0	0	1375	293	743	0	2411	4011	
<b>PEAK HOUR</b>																					
730-830	0	948	108	0	1054	164	600	0	0	764	0	0	0	0	1224	224	1051	0	2499	4317	
<b>PM</b>																					
04:0-15	195	17	0	212	37	281	0	318	0	0	0	0	0	0	195	38	229	0	463	983	
15-30	174	29	0	203	26	269	0	315	0	0	0	0	0	0	185	23	161	0	369	887	
30-45	179	16	0	195	9	322	0	331	0	0	0	0	0	0	149	42	195	0	386	912	
45-00	140	15	0	155	55	343	0	388	0	0	0	0	0	0	114	34	102	0	250	803	
05:0-15	166	20	0	186	31	342	0	373	0	0	0	0	0	0	101	39	154	0	294	853	
15-30	167	17	0	184	18	285	0	283	0	0	0	0	0	0	103	24	86	0	213	680	
30-45	150	17	0	167	16	292	0	308	0	0	0	0	0	0	126	35	112	0	274	749	
45-00	133	18	0	151	17	255	0	272	0	0	0	0	0	0	129	28	129	0	286	709	
2 Hr Totals	0	1304	149	0	1453	200	2389	0	0	2598	0	0	0	0	1162	265	1168	0	2535	6586	
<b>1 Hr Totals</b>																					
04-05	0	658	77	0	735	127	1235	0	0	1362	0	0	0	0	843	138	687	0	1468	3595	
415-515	0	650	80	0	730	121	1296	0	0	1417	0	0	0	0	540	138	612	0	1299	3455	
430-530	0	652	68	0	720	113	1272	0	0	1385	0	0	0	0	467	150	537	0	1143	3248	
445-545	0	623	69	0	692	120	1242	0	0	1382	0	0	0	0	444	133	454	0	1031	3085	
05-06	0	616	72	0	688	82	1154	0	0	1236	0	0	0	0	450	127	481	0	1057	2991	
<b>PEAK HOUR</b>																					
04-05	0	688	77	0	765	127	1235	0	0	1362	0	0	0	0	843	138	687	0	1468	3595	

VEHICLE TURNING MOVEMENT COUNT - SUMMARY																					
Intersection of: Kalakaua Avenue and: King Street Location: Honolulu, Hawaii													Counted by: AM		Date: March 25, 2008		Day: Tuesday				
													Weather: Sunny, Warm		Entered by: AG						
TIME	TRAFFIC FROM NORTH on: Kalakaua Avenue					TRAFFIC FROM SOUTH on: Kalakaua Avenue					TRAFFIC FROM EAST on: King Street					TRAFFIC FROM WEST on: King Street					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U+TN	TOTAL	RIGHT	THRU	LEFT	U+TN	TOTAL	RIGHT	THRU	LEFT	U+TN	TOTAL	RIGHT	THRU	LEFT	U+TN	TOTAL	
<b>AM</b>																					
07:0-15	107	1	0	108	21	145	0	166	0	0	0	0	0	0	61	189	7	0	257	521	
15-30	93	3	0	96	22	160	0	202	0	0	0	0	0	0	87	186	7	0	280	578	
30-45	142	4	0	146	31	153	0	164	0	0	0	0	0	0	91	251	11	0	353	683	
45-00	141	7	0	148	33	143	0	176	0	0	0	0	0	0	58	141	12	0	211	535	
08:0-15	104	6	0	110	33	117	0	150	0	0	0	0	0	0	61	193	3	0	257	517	
15-30	121	5	0	126	31	121	0	152	0	0	0	0	0	0	67	168	8	0	273	551	
30-45	142	5	0	147	38	151	0	189	0	0	0	0	0	0	53	251	16	0	320	650	
45-00	137	6	0	143	34	133	0	167	0	0	0	0	0	0	62	227	12	0	301	611	
2 Hr Totals	0	987	37	0	1024	243	1143	0	0	1386	0	0	0	0	540	1630	76	0	2252	4862	
<b>1 Hr Totals</b>																					
07-08	0	483	15	0	498	107	621	0	0	728	0	0	0	0	297	767	37	0	1101	2327	
715-815	0	480	20	0	500	119	593	0	0	712	0	0	0	0	297	771	33	0	1101	2313	
730-830	0	508	22	0	530	128	534	0	0	662	0	0	0	0	277	783	34	0	1094	2286	
745-845	0	508	23	0	531	135	532	0	0	667	0	0	0	0	239	783	39	0	1081	2259	
08-09	0	504	22	0	526	136	522	0	0	658	0	0	0	0	243	809	39	0	1151	2335	
<b>PEAK HOUR</b>																					
08-09	0	504	22	0	526	136	522	0	0	658	0	0	0	0	243	809	39	0	1151	2335	
<b>PM</b>																					
04:0-15	170	15	0	185	48	184	0	230	0	0	0	0	0	0	64	510	19	0	593	1008	
15-30	152	8	0	160	40	202	0	251	0	0	0	0	0	0	75	512	15	0	602	1013	
30-45	148	13	0	161	47	179	0	226	0	0	0	0	0	0	65	703	17	0	785	1172	
45-00	120	10	0	130	50	126	0	182	0	0	0	0	0	0	58	646	34	0	778	1090	
05:0-15	168	13	0	181	57	148	0	205	0	0	0	0	0	0	98	624	25	0	745	1131	
15-30	148	11	0	157	53	149	0	202	0	0	0	0	0	0	86	608	23	0	727	1086	
30-45	154	13	0	167	53	156	0	208	0	0	0	0	0	0	80	651	16	0	757	1132	
45-00	128	10	0	138	53	155	0	183	0	0	0	0	0	0	67	514	26	0	638	965	
2 Hr Totals	0	1185	93	0	1279	414	1278	0	0	1692	0	0	0	0	679	4768	179	0	5625	8587	
<b>1 Hr Totals</b>																					
04-05	0	590	46	0	636	108	691	0	0	809	0	0	0	0	302	2371	85	0	2758	4283	
415-515	0	588	44	0	632	209	655	0	0	854	0	0	0	0	334	2465	91	0	2910	4406	
430-530	0	582	47	0	629	213	602	0	0	816	0	0	0	0	355	2581	99	0	3025	4479	
445-545	0	588	47	0	635	218	578	0	0	797	0	0	0	0	378	2529	100	0	3007	4430	
05-06	0	596	47	0	643	216	557	0	0	803	0	0	0	0	377	2397	94	0	2868	4314	
<b>PEAK HOUR</b>																					
430-530	0	582	47	0	629	213	602	0	0	816	0	0	0	0	355	2581	99	0	3025	4479	

VEHICLE TURNING MOVEMENT COUNT - SUMMARY														Counted by: LT			Date: February 28, 2008			Day: Thursday		
Intersection of: Punahou Street and: Young Street Location: Honolulu, Hawaii														Weather: Sunny, Warm			Entered by: AG					
TIME	TRAFFIC FROM NORTH on: Punahou Street					TRAFFIC FROM SOUTH on: Punahou Street					TRAFFIC FROM EAST on: Young Street					TRAFFIC FROM WEST on: Young Street					TOTAL N + S + E + W	
	RIGHT	THRU	LEFT	U+LN	TOTAL	RIGHT	THRU	LEFT	U+LN	TOTAL	RIGHT	THRU	LEFT	U+LN	TOTAL	RIGHT	THRU	LEFT	U+LN	TOTAL		
<b>AM</b>																						
07-0-15	10	95	1	0	100	32	50	30	0	112	7	84	18	0	109	0	53	3	0	71	308	
15-30	7	116	0	0	123	40	101	9	0	150	7	83	17	0	107	5	51	3	0	60	440	
30-45	16	147	2	0	165	62	104	9	0	175	5	87	23	0	115	10	61	16	0	87	542	
45-00	14	164	1	0	179	64	89	12	0	165	8	114	25	0	147	14	82	16	0	112	603	
<b>08:0-15</b>																						
11	143	1	0	0	155	29	110	7	0	146	11	103	16	0	132	4	29	5	0	38	471	
15-30	12	111	0	0	123	34	93	9	0	136	10	98	17	0	125	6	31	0	0	43	427	
30-45	7	172	0	0	179	25	83	5	0	113	3	97	7	0	107	4	24	7	0	35	434	
45-00	0	143	1	0	153	29	84	7	0	100	4	83	6	0	93	5	29	12	0	48	382	
<b>2 Hr Totals</b>																						
08	1091	6	0	0	1183	315	694	88	0	1097	55	749	131	0	935	58	368	68	0	492	3707	
<b>1 Hr Totals</b>																						
07-08	47	522	4	0	573	108	344	60	0	602	27	368	83	0	478	39	253	39	0	330	1883	
7:15-8:15	48	570	4	0	622	155	404	37	0	636	21	387	83	0	501	34	223	40	0	297	2056	
7:30-8:30	53	565	4	0	622	189	395	37	0	622	34	402	83	0	519	34	203	43	0	280	2045	
7:45-8:45	44	590	2	0	638	152	375	33	0	560	32	412	57	0	511	28	156	34	0	228	1935	
08-09	39	569	2	0	610	117	350	28	0	495	28	381	48	0	457	19	113	30	0	162	1724	
<b>PEAK HOUR</b>																						
7:15-8:15	48	570	4	0	622	155	404	37	0	636	31	387	83	0	501	34	223	40	0	297	2056	
<b>PM</b>																						
04-0-15	8	149	12	0	169	6	172	3	0	181	10	48	5	0	63	6	33	21	0	50	473	
15-30	3	137	15	0	155	3	162	10	0	175	9	58	5	0	72	6	28	17	0	51	453	
30-45	9	119	12	0	140	10	128	2	0	140	10	84	13	0	107	5	35	17	0	57	444	
45-00	8	133	16	0	157	9	130	6	0	145	7	64	5	0	76	13	49	17	0	79	457	
<b>08:0-15</b>																						
10	130	14	0	0	154	8	173	7	0	189	8	55	9	0	72	9	41	18	0	68	483	
15-30	6	151	28	0	183	10	189	8	0	207	17	48	9	0	74	5	51	20	0	76	540	
30-45	4	105	17	0	126	8	155	6	0	168	18	40	4	0	63	8	20	23	0	51	409	
45-00	9	121	17	0	147	5	179	6	0	190	25	46	6	0	72	6	24	12	0	42	451	
<b>2 Hr Totals</b>																						
08	1045	129	0	0	1231	60	1288	48	0	1396	100	443	58	0	599	58	281	145	0	404	3710	
<b>1 Hr Totals</b>																						
04-05	28	538	55	0	621	26	592	21	0	641	36	254	28	0	318	30	145	72	0	247	1827	
4:15-5:15	30	519	57	0	606	31	593	25	0	649	34	261	32	0	327	33	153	69	0	255	1837	
4:30-5:30	33	533	68	0	634	38	620	23	0	681	42	251	35	0	329	32	176	72	0	280	1924	
4:45-5:45	28	519	73	0	620	36	647	27	0	710	51	207	27	0	385	35	161	78	0	274	1889	
05-06	20	507	74	0	610	32	638	27	0	735	64	189	28	0	281	28	138	73	0	237	1853	
<b>PEAK HOUR</b>																						
4:30-5:30	33	533	68	0	634	38	620	23	0	681	42	251	35	0	329	32	176	72	0	280	1924	

VEHICLE TURNING MOVEMENT COUNT - SUMMARY														Counted by: LT/EP			Date: March 5, 2008			Day: Wednesday		
Intersection of: Punahou Street and: Beretania Street Location: Honolulu, Hawaii														Weather: Sunny, Warm			Entered by: AG					
TIME	TRAFFIC FROM NORTH on: Punahou Street					TRAFFIC FROM SOUTH on: Punahou Street					TRAFFIC FROM EAST on: Beretania Street					TRAFFIC FROM WEST on: Beretania Street					TOTAL N + S + E + W	
	RIGHT	THRU	LEFT	U+LN	TOTAL	RIGHT	THRU	LEFT	U+LN	TOTAL	RIGHT	THRU	LEFT	U+LN	TOTAL	RIGHT	THRU	LEFT	U+LN	TOTAL		
<b>AM</b>																						
07-0-15	131	113	0	0	244	65	18	0	0	83	56	437	18	0	511						838	
15-30	151	107	0	0	258	71	33	0	0	104	55	528	21	0	604						968	
30-45	162	138	0	0	300	77	45	0	0	122	45	541	25	0	612						1034	
45-00	178	153	0	0	331	85	42	0	0	127	47	552	28	0	628						1086	
<b>08:0-15</b>																						
106	144	0	0	340	85	34	0	0	120	43	521	25	0	589							1240	
15-30	211	137	0	0	348	74	38	0	0	112	32	443	17	0	492						952	
30-45	210	151	0	0	361	84	13	0	0	97	45	360	11	0	416						874	
45-00	198	146	0	0	344	77	22	0	0	99	38	347	13	0	398						841	
<b>2 Hr Totals</b>																						
08	1437	1089	0	0	2526	0	619	245	0	664	361	3730	159	0	4250	0	0	0	0	0	7640	
<b>1 Hr Totals</b>																						
07-08	622	511	0	0	1133	0	298	135	0	436	203	2059	63	0	2355	0	0	0	0	0	3924	
7:15-8:15	687	542	0	0	1229	0	319	154	0	473	180	2143	100	0	2433	0	0	0	0	0	4135	
7:30-8:30	747	572	0	0	1319	0	322	159	0	481	187	2058	98	0	2321	0	0	0	0	0	4121	
7:45-8:45	795	585	0	0	1380	0	329	127	0	456	167	1877	81	0	2125	0	0	0	0	0	3981	
08-09	815	578	0	0	1393	0	321	107	0	428	158	1671	68	0	1895	0	0	0	0	0	3718	
<b>PEAK HOUR</b>																						
7:15-8:15	687	542	0	0	1229	0	319	154	0	473	180	2143	100	0	2433	0	0	0	0	0	4135	
<b>PM</b>																						
04-0-15	196	165	0	0	361	131	24	0	0	155	62	459	15	0	536						1052	
15-30	181	169	0	0	350	141	20	0	0	170	50	391	31	0	472						992	
30-45	181	178	0	0	357	133	32	0	0	165	54	373	20	0	447						969	
45-00	188	166	0	0	354	157	28	0	0	185	61	402	24	0	567						1100	
<b>05:0-15</b>																						
181	164	0	0	345	177	24	0	0	201	64	414	30	0	508							1054	
15-30	137	162	0	0	299	174	34	0	0	208	34	315	18	0	357						874	
30-45	119	126	0	0	295	215	25	0	0	240	33	357	21	0	411						946	
45-00	143	144	0	0	287	187	15	0	0	212	45	228	22	0	295						794	
<b>2 Hr Totals</b>																						
1326	1322	0	0	2648	0	1325	211	0	1536	423	2889	181	0	3603	0	0	0	0	0	0	7287	
<b>1 Hr Totals</b>																						
04-05	748	676	0	0	1422	0	562	113	0	675	247	1655	90	0	2022	0	0	0	0	0	4119	
4:15-5:15	731	675	0	0	1406	0	608	113	0	721	249	1640	105	0	1994	0	0	0	0	0	4121	
4:30-5:30	687	668	0	0	1355	0	641	116	0	759	233	1584	92	0	1880	0	0	0	0	0	4003	
4:45-5:45	625	668	0	0	1293	0	723	115	0	834	212	1548	93	0	1853	0	0	0	0	0	3980	
05-06	580	646	0	0	1226	0	753	98	0	851	176	1314	91	0	1581	0	0	0	0	0	3668	
<b>PEAK HOUR</b>																						
4:15-5:15	7																					

APPENDIX B:  
INTERSECTION LEVEL OF SERVICE CALCULATIONS

VEHICLE TURNING MOVEMENT COUNT - SUMMARY																					
Intersection of: Punahou Street and: King Street Location: Honolulu, Hawaii										Counted by: LT Date: February 27, 2008 Weather: Sunny, Warm Entered by: AG			Day: Wednesday								
TIME	TRAFFIC FROM NORTH on: Punahou Street					TRAFFIC FROM SOUTH on: Punahou Street					TRAFFIC FROM EAST on: King Street					TRAFFIC FROM WEST on: King Street					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U+TH	TOTAL	RIGHT	THRU	LEFT	U+TH	TOTAL	RIGHT	THRU	LEFT	U+TH	TOTAL	RIGHT	THRU	LEFT	U+TH	TOTAL	
<b>AM</b>																					
07:0-15	80	48	0	126	32	82	0	114							8	258	59	0	325	565	
15-30	91	64	0	155	40	95	0	135							8	316	46	0	370	660	
30-45	101	66	0	167	62	99	0	161							8	318	59	0	365	733	
45-00	103	70	0	173	04	102	0	166							14	282	57	0	363	702	
08:0-15	97	62	0	159	29	82	0	111							6	305	69	0	340	650	
15-30	87	61	0	148	34	62	0	96							0	236	53	0	298	542	
30-45	91	58	0	149	25	59	0	81							6	233	46	0	285	515	
45-00	95	73	0	168	29	55	0	84							2	240	55	0	297	549	
2 Hr Totals	0	745	520	0	1265	315	533	0	0	948	0	0	0	0	0	61	2198	444	0	2703	4916
1 Hr Totals																					
07-08	0	375	266	0	641	198	378	0	0	576	0	0	0	0	0	38	1184	221	0	1443	2660
7:15-8:15	0	302	282	0	674	195	378	0	0	573	0	0	0	0	0	36	1231	231	0	1498	2745
7:30-8:30	0	388	279	0	667	169	343	0	0	514	0	0	0	0	0	37	1151	238	0	1426	2627
7:45-8:45	0	378	251	0	629	152	302	0	0	454	0	0	0	0	0	35	1066	225	0	1328	2409
08-09	0	370	254	0	624	117	255	0	0	372	0	0	0	0	0	23	1014	223	0	1260	2256
<b>PEAK HOUR</b>																					
7:15-8:15	0	302	282	0	674	195	378	0	0	573	0	0	0	0	0	36	1231	231	0	1498	2745
<b>PM</b>																					
04:0-15	48	81	0	130	44	53	0	97							15	326	37	0	376	605	
15-30	73	104	0	177	33	57	0	90							6	452	90	0	548	815	
30-45	104	126	0	230	44	98	0	142							5	596	68	0	669	1041	
45-00	68	71	0	139	36	60	0	125							6	574	65	0	645	969	
05:0-15	107	135	0	242	42	104	0	146							8	636	114	0	758	1146	
15-30	81	73	0	154	32	119	0	151							9	605	63	0	697	1002	
30-45	73	77	0	150	56	105	0	161							2	715	101	0	818	1129	
45-00	71	67	0	138	49	106	0	155							13	631	107	0	751	1044	
2 Hr Totals	0	626	734	0	1360	336	731	0	0	1067	0	0	0	0	0	64	4535	665	0	5204	7691
1 Hr Totals																					
04-05	0	294	382	0	676	157	297	0	0	454	0	0	0	0	0	32	1948	260	0	2240	3370
4:15-5:15	0	352	436	0	788	155	348	0	0	503	0	0	0	0	0	25	2258	337	0	2620	3911
4:30-5:30	0	360	405	0	765	154	410	0	0	564	0	0	0	0	0	28	2411	330	0	2769	4008
4:45-5:45	0	329	356	0	685	166	417	0	0	583	0	0	0	0	0	25	2530	363	0	2918	4186
05-06	0	332	352	0	684	179	434	0	0	613	0	0	0	0	0	32	2587	405	0	3024	4321
<b>PEAK HOUR</b>																					
05-06	0	332	352	0	684	179	434	0	0	613	0	0	0	0	0	32	2587	405	0	3024	4321

1: Kinau & Keeaumoko St Existing AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	0.96	1.00	1.00	1.00	1.00	0.93	1.00	1.00	1.00	0.91
Frbp, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	0.85	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1770	1863	1525	1728	1583	1728	3539	1470	5082	1770	1863	1525
Flt Permitted	0.95	1.00	1.00	0.72	1.00	1.00	1.00	1.00	0.93	1.00	1.00	0.93
Satd. Flow (perm)	1770	1863	1525	1302	1583	1470	3539	1470	4754	1770	1863	1525
Volume (vph)	130	59	411	43	0	150	0	520	38	8	1021	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	140	63	442	46	0	161	0	559	41	9	1098	0
RTOR Reduction (vph)	0	0	31	0	0	100	0	0	23	0	0	0
Lane Group Flow (vph)	140	63	411	46	0	61	0	559	18	0	1107	0
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50

Turn Type	Perm	Permcustom	custom	Perm	Perm
Protected Phases	4	4	8	2	6
Permitted Phases	16.7	16.7	16.7	18.5	18.5
Actuated Green, G (s)	16.7	16.7	16.7	18.5	18.5
Effective Green, g (s)	0.38	0.38	0.38	0.44	0.44
Actuated g/C Ratio	4.0	4.0	4.0	5.0	5.0
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	669	704	576	492	598
Lane Grp Cap (vph)	0.03	0.03	0.03	0.16	0.16
v/s Ratio Prot	0.21	0.09	0.71	0.09	0.04
v/s Ratio Perm	9.3	8.9	11.7	8.9	8.9
v/c Ratio	1.00	1.00	1.00	1.00	1.00
Uniform Delay, d1	0.2	0.1	4.2	0.1	0.1
Progression Factor	9.4	8.9	15.9	9.0	9.0
Incremental Delay, d2	A	A	A	A	A
Delay (s)	13.8	B	A	9.0	A
Level of Service	B	A	A	A	A
Approach Delay (s)				8.2	9.2
Approach LOS				A	A

Intersection Summary	10.1	HCM Level of Service	B
HCM Average Control Delay	10.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	44.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

2: S. Beretania St & Keeaumoko St Existing AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	0.86	1.00	0.86	1.00	1.00	0.95	1.00	1.00	1.00	0.95
Frbp, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85
Satd. Flow (prot)	1770	1863	1525	1728	1583	1728	3539	1470	5082	1770	1863	1525
Flt Permitted	0.95	1.00	1.00	0.72	1.00	1.00	1.00	1.00	0.93	1.00	1.00	0.93
Satd. Flow (perm)	1770	1863	1525	1302	1583	1470	3539	1470	4754	1770	1863	1525
Volume (vph)	130	59	411	43	0	150	0	520	38	8	1021	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	140	63	442	46	0	161	0	559	41	9	1098	0
RTOR Reduction (vph)	0	0	31	0	0	100	0	0	23	0	0	0
Lane Group Flow (vph)	140	63	411	46	0	61	0	559	18	0	1107	0
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50

Turn Type	Perm	Permcustom	custom	Perm	Perm
Protected Phases	4	4	8	2	6
Permitted Phases	16.7	16.7	16.7	18.5	18.5
Actuated Green, G (s)	16.7	16.7	16.7	18.5	18.5
Effective Green, g (s)	0.38	0.38	0.38	0.44	0.44
Actuated g/C Ratio	4.0	4.0	4.0	5.0	5.0
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	669	704	576	492	598
Lane Grp Cap (vph)	0.03	0.03	0.03	0.16	0.16
v/s Ratio Prot	0.21	0.09	0.71	0.09	0.04
v/s Ratio Perm	9.3	8.9	11.7	8.9	8.9
v/c Ratio	1.00	1.00	1.00	1.00	1.00
Uniform Delay, d1	0.2	0.1	4.2	0.1	0.1
Progression Factor	9.4	8.9	15.9	9.0	9.0
Incremental Delay, d2	A	A	A	A	A
Delay (s)	13.8	B	A	9.0	A
Level of Service	B	A	A	A	A
Approach Delay (s)				8.2	9.2
Approach LOS				A	A

Intersection Summary	10.1	HCM Level of Service	B
HCM Average Control Delay	10.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	44.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

3: Young St & Keeaumoko St Existing AM  
KFC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.98	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	0.96	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1742	1762	3394	1761	3470	1704	3466				
Satd. Flow (prot)	0.38	1.00	0.89	0.14	1.00	0.45	1.00				
Flt Permitted	690	1762	3035	264	3470	807	3466				
Satd. Flow (perm)	60	65	25	80	395	71	16	461	40	71	124
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	65	70	27	86	360	76	17	496	43	76	1209
Adj. Flow (vph)	0	19	0	0	19	0	0	9	0	0	11
RTOR Reduction (vph)	65	78	0	0	503	0	17	530	0	76	1332
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50
Conti. Peds. (#/hr)	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Turn Type	4	4	8	8	2	2	2	2	2	6	6
Protected Phases	4	4	8	8	2	2	2	2	2	6	6
Permitted Phases	13.9	13.9	13.9	13.9	27.1	27.1	27.1	27.1	27.1	27.1	27.1
Actuated Green, G (s)	13.9	13.9	13.9	13.9	28.1	28.1	28.1	28.1	28.1	28.1	28.1
Effective Green, g (s)	0.28	0.28	0.28	0.28	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Actuated g/C Ratio	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	192	490	844	148	1950	454	1948				
Lane Grp Cap (vph)	0.09	0.04	0.17	0.06	0.15	0.09	0.08				
v/s Ratio Prot	0.34	0.16	0.60	0.11	0.27	0.17	0.68				
v/c Ratio Perm	14.4	13.6	15.6	5.1	5.7	5.3	7.8				
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Progression Factor	1.1	0.2	0.3	0.1	0.2	0.2	1.0				
Incremental Delay, d2	15.4	13.8	16.8	5.5	5.7	5.5	8.8				
Delay (s)	B	B	B	A	A	A	A				
Level of Service	14.4	14.4	16.8	5.7	5.7	5.7	8.6				
Approach Delay (s)	B	B	B	B	A	A	A				
Approach LOS	B	B	B	B	A	A	A				
<b>Intersection Summary</b>											
HCM Average Control Delay	10.0										
HCM Volume to Capacity ratio	0.65										
Actuated Cycle Length (s)	50.0										
Intersection Capacity Utilization	85.7%										
Analysis Period (min)	15										
c Critical Lane Group											

4: S. King St & Keeaumoko St Existing AM  
KFC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.98	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	0.96	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1742	1762	3394	1761	3470	1704	3466				
Satd. Flow (prot)	0.38	1.00	0.89	0.14	1.00	0.45	1.00				
Flt Permitted	690	1762	3035	264	3470	807	3466				
Satd. Flow (perm)	60	65	25	80	395	71	16	461	40	71	124
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	65	70	27	86	360	76	17	496	43	76	1209
Adj. Flow (vph)	0	19	0	0	19	0	0	9	0	0	11
RTOR Reduction (vph)	65	78	0	0	503	0	17	530	0	76	1332
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50
Conti. Peds. (#/hr)	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Turn Type	4	4	8	8	2	2	2	2	2	6	6
Protected Phases	4	4	8	8	2	2	2	2	2	6	6
Permitted Phases	13.9	13.9	13.9	13.9	27.1	27.1	27.1	27.1	27.1	27.1	27.1
Actuated Green, G (s)	13.9	13.9	13.9	13.9	28.1	28.1	28.1	28.1	28.1	28.1	28.1
Effective Green, g (s)	0.28	0.28	0.28	0.28	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Actuated g/C Ratio	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	192	490	844	148	1950	454	1948				
Lane Grp Cap (vph)	0.09	0.04	0.17	0.06	0.15	0.09	0.08				
v/s Ratio Prot	0.34	0.16	0.60	0.11	0.27	0.17	0.68				
v/c Ratio Perm	14.4	13.6	15.6	5.1	5.7	5.3	7.8				
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Progression Factor	1.1	0.2	0.3	0.1	0.2	0.2	1.0				
Incremental Delay, d2	15.4	13.8	16.8	5.5	5.7	5.5	8.8				
Delay (s)	B	B	B	A	A	A	A				
Level of Service	14.4	14.4	16.8	5.7	5.7	5.7	8.6				
Approach Delay (s)	B	B	B	B	A	A	A				
Approach LOS	B	B	B	B	A	A	A				
<b>Intersection Summary</b>											
HCM Average Control Delay	12.3										
HCM Volume to Capacity ratio	0.60										
Actuated Cycle Length (s)	55.5										
Intersection Capacity Utilization	89.1%										
Analysis Period (min)	15										
c Critical Lane Group											

5: S. Beretania St & Kalakaua St Existing AM  
KRC Kalakaua Housing

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	0.81	0.81	0.97	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	1.00	0.95	1.00	1.00	0.95
Flt Protected	1433	6035	3433	1433	6035	3433
Satd. Flow (prot)	1433	6035	3433	1433	6035	3433
Flt Permitted	0.95	1.00	0.95	1.00	1.00	0.95
Satd. Flow (perm)	1433	6035	3433	1433	6035	3433
Volume (vph)	0	463	2542	724	0	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	498	2733	778	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	498	2733	778	0
Confl. Peds. (#/hr)	0	20	20	20	0	0
Turn Type	Split					
Protected Phases	8					
Permitted Phases	8					
Actuated Green, G (s)	50.0					
Effective Green, g (s)	51.0					
Actuated g/C Ratio	0.62					
Clearance Time (s)	5.0					
Vehicle Extension (s)	3.0					
Lane Grp Cap (vph)	885					
v/s Ratio Prot	0.35					
v/s Ratio Perm	c0.45					
v/c Ratio	0.56					
Uniform Delay, d1	9.3					
Progression Factor	1.00					
Incremental Delay, d2	0.8					
Delay (s)	10.1					
Level of Service	B					
Approach Delay (s)	11.6					
Approach LOS	B					

Intersection Summary	HCM Level of Service
HCM Average Control Delay	15.5
HCM Volume to Capacity ratio	0.75
Actuated Cycle Length (s)	82.6
Intersection Capacity Utilization	64.2%
Analysis Period (min)	15
c Critical Lane Group	

6: Young St & Kalakaua St Existing AM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Frt	0.98	1.00	0.98	1.00	0.98	1.00	1.00	0.99	1.00	0.95	1.00	0.99
Flt Protected	1800	1797	1797	1797	1797	1797	1797	1797	1797	1797	1797	1797
Satd. Flow (prot)	1800	1797	1797	1797	1797	1797	1797	1797	1797	1797	1797	1797
Flt Permitted	0.96	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Satd. Flow (perm)	1735	1735	1735	1735	1735	1735	1735	1735	1735	1735	1735	1735
Volume (vph)	16	190	42	48	358	77	156	604	25	13	424	36
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	17	204	45	52	385	83	168	649	27	14	465	39
RTOR Reduction (vph)	0	7	0	0	7	0	0	6	0	0	13	0
Lane Group Flow (vph)	0	259	0	0	513	0	168	670	0	14	482	0
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Perm											
Protected Phases	4											
Permitted Phases	4											
Actuated Green, G (s)	21.1											
Effective Green, g (s)	22.1											
Actuated g/C Ratio	0.47											
Clearance Time (s)	5.0											
Vehicle Extension (s)	3.0											
Lane Grp Cap (vph)	823											
v/s Ratio Prot	0.15											
v/s Ratio Perm	0.31											
v/c Ratio	0.63											
Uniform Delay, d1	7.6											
Progression Factor	1.00											
Incremental Delay, d2	0.2											
Delay (s)	7.8											
Level of Service	A											
Approach Delay (s)	7.8											
Approach LOS	A											

Intersection Summary	HCM Level of Service
HCM Average Control Delay	11.5
HCM Volume to Capacity ratio	0.61
Actuated Cycle Length (s)	46.6
Intersection Capacity Utilization	71.7%
Analysis Period (min)	15
c Critical Lane Group	

7: S. King St & Kalakaua St

8: I-1 Off-Ramp & Punahou St

Existing AM  
KRC Kalakaua Housing

Existing AM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	0.86	1.00	0.95	1.00	1.00	1.00	0.96	1.00	1.00	1.00	0.95
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt, ped/bikes	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1770	6408	1505	3539	1514	1766	3539	1514	1766	3539	1514	1766
Flt Permitted	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1770	6408	1505	3539	1514	1766	3539	1514	1766	3539	1514	1766
Volume (vph)	113	1211	297	0	0	0	0	593	219	20	480	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	122	1302	319	0	0	0	0	638	235	22	516	0
RTOR Reduction (vph)	0	0	157	0	0	0	0	140	0	0	0	0
Lane Group Flow (vph)	122	1302	162	0	0	0	0	638	95	22	516	0
Contnl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Split	Perm	Perm	pm+pt								
Protected Phases	4	4	4	2	2	2	2	2	2	2	2	2
Permitted Phases	4	4	4	4	4	4	4	4	4	4	4	4
Actuated Green, G (s)	22.5	22.5	22.5	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4
Effective Green, g (s)	23.5	23.5	23.5	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4
Actuated g/C Ratio	0.42	0.42	0.42	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	747	2704	695	1106	473	261	1538	473	261	1538	473	261
v/s Ratio Prot	0.07	c0.20	0.11	c0.18	0.00	c0.15	0.00	c0.15	0.00	c0.15	0.00	c0.15
v/s Ratio Perm	0.16	0.48	0.26	0.58	0.20	0.08	0.03	0.08	0.20	0.08	0.03	0.08
Uniform Delay, d1	10.0	11.7	10.4	16.1	14.0	9.7	10.4	14.0	16.1	9.7	10.4	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.1	0.2	0.7	0.2	0.1	0.1	0.2	0.7	0.2	0.1	0.1
Delay (s)	10.1	11.8	10.6	16.8	14.3	9.9	10.6	14.3	16.8	9.9	10.6	14.3
Level of Service	B	B	B	B	B	A	B	B	B	A	B	B
Approach Delay (s)	11.5	11.5	11.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Approach LOS	B	B	B	A	A	A	A	A	A	A	A	A
<b>Intersection Summary</b>												
HCM Average Control Delay	12.6											
HCM Volume to Capacity ratio	0.52											
Actuated Cycle Length (s)	55.7											
Intersection Capacity Utilization	52.4%											
Analysis Period (min)	15											
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	0.95	0.95	0.88	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt, ped/bikes	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1681	1709	2570	3316	3316	3316	3316	3316	3316	3316	3316	3316
Flt Permitted	0.95	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1681	1709	2570	3316	3316	3316	3316	3316	3316	3316	3316	3316
Volume (vph)	1153	204	911	0	0	0	0	479	142	105	730	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1240	219	980	0	0	0	0	515	153	113	785	0
RTOR Reduction (vph)	0	0	132	0	0	0	0	52	0	0	0	0
Lane Group Flow (vph)	711	748	848	0	0	0	0	616	0	113	785	0
Contnl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Split	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	4	4	4	2	2	2	2	2	2	2	2	2
Permitted Phases	4	4	4	4	4	4	4	4	4	4	4	4
Actuated Green, G (s)	26.3	26.3	26.3	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5
Effective Green, g (s)	26.3	26.3	26.3	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5
Actuated g/C Ratio	0.49	0.49	0.49	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	822	835	1256	1202	1202	1202	1202	1202	1202	1202	1283	1283
v/s Ratio Prot	0.42	c0.44	0.33	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.20	0.22
v/s Ratio Perm	0.86	0.90	0.68	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.56	0.61
Uniform Delay, d1	12.2	12.5	10.5	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.7	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.4	12.1	1.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	3.3	0.9
Delay (s)	21.6	24.6	11.9	13.8	13.8	13.8	13.8	13.8	13.8	13.8	17.1	14.9
Level of Service	C	C	B	B	B	B	B	B	B	B	B	B
Approach Delay (s)	18.7	18.7	18.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.2	15.2
Approach LOS	B	B	B	A	A	A	A	A	A	A	B	B
<b>Intersection Summary</b>												
HCM Average Control Delay	17.1											
HCM Volume to Capacity ratio	0.77											
Actuated Cycle Length (s)	53.8											
Intersection Capacity Utilization	71.8%											
Analysis Period (min)	15											
c Critical Lane Group												

10: Young St & Punahou St Existing AM KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fripb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.98	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Flt Protected	1809	1822	1725	3268	1723	3473	1723	3473	1723	3473	1723	3473
Satd. Flow (prot)	0.90	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Flt Permitted	1636	1642	1642	1642	1642	1642	1642	1642	1642	1642	1642	1642
Satd. Flow (perm)	40	223	34	83	387	31	37	404	195	4	570	48
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	43	240	37	89	416	33	40	434	210	4	613	52
Adj. Flow (vph)	0	5	0	0	3	0	0	108	0	0	11	0
RTOR Reduction (vph)	0	315	0	0	535	0	40	536	0	4	854	0
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50	50
Confl. Peds. (#/hr)	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Turn Type	4	4	4	8	8	8	2	2	2	6	6	6
Protected Phases	4	4	4	8	8	8	2	2	2	6	6	6
Permitted Phases	21.1	22.1	7.4	21.1	22.1	15.2	15.2	15.2	15.2	14.2	14.2	14.2
Actuated Green, G (s)	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Effective Green, g (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Actuated g/C Ratio	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Clearance Time (s)	798	0.19	0.39	801	0.33	0.67	0.07	0.16	0.01	0.01	0.56	0.19
Vehicle Extension (s)	0.19	0.39	0.39	0.33	0.67	0.07	0.16	0.01	0.01	0.56	0.19	0.19
Lane Grp Cap (vph)	0.19	0.39	0.39	0.33	0.67	0.07	0.16	0.01	0.01	0.56	0.19	0.19
v/s Ratio Prot	0.19	0.39	0.39	0.33	0.67	0.07	0.16	0.01	0.01	0.56	0.19	0.19
v/s Ratio Perm	0.19	0.39	0.39	0.33	0.67	0.07	0.16	0.01	0.01	0.56	0.19	0.19
v/c Ratio	0.19	0.39	0.39	0.33	0.67	0.07	0.16	0.01	0.01	0.56	0.19	0.19
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Incremental Delay, d2	7.7	7.7	7.7	10.9	10.9	11.3	12.3	12.3	12.3	10.1	12.9	12.9
Delay (s)	A	A	A	B	B	B	B	B	B	B	B	B
Level of Service	7.7	7.7	7.7	10.9	10.9	11.3	12.3	12.3	12.3	10.1	12.9	12.9
Approach Delay (s)	A	A	A	B	B	B	B	B	B	B	B	B
Approach LOS	7.7	7.7	7.7	10.9	10.9	11.3	12.3	12.3	12.3	10.1	12.9	12.9
Intersection Summary	Intersection Summary											
HCM Average Control Delay	11.5 HCM Level of Service B											
HCM Volume to Capacity ratio	0.62											
Actuated Cycle Length (s)	45.3 Sum of lost time (s) 8.0											
Intersection Capacity Utilization	70.7% ICU Level of Service C											
Analysis Period (min)	15											
c Critical Lane Group												

9: S. Beretania St & Punahou St Existing AM KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.86	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fripb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	6284	1770	3539	2787	3539	2787	3539	2787	3539	2787	3539	2787
Satd. Flow (prot)	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Permitted	6284	1770	3539	2787	3539	2787	3539	2787	3539	2787	3539	2787
Satd. Flow (perm)	0	0	0	160	2143	190	154	319	0	0	542	687
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	0	0	0	108	2304	204	166	343	0	0	583	739
Adj. Flow (vph)	0	0	0	0	16	0	0	0	0	0	0	16
RTOR Reduction (vph)	0	0	0	0	2600	0	166	343	0	0	583	723
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50	50
Confl. Peds. (#/hr)	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split
Turn Type	8	8	8	8	8	8	8	8	8	8	8	8
Protected Phases	8	8	8	8	8	8	8	8	8	8	8	8
Permitted Phases	35.0	36.0	0.45	6.0	34.3	7.0	35.3	24.3	24.3	24.3	24.3	24.3
Actuated Green, G (s)	0.09	0.45	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Effective Green, g (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Actuated g/C Ratio	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Clearance Time (s)	2853	c0.41	0.16	186	1575	1084	854	1084	854	1084	854	854
Vehicle Extension (s)	c0.41	0.16	0.16	c0.09	0.10	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Lane Grp Cap (vph)	0.91	1.06	0.22	1.06	0.22	0.54	0.85	0.54	0.85	0.54	0.85	0.85
v/s Ratio Prot	20.2	36.1	13.5	36.1	13.5	22.8	25.8	22.8	25.8	22.8	25.8	25.8
v/s Ratio Perm	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
v/c Ratio	4.9	90.1	0.1	90.1	0.1	0.5	7.8	0.5	7.8	0.5	7.8	7.8
Uniform Delay, d1	25.1	126.3	13.5	126.3	13.5	23.4	33.5	23.4	33.5	23.4	33.5	33.5
Progression Factor	C	F	B	C	B	C	C	C	C	C	C	C
Incremental Delay, d2	25.1	126.3	13.5	126.3	13.5	23.4	33.5	23.4	33.5	23.4	33.5	33.5
Delay (s)	0.0	50.3	50.3	50.3	50.3	50.3	50.3	50.3	50.3	50.3	50.3	50.3
Level of Service	A	D	D	D	D	D	D	D	D	D	D	D
Approach Delay (s)	A	D	D	D	D	D	D	D	D	D	D	D
Approach LOS	A	D	D	D	D	D	D	D	D	D	D	D
Intersection Summary	Intersection Summary											
HCM Average Control Delay	29.2 HCM Level of Service C											
HCM Volume to Capacity ratio	0.90											
Actuated Cycle Length (s)	79.3 Sum of lost time (s) 12.0											
Intersection Capacity Utilization	78.6% ICU Level of Service D											
Analysis Period (min)	15											
c Critical Lane Group												

9: S. Beretania St & Punahou St Existing AM KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.86	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fripb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	6284	1770	3539	2787	3539	2787	3539	2787	3539	2787	3539	2787
Satd. Flow (prot)	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Permitted	6284	1770	3539	2787	3539	2787	3539	2787	3539	2787	3539	2787
Satd. Flow (perm)	0	0	0	160	2143	190	154	319	0	0	542	687
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	0	0	0	108	2304	204	166	343	0	0	583	739
Adj. Flow (vph)	0	0	0	0	16	0	0	0	0	0	0	16
RTOR Reduction (vph)	0	0	0	0	2600	0	166	343	0	0	583	723
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50	50
Confl. Peds. (#/hr)	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split
Turn Type	8	8	8	8	8	8	8	8	8	8	8	8
Protected Phases	8	8	8	8	8	8	8	8	8	8	8	8
Permitted Phases	35.0	36.0	0.45	6.0	34.3	7.						

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	0.81	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1770	7490	1770	1498	1770	1863	1498	1770	1863	1498	1770	1863
Satd. Flow (prot)	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Permitted	1770	7490	1770	1498	1770	1863	1498	1770	1863	1498	1770	1863
Satd. Flow (perm)	231	1231	36	0	0	0	378	195	282	392	392	0
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	248	1324	39	0	0	0	406	210	303	422	422	0
Adj. Flow (vph)	0	6	0	0	0	0	0	24	0	0	0	0
RTOR Reduction (vph)	248	1357	0	0	0	0	406	186	303	422	422	0
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50	50
Contl. Peds. (#/hr)	Split						Perm	Prot				
Turn Type	4	4	4	2	2	2	1	6				
Protected Phases	24.0	24.0	24.0	20.0	20.0	20.0	14.6	39.6				
Permitted Phases	25.0	25.0	25.0	21.0	21.0	21.0	15.6	40.6				
Effective Green, G (s)	0.34	0.34	0.34	0.29	0.29	0.29	0.21	0.55				
Actuated g/C Ratio	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0				
Vehicle Extension (s)	601	2544	532	427	375	1028						
Lane Grp Cap (vph)	0.14	c0.18					c0.22					
v/s Ratio Prot	0.41	0.53	0.76	0.43	0.81	0.41						
v/s Ratio Perm	18.7	19.6	24.0	21.5	27.6	9.6						
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00						
Progression Factor	0.5	0.2	6.4	0.7	12.1	0.3						
Incremental Delay, d2	19.1	19.8	30.4	22.2	39.6	9.8						
Delay (s)	B	B	C	C	D	A						
Level of Service	19.7	B	0.0	A	22.3	C						
Approach Delay (s)	B											
Approach LOS												
Intersection Summary	HCM Level of Service C											
HCM Average Control Delay	22.0											
HCM Volume to Capacity ratio	0.68											
Actuated Cycle Length (s)	73.6											
Intersection Capacity Utilization	64.6%											
Analysis Period (min)	15											
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1770	1863	1517	1721	1583	1583	3539	1453	5059	3539	1453	5059
Satd. Flow (prot)	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Permitted	1770	1863	1517	1721	1583	1583	3539	1453	5059	3539	1453	5059
Satd. Flow (perm)	287	75	452	58	0	225	0	1218	83	52	526	0
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	309	81	486	62	0	242	0	1310	89	56	566	0
Adj. Flow (vph)	0	0	186	0	0	20	0	42	0	0	0	0
RTOR Reduction (vph)	309	81	300	62	0	222	0	1310	47	0	622	0
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50	50
Contl. Peds. (#/hr)	Perm	Perm	custom	custom								
Turn Type	4	4	4	8	8	8	2	2	6			
Protected Phases	16.2	16.2	16.2	16.2	16.2	16.2	27.1	27.1	27.1			
Permitted Phases	17.2	17.2	17.2	17.2	17.2	17.2	28.1	28.1	28.1			
Effective Green, G (s)	0.32	0.32	0.32	0.32	0.32	0.32	0.53	0.53	0.53			
Actuated g/C Ratio	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0			
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
Vehicle Extension (s)	571	601	480	412	511	1866	766	2085				
Lane Grp Cap (vph)	0.17	0.04	c0.20	0.05	0.14	c0.37						
v/s Ratio Prot	0.54	0.13	0.61	0.15	0.43	0.70	0.03	0.16				
v/s Ratio Perm	14.8	12.8	15.2	12.8	14.2	9.5	6.2	7.1				
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Progression Factor	1.1	0.1	2.3	0.2	0.6	1.2	0.0	0.1				
Incremental Delay, d2	15.9	12.9	17.5	13.0	14.8	10.7	6.2	7.1				
Delay (s)	B	B	B	B	B	B	A	A				
Level of Service	16.5	B	14.4	B	10.4	7.1	A	A				
Approach Delay (s)	B											
Approach LOS												
Intersection Summary	HCM Level of Service B											
HCM Average Control Delay	11.8											
HCM Volume to Capacity ratio	0.67											
Actuated Cycle Length (s)	53.3											
Intersection Capacity Utilization	75.3%											
Analysis Period (min)	15											
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.99	0.99	0.99	1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	0.99
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	1.00	1.00	0.99	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Flt Protected	1745	1744	3234	1755	3504	1745	3510	1745	3510	1745	3510	1745
Satd. Flow (prot)	0.42	1.00	0.82	0.20	1.00	0.20	1.00	0.20	1.00	0.21	1.00	0.21
Fit Permitted	774	1744	2886	376	3504	376	3504	376	3504	382	3510	382
Satd. Flow (perm)	103	154	79	103	186	56	907	40	70	919	39	39
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	111	166	85	111	209	200	60	975	43	75	988	42
Adj. Flow (vph)	0	23	0	0	63	0	0	5	0	5	0	5
RTOR Reduction (vph)	111	228	0	0	457	0	60	1013	0	75	1025	0
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50	50
Confl. Peds. (#/hr)	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Turn Type	4	4	4	8	8	8	2	2	2	6	6	6
Protected Phases	4	4	4	8	8	8	2	2	2	6	6	6
Permitted Phases	13.4	13.4	13.4	13.4	13.4	13.4	20.0	20.0	20.0	20.0	20.0	20.0
Actuated Green, G (s)	14.4	14.4	14.4	14.4	14.4	14.4	21.0	21.0	21.0	21.0	21.0	21.0
Effective Green, g (s)	0.33	0.33	0.33	0.33	0.33	0.33	0.48	0.48	0.48	0.48	0.48	0.48
Actuated g/C Ratio	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	257	579	891	182	1695	185	1698	185	1698	185	1698	185
Lane Grp Cap (vph)	0.14	0.13	0.13	0.16	0.16	0.16	0.29	0.29	0.29	0.29	0.29	0.29
v/s Ratio Prot	0.43	0.39	0.39	0.51	0.51	0.51	0.60	0.60	0.60	0.60	0.60	0.60
v/s Ratio Perm	11.3	11.1	11.1	11.7	11.7	11.7	8.1	8.1	8.1	8.1	8.1	8.1
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	1.2	0.4	0.5	1.1	0.6	1.1	0.6	1.1	0.6	1.1	0.6	1.1
Incremental Delay, d2	12.5	11.6	12.2	12.2	12.2	12.2	7.9	8.7	8.7	8.6	8.8	8.8
Delay (s)	B	B	B	B	B	B	A	A	A	A	A	A
Level of Service	11.9	11.9	11.9	12.2	12.2	12.2	8.7	8.7	8.7	8.8	8.8	8.8
Approach Delay (s)	B	B	B	B	B	B	A	A	A	A	A	A
Approach LOS	B	B	B	B	B	B	A	A	A	A	A	A
<b>Intersection Summary</b>												
HCM Average Control Delay	9.7 HCM Level of Service A											
HCM Volume to Capacity ratio	0.57											
Actuated Cycle Length (s)	43.4											
Intersection Capacity Utilization	79.2% Sum of lost time (s) 8.0											
Analysis Period (min)	15 ICU Level of Service D											
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Flt Protected	1770	6207	1768	3539	1475	3539	1475	3539	1475	3539	1475	3539
Satd. Flow (prot)	0.95	1.00	1.00	0.14	1.00	0.14	1.00	0.14	1.00	0.14	1.00	0.14
Fit Permitted	1770	6207	251	3539	1475	3539	1475	3539	1475	3539	1475	3539
Satd. Flow (perm)	0	0	0	169	1939	327	307	979	0	800	127	127
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	0	0	0	182	2085	352	330	1053	0	860	137	137
Adj. Flow (vph)	0	0	0	0	30	0	0	0	0	0	0	31
RTOR Reduction (vph)	0	0	0	182	2407	0	330	1053	0	860	106	106
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50	50
Confl. Peds. (#/hr)	Split	8	8	8	8	8	8	8	8	8	8	8
Turn Type	pm+pt	5	2	2	2	2	2	2	2	6	6	6
Protected Phases	5	5	5	5	5	5	5	5	5	6	6	6
Permitted Phases	2	2	2	2	2	2	2	2	2	6	6	6
Actuated Green, G (s)	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	27.0	27.0	27.0
Effective Green, g (s)	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	28.0	28.0	28.0
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.33	0.33	0.33
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	656	2300	368	1891	1177	490	1177	490	1177	490	1177	490
v/s Ratio Prot	0.10	0.39	0.14	0.30	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
v/s Ratio Perm	0.28	1.05	0.90	0.56	0.73	0.22	0.73	0.22	0.73	0.22	0.73	0.22
Uniform Delay, d1	18.6	26.5	19.9	13.0	24.8	20.2	24.8	20.2	24.8	20.2	24.8	20.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	32.4	23.3	0.4	2.4	0.2	2.4	0.2	2.4	0.2	2.4	0.2
Delay (s)	18.8	58.9	43.2	13.3	27.1	20.4	27.1	20.4	27.1	20.4	27.1	20.4
Level of Service	B	E	D	B	C	C	C	C	C	C	C	C
Approach Delay (s)	0.0	56.1	56.1	20.5	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2
Approach LOS	A	E	E	C	C	C	C	C	C	C	C	C
<b>Intersection Summary</b>												
HCM Average Control Delay	40.3 HCM Level of Service D											
HCM Volume to Capacity ratio	0.94											
Actuated Cycle Length (s)	84.2											
Intersection Capacity Utilization	83.3% Sum of lost time (s) 8.0											
Analysis Period (min)	15 ICU Level of Service E											
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	46L										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.76										
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	0.99										
Frt	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00										
Satd. Flow (prot)	8408										
Flt Permitted	1.00										
Satd. Flow (perm)	8408										
Volume (vph)	92	2283	93	0	0	0	712	207	298	934	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	99	2455	100	0	0	0	766	223	320	1004	0
RTOR Reduction (vph)	0	8	0	0	0	0	0	29	0	0	0
Lane Group Flow (vph)	0	2646	0	0	0	0	766	194	0	1324	0
Confl. Peds. (#/hr)	50		50				50	50		50	
Turn Type	Split						Perm	pm+pt			
Protected Phases	4	4					2			1	6
Permitted Phases								2		6	
Actuated Green, G (s)	37.0						38.8	38.8		38.8	
Effective Green, g (s)	38.0						39.8	39.8		39.8	
Actuated g/C Ratio	0.44						0.46	0.46		0.46	
Clearance Time (s)	5.0						5.0	5.0		5.0	
Vehicle Extension (s)	3.0						3.0	3.0		3.0	
Lane Grp Cap (vph)	3724						1642	690		1564	
v/s Ratio Prot	c0.31						0.22			c0.39	
v/s Ratio Perm							0.47	0.28		1.62d	
v/c Ratio	0.71						15.7	14.2		20.3	
Uniform Delay, d1	19.4						1.00	1.00		1.00	
Progression Factor	1.00						0.2	0.2		4.4	
Incremental Delay, d2	0.7						15.9	14.4		24.7	
Delay (s)	20.1						B	B		C	
Level of Service	C						B	B		C	
Approach Delay (s)	20.1						15.6			24.7	
Approach LOS	C						B			C	

Movement	EBT	EBR	WBL	WBR	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.81	0.81	0.81	0.81	0.81	0.81
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.95			
Satd. Flow (prot)	1433	6035	3433			
Flt Permitted	0.95	1.00	0.95			
Satd. Flow (perm)	1433	6035	3433			
Volume (vph)	0	0	377	1822	824	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	405	1959	886	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	405	1959	886	0
Confl. Peds. (#/hr)	20					
Turn Type	Split					
Protected Phases			8	8	2	
Permitted Phases						
Actuated Green, G (s)			35.7	35.7	23.8	
Effective Green, g (s)			36.7	36.7	24.8	
Actuated g/C Ratio			0.53	0.53	0.36	
Clearance Time (s)			5.0	5.0	5.0	
Vehicle Extension (s)			3.0	3.0	3.0	
Lane Grp Cap (vph)			757	3187	1225	
v/s Ratio Prot			0.28	c0.32	c0.26	
v/s Ratio Perm			0.54	0.61	0.72	
v/c Ratio			10.8	11.5	19.4	
Uniform Delay, d1			1.00	1.00	1.00	
Progression Factor			0.7	0.4	2.1	
Incremental Delay, d2			11.5	11.8	21.5	
Delay (s)			B	B	C	
Level of Service			B	B	C	
Approach Delay (s)			0.0	11.8	21.5	
Approach LOS			A	B	C	

Intersection Summary	
HCM Average Control Delay	14.4
HCM Volume to Capacity ratio	0.66
Actuated Cycle Length (s)	69.5
Intersection Capacity Utilization	56.6%
Analysis Period (min)	15
c Critical Lane Group	

Movement	EBT	EBR	WBL	WBR	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.81	0.81	0.81	0.81	0.81	0.81
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.95			
Satd. Flow (prot)	1433	6035	3433			
Flt Permitted	0.95	1.00	0.95			
Satd. Flow (perm)	1433	6035	3433			
Volume (vph)	0	0	377	1822	824	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	405	1959	886	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	405	1959	886	0
Confl. Peds. (#/hr)	20					
Turn Type	Split					
Protected Phases			8	8	2	
Permitted Phases						
Actuated Green, G (s)			35.7	35.7	23.8	
Effective Green, g (s)			36.7	36.7	24.8	
Actuated g/C Ratio			0.53	0.53	0.36	
Clearance Time (s)			5.0	5.0	5.0	
Vehicle Extension (s)			3.0	3.0	3.0	
Lane Grp Cap (vph)			757	3187	1225	
v/s Ratio Prot			0.28	c0.32	c0.26	
v/s Ratio Perm			0.54	0.61	0.72	
v/c Ratio			10.8	11.5	19.4	
Uniform Delay, d1			1.00	1.00	1.00	
Progression Factor			0.7	0.4	2.1	
Incremental Delay, d2			11.5	11.8	21.5	
Delay (s)			B	B	C	
Level of Service			B	B	C	
Approach Delay (s)			0.0	11.8	21.5	
Approach LOS			A	B	C	

Intersection Summary	
HCM Average Control Delay	14.4
HCM Volume to Capacity ratio	0.66
Actuated Cycle Length (s)	69.5
Intersection Capacity Utilization	56.6%
Analysis Period (min)	15
c Critical Lane Group	

Intersection Summary	
HCM Average Control Delay	14.4
HCM Volume to Capacity ratio	0.66
Actuated Cycle Length (s)	69.5
Intersection Capacity Utilization	56.6%
Analysis Period (min)	15
c Critical Lane Group	

6: Young St & Kalakaua St Existing PM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Flt Protected	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Satd. Flow (prot)	1783	1776	1776	1736	3460	1737	3501					
Flt Permitted	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Satd. Flow (perm)	1642	1613	1613	910	3460	553	3501					
Volume (vph)	40	181	54	57	202	68	67	645	72	26	385	22
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	43	195	58	61	217	73	72	694	77	28	414	24
RTOR Reduction (vph)	0	11	0	0	11	0	0	16	0	0	8	0
Lane Group Flow (vph)	0	285	0	0	340	0	72	755	0	28	430	0
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50

Turn Type	Perm	Split	Perm									
Protected Phases	4	4	4	4	4	4	4	4	4	4	4	4
Permitted Phases	4	4	4	4	4	4	4	4	4	4	4	4
Actuated Green, G (s)	13.7	13.7	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4
Effective Green, g (s)	14.7	14.7	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4
Actuated g/C Ratio	0.38	0.38	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	617	606	382	1451	232	1468						
v/s Ratio Prot	0.17	0.21	0.08	0.22	0.12							
v/s Ratio Perm	0.46	0.56	0.19	0.52	0.05							
v/c Ratio	9.2	9.6	7.2	8.4	6.9	7.5						
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00						
Progression Factor	0.6	1.2	0.2	0.3	0.2	0.1						
Incremental Delay, d2	9.8	10.8	7.4	8.8	7.2	7.6						
Delay (s)	A	B	A	A	A	A						
Level of Service	A	B	A	A	A	A						
Approach Delay (s)	9.8	10.8	8.7	8.7	7.6	7.6						
Approach LOS	A	B	A	A	A	A						

Intersection Summary	HCM Level of Service
HCM Average Control Delay	9.0
HCM Volume to Capacity ratio	0.54
Actuated Cycle Length (s)	39.1
Intersection Capacity Utilization	60.1%
Analysis Period (min)	15

Intersection Summary	HCM Level of Service
HCM Average Control Delay	18.3
HCM Volume to Capacity ratio	0.75
Actuated Cycle Length (s)	82.5
Intersection Capacity Utilization	71.5%
Analysis Period (min)	15

Fehr & Peers Associates, Inc. Page 6

7: S. King St & Kalakaua St Existing PM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Flt Protected	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Satd. Flow (prot)	1770	6408	1477	1770	6408	1477	3539	1490	1766	3539		
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.18	1.00
Satd. Flow (perm)	1770	6408	1477	1770	6408	1477	3539	1490	1766	3539		
Volume (vph)	99	2581	355	0	0	0	602	213	47	582	0	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	106	2775	382	0	0	0	647	229	51	626	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	106	2775	321	0	0	0	647	188	51	626	0	0
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50

Turn Type	Perm	Split	Perm									
Protected Phases	4	4	4	4	4	4	4	4	4	4	4	4
Permitted Phases	4	4	4	4	4	4	4	4	4	4	4	4
Actuated Green, G (s)	45.1	45.1	45.1	45.1	45.1	45.1	45.1	45.1	45.1	45.1	45.1	45.1
Effective Green, g (s)	46.1	46.1	46.1	46.1	46.1	46.1	46.1	46.1	46.1	46.1	46.1	46.1
Actuated g/C Ratio	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	989	3581	825	909	383	168	1218					
v/s Ratio Prot	0.86	0.43	0.22	0.18	0.01	0.18						
v/s Ratio Perm	0.11	0.77	0.39	0.71	0.49	0.30	0.51					
v/c Ratio	8.5	14.2	10.3	27.9	26.1	19.6	21.6					
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00					
Progression Factor	0.0	1.1	0.3	2.7	1.0	1.0	0.4					
Incremental Delay, d2	8.6	15.3	10.6	30.5	27.1	20.6	21.9					
Delay (s)	A	B	B	C	C	C	C					
Level of Service	A	B	B	C	C	C	C					
Approach Delay (s)	14.5	14.5	14.5	29.6	21.8	21.8	21.8					
Approach LOS	B	B	B	A	A	A	A					

Intersection Summary	HCM Level of Service
HCM Average Control Delay	18.3
HCM Volume to Capacity ratio	0.75
Actuated Cycle Length (s)	82.5
Intersection Capacity Utilization	71.5%
Analysis Period (min)	15

Intersection Summary	HCM Level of Service
HCM Average Control Delay	18.3
HCM Volume to Capacity ratio	0.75
Actuated Cycle Length (s)	82.5
Intersection Capacity Utilization	71.5%
Analysis Period (min)	15

Fehr & Peers Associates, Inc. Page 7

Movement	EBL	EBT	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	0.95	0.95	0.88	1.00	1.00	0.99	1.00	1.00	0.95	0.95	0.88
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85
Frt	0.95	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00
Flt Protected	1681	1718	2542	0.95	0.97	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1681	1718	2542	1681	1718	2542	1681	1718	2542	1681	1718
Flt Permitted	3454	3454	208	3454	3454	208	3454	3454	208	3454	3454
Satd. Flow (perm)	537	139	487	0	0	0	1272	113	68	652	0
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	577	149	502	0	0	0	1368	122	73	701	0
Adj. Flow (vph)	0	0	315	0	0	0	9	0	0	0	0
RTOR Reduction (vph)	353	373	187	0	0	0	1481	0	73	701	0
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50
Contl. Peds. (#/hr)	Split	Perm	Split	Perm	Split	Perm	Split	Perm	Split	Perm	Split
Turn Type	4	4	4	4	4	4	2	2	6	6	6
Protected Phases	18.1	18.1	18.1	18.1	18.1	18.1	34.8	34.8	34.8	34.8	34.8
Permitted Phases	18.1	18.1	18.1	18.1	18.1	18.1	35.8	35.8	35.8	35.8	35.8
Actuated Green, G (s)	0.29	0.29	0.29	0.29	0.29	0.29	0.58	0.58	0.58	0.58	0.58
Effective Green, g (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0
Actuated g/C Ratio	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Clearance Time (s)	492	502	743	1998	1998	1998	60.43	60.43	0.35	0.35	0.20
Vehicle Extension (s)	0.21	c0.22	0.07	0.72	0.74	0.25	0.74	0.61	0.34	0.34	0.34
Lane Grp Cap (vph)	0.72	0.74	0.25	19.6	19.8	16.7	9.6	9.6	8.5	6.9	6.9
v/s Ratio Prot	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
w/s Ratio Perm	5.0	5.9	0.2	11.1	11.1	16.9	11.1	16.9	7.0	7.0	7.0
Uniform Delay, d1	24.6	25.7	16.9	11.1	11.1	16.9	11.1	16.9	7.0	7.0	7.0
Progression Factor	C	C	B	B	B	B	B	B	A	A	A
Incremental Delay, d2	21.8	21.8	C	0.0	0.0	A	11.1	11.1	7.9	7.9	7.9
Delay (s)	C	C	B	A	A	A	B	B	A	A	A
Level of Service	C	C	B	A	A	A	B	B	A	A	A
Approach Delay (s)	21.8	21.8	C	0.0	0.0	A	11.1	11.1	7.9	7.9	7.9
Approach LOS	C	C	B	A	A	A	B	B	A	A	A
<b>Intersection Summary</b>											
HCM Average Control Delay	14.2										
HCM Volume to Capacity ratio	0.74										
Actuated Cycle Length (s)	61.9										
Intersection Capacity Utilization	71.4%										
Analysis Period (min)	15										
c Critical Lane Group											

Movement	EBL	EBT	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	0.95	0.95	0.88	1.00	1.00	0.99	1.00	1.00	0.95	0.95	0.88
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85
Frt	0.95	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00
Flt Protected	1681	1718	2542	0.95	0.97	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1681	1718	2542	1681	1718	2542	1681	1718	2542	1681	1718
Flt Permitted	3454	3454	208	3454	3454	208	3454	3454	208	3454	3454
Satd. Flow (perm)	537	139	487	0	0	0	1272	113	68	652	0
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	577	149	502	0	0	0	1368	122	73	701	0
Adj. Flow (vph)	0	0	315	0	0	0	9	0	0	0	0
RTOR Reduction (vph)	353	373	187	0	0	0	1481	0	73	701	0
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50
Contl. Peds. (#/hr)	Split	Perm	Split	Perm	Split	Perm	Split	Perm	Split	Perm	Split
Turn Type	4	4	4	4	4	4	2	2	6	6	6
Protected Phases	18.1	18.1	18.1	18.1	18.1	18.1	34.8	34.8	34.8	34.8	34.8
Permitted Phases	18.1	18.1	18.1	18.1	18.1	18.1	35.8	35.8	35.8	35.8	35.8
Actuated Green, G (s)	0.29	0.29	0.29	0.29	0.29	0.29	0.58	0.58	0.58	0.58	0.58
Effective Green, g (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0
Actuated g/C Ratio	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Clearance Time (s)	492	502	743	1998	1998	1998	60.43	60.43	0.35	0.35	0.20
Vehicle Extension (s)	0.21	c0.22	0.07	0.72	0.74	0.25	0.74	0.61	0.34	0.34	0.34
Lane Grp Cap (vph)	0.72	0.74	0.25	19.6	19.8	16.7	9.6	9.6	8.5	6.9	6.9
v/s Ratio Prot	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
w/s Ratio Perm	5.0	5.9	0.2	11.1	11.1	16.9	11.1	16.9	7.0	7.0	7.0
Uniform Delay, d1	24.6	25.7	16.9	11.1	11.1	16.9	11.1	16.9	7.0	7.0	7.0
Progression Factor	C	C	B	B	B	B	B	B	A	A	A
Incremental Delay, d2	21.8	21.8	C	0.0	0.0	A	11.1	11.1	7.9	7.9	7.9
Delay (s)	C	C	B	A	A	A	B	B	A	A	A
Level of Service	C	C	B	A	A	A	B	B	A	A	A
Approach Delay (s)	21.8	21.8	C	0.0	0.0	A	11.1	11.1	7.9	7.9	7.9
Approach LOS	C	C	B	A	A	A	B	B	A	A	A
<b>Intersection Summary</b>											
HCM Average Control Delay	14.2										
HCM Volume to Capacity ratio	0.74										
Actuated Cycle Length (s)	61.9										
Intersection Capacity Utilization	71.4%										
Analysis Period (min)	15										
c Critical Lane Group											

Movement	EBL	EBT	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	0.95	0.95	0.88	1.00	1.00	0.99	1.00	1.00	0.95	0.95	0.88
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85
Frt	0.95	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00
Flt Protected	1681	1718	2542	0.95	0.97	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1681	1718	2542	1681	1718	2542	1681	1718	2542	1681	1718
Flt Permitted	3454	3454	208	3454	3454	208	3454	3454	208	3454	3454
Satd. Flow (perm)	537	139	487	0	0	0	1272	113	68	652	0
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	577	149	502	0	0	0	1368	122	73	701	0
Adj. Flow (vph)	0	0	315	0	0	0	9	0	0	0	0
RTOR Reduction (vph)	353	373	187	0	0	0	1481	0	73	701	0
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50
Contl. Peds. (#/hr)	Split	Perm	Split	Perm	Split	Perm	Split	Perm	Split	Perm	Split
Turn Type	4	4	4	4	4	4	2	2	6	6	6
Protected Phases	18.1	18.1	18.1	18.1	18.1	18.1	34.8	34.8	34.8	34.8	34.8
Permitted Phases	18.1	18.1	18.1	18.1	18.1	18.1	35.8	35.8	35.8	35.8	35.8
Actuated Green, G (s)	0.29	0.29	0.29	0.29	0.29	0.29	0.58	0.58	0.58	0.58	0.58
Effective Green, g (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0
Actuated g/C Ratio	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Clearance Time (s)	492	502	743	1998	1998	1998	60.43	60.43	0.35	0.35	0.20
Vehicle Extension (s)	0.21	c0.22	0.07	0.72	0.74	0.25	0.74	0.61	0.34	0.34	0.34
Lane Grp Cap (vph)	0.72	0.74	0.25	19.6	19.8	16.7	9.6	9.6	8.5	6.9	6.9
v/s Ratio Prot	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
w/s Ratio Perm	5.0	5.9	0.2	11.1	11.1	16.9	11.1	16.9	7.0	7.0	7.0
Uniform Delay, d1	24.6	25.7	16.9	11.1	11.1	16.9	11.1	16.9	7.0	7.0	7.0
Progression Factor	C	C	B	B	B	B	B	B	A	A	A

10: Young St & Punahou St Existing PM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frb, ped/bikes	1.00	1.00	1.00	0.98	1.00	0.98	1.00	0.98	1.00	0.98	1.00	1.00
Fipb, ped/bikes	0.98	0.98	0.98	1.00	0.98	1.00	0.98	1.00	0.98	1.00	0.98	1.00
Flt Protected	0.99	0.99	0.99	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1797	1809	1727	3493	1733	3493	1733	3493	1733	3493	1733	3493
Flt Permitted	0.86	0.94	0.40	1.00	0.34	1.00	0.34	1.00	0.34	1.00	0.34	1.00
Satd. Flow (perm)	1563	1704	728	3493	617	3493	617	3493	617	3493	617	3493
Volume (vph)	72	176	32	36	251	42	23	620	38	68	593	33
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	77	189	34	39	270	45	25	667	41	73	573	35
RTOR Reduction (vph)	0	6	0	0	6	0	0	8	0	0	8	0
Lane Group Flow (vph)	0	294	0	0	348	0	0	25	700	0	73	600
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	4	8	8	8	8	8	8	8	8	8	8	8
Permitted Phases	4	8	8	8	8	8	8	8	8	8	8	8
Actuated Green, G (s)	13.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Effective Green, g (s)	14.0	14.0	14.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Actuated g/C Ratio	0.38	0.38	0.38	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	581	645	645	295	1416	295	1416	295	1416	295	1416	295
v/s Ratio Prot	0.19	c0.20	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
v/s Ratio Perm	0.50	0.54	0.54	0.08	0.49	0.08	0.49	0.08	0.49	0.08	0.49	0.08
v/c Ratio	8.8	9.0	9.0	6.8	8.2	6.8	8.2	6.8	8.2	6.8	8.2	6.8
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.7	0.9	0.9	0.1	0.3	0.1	0.3	0.1	0.3	0.1	0.3	0.1
Incremental Delay, d2	9.5	9.9	9.9	6.9	8.5	6.9	8.5	6.9	8.5	6.9	8.5	6.9
Delay (s)	A	A	A	A	A	A	A	A	A	A	A	A
Level of Service	9.5	9.9	9.9	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
Approach Delay (s)	A	A	A	A	A	A	A	A	A	A	A	A
Approach LOS	A	A	A	A	A	A	A	A	A	A	A	A

Intersection Summary	
HCM Average Control Delay	8.7
HCM Volume to Capacity ratio	0.52
Actuated Cycle Length (s)	37.0
Intersection Capacity Utilization	61.8%
Analysis Period (min)	15
c Critical Lane Group	

11: S. King St & Punahou St Existing PM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frb, ped/bikes	1.00	1.00	1.00	0.94	1.00	0.94	1.00	0.94	1.00	0.94	1.00	1.00
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1770	7521	1863	1486	1770	7521	1863	1486	1770	7521	1863	1486
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1770	7521	1863	1486	1770	7521	1863	1486	1770	7521	1863	1486
Volume (vph)	330	2411	28	0	0	0	0	410	154	405	350	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	355	2592	30	0	0	0	0	441	166	435	387	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	15	0	0	0
Lane Group Flow (vph)	0	2620	0	0	0	0	0	441	151	435	387	0
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Split											
Protected Phases	4	4	4	4	4	4	4	4	4	4	4	4
Permitted Phases	4	4	4	4	4	4	4	4	4	4	4	4
Actuated Green, G (s)	32.1	32.1	32.1	33.1	33.1	33.1	33.1	33.1	33.1	33.1	33.1	33.1
Effective Green, g (s)	33.1	33.1	33.1	33.1	33.1	33.1	33.1	33.1	33.1	33.1	33.1	33.1
Actuated g/C Ratio	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	669	2842	669	2842	669	2842	669	2842	669	2842	669	2842
v/s Ratio Prot	0.20	c0.35	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
v/s Ratio Perm	0.53	0.92	0.53	0.92	0.53	0.92	0.53	0.92	0.53	0.92	0.53	0.92
v/c Ratio	21.2	26.0	21.2	26.0	21.2	26.0	21.2	26.0	21.2	26.0	21.2	26.0
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.8	5.6	0.8	5.6	0.8	5.6	0.8	5.6	0.8	5.6	0.8	5.6
Incremental Delay, d2	22.0	31.6	22.0	31.6	22.0	31.6	22.0	31.6	22.0	31.6	22.0	31.6
Delay (s)	C	C	C	C	C	C	C	C	C	C	C	C
Level of Service	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
Approach Delay (s)	C	C	C	C	C	C	C	C	C	C	C	C
Approach LOS	C	C	C	C	C	C	C	C	C	C	C	C

Intersection Summary	
HCM Average Control Delay	41.3
HCM Volume to Capacity ratio	0.96
Actuated Cycle Length (s)	87.6
Intersection Capacity Utilization	82.5%
Analysis Period (min)	15
c Critical Lane Group	

1: Kinau & Keeaumoko St

2: S. Beretania St & Keeaumoko St

Background AM  
KRC Kalakaua Housing

Background AM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.91	1.00
Lane Util. Factor	1.00	1.00	0.96	1.00	1.00	1.00	1.00	0.92	1.00	0.92	1.00	1.00
Fripb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fripb, ped/bikes	1.00	1.00	0.85	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	1.00
Frt	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1770	1863	1522	1725	1583	1583	3539	1464	3539	1464	5082	1464
Satd. Flow (prot)	0.95	1.00	1.00	0.71	1.00	1.00	1.00	1.00	1.00	1.00	0.94	1.00
Flt Permitted	1770	1863	1522	1297	1583	1583	3539	1464	3539	1464	4755	1464
Satd. Flow (perm)	135	61	427	45	0	156	0	548	40	8	1099	0
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	145	66	459	48	0	168	0	589	43	9	1182	0
Adj. Flow (vph)	0	0	24	0	0	100	0	24	0	0	0	0
RTOR Reduction (vph)	145	66	459	48	0	68	0	589	19	0	1191	0
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50	50
Confl. Peds. (#/hr)	Perm	Perm	Perm	custom	custom	custom	Perm	Perm	Perm	Perm	Perm	Perm
Turn Type	4	4	4	8	8	8	2	2	2	2	6	6
Protected Phases	18.2	18.2	18.2	18.2	18.2	18.2	20.2	20.2	20.2	20.2	20.2	20.2
Permitted Phases	18.2	18.2	18.2	18.2	18.2	18.2	21.2	21.2	21.2	21.2	21.2	21.2
Actuated Green, G (s)	0.38	0.38	0.38	0.38	0.38	0.38	0.45	0.45	0.45	0.45	0.45	0.45
Effective Green, g (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0
Actuated g/C Ratio	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Clearance Time (s)	680	715	594	498	608	608	1583	655	1583	655	2127	655
Vehicle Extension (s)	0.08	0.04	0.29	0.04	0.04	0.04	0.17	0.01	0.17	0.01	0.25	0.01
Lane Grp Cap (vph)	0.21	0.09	0.74	0.10	0.11	0.11	0.37	0.03	0.37	0.03	0.56	0.03
v/s Ratio Prot	9.8	9.3	12.6	9.3	9.4	9.4	8.7	7.3	8.7	7.3	9.7	7.3
v/s Ratio Perm	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay, d1	0.2	0.1	5.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.3	0.0
Progression Factor	10.0	9.4	17.7	9.4	9.5	9.5	8.8	7.4	8.8	7.4	10.0	7.4
Incremental Delay, d2	A	A	B	A	A	A	A	A	A	A	A	A
Delay (s)	15.2	B	15.2	9.5	A	A	8.7	A	8.7	A	10.0	A
Level of Service	B	B	B	A	A	A	A	A	A	A	A	A
Approach Delay (s)	9.5	A	9.5	A	A	A	9.5	A	9.5	A	10.0	A
Approach LOS	A	A	A	A	A	A	A	A	A	A	A	A
<b>Intersection Summary</b>												
HCM Average Control Delay	10.9											
HCM Volume to Capacity ratio	0.65											
Actuated Cycle Length (s)	47.4											
Intersection Capacity Utilization	65.1%											
Analysis Period (min)	15											
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Lane Util. Factor	1.00	1.00	0.96	1.00	1.00	1.00	1.00	0.92	1.00	0.92	1.00	1.00
Fripb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fripb, ped/bikes	1.00	1.00	0.85	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	1.00
Frt	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1770	1863	1522	1725	1583	1583	3539	1464	3539	1464	5082	1464
Satd. Flow (prot)	0.95	1.00	1.00	0.71	1.00	1.00	1.00	1.00	1.00	1.00	0.94	1.00
Flt Permitted	1770	1863	1522	1297	1583	1583	3539	1464	3539	1464	4755	1464
Satd. Flow (perm)	135	61	427	45	0	156	0	548	40	8	1099	0
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	145	66	459	48	0	168	0	589	43	9	1182	0
Adj. Flow (vph)	0	0	24	0	0	100	0	24	0	0	0	0
RTOR Reduction (vph)	145	66	459	48	0	68	0	589	19	0	1191	0
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50	50
Confl. Peds. (#/hr)	Perm	Perm	Perm	custom	custom	custom	Perm	Perm	Perm	Perm	Perm	Perm
Turn Type	4	4	4	8	8	8	2	2	2	2	6	6
Protected Phases	18.2	18.2	18.2	18.2	18.2	18.2	20.2	20.2	20.2	20.2	20.2	20.2
Permitted Phases	18.2	18.2	18.2	18.2	18.2	18.2	21.2	21.2	21.2	21.2	21.2	21.2
Actuated Green, G (s)	0.38	0.38	0.38	0.38	0.38	0.38	0.45	0.45	0.45	0.45	0.45	0.45
Effective Green, g (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0
Actuated g/C Ratio	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Clearance Time (s)	680	715	594	498	608	608	1583	655	1583	655	2127	655
Vehicle Extension (s)	0.08	0.04	0.29	0.04	0.04	0.04	0.17	0.01	0.17	0.01	0.25	0.01
Lane Grp Cap (vph)	0.21	0.09	0.74	0.10	0.11	0.11	0.37	0.03	0.37	0.03	0.56	0.03
v/s Ratio Prot	9.8	9.3	12.6	9.3	9.4	9.4	8.7	7.3	8.7	7.3	9.7	7.3
v/s Ratio Perm	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay, d1	0.2	0.1	5.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.3	0.0
Progression Factor	10.0	9.4	17.7	9.4	9.5	9.5	8.8	7.4	8.8	7.4	10.0	7.4
Incremental Delay, d2	A	A	B	A	A	A	A	A	A	A	A	A
Delay (s)	15.2	B	15.2	9.5	A	A	8.7	A	8.7	A	10.0	A
Level of Service	B	B	B	A	A	A	A	A	A	A	A	A
Approach Delay (s)	9.5	A	9.5	A	A	A	9.5	A	9.5	A	10.0	A
Approach LOS	A	A	A	A	A	A	A	A	A	A	A	A
<b>Intersection Summary</b>												
HCM Average Control Delay	10.9											
HCM Volume to Capacity ratio	0.65											
Actuated Cycle Length (s)	47.4											
Intersection Capacity Utilization	65.1%											
Analysis Period (min)	15											
c Critical Lane Group												

3: Young St & Keeaumoko St Background AM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Fipb, ped/bikes	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	1.00
Fipb, ped/bikes	0.99	1.00	0.99	1.00	0.99	1.00	0.97	1.00	0.97	1.00	0.99	1.00
Flt	1.00	0.96	1.00	0.97	1.00	0.97	1.00	0.97	1.00	0.98	1.00	0.99
Flt Protected	0.95	1.00	0.99	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.99
Satd. Flow (prot)	1744	1766	3354	1762	3373	1710	3464					
Flt Permitted	0.31	1.00	0.87	0.13	1.00	0.39	1.00					
Satd. Flow (perm)	571	1766	2952	246	3373	705	3464					
Volume (vph)	62	73	26	103	352	109	17	479	111	111	1169	130
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	67	78	28	111	378	117	18	515	119	119	1257	140
RTOR Reduction (vph)	0	18	0	0	29	0	0	27	0	0	12	0
Lane Group Flow (vph)	67	88	0	0	577	0	18	607	0	119	1385	0
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases												
Permitted Phases	4	4	8	8	8	8	2	2	2	6	6	6
Actuated Green, G (s)	16.0	16.0	16.0	16.0	16.0	29.2	29.2	29.2	29.2	29.2	29.2	29.2
Effective Green, g (s)	16.0	16.0	16.0	16.0	16.0	30.2	30.2	30.2	30.2	30.2	30.2	30.2
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.30	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	521	871	137	1879	393	1930					
v/s Ratio Prot	0.12	0.05	c0.20	0.07	0.13	0.18	c0.40					
v/s Ratio Perm	0.40	0.17	0.66	0.13	0.32	0.30	0.72					
Uniform Delay, d1	15.2	14.2	16.7	5.7	6.5	6.4	8.9					
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00					
Incremental Delay, d2	1.5	0.2	1.9	0.4	0.1	0.4	1.3					
Delay (s)	16.8	14.3	18.6	6.2	6.6	6.8	10.2					
Level of Service	B	B	B	A	A	A	B					
Approach Delay (s)	B	B	B	A	A	A	B					
Approach LOS	B	B	B	A	A	A	B					
Intersection Summary												
HCM Average Control Delay	11.3											
HCM Volume to Capacity ratio	0.70											
Actuated Cycle Length (s)	54.2											
Intersection Capacity Utilization	87.7%											
Analysis Period (min)	15											
c Critical Lane Group												

4: S. King St & Keeaumoko St Background AM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.91
Fipb, ped/bikes	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.95	1.00	0.91
Fipb, ped/bikes	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.95	1.00	0.99
Flt	0.99	1.00	0.95	1.00	0.95	1.00	0.99	1.00	0.95	1.00	0.99	1.00
Flt Protected	0.95	1.00	0.99	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.99
Satd. Flow (prot)	8281	8281	1510	8281	1510	8281	1510	8281	1510	8281	1510	4995
Flt Permitted	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	0.76
Satd. Flow (perm)	8281	8281	1510	8281	1510	8281	1510	8281	1510	8281	1510	3863
Volume (vph)	277	1344	153	0	0	0	0	348	90	298	877	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	298	1445	165	0	0	0	374	97	320	943	0	0
RTOR Reduction (vph)	0	19	0	0	0	0	0	0	53	0	0	0
Lane Group Flow (vph)	0	1889	0	0	0	0	0	374	44	44	1263	0
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Spill	Spill	Spill	Perm								
Protected Phases	4	4	4	4	4	4	2	2	1	1	6	6
Permitted Phases												
Actuated Green, G (s)	24.8	24.8	24.8	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
Effective Green, g (s)	24.8	24.8	24.8	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
Actuated g/C Ratio	0.41	0.41	0.41	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3406	3406	1614	689	1762							
v/s Ratio Prot	c0.23	c0.23	0.11	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
v/s Ratio Perm	0.55	0.55	0.23	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Uniform Delay, d1	13.5	13.5	10.0	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay (s)	13.7	13.7	10.0	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
Level of Service	B	B	B	A	A	A	A	A	A	A	A	A
Approach Delay (s)	B	B	B	A	A	A	A	A	A	A	A	A
Approach LOS	B	B	B	A	A	A	A	A	A	A	A	A
Intersection Summary												
HCM Average Control Delay	13.6											
HCM Volume to Capacity ratio	0.64											
Actuated Cycle Length (s)	60.3											
Intersection Capacity Utilization	70.6%											
Analysis Period (min)	15											
c Critical Lane Group												

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	0.81	0.81	0.97	0.97	0.97	0.97
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	1.00	0.95	0.95	0.95	1.00
Flt Protected	1433	6035	3433	3433	3433	3433
Satd. Flow (prot)	0.95	1.00	0.95	0.95	0.95	1.00
Flt Permitted	1433	6035	3433	3433	3433	3433
Satd. Flow (perm)	1433	6035	3433	3433	3433	3433
Volume (vph)	0	487	2695	773	0	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	524	2898	831	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	524	2898	831	0
Contl. Peds. (#/hr)	20					
Turn Type	Split					
Protected Phases	8	8	8	2	2	
Permitted Phases	50.1	51.1	24.3	24.3	24.3	
Actuated Green, G (s)	51.1	51.1	24.3	24.3	24.3	
Effective Green, g (s)	0.61	0.61	0.29	0.29	0.29	
Actuated g/C Ratio	5.0	5.0	5.0	5.0	5.0	
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)	878	3698	1000	1000	1000	
Lane Grp Cap (vph)	0.37	c0.48	c0.24			
v/s Ratio Prot	0.60	0.78	0.83			
v/c Ratio	9.9	12.0	27.6			
Uniform Delay, d1	1.00	1.00	1.00			
Progression Factor	1.1	1.1	6.0			
Incremental Delay, d2	11.0	13.2	33.6			
Delay (s)	B	B	C			
Level of Service	0.0					
Approach Delay (s)	A					
Approach LOS						
<b>Intersection Summary</b>						
HCM Average Control Delay	16.9	HCM Level of Service				B
HCM Volume to Capacity ratio	0.80					
Actuated Cycle Length (s)	83.4	Sum of lost time (s)				8.0
Intersection Capacity Utilization	67.8%	ICU Level of Service				C
Analysis Period (min)	15					
c Critical Lane Group						

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Lane Util. Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.97	1.00	0.98	1.00	0.99	1.00	0.99	1.00	
Flt Protected	1792	1797	1797	1793	3506	3483	3483	3483	
Satd. Flow (prot)	0.96	0.94	1.00	0.94	1.00	0.29	1.00	1.00	
Flt Permitted	1731	1699	1699	1699	3506	3483	3483	3483	
Satd. Flow (perm)	1731	1699	1699	1699	3506	3483	3483	3483	
Volume (vph)	17	220	56	50	372	80	186	648	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Adj. Flow (vph)	18	237	60	54	400	86	200	697	
RTOR Reduction (vph)	0	9	0	0	7	0	0	6	
Lane Group Flow (vph)	0	306	0	0	533	0	200	719	
Contl. Peds. (#/hr)	50								
Turn Type	Perm								
Protected Phases	4	4	8	8	2	2	2	6	
Permitted Phases	22.6	22.6	19.3	19.3	19.3	19.3	19.3	19.3	
Actuated Green, G (s)	23.6	23.6	19.3	19.3	19.3	19.3	19.3	19.3	
Effective Green, g (s)	0.46	0.46	0.38	0.38	0.38	0.38	0.38	0.38	
Actuated g/C Ratio	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)	803	788	290	1329	199	1321	199	1321	
Lane Grp Cap (vph)	0.18	c0.31	c0.26						
v/s Ratio Prot	0.38	0.68	0.69	0.54	0.08	0.08	0.08	0.38	
v/c Ratio	8.9	10.7	13.3	12.3	10.1	11.5	10.1	11.5	
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Progression Factor	0.3	2.3	6.7	0.5	0.2	0.2	0.2	0.2	
Incremental Delay, d2	9.2	13.0	20.0	12.8	10.3	11.7	10.3	11.7	
Delay (s)	A	B	B	B	B	B	B	B	
Level of Service	9.2								
Approach Delay (s)	A								
Approach LOS									
<b>Intersection Summary</b>									
HCM Average Control Delay	12.7	HCM Level of Service							B
HCM Volume to Capacity ratio	0.68								
Actuated Cycle Length (s)	50.9	Sum of lost time (s)							8.0
Intersection Capacity Utilization	76.0%	ICU Level of Service							D
Analysis Period (min)	15								
c Critical Lane Group									

7: S. King St & Kalakaua St Background AM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	0.86	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.95
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	0.95	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1770	6408	1503	3539	1512	1767	3539	1512	1767	3539	1512	1767
Satd. Flow (prot)	1770	6408	1503	3539	1512	1767	3539	1512	1767	3539	1512	1767
Flt Permitted	1770	6408	1503	3539	1512	1767	3539	1512	1767	3539	1512	1767
Satd. Flow (perm)	122	1262	309	0	0	0	661	228	25	512	0	0
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	131	1357	332	0	0	0	711	245	27	551	0	0
Adj. Flow (vph)	0	0	141	0	0	0	132	0	0	0	0	0
RTOR Reduction (vph)	131	1357	191	0	0	0	711	113	27	551	0	0
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50	50
Confl. Peds. (#/hr)	Split	Perm	Perm	pm+pt								
Turn Type	4	4	4	2	2	2	1	1	6	6	6	6
Protected Phases	23.8	23.8	23.8	17.6	17.6	17.6	24.5	24.5	24.5	24.5	24.5	24.5
Permitted Phases	24.8	24.8	24.8	18.6	18.6	18.6	25.5	25.5	25.5	25.5	25.5	25.5
Actuated Green, G (s)	0.43	0.43	0.43	0.32	0.32	0.32	0.44	0.44	0.44	0.44	0.44	0.44
Effective Green, g (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Actuated g/C Ratio	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Clearance Time (s)	753	2726	639	1129	492	236	1548	1548	1548	1548	1548	1548
Vehicle Extension (s)	0.07	c0.21	0.13	c0.20	0.01	c0.16	0.04	0.04	0.16	0.16	0.16	0.16
Lane Grp Cap (vph)	0.17	0.50	0.30	0.63	0.23	0.11	0.36	0.36	0.36	0.36	0.36	0.36
vs Ratio Prot	10.4	12.2	11.0	16.9	14.6	10.3	10.9	10.9	10.9	10.9	10.9	10.9
vs Ratio Perm	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
v/c Ratio	0.1	0.1	0.3	1.1	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Uniform Delay, d1	10.5	12.4	11.3	18.0	14.9	10.6	11.1	11.1	11.1	11.1	11.1	11.1
Progression Factor	B	B	B	B	B	B	B	B	B	B	B	B
Incremental Delay, d2	12.0	12.0	12.0	17.2	17.2	17.2	11.0	11.0	11.0	11.0	11.0	11.0
Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Level of Service	B	B	B	A	A	A	B	B	B	B	B	B
Approach Delay (s)	B	B	B	A	A	A	B	B	B	B	B	B
Approach LOS	B	B	B	A	A	A	B	B	B	B	B	B
<b>Intersection Summary</b>												
HCM Average Control Delay	13.3											
HCM Volume to Capacity ratio	0.55											
Actuated Cycle Length (s)	58.3											
Intersection Capacity Utilization	52.6%											
Analysis Period (min)	15											
c Critical Lane Group												

8: I-1 Off-Ramp & Punahou St Background AM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	0.86	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.95
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	0.95	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1681	1709	2565	3321	1503	1767	3539	1512	1767	3539	1512	1767
Satd. Flow (prot)	1681	1709	2565	3321	1503	1767	3539	1512	1767	3539	1512	1767
Flt Permitted	1681	1709	2565	3321	1503	1767	3539	1512	1767	3539	1512	1767
Satd. Flow (perm)	1199	212	1017	0	0	0	517	148	109	739	0	0
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	1289	228	1094	0	0	0	556	159	117	816	0	0
Adj. Flow (vph)	0	0	123	0	0	0	49	0	0	0	0	0
RTOR Reduction (vph)	1289	228	1094	0	0	0	556	159	117	816	0	0
Lane Group Flow (vph)	739	778	971	0	0	0	666	0	117	816	0	0
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Split	Perm	Perm	Split	Perm	Perm	Split	Perm	Perm	Split	Perm	Perm
Protected Phases	4	4	4	4	4	4	2	2	6	6	6	6
Permitted Phases	26.4	26.4	26.4	26.4	26.4	26.4	19.6	19.6	19.6	19.6	19.6	19.6
Actuated Green, G (s)	0.48	0.48	0.48	0.48	0.48	0.48	0.37	0.37	0.37	0.37	0.37	0.37
Effective Green, g (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0
Actuated g/C Ratio	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Clearance Time (s)	807	820	1231	1244	1244	1244	183	1326	1326	1326	1326	1326
Vehicle Extension (s)	0.44	c0.46	0.38	0.20	0.20	0.20	0.23	0.23	0.23	0.23	0.23	0.23
Lane Grp Cap (vph)	0.92	0.95	0.79	0.54	0.54	0.54	0.61	0.62	0.62	0.62	0.62	0.62
vs Ratio Prot	13.3	13.7	12.0	13.5	13.5	13.5	13.9	14.0	14.0	14.0	14.0	14.0
vs Ratio Perm	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
v/c Ratio	14.9	19.8	3.4	0.4	0.4	0.4	5.3	0.9	0.9	0.9	0.9	0.9
Uniform Delay, d1	28.2	33.4	15.4	13.9	13.9	13.9	19.2	14.8	14.8	14.8	14.8	14.8
Progression Factor	C	C	B	B	B	B	B	B	B	B	B	B
Incremental Delay, d2	24.4	24.4	24.4	0.0	0.0	0.0	15.4	15.4	15.4	15.4	15.4	15.4
Delay (s)	13.9	13.9	13.9	A	A	A	15.4	15.4	15.4	15.4	15.4	15.4
Level of Service	B	B	B	A	A	A	B	B	B	B	B	B
Approach Delay (s)	B	B	B	A	A	A	B	B	B	B	B	B
Approach LOS	B	B	B	A	A	A	B	B	B	B	B	B
<b>Intersection Summary</b>												
HCM Average Control Delay	20.7											
HCM Volume to Capacity ratio	0.80											
Actuated Cycle Length (s)	55.0											
Intersection Capacity Utilization	74.7%											
Analysis Period (min)	15											
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frlp, ped/bikes	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Frt	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Flt Protected	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Satd. Flow (prot)	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Flt Permitted	1563	1563	1563	1563	1563	1563	1563	1563	1563	1563	1563	1563
Satd. Flow (perm)	56	232	43	86	402	32	38	425	203	4	595	50
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	60	249	46	92	432	34	41	457	218	4	640	54
Adj. Flow (vph)	0	5	0	0	2	0	0	106	0	0	11	0
RTOR Reduction (vph)	0	350	0	0	556	0	41	569	0	4	683	0
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50	50
Confl. Peds. (#/hr)	Perm	4	Perm	8	Perm	2	Perm	6	Perm	6	Perm	6

Turn Type	Perm											
Protected Phases	4	4	8	8	8	2	2	2	2	2	2	2
Permitted Phases	4	23.5	23.5	23.5	23.5	15.1	15.1	15.1	15.1	15.1	15.1	15.1
Actuated Green, G (s)	24.5	24.5	24.5	24.5	24.5	16.1	16.1	16.1	16.1	16.1	16.1	16.1
Effective Green, g (s)	0.50	0.50	0.50	0.50	0.50	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Actuated g/C Ratio	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	788	788	821	821	821	1082	1082	1082	1082	1082	1082	1082
Lane Grp Cap (vph)	0.22	0.44	0.68	0.68	0.68	0.08	0.08	0.08	0.08	0.08	0.08	0.08
v/s Ratio Prot	0.44	0.77	0.91	0.91	0.91	0.17	0.17	0.17	0.17	0.17	0.17	0.17
v/s Ratio Perm	1.00	1.00	1.00	1.00	1.00	0.53	0.53	0.53	0.53	0.53	0.53	0.53
Uniform Delay, d1	0.4	0.4	2.2	2.2	2.2	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Progression Factor	8.1	8.1	11.3	11.3	11.3	13.6	13.6	13.6	13.6	13.6	13.6	13.6
Incremental Delay, d2	8.1	8.1	11.3	11.3	11.3	13.6	13.6	13.6	13.6	13.6	13.6	13.6
Delay (s)	8.1	8.1	11.3	11.3	11.3	13.6	13.6	13.6	13.6	13.6	13.6	13.6
Level of Service	A	A	B	B	B	B	B	B	B	B	B	B
Approach Delay (s)	8.1	8.1	11.3	11.3	11.3	13.6	13.6	13.6	13.6	13.6	13.6	13.6
Approach LOS	A	A	B	B	B	B	B	B	B	B	B	B

Intersection Summary	12.4	HCM Level of Service	B
HCM Average Control Delay	12.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	48.6	Sum of last time (s)	8.0
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Lane Util. Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frlp, ped/bikes	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Frt	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Flt Protected	6280	6280	6280	6280	6280	6280	6280	6280	6280	6280	6280	6280
Satd. Flow (prot)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Permitted	3539	3539	3539	3539	3539	3539	3539	3539	3539	3539	3539	3539
Satd. Flow (perm)	6280	6280	6280	6280	6280	6280	6280	6280	6280	6280	6280	6280
Volume (vph)	0	0	104	2262	208	160	351	0	0	566	771	771
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	112	2432	224	172	377	0	0	609	829	829
RTOR Reduction (vph)	0	0	0	18	0	0	0	0	0	0	14	14
Lane Group Flow (vph)	0	0	0	2750	0	172	377	0	0	609	815	815
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50

Turn Type	Split	Prot	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	8	8	5	2	2	2	2	2	2	2	2	2
Permitted Phases	35.0	35.0	6.0	35.0	35.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Actuated Green, G (s)	36.0	36.0	7.0	36.0	36.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Effective Green, g (s)	0.45	0.45	0.09	0.45	0.45	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Actuated g/C Ratio	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	2826	2826	155	1593	1593	1106	871	871	871	871	871	871
Lane Grp Cap (vph)	0.44	0.44	0.10	0.11	0.11	0.17	0.17	0.17	0.17	0.17	0.17	0.17
v/s Ratio Prot	0.97	0.97	1.11	0.24	0.24	0.55	0.94	0.94	0.94	0.94	0.94	0.94
v/s Ratio Perm	21.5	21.5	36.5	13.5	13.5	22.8	26.7	26.7	26.7	26.7	26.7	26.7
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	11.4	11.4	104.7	0.1	0.1	0.6	16.8	16.8	16.8	16.8	16.8	16.8
Incremental Delay, d2	32.9	32.9	141.2	13.6	13.6	23.4	43.5	43.5	43.5	43.5	43.5	43.5
Delay (s)	32.9	32.9	141.2	13.6	13.6	23.4	43.5	43.5	43.5	43.5	43.5	43.5
Level of Service	C	C	F	B	B	C	D	D	D	D	D	D
Approach Delay (s)	32.9	32.9	141.2	13.6	13.6	23.4	43.5	43.5	43.5	43.5	43.5	43.5
Approach LOS	C	C	F	B	B	C	D	D	D	D	D	D

Intersection Summary	35.9	HCM Level of Service	D
HCM Average Control Delay	35.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	80.0	Sum of last time (s)	12.0
Intersection Capacity Utilization	84.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

11: S. King St & Punahou St Background AM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1770	7490	1863	1497	1770	1863	1863	1497	1770	1863	1863	1863
Flt Permitted	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1770	7490	1863	1497	1770	1863	1863	1497	1770	1863	1863	1863
Volume (vph)	245	1282	37	0	0	0	393	203	303	408	0	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	263	1378	40	0	0	0	423	218	326	439	0	0
RTOR Reduction (vph)	0	6	0	0	0	0	0	20	0	0	0	0
Lane Group Flow (vph)	263	1412	0	0	0	0	423	198	326	439	0	0
Confl. Peds. (#/hr)	50		50				50					

Turn Type	Perm	Split	Perm	Prot
Protected Phases	4	4	2	1
Permitted Phases	4	4	2	6
Actuated Green, G (s)	25.3	25.3	20.8	14.6
Effective Green, g (s)	26.3	26.3	21.8	15.6
Actuated g/C Ratio	0.35	0.35	0.29	0.21
Clearance Time (s)	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	615	2802	537	365
v/s Ratio Prot	0.15	c0.19	c0.23	c0.18
v/s Ratio Perm	0.43	0.54	0.79	0.46
Uniform Delay, d1	18.9	19.9	24.8	22.1
Progression Factor	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.2	7.5	0.8
Delay (s)	19.4	20.1	32.3	22.9
Level of Service	B	C	C	D
Approach Delay (s)	20.0		29.1	
Approach LOS	B		C	

Intersection Summary	HCM Level of Service
HCM Average Control Delay	23.9
HCM Volume to Capacity ratio	0.71
Actuated Cycle Length (s)	75.7
Intersection Capacity Utilization	66.1%
Analysis Period (min)	15
c Critical Lane Group	

1: Kinau & Keeaumoko St Background PM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1770	1863	1514	1718	1583	1583	3539	1447	5061	3539	1447	5061
Flt Permitted	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1770	1863	1514	1718	1583	1583	3539	1447	5061	3539	1447	5061
Volume (vph)	298	78	470	60	0	234	0	1292	86	54	574	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	320	84	505	65	0	252	0	1389	92	58	617	0
RTOR Reduction (vph)	0	0	163	0	0	17	0	0	43	0	0	0
Lane Group Flow (vph)	320	84	342	65	0	235	0	1389	49	0	675	0
Confl. Peds. (#/hr)	50		50					50				

Turn Type	Perm	Split	Perm	Prot
Protected Phases	4	4	2	6
Permitted Phases	4	4	2	6
Actuated Green, G (s)	17.3	17.3	17.3	17.3
Effective Green, g (s)	18.3	18.3	18.3	18.3
Actuated g/C Ratio	0.32	0.32	0.32	0.32
Clearance Time (s)	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	574	604	491	412
v/s Ratio Prot	0.18	0.14	c0.23	0.05
v/s Ratio Perm	0.56	0.70	0.70	0.16
Uniform Delay, d1	15.7	13.5	16.6	13.6
Progression Factor	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	0.1	4.3	0.2
Delay (s)	16.9	13.6	20.9	13.7
Level of Service	B	B	C	B
Approach Delay (s)	18.8		15.3	
Approach LOS	B		B	

Intersection Summary	HCM Level of Service
HCM Average Control Delay	12.9
HCM Volume to Capacity ratio	0.72
Actuated Cycle Length (s)	56.4
Intersection Capacity Utilization	79.9%
Analysis Period (min)	15
c Critical Lane Group	

Movement	EBL	EBT	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Fllb, ped/bikes	1.00	0.95	1.00	1.00	0.94	1.00	1.00	0.98	1.00	0.98	1.00
Fll Protected	0.95	1.00	1.00	0.99	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1745	1743	1743	3193	1754	3409	1749	3508	1749	3508	1749
Fll Permitted	0.30	1.00	1.00	0.75	0.19	1.00	0.15	1.00	0.15	1.00	0.15
Satd. Flow (perm)	550	1743	1743	2414	345	3409	277	3508	277	3508	277
Volume (vph)	107	169	82	151	213	255	58	943	159	100	956
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	115	182	88	162	229	274	62	1014	171	108	1028
RTOR Reduction (vph)	0	21	0	0	57	0	0	21	0	0	5
Lane Group Flow (vph)	115	249	0	0	608	0	62	1164	0	108	1067
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50

Turn Type	Perm	4	8	Perm	2	Perm
Protected Phases	4	4	8	8	2	6
Permitted Phases	4	18.9	18.9	18.9	28.2	28.2
Actuated Green, G (s)	19.9	19.9	19.9	19.9	29.2	29.2
Effective Green, g (s)	0.35	0.35	0.35	0.35	0.51	0.51
Actuated g/C Ratio	5.0	5.0	5.0	5.0	5.0	5.0
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	192	607	841	176	1743	142
Lane Grp Cap (vph)	0.21	0.14	0.18	0.34	0.30	0.30
v/s Ratio Prot	0.60	0.41	0.72	0.35	0.67	0.39
v/s Ratio Perm	15.3	14.1	16.2	8.3	10.3	0.59
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	5.0	0.5	3.1	1.2	1.0	0.5
Incremental Delay, d2	20.3	14.6	19.3	9.5	11.3	10.3
Delay (s)	C	B	B	A	B	C
Level of Service	16.3	B	B	11.2	B	12.3
Approach Delay (s)	B	B	B	B	B	B
Approach LOS	B	B	B	B	B	B

Intersection Summary	13.7	HCM Level of Service	B
HCM Average Control Delay	0.75	HCM Level of Service	B
HCM Volume to Capacity ratio	57.1	Sum of lost time (s)	8.0
Actuated Cycle Length (s)	88.4%	ICU Level of Service	E
Intersection Capacity Utilization	15	Analysis Period (min)	15
Analysis Period (min)			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Fllb, ped/bikes	1.00	0.95	1.00	1.00	0.94	1.00	1.00	0.98	1.00	0.98	1.00
Fll Protected	0.95	1.00	1.00	0.99	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1770	1770	3539	1768	3539	1770	3539	1770	3539	1770
Fll Permitted	0.95	1.00	1.00	0.12	1.00	1.00	0.12	1.00	0.12	1.00	0.12
Satd. Flow (perm)	1770	6206	223	3539	1770	6206	223	3539	1770	6206	223
Volume (vph)	0	0	176	2021	340	356	1043	0	859	132	859
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	189	2173	366	383	1122	0	924	142	924
RTOR Reduction (vph)	0	0	0	30	0	0	0	0	0	0	20
Lane Group Flow (vph)	0	0	189	2509	0	383	1122	0	924	122	924
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50

Turn Type	Split	8	8	pm+pl	2	Perm
Protected Phases	8	8	8	8	2	6
Permitted Phases	2	2	2	2	2	6
Actuated Green, G (s)	31.2	31.2	46.1	46.1	29.0	29.0
Effective Green, g (s)	31.2	31.2	47.1	47.1	30.0	30.0
Actuated g/C Ratio	0.36	0.36	0.55	0.55	0.35	0.35
Clearance Time (s)	4.0	4.0	4.0	4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	640	2244	356	1931	1230	512
v/s Ratio Prot	0.11	c0.40	c0.16	0.32	0.26	0.26
v/s Ratio Perm	0.30	1.12	1.08	0.58	0.75	0.24
Uniform Delay, d1	19.7	27.6	23.7	13.0	24.9	20.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	59.9	69.4	0.4	2.6	0.2
Delay (s)	20.0	87.4	93.1	13.5	27.5	20.3
Level of Service	B	F	F	B	C	C
Approach Delay (s)	0.0	82.8	82.8	33.7	26.5	26.5
Approach LOS	A	F	F	C	C	C

Intersection Summary	57.5	HCM Level of Service	E
HCM Average Control Delay	1.07	HCM Level of Service	E
HCM Volume to Capacity ratio	86.3	Sum of lost time (s)	8.0
Actuated Cycle Length (s)	89.0%	ICU Level of Service	E
Intersection Capacity Utilization	15	Analysis Period (min)	15
Analysis Period (min)			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4151										4111	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected												
Satd. Flow (prot)	8398											
Flt Permitted												
Satd. Flow (perm)	8398											
Volume (vph)	176	2383	97	0	0	0	0	777	215	341	984	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	189	2562	104	0	0	0	0	835	231	367	1058	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2848	0	0	0	0	0	835	207	0	1425	0
Confl. Peds. (#/hr)	50		50					50		50		

Turn Type	Split	Perm	pm+pt
Protected Phases	4	2	1
Permitted Phases			6
Actuated Green, G (s)	37.1	40.4	40.4
Effective Green, g (s)	36.1	41.4	41.4
Actuated g/C Ratio	0.44	0.47	0.47
Clearance Time (s)	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0
Lane Grp Cap (vph)	3657	1674	703
v/s Ratio Prot	c0.34	0.24	
v/s Ratio Perm			0.14
v/c Ratio	0.78	0.50	0.29
Uniform Delay, d1	21.1	15.9	14.1
Progression Factor	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.2	0.2
Delay (s)	22.2	16.1	14.3
Level of Service	C	B	B
Approach Delay (s)	22.2	15.7	29.5
Approach LOS	C	B	C

Intersection Summary		HCM Level of Service
HCM Average Control Delay	22.8	C
HCM Volume to Capacity ratio	0.85	
Actuated Cycle Length (s)	87.5	8.0
Intersection Capacity Utilization	83.6%	E
Analysis Period (min)	15	
d Defacto Left Lane. Record with 1 through lane as a left lane.		
c Critical Lane Group		

Movement	EBT	EBR	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected								
Satd. Flow (prot)	1433	6035	3433					
Flt Permitted								
Satd. Flow (perm)	1433	6035	3433					
Volume (vph)	0	399	1949	879	0	0	0	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	429	2096	945	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	429	2096	945	0	0	0
Confl. Peds. (#/hr)	20							

Turn Type	Split	Perm	pm+pt
Protected Phases	8	8	2
Permitted Phases			
Actuated Green, G (s)	38.6	38.6	27.2
Effective Green, g (s)	39.6	39.6	28.2
Actuated g/C Ratio	0.52	0.52	0.37
Clearance Time (s)	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0
Lane Grp Cap (vph)	749	3153	1277
v/s Ratio Prot	0.30	c0.35	c0.28
v/s Ratio Perm			
v/c Ratio	0.57	0.66	0.74
Uniform Delay, d1	12.3	13.2	20.6
Progression Factor	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.5	2.3
Delay (s)	13.4	13.8	23.0
Level of Service	B	B	C
Approach Delay (s)	0.0	13.7	23.0
Approach LOS	A	B	C

Intersection Summary		HCM Level of Service
HCM Average Control Delay	16.2	B
HCM Volume to Capacity ratio	0.70	
Actuated Cycle Length (s)	75.8	8.0
Intersection Capacity Utilization	60.0%	B
Analysis Period (min)	15	
c Critical Lane Group		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (Vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	0.86	1.00	1.00	0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1770	6408	1474	1770	6408	1474	1770	6408	1474	1770	6408	1474
Flt Permitted	0.95	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1770	6408	1474	1770	6408	1474	1770	6408	1474	1770	6408	1474
Volume (vph)	109	2687	369	109	2687	369	109	2687	369	109	2687	369
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	117	2889	397	117	2889	397	117	2889	397	117	2889	397
RTOR Reduction (vph)	0	0	54	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	117	2889	343	117	2889	343	117	2889	343	117	2889	343
Cont. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Split	Perm	Perm									
Protected Phases	4	4	4	4	4	4	4	4	4	4	4	4
Permitted Phases	4	4	4	4	4	4	4	4	4	4	4	4
Actuated Green, G (s)	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4
Effective Green, g (s)	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4
Actuated g/C Ratio	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	959	3473	799	959	3473	799	959	3473	799	959	3473	799
v/s Ratio Prot	0.07	0.45	0.23	0.07	0.45	0.23	0.07	0.45	0.23	0.07	0.45	0.23
v/s Ratio Perm	0.12	0.83	0.43	0.12	0.83	0.43	0.12	0.83	0.43	0.12	0.83	0.43
Uniform Delay, d1	9.6	16.3	11.7	9.6	16.3	11.7	9.6	16.3	11.7	9.6	16.3	11.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	1.8	0.4	0.1	1.8	0.4	0.1	1.8	0.4	0.1	1.8	0.4
Delay (s)	9.7	18.2	12.1	9.7	18.2	12.1	9.7	18.2	12.1	9.7	18.2	12.1
Level of Service	A	B	B	A	B	B	A	B	B	A	B	B
Approach Delay (s)	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2
Approach LOS	B	B	B	B	B	B	B	B	B	B	B	B
Intersection Summary												
HCM Average Control Delay	20.4			20.4			20.4			20.4		
HCM Volume to Capacity ratio	0.80			0.80			0.80			0.80		
Actuated Cycle Length (s)	85.6			85.6			85.6			85.6		
Intersection Capacity Utilization	73.4%			73.4%			73.4%			73.4%		
Analysis Period (min)	15			15			15			15		
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	05	05	05	05	05	05	05	05	05	05	05	05
Ideal Flow (Vphpl)	0	594	62	0	62	0	0	0	0	0	0	0
Total Lost time (s)	0	8	0	0	0	0	0	0	0	0	0	0
Lane Util. Factor	0.650	0.60	0.60	0.650	0.60	0.60	0.650	0.60	0.60	0.650	0.60	0.60
Flpb, ped/bikes	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Flt	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Flt Protected	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Satd. Flow (prot)	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Flt Permitted	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Satd. Flow (perm)	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Volume (vph)	1053	688	094	1053	688	094	1053	688	094	1053	688	094
Peak-hour factor, PHF	0.01	1.27	0.40	0.01	1.27	0.40	0.01	1.27	0.40	0.01	1.27	0.40
Adj. Flow (vph)	1053	688	094	1053	688	094	1053	688	094	1053	688	094
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1053	688	094	1053	688	094	1053	688	094	1053	688	094
Cont. Peds. (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Perm	Perm	Perm									
Protected Phases	0	0	0	0	0	0	0	0	0	0	0	0
Permitted Phases	0	0	0	0	0	0	0	0	0	0	0	0
Actuated Green, G (s)	0	0	0	0	0	0	0	0	0	0	0	0
Effective Green, g (s)	0	0	0	0	0	0	0	0	0	0	0	0
Actuated g/C Ratio	0	0	0	0	0	0	0	0	0	0	0	0
Clearance Time (s)	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension (s)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Grp Cap (vph)	0	0	0	0	0	0	0	0	0	0	0	0
v/s Ratio Prot	0	0	0	0	0	0	0	0	0	0	0	0
v/s Ratio Perm	0	0	0	0	0	0	0	0	0	0	0	0
Uniform Delay, d1	0	0	0	0	0	0	0	0	0	0	0	0
Progression Factor	0	0	0	0	0	0	0	0	0	0	0	0
Incremental Delay, d2	0	0	0	0	0	0	0	0	0	0	0	0
Delay (s)	0	0	0	0	0	0	0	0	0	0	0	0
Level of Service	0	0	0	0	0	0	0	0	0	0	0	0
Approach Delay (s)	0	0	0	0	0	0	0	0	0	0	0	0
Approach LOS	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Summary												
HCM Average Control Delay	0	0	0	0	0	0	0	0	0	0	0	0
HCM Volume to Capacity ratio	0	0	0	0	0	0	0	0	0	0	0	0
Actuated Cycle Length (s)	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Capacity Utilization	0	0	0	0	0	0	0	0	0	0	0	0
Analysis Period (min)	0	0	0	0	0	0	0	0	0	0	0	0
c Critical Lane Group												

8: I-1 Off-Ramp & Punahou St Background PM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ft	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	0.97	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1681	1718	2539	3449	3449	1770	3539	3449	1770	3539	3449	1770
Flt Permitted	0.95	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1681	1718	2539	3449	3449	207	3539	3449	207	3539	3449	207
Volume (vph)	558	145	555	0	0	0	1262	118	71	678	0	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	600	156	588	0	0	0	1357	127	76	729	0	0
RTOR Reduction (vph)	0	0	294	0	0	0	10	0	0	0	0	0
Lane Group Flow (vph)	368	388	304	0	0	0	1474	0	76	729	0	0
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Split											
Protected Phases	4											
Permitted Phases	4											
Actuated Green, G (s)	18.8	18.8	18.8	18.8	18.8	18.8	35.0	35.0	35.0	35.0	35.0	35.0
Effective Green, g (s)	18.8	18.8	18.8	18.8	18.8	18.8	35.0	35.0	35.0	35.0	35.0	35.0
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.30	0.30	0.57	0.57	0.57	0.57	0.57	0.57
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	503	514	760	1977	1977	119	2029	1977	119	2029	1977	119
v/s Ratio Prot	0.22	c0.23	0.12	0.43	0.43	0.21	0.43	0.43	0.21	0.43	0.43	0.21
v/s Ratio Perm	0.73	0.75	0.40	0.75	0.75	0.36	0.75	0.75	0.36	0.75	0.75	0.36
v/c Ratio	19.7	19.9	17.5	10.0	10.0	9.0	7.2	7.2	9.0	7.2	7.2	9.0
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	5.4	6.2	0.3	1.6	1.6	10.7	0.1	0.1	10.7	0.1	0.1	0.1
Incremental Delay, d2	25.2	26.1	17.9	11.6	11.6	19.8	7.3	7.3	19.8	7.3	7.3	19.8
Delay (s)	C	C	B	B	B	B	A	A	B	A	A	A
Level of Service	C	C	B	B	B	B	A	A	B	A	A	A
Approach Delay (s)	22.2	22.2	0.0	0.0	0.0	11.6	8.5	8.5	11.6	8.5	8.5	11.6
Approach LOS	C	C	A	A	A	B	A	A	B	A	A	A
Intersection Summary												
HCM Average Control Delay	14.8											
HCM Volume to Capacity ratio	0.75											
Actuated Cycle Length (s)	62.8											
Intersection Capacity Utilization	72.2%											
Analysis Period (min)	15											
c Critical Lane Group												

9: S. Beretania St & Punahou St Background PM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ft	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	6222	6222	1770	3539	3539	1770	3539	3539	1770	3539	3539	1770
Flt Permitted	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	6222	6222	1770	3539	3539	1770	3539	3539	1770	3539	3539	1770
Volume (vph)	0	0	96	1662	239	123	692	0	0	712	779	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	103	1787	257	132	744	0	0	766	838	0
RTOR Reduction (vph)	0	0	0	26	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	2121	0	132	744	0	0	766	718	0
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Split											
Protected Phases	8											
Permitted Phases	8											
Actuated Green, G (s)	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
Effective Green, g (s)	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0
Actuated g/C Ratio	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2612	2612	210	1704	1704	210	1704	1704	210	1704	1704	210
v/s Ratio Prot	c0.34	c0.34	c0.07	0.21	0.21	c0.07	0.21	0.21	c0.07	0.21	0.21	c0.07
v/s Ratio Perm	0.81	0.81	0.63	0.44	0.44	0.63	0.44	0.44	0.63	0.44	0.44	0.63
v/c Ratio	20.7	20.7	34.0	13.8	13.8	24.4	25.7	25.7	24.4	25.7	25.7	24.4
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	2.0	2.0	5.8	0.2	0.2	5.8	0.2	0.2	5.8	0.2	0.2	5.8
Incremental Delay, d2	22.7	22.7	39.8	14.0	14.0	26.2	32.0	32.0	26.2	32.0	32.0	26.2
Delay (s)	C	C	D	B	B	D	B	B	D	B	B	D
Level of Service	C	C	D	B	B	D	B	B	D	B	B	D
Approach Delay (s)	0.0	0.0	0.0	17.9	17.9	0.0	29.2	29.2	0.0	17.9	17.9	0.0
Approach LOS	A	A	A	B	B	A	C	C	A	B	B	A
Intersection Summary												
HCM Average Control Delay	24.0											
HCM Volume to Capacity ratio	0.79											
Actuated Cycle Length (s)	81.0											
Intersection Capacity Utilization	74.1%											
Analysis Period (min)	15											
c Critical Lane Group												

10: Young St & Punahou St Background PM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4	4	4	4	4	4	4	4	4	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	0.99	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	1.00	1.00
Frlb, ped/bikes	1.00	1.00	1.00	0.97	1.00	0.98	1.00	0.99	1.00	1.00	1.00
Frt	0.98	1.00	1.00	0.98	1.00	0.99	1.00	0.99	1.00	1.00	1.00
Flt Protected	0.99	1.00	1.00	0.99	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1784	1808	1732	3491	1732	3492	1732	3492	1732	3492	1732
Flt Permitted	0.83	0.94	0.95	1.00	0.29	1.00	0.29	1.00	0.29	1.00	0.29
Satd. Flow (perm)	1500	1703	632	3491	632	3492	632	3492	632	3492	632
Volume (vph)	94	183	44	37	261	44	24	651	40	71	571
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	101	197	47	40	281	47	26	700	43	76	614
RTOR Reduction (vph)	0	6	0	0	6	0	0	8	0	0	8
Lane Group Flow (vph)	0	339	0	0	362	0	26	735	0	76	643
Conti. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	4	4	4	4	4	4	4	4	4	4	4
Permitted Phases	4	4	4	4	4	4	4	4	4	4	4
Actuated Green, G (s)	17.7	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3
Effective Green, g (s)	18.7	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3
Actuated g/C Ratio	0.43	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	652	741	240	1823	202	1324	202	1324	202	1324	202
v/s Ratio Prot	c0.23	0.21	0.04	c0.21	0.14	0.18	0.14	0.18	0.14	0.18	0.14
v/s Ratio Perm	0.52	0.49	0.11	0.56	0.38	0.49	0.38	0.49	0.38	0.49	0.38
Uniform Delay, d1	8.9	8.7	8.6	10.5	9.7	10.2	9.7	10.2	9.7	10.2	9.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.5	0.2	0.5	0.2	0.3	0.2	0.3	0.2	0.3	0.2
Delay (s)	9.6	9.2	8.8	11.0	10.8	10.4	10.8	10.4	10.8	10.4	10.8
Level of Service	A	A	A	A	B	B	B	B	B	B	B
Approach Delay (s)	9.6	9.2	8.8	11.0	10.8	10.4	10.8	10.4	10.8	10.4	10.8
Approach LOS	A	A	A	A	B	B	B	B	B	B	B
<b>Intersection Summary</b>											
HCM Average Control Delay	10.3										
HCM Volume to Capacity ratio	0.54										
Actuated Cycle Length (s)	43.0										
Intersection Capacity Utilization	70.4%										
Analysis Period (min)	15										
c Critical Lane Group											

11: S. King St & Punahou St Background PM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4	4	4	4	4	4	4	4	4	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frlb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1770	7521	1770	7521	1770	7521	1770	7521	1770	7521	1770
Flt Permitted	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1770	7521	1770	7521	1770	7521	1770	7521	1770	7521	1770
Volume (vph)	349	2511	29	0	0	0	0	426	160	445	378
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	375	2700	31	0	0	0	0	458	172	478	406
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	11	0	0
Lane Group Flow (vph)	375	2729	0	0	0	0	0	458	161	478	406
Conti. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Split										
Protected Phases	4	4	4	4	4	4	4	4	4	4	4
Permitted Phases	4	4	4	4	4	4	4	4	4	4	4
Actuated Green, G (s)	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Effective Green, g (s)	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
Actuated g/C Ratio	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	665	2624	528	421	362	994	528	421	362	994	528
v/s Ratio Prot	0.21	c0.36	c0.25	c0.27	c0.22	c0.25	c0.25	c0.27	c0.22	c0.25	c0.27
v/s Ratio Perm	0.56	0.97	0.87	0.38	1.32	0.41	0.87	0.38	1.32	0.41	0.87
Uniform Delay, d1	21.7	26.9	29.9	25.3	35.0	12.2	29.9	25.3	35.0	12.2	29.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	10.2	14.0	0.6	162.4	0.3	14.0	0.6	162.4	0.3	14.0
Delay (s)	22.8	37.1	43.9	25.9	197.3	12.5	43.9	25.9	197.3	12.5	43.9
Level of Service	C	D	D	C	F	B	D	C	F	B	D
Approach Delay (s)	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4
Approach LOS	D	D	D	D	A	D	D	D	D	D	D
<b>Intersection Summary</b>											
HCM Average Control Delay	50.6										
HCM Volume to Capacity ratio	1.02										
Actuated Cycle Length (s)	87.9										
Intersection Capacity Utilization	86.6%										
Analysis Period (min)	15										
c Critical Lane Group											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	0.95	1.00	0.85	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1770	1863	1522	1725	1583	3539	1464	5082				
Satd. Flow (prot)	0.95	1.00	0.71	1.00	0.71	1.00	1.00	0.94				
Flt Permitted	1770	1863	1522	1725	1583	3539	1464	4754				
Satd. Flow (perm)	135	61	427	45	0	156	0	562	40	8	1099	0
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	145	66	459	48	0	168	0	604	43	9	1182	0
Adj. Flow (vph)	0	0	24	0	0	95	0	0	24	0	0	0
RTOR Reduction (vph)	145	66	435	48	0	73	0	604	19	0	1191	0
Lane Group Flow (vph)												
Contf. Peds. (#/hr)												
Turn Type	Perm	Perm	Permcustom									
Protected Phases	4	4	8	8	8	8	8	2	2	6	6	6
Permitted Phases	18.2	18.2	18.2	18.2	18.2	18.2	18.2	20.2	20.2	20.2	20.2	20.2
Actuated Green, G (s)	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.45	0.45	0.45	0.45	0.45
Effective Green, g (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0
Actuated g/C Ratio	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Clearance Time (s)	680	715	584	498	608	1583	655	2126				
Vehicle Extension (s)	0.08	0.04	0.04	0.05	0.05	0.05	0.05	0.17	0.01	0.01	0.01	0.01
Lane Grp Cap (vph)	0.21	0.09	0.74	0.10	0.12	0.12	0.12	0.38	0.03	0.03	0.03	0.03
v/s Ratio Prot	9.8	9.3	12.6	9.3	9.4	8.7	7.3	8.7	7.3	9.7	9.7	9.7
v/s Ratio Perm	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay, d1	0.2	0.1	5.1	0.1	0.1	0.2	0.0	0.2	0.0	0.0	0.3	0.3
Progression Factor	10.0	9.4	17.7	9.4	9.5	8.9	7.4	10.0				
Incremental Delay, d2	A	A	B	A	A	A	A	A	A	A	B	B
Delay (s)	15.2	15.2	15.2	9.5	9.5	9.5	9.5	8.8	8.8	10.0	10.0	10.0
Level of Service	B	B	A	A	A	A	A	A	A	A	B	B
Approach Delay (s)												
Approach LOS												
Intersection Summary												
HCM Average Control Delay	11.0											
HCM Volume to Capacity ratio	0.65											
Actuated Cycle Length (s)	47.4											
Intersection Capacity Utilization	65.1%											
Analysis Period (min)	15											
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	0.95	1.00	0.99	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770
Satd. Flow (prot)	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Permitted	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770
Satd. Flow (perm)	0	0	0	0	0	0	0	0	0	0	0	0
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	0	0	0	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)												
Contf. Peds. (#/hr)												
Turn Type	Perm	Perm	Permcustom									
Protected Phases	4	4	8	8	8	8	8	2	2	6	6	6
Permitted Phases	18.2	18.2	18.2	18.2	18.2	18.2	18.2	20.2	20.2	20.2	20.2	20.2
Actuated Green, G (s)	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.45	0.45	0.45	0.45	0.45
Effective Green, g (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0
Actuated g/C Ratio	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Clearance Time (s)	680	715	584	498	608	1583	655	2126				
Vehicle Extension (s)	0.08	0.04	0.04	0.05	0.05	0.05	0.05	0.17	0.01	0.01	0.01	0.01
Lane Grp Cap (vph)	0.21	0.09	0.74	0.10	0.12	0.12	0.12	0.38	0.03	0.03	0.03	0.03
v/s Ratio Prot	9.8	9.3	12.6	9.3	9.4	8.7	7.3	8.7	7.3	9.7	9.7	9.7
v/s Ratio Perm	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay, d1	0.2	0.1	5.1	0.1	0.1	0.2	0.0	0.2	0.0	0.0	0.3	0.3
Progression Factor	10.0	9.4	17.7	9.4	9.5	8.9	7.4	10.0				
Incremental Delay, d2	A	A	B	A	A	A	A	A	A	A	B	B
Delay (s)	15.2	15.2	15.2	9.5	9.5	9.5	9.5	8.8	8.8	10.0	10.0	10.0
Level of Service	B	B	A	A	A	A	A	A	A	A	B	B
Approach Delay (s)												
Approach LOS												
Intersection Summary												
HCM Average Control Delay	11.0											
HCM Volume to Capacity ratio	0.65											
Actuated Cycle Length (s)	47.4											
Intersection Capacity Utilization	65.1%											
Analysis Period (min)	15											
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	0.76	0.76	0.76	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	0.99	0.99	0.99	1.00	0.95	1.00	0.99	1.00	0.95	1.00	0.99	1.00
Frt	0.99	0.99	0.99	1.00	0.95	1.00	0.99	1.00	0.95	1.00	0.99	1.00
Flt Protected	0.99	0.99	0.99	1.00	0.95	1.00	0.99	1.00	0.95	1.00	0.99	1.00
Satd. Flow (prot)	8282	8282	8282	3539	1509	3539	1509	3539	1509	3539	1509	3539
Flt Permitted	0.99	0.99	0.99	1.00	0.95	1.00	0.99	1.00	0.95	1.00	0.99	1.00
Satd. Flow (perm)	8282	8282	8282	3539	1509	3539	1509	3539	1509	3539	1509	3539
Volume (vph)	278	1352	153	0	0	0	0	349	90	316	881	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	299	1454	165	0	0	0	0	375	97	340	947	0
RTOR Reduction (vph)	0	19	0	0	0	0	0	52	0	0	0	0
Lane Group Flow (vph)	0	1899	0	0	0	0	0	45	0	1287	0	0
Cont. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Skull											
Protected Phases	4	4	4	1	1	1	1	6	6	6	6	6
Permitted Phases	25.2	25.2	25.2	28.3	28.3	28.3	28.3	28.3	28.3	28.3	28.3	28.3
Effective Green, G (s)	0.41	0.41	0.41	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Actuated g/C Ratio	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	3394	3394	3394	1629	694	1629	694	1629	694	1629	694	1629
Lane Grp Cap (vph)	60.23	60.23	60.23	0.11	0.11	0.11	0.11	0.34	0.34	0.34	0.34	0.34
v/s Ratio Perm	0.56	0.56	0.56	0.23	0.23	0.23	0.23	0.73	0.73	0.73	0.73	0.73
v/c Ratio	13.9	13.9	13.9	10.0	9.2	13.5	13.5	10.0	9.2	13.5	13.5	10.0
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.2	0.2	0.2	0.1	0.0	0.2	0.2	0.1	0.0	0.2	0.2	0.1
Incremental Delay, d2	14.1	14.1	14.1	10.1	9.3	15.0	15.0	10.1	9.3	15.0	15.0	10.1
Delay (s)	B	B	B	A	A	B	B	A	A	B	B	A
Level of Service	B	B	B	A	A	B	B	A	A	B	B	A
Approach Delay (s)	14.1	14.1	14.1	9.9	9.9	15.0	15.0	9.9	9.9	15.0	15.0	9.9
Approach LOS	B	B	B	A	A	B	B	A	A	B	B	A
<b>Intersection Summary</b>												
HCM Average Control Delay	13.9	13.9	13.9	10.0	9.2	13.5	13.5	10.0	9.2	13.5	13.5	10.0
HCM Volume to Capacity ratio	0.65	0.65	0.65	0.23	0.23	0.73	0.73	0.23	0.23	0.73	0.73	0.23
Actuated Cycle Length (s)	61.5	61.5	61.5	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%
Intersection Capacity Utilization	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%
Analysis Period (min)	15	15	15	15	15	15	15	15	15	15	15	15
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	0.99	0.99	0.99	1.00	0.95	1.00	0.99	1.00	0.95	1.00	0.99	1.00
Frt	0.99	0.99	0.99	1.00	0.95	1.00	0.99	1.00	0.95	1.00	0.99	1.00
Flt Protected	0.99	0.99	0.99	1.00	0.95	1.00	0.99	1.00	0.95	1.00	0.99	1.00
Satd. Flow (prot)	8282	8282	8282	3539	1509	3539	1509	3539	1509	3539	1509	3539
Flt Permitted	0.99	0.99	0.99	1.00	0.95	1.00	0.99	1.00	0.95	1.00	0.99	1.00
Satd. Flow (perm)	8282	8282	8282	3539	1509	3539	1509	3539	1509	3539	1509	3539
Volume (vph)	594	302	1232	242	242	2562	242	242	242	2562	242	242
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	630	360	1330	260	260	2750	260	260	260	2750	260	260
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Cont. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Skull											
Protected Phases	9	9	9	2	2	8	8	8	8	8	8	8
Permitted Phases	86.1	66	98.1	51	51	68	68	68	68	68	68	68
Effective Green, G (s)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Actuated g/C Ratio	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Clearance Time (s)	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
Vehicle Extension (s)	9.06	9.06	9.06	9.06	9.06	9.06	9.06	9.06	9.06	9.06	9.06	9.06
Lane Grp Cap (vph)	92.9	92.9	92.9	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91
v/s Ratio Perm	0.56	0.56	0.56	0.23	0.23	0.73	0.73	0.23	0.23	0.73	0.73	0.23
v/c Ratio	14.0	14.0	14.0	10.0	9.2	13.5	13.5	10.0	9.2	13.5	13.5	10.0
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.2	0.2	0.2	0.1	0.0	0.2	0.2	0.1	0.0	0.2	0.2	0.1
Incremental Delay, d2	14.1	14.1	14.1	10.1	9.3	15.0	15.0	10.1	9.3	15.0	15.0	10.1
Delay (s)	B	B	B	A	A	B	B	A	A	B	B	A
Level of Service	B	B	B	A	A	B	B	A	A	B	B	A
Approach Delay (s)	14.1	14.1	14.1	9.9	9.9	15.0	15.0	9.9	9.9	15.0	15.0	9.9
Approach LOS	B	B	B	A	A	B	B	A	A	B	B	A
<b>Intersection Summary</b>												
HCM Average Control Delay	13.9	13.9	13.9	10.0	9.2	13.5	13.5	10.0	9.2	13.5	13.5	10.0
HCM Volume to Capacity ratio	0.65	0.65	0.65	0.23	0.23	0.73	0.73	0.23	0.23	0.73	0.73	0.23
Actuated Cycle Length (s)	61.5	61.5	61.5	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%
Intersection Capacity Utilization	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%
Analysis Period (min)	15	15	15	15	15	15	15	15	15	15	15	15
c Critical Lane Group												

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	0.81	0.81	0.97			
Lane Util. Factor	1.00	1.00	1.00			
Frbp, ped/bikes	1.00	1.00	1.00			
Flob, ped/bikes	1.00	1.00	1.00			
Frt	0.95	1.00	0.95			
Flt Protected	1433	6035	3433			
Satd. Flow (prot)	1433	6035	3433			
Flt Permitted	0	0	0			
Satd. Flow (perm)	0	0	0			
Volume (vph)	0	487	2895	845	0	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	524	2898	909	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	524	2898	909	0	0
Confl. Peds. (#/hr)	20					
Turn Type	Split					
Protected Phases	8					
Permitted Phases	8					
Actuated Green, G (s)	50.0 50.0 24.4					
Effective Green, g (s)	51.0 51.0 25.4					
Actuated g/C Ratio	0.60 0.60 0.30					
Clearance Time (s)	5.0 5.0 5.0					
Vehicle Extension (s)	3.0 3.0 3.0					
Lane Grp Cap (vph)	866 3647 1033					
v/s Ratio Prot	0.37 c0.48 c0.26					
v/c Ratio	0.61 0.79 0.88					
Uniform Delay, d1	10.4 12.7 28.1					
Progression Factor	1.00 1.00 1.00					
Incremental Delay, d2	1.2 1.3 8.7					
Delay (s)	11.6 14.0 36.8					
Level of Service	B B D					
Approach Delay (s)	0.0					
Approach LOS	A					
<b>Intersection Summary</b>						
HCM Average Control Delay	16.5 HCM Level of Service B					
HCM Volume to Capacity ratio	0.82					
Actuated Cycle Length (s)	84.4					
Intersection Capacity Utilization	69.8%					
Analysis Period (min)	15					
c Critical Lane Group						

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flob, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.97	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1792	1792	1794	1733	3507	1728	3483					
Satd. Flow (prot)	1792	1792	1794	1733	3507	1728	3483					
Flt Permitted	0.96	0.94	0.94	0.94	0.42	1.00	1.00					
Satd. Flow (perm)	1726	1697	1697	1697	3507	1697	3483					
Volume (vph)	18	220	56	50	372	86	186	658	26	14	446	37
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	19	237	60	54	400	92	200	708	28	15	480	40
RTOR Reduction (vph)	0	9	0	0	8	0	0	6	0	0	12	0
Lane Group Flow (vph)	0	307	0	0	538	0	200	730	0	15	508	0
Confl. Peds. (#/hr)	50											
Turn Type	Perm											
Protected Phases	4											
Permitted Phases	4											
Actuated Green, G (s)	22.6											
Effective Green, g (s)	23.6											
Actuated g/C Ratio	0.46											
Clearance Time (s)	5.0											
Vehicle Extension (s)	3.0											
Lane Grp Cap (vph)	799											
v/s Ratio Prot	0.18											
v/c Ratio Perm	0.38											
v/c Ratio	0.69											
Uniform Delay, d1	9.0											
Progression Factor	1.00											
Incremental Delay, d2	2.5											
Delay (s)	9.3											
Level of Service	A											
Approach Delay (s)	9.3											
Approach LOS	A											
<b>Intersection Summary</b>												
HCM Average Control Delay	12.8 HCM Level of Service B											
HCM Volume to Capacity ratio	0.69											
Actuated Cycle Length (s)	51.0											
Intersection Capacity Utilization	75.9%											
Analysis Period (min)	15											
c Critical Lane Group												

7: S. King St & Kalakaua St

8: I-1 Off-Ramp & Punahou St

Project AM  
KRC Kalakaua Housing

Project AM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	0.86	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frlb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Flt Protected	1770	6408	1502	3539	1512	1767	3539	1512	1767	3539	1502
Satd. Flow (prot)	0.95	1.00	1.00	1.00	1.00	0.20	1.00	1.00	0.20	1.00	1.00
Flt Permitted	1770	6408	1502	3539	1512	377	3539	1512	377	3539	1502
Satd. Flow (perm)	131	1272	316	0	0	663	228	25	512	0	0
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	141	1368	340	0	0	713	245	27	551	0	0
Adj. Flow (vph)	0	0	140	0	0	0	133	0	0	0	0
RTOR Reduction (vph)	141	1368	200	0	0	713	112	27	551	0	0
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50
Contfl. Peds. (#/hr)	Split	Perm	Perm	pm+pt	Perm	pm+pt	Perm	pm+pt	Perm	pm+pt	Perm
Turn Type	4	4	4	2	2	1	6	1	6	1	6
Protected Phases	24.4	24.4	24.4	17.7	17.7	24.6	24.6	24.6	24.6	24.6	24.6
Permitted Phases	25.4	25.4	25.4	18.7	18.7	25.6	25.6	25.6	25.6	25.6	25.6
Actuated Green, G (s)	0.43	0.43	0.43	0.32	0.32	0.43	0.43	0.43	0.43	0.43	0.43
Effective Green, g (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Actuated g/C Ratio	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Clearance Time (s)	762	2759	647	1122	479	232	1536	232	1536	232	1536
Vehicle Extension (s)	0.08	c0.21	0.13	c0.20	0.07	0.04	c0.16	0.04	c0.16	0.04	c0.16
Lane Grp Cap (vph)	0.19	0.50	0.31	0.64	0.23	0.12	0.36	0.12	0.36	0.12	0.36
v/s Ratio Prot	10.4	12.2	11.0	17.2	14.9	10.6	11.2	10.6	11.2	10.6	11.2
v/s Ratio Perm	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay, d1	0.1	0.1	0.3	1.2	0.3	0.2	0.1	0.2	0.1	0.2	0.1
Progression Factor	10.5	12.3	11.3	18.4	15.1	10.8	11.3	10.8	11.3	10.8	11.3
Incremental Delay, d2	B	B	B	B	B	B	B	B	B	B	B
Level of Service	12.0	B	B	17.6	B	B	11.3	B	B	B	11.3
Approach Delay (s)	B	B	B	0.0	0.0	A	0.0	0.0	A	0.0	0.0
Approach LOS	B	B	B	A	A	A	B	A	A	A	B
<b>Intersection Summary</b>											
HCM Average Control Delay	13.5										
HCM Volume to Capacity ratio	0.55										
Actuated Cycle Length (s)	59.0										
Intersection Capacity Utilization	52.8%										
Analysis Period (min)	15										
c Critical Lane Group											

Movement	EBL	EBT	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	0.95	0.95	0.88	1.00	1.00	0.97	1.00	1.00	0.95	0.95	0.95
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frlb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.95	0.95	1.00
Flt Protected	1681	1709	2565	1681	1709	2565	3321	3321	1710	3539	1710
Satd. Flow (prot)	0.95	0.97	1.00	0.95	0.97	1.00	1.00	1.00	0.29	1.00	1.00
Flt Permitted	1681	1709	2565	1681	1709	2565	3321	3321	0.29	3539	3321
Satd. Flow (perm)	1189	212	1021	0	0	0	517	148	109	759	0
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	1289	228	1098	0	0	0	556	159	117	816	0
Adj. Flow (vph)	0	0	123	0	0	0	49	0	0	0	0
RTOR Reduction (vph)	1289	228	1098	0	0	0	556	159	117	816	0
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50
Contfl. Peds. (#/hr)	Split	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Turn Type	4	4	4	2	2	1	6	1	6	1	6
Protected Phases	26.4	26.4	26.4	19.6	19.6	26.4	26.4	26.4	26.4	26.4	26.4
Permitted Phases	26.4	26.4	26.4	20.6	20.6	26.4	26.4	26.4	26.4	26.4	26.4
Actuated Green, G (s)	0.48	0.48	0.48	0.37	0.37	0.48	0.48	0.48	0.37	0.37	0.37
Effective Green, g (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Actuated g/C Ratio	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Clearance Time (s)	807	820	1231	1244	1244	820	1231	820	1244	1231	820
Vehicle Extension (s)	0.44	c0.46	0.38	0.20	0.20	0.44	c0.23	0.23	0.20	c0.23	0.23
Lane Grp Cap (vph)	0.92	0.95	0.79	0.54	0.54	0.92	0.79	0.54	0.61	0.62	0.62
v/s Ratio Prot	13.3	13.7	12.0	13.5	13.5	13.3	12.0	13.5	13.9	14.0	14.0
v/s Ratio Perm	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay, d1	14.9	19.8	3.6	0.4	0.4	14.9	19.8	3.6	5.3	0.9	0.9
Progression Factor	26.2	33.4	15.6	13.9	13.9	26.2	33.4	15.6	19.2	14.8	14.8
Incremental Delay, d2	C	C	B	B	B	C	B	B	B	B	B
Level of Service	24.4	C	C	0.0	0.0	24.4	C	C	15.4	15.4	15.4
Approach Delay (s)	C	C	C	A	A	C	C	C	A	A	A
Approach LOS	C	C	C	A	A	C	C	C	A	A	A
<b>Intersection Summary</b>											
HCM Average Control Delay	20.7										
HCM Volume to Capacity ratio	0.80										
Actuated Cycle Length (s)	55.0										
Intersection Capacity Utilization	74.7%										
Analysis Period (min)	15										
c Critical Lane Group											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flob, ped/bikes	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Flt	1800	1822	1726	3265	1723	3465	1723	3465	1723	3465	1723	3465
Flt Protected	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Flt Permitted	1563	1563	1563	1563	1563	1563	1563	1563	1563	1563	1563	1563
Satd. Flow (pbrpm)	56	232	43	86	402	32	38	425	203	4	595	56
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	60	249	46	92	432	34	41	457	218	4	640	60
Adj. Flow (vph)	0	5	0	0	2	0	0	106	0	0	13	0
RTOR Reduction (vph)	0	350	0	0	556	0	41	569	0	4	687	0
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50	50
Confl. Peds. (#/hr)	Permitted											
Turn Type	4	4	4	8	8	8	8	2	2	6	6	6
Protected Phases	4	4	4	8	8	8	8	2	2	6	6	6
Permitted Phases	4	4	4	8	8	8	8	2	2	6	6	6
Actuated Green, G (s)	23.5	23.5	23.5	23.5	23.5	23.5	23.5	15.2	15.2	15.2	15.2	15.2
Effective Green, g (s)	24.5	24.5	24.5	24.5	24.5	24.5	24.5	16.2	16.2	16.2	16.2	16.2
Actuated g/C Ratio	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.33	0.33	0.33	0.33	0.33
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	786	786	786	820	820	820	820	1086	1086	180	1153	786
v/s Ratio Prot	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.17	0.17	0.01	0.20	0.22
v/s Ratio Perm	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.08	0.08	0.02	0.60	0.44
v/c Ratio	7.7	7.7	7.7	9.1	9.1	9.1	9.1	11.8	11.8	10.9	13.5	7.7
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.4	0.4	0.4	2.2	2.2	2.2	2.2	0.7	0.7	0.0	0.8	0.4
Incremental Delay, d2	8.1	8.1	8.1	11.4	11.4	11.4	11.4	12.5	12.5	11.0	14.4	8.1
Delay (s)	A	A	A	B	B	B	B	B	B	B	B	A
Level of Service	8.1	8.1	8.1	11.4	11.4	11.4	11.4	13.5	13.5	B	14.3	8.1
Approach Delay (s)	A	A	A	B	B	B	B	B	B	B	B	A
Approach LOS	A	A	A	B	B	B	B	B	B	B	B	A
<b>Intersection Summary</b>												
HCM Average Control Delay	12.4											
HCM Volume to Capacity ratio	0.65											
Actuated Cycle Length (s)	80											
Intersection Capacity Utilization	70.2%											
Analysis Period (min)	15											
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flob, ped/bikes	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Flt	3539	2787	3539	2787	3539	2787	3539	2787	3539	2787	3539	2787
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Permitted	6279	6279	6279	6279	6279	6279	6279	6279	6279	6279	6279	6279
Satd. Flow (pbrpm)	0	0	0	106	2262	208	160	351	0	0	570	771
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	0	0	0	114	2432	224	172	377	0	0	613	829
Adj. Flow (vph)	0	0	0	0	18	0	0	0	0	0	0	14
RTOR Reduction (vph)	0	0	0	0	2752	0	172	377	0	0	613	815
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50	50
Confl. Peds. (#/hr)	Split											
Turn Type	8	8	8	8	8	8	8	2	2	6	6	6
Protected Phases	8	8	8	8	8	8	8	2	2	6	6	6
Permitted Phases	8	8	8	8	8	8	8	2	2	6	6	6
Actuated Green, G (s)	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	24.0	24.0	24.0
Effective Green, g (s)	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	25.0	25.0	25.0
Actuated g/C Ratio	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.31	0.31	0.31
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2826	2826	2826	155	1593	1106	871	1106	871	0.29	0.29	0.29
v/s Ratio Prot	0.44	0.44	0.44	0.10	0.11	0.11	0.11	0.11	0.11	0.55	0.55	0.55
v/s Ratio Perm	0.97	0.97	0.97	1.11	1.11	1.11	1.11	1.11	1.11	0.94	0.94	0.94
v/c Ratio	21.5	21.5	21.5	36.5	36.5	36.5	36.5	36.5	36.5	22.9	26.7	26.7
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	11.5	11.5	11.5	104.7	104.7	104.7	104.7	104.7	104.7	0.6	16.8	16.8
Incremental Delay, d2	33.0	33.0	33.0	141.2	141.2	141.2	141.2	141.2	141.2	23.5	43.5	43.5
Delay (s)	C	C	C	F	F	F	F	F	F	C	C	C
Level of Service	0.0	0.0	0.0	53.6	53.6	53.6	53.6	53.6	53.6	35.0	35.0	35.0
Approach Delay (s)	A	A	A	D	D	D	D	D	D	D	D	D
Approach LOS	A	A	A	D	D	D	D	D	D	D	D	D
<b>Intersection Summary</b>												
HCM Average Control Delay	36.0											
HCM Volume to Capacity ratio	0.97											
Actuated Cycle Length (s)	12.0											
Intersection Capacity Utilization	84.0%											
Analysis Period (min)	15											
c Critical Lane Group												

11: S. King St & Punahou St

1: Kinau & Keeaumoko St

Project AM  
KRC Katakaua Housing

Project PM  
KRC Katakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	0.81	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fllb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fll Protected	1770	7490	1770	1863	1496	1770	1863	1770	1863	1770	1863	1770
Satd. Flow (prot)	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fll Permitted	1770	7490	1770	1863	1496	1770	1863	1770	1863	1770	1863	1770
Satd. Flow (perm)	245	1292	37	0	0	0	393	203	303	408	0	0
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	263	1389	40	0	0	0	423	218	326	439	0	0
Adj. Flow (vph)	0	6	0	0	0	0	0	20	0	0	0	0
RTOR Reduction (vph)	263	1423	0	0	0	0	423	198	326	439	0	0
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50	50
Confl. Peds. (#/hr)	4	4	4	4	4	4	4	4	4	4	4	4
Turn Type	Perm	Perm	Perm	Perm	Perm	Prot	Perm	Perm	Perm	Prot	Perm	Perm
Protected Phases	4	4	4	4	4	1	2	2	2	6	6	6
Permitted Phases	25.4	25.4	25.4	20.9	20.9	14.5	20.9	20.9	14.5	40.4	40.4	40.4
Actuated Green, G (s)	26.4	26.4	26.4	21.9	21.9	15.5	21.9	21.9	15.5	41.4	41.4	41.4
Effective Green, g (s)	0.35	0.35	0.35	0.29	0.29	0.20	0.29	0.29	0.20	0.55	0.55	0.55
Actuated g/C Ratio	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	616	2609	538	482	362	1018	538	482	362	1018	538	482
Lane Grp Cap (vph)	0.15	60.19	0.23	0.13	0.18	0.24	0.23	0.13	0.18	0.24	0.23	0.13
v/s Ratio Prot	0.43	0.55	0.79	0.46	0.90	0.43	0.46	0.90	0.43	0.43	0.43	0.43
v/s Ratio Perm	18.9	19.9	24.8	22.1	29.4	10.2	24.8	22.1	29.4	10.2	10.2	10.2
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.5	0.2	7.4	0.8	24.5	0.3	7.4	0.8	24.5	0.3	7.4	0.8
Incremental Delay, d2	19.4	20.1	32.2	22.9	53.9	10.5	32.2	22.9	53.9	10.5	32.2	22.9
Delay (s)	B	C	C	C	C	D	C	C	C	D	B	B
Level of Service	20.0	B	29.1	0.0	A	29.0	29.1	0.0	A	29.0	29.0	29.0
Approach Delay (s)	B	B	C	A	A	C	C	A	A	C	C	C
Approach LOS	B	B	C	A	A	C	C	A	A	C	C	C

Intersection Summary	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
HCM Average Control Delay	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1
HCM Volume to Capacity ratio	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Actuated Cycle Length (s)	66.1%	66.1%	66.1%	66.1%	66.1%	66.1%	66.1%	66.1%	66.1%	66.1%	66.1%	66.1%
Intersection Capacity Utilization	15	15	15	15	15	15	15	15	15	15	15	15
Analysis Period (min)	15	15	15	15	15	15	15	15	15	15	15	15
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fllb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fll Protected	1770	1863	1514	1718	1583	3539	1447	1770	1863	1514	1718	1583
Satd. Flow (prot)	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fll Permitted	1770	1863	1514	1718	1583	3539	1447	1770	1863	1514	1718	1583
Satd. Flow (perm)	298	78	470	60	0	234	0	1300	86	54	574	0
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	320	84	505	65	0	252	0	1398	92	58	617	0
Adj. Flow (vph)	0	0	163	0	0	16	0	0	43	0	0	0
RTOR Reduction (vph)	320	84	342	65	0	236	0	1398	49	0	675	0
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50	50
Confl. Peds. (#/hr)	4	4	4	4	4	4	4	4	4	4	4	4
Turn Type	Perm	Perm	Perm	Perm	custom	custom	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	4	4	4	4	8	8	2	2	2	6	6	6
Permitted Phases	17.4	17.4	17.4	17.4	17.4	17.4	29.2	29.2	29.2	29.2	29.2	29.2
Actuated Green, G (s)	18.4	18.4	18.4	18.4	18.4	18.4	30.2	30.2	30.2	30.2	30.2	30.2
Effective Green, g (s)	0.33	0.33	0.33	0.33	0.33	0.33	0.53	0.53	0.53	0.53	0.53	0.53
Actuated g/C Ratio	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	575	606	492	413	515	1888	772	575	606	492	413	515
Lane Grp Cap (vph)	0.18	0.05	0.23	0.05	0.15	60.40	0.03	0.15	60.40	0.03	0.15	60.40
v/s Ratio Prot	0.56	0.14	0.70	0.16	0.46	0.74	0.06	0.46	0.74	0.06	0.46	0.74
v/s Ratio Perm	15.7	13.5	16.7	13.6	15.1	10.2	6.4	15.1	10.2	6.4	15.1	10.2
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	1.2	0.1	4.3	0.2	0.6	1.6	0.0	0.6	1.6	0.0	0.6	1.6
Incremental Delay, d2	16.9	13.6	20.9	13.8	15.8	11.8	6.4	15.8	11.8	6.4	15.8	11.8
Delay (s)	B	B	C	B	B	B	A	B	B	A	B	B
Level of Service	18.8	B	18.8	15.4	B	15.4	B	15.4	B	B	15.4	B
Approach Delay (s)	B	B	C	A	A	C	A	A	A	C	C	C
Approach LOS	B	B	C	A	A	C	A	A	A	C	C	C

Intersection Summary	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
HCM Average Control Delay	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
HCM Volume to Capacity ratio	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Actuated Cycle Length (s)	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6
Intersection Capacity Utilization	79.9%	79.9%	79.9%	79.9%	79.9%	79.9%	79.9%	79.9%	79.9%	79.9%	79.9%	79.9%
Analysis Period (min)	15	15	15	15	15	15	15	15	15	15	15	15
c Critical Lane Group												

2: S. Beretania St & Keeaumoko St

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KRC Kaalakaia Housing

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KRC Kaalakaia Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	0.96	1.00	0.96	1.00	0.96	1.00	0.96	1.00	0.96	1.00	0.96
Lane Util. Factor	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	1.00	0.98	1.00	0.98	1.00	0.98	1.00	0.98	1.00	0.98	1.00	0.98
Flt Protected	1.00	0.98	1.00	0.98	1.00	0.98	1.00	0.98	1.00	0.98	1.00	0.98
Satd. Flow (prot)	1770	6204	1770	6204	1770	6204	1770	6204	1770	6204	1770	6204
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1770	6204	1770	6204	1770	6204	1770	6204	1770	6204	1770	6204
Volume (vph)	0	0	188	2041	348	356	1043	0	859	132	0	859
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	202	2195	374	383	1122	0	924	142	0	924
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	202	2538	0	383	1122	0	924	122	0	924
Confl. Peds. (#/hr)	0	0	50	50	50	50	50	50	50	50	50	50
Turn Type	Split											
Protected Phases	pm+pl											
Permitted Phases	8 8											
Actuated Green, G (s)	31.2 31.2											
Effective Green, g (s)	31.2 31.2											
Actuated g/C Ratio	0.36 0.36											
Clearance Time (s)	4.0 4.0											
Vehicle Extension (s)	3.0 3.0											
Lane Grp Cap (vph)	640 2243											
v/s Ratio Prot	0.11 c0.41											
v/s Ratio Perm	c0.42											
v/c Ratio	0.32 1.13											
Uniform Delay, d1	19.9 27.6											
Progression Factor	1.00 1.00											
Incremental Delay, d2	0.3 65.5											
Delay (s)	20.1 93.0											
Level of Service	C F											
Approach Delay (s)	87.7 F											
Approach LOS	A											
Intersection Summary												
HCM Average Control Delay	60.3 HCM Level of Service E											
HCM Volume to Capacity ratio	1.08											
Actuated Cycle Length (s)	86.3											
Intersection Capacity Utilization	89.4%											
Analysis Period (min)	15											
c Critical Lane Group												

3: Young St & Keeaumoko St

Project PM  
KRC Kaalakaia Housing

Project PM  
KRC Kaalakaia Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Lane Util. Factor	1.00	0.98	1.00	0.98	1.00	0.98	1.00	0.98	1.00	0.98	1.00	0.98
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00
Flt Protected	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Satd. Flow (prot)	1745	1743	1745	1743	1745	1743	1745	1743	1745	1743	1745	1743
Flt Permitted	0.30	1.00	0.30	1.00	0.30	1.00	0.30	1.00	0.30	1.00	0.30	1.00
Satd. Flow (perm)	545	1743	545	1743	545	1743	545	1743	545	1743	545	1743
Volume (vph)	107	169	82	151	213	255	58	943	165	100	968	41
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	115	162	88	162	229	274	62	1014	177	108	1041	44
RTOR Reduction (vph)	0	22	0	0	57	0	0	22	0	0	5	0
Lane Group Flow (vph)	115	248	0	0	608	0	62	1169	0	108	1080	0
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Perm											
Protected Phases	4 4											
Permitted Phases	8 8											
Actuated Green, G (s)	18.9 18.9											
Effective Green, g (s)	19.9 19.9											
Actuated g/C Ratio	0.35 0.35											
Clearance Time (s)	5.0 5.0											
Vehicle Extension (s)	3.0 3.0											
Lane Grp Cap (vph)	188 602											
v/s Ratio Prot	0.14											
v/s Ratio Perm	c0.25											
v/c Ratio	0.61 0.73											
Uniform Delay, d1	15.6 14.4											
Progression Factor	1.00 1.00											
Incremental Delay, d2	5.8 0.5											
Delay (s)	21.4 14.9											
Level of Service	C B											
Approach Delay (s)	16.8 B											
Approach LOS	B											
Intersection Summary												
HCM Average Control Delay	13.8 HCM Level of Service B											
HCM Volume to Capacity ratio	0.75											
Actuated Cycle Length (s)	57.6											
Intersection Capacity Utilization	88.6%											
Analysis Period (min)	15											
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBL	SBR
Lane Configurations	4B<											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.76											
Frbp, ped/bikes	1.00											
Frlb, ped/bikes	1.00											
Frt	0.99											
Flt Protected	1.00											
Satd. Flow (prot)	8399											
Flt Permitted	1.00											
Satd. Flow (perm)	8399											
Volume (vph)	180	2417	97	0	0	0	0	779	216	351	986	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	194	2599	104	0	0	0	0	838	232	377	1060	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	23	0	0	0	0
Lane Group Flow (vph)	0	2890	0	0	0	0	0	838	209	0	1437	0
Confl. Peds. (#/hr)	50		50					50	50	50		
Turn Type	Split											
Protected Phases	4											
Permitted Phases	4											
Actuated Green, G (s)	37.1											
Effective Green, g (s)	38.1											
Actuated g/C Ratio	0.43											
Clearance Time (s)	5.0											
Vehicle Extension (s)	3.0											
Lane Grp Cap (vph)	3653											
v/s Ratio Prot	c0.34											
v/s Ratio Perm	0.79											
Uniform Delay, d1	21.3											
Progression Factor	1.00											
Incremental Delay, d2	1.2											
Delay (s)	22.5											
Level of Service	C											
Approach Delay (s)	22.5											
Approach LOS	C											

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.81	0.81	0.81	0.81	0.81	0.81
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frlb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	0.95	0.95	0.95	0.95	0.95
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1433	6035	3433	1433	6035	3433
Flt Permitted	0.85	0.85	0.85	0.85	0.85	0.85
Satd. Flow (perm)	1433	6035	3433	1433	6035	3433
Volume (vph)	0	0	399	1949	919	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	429	2096	988	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	429	2096	988	0
Confl. Peds. (#/hr)	20					
Turn Type	Split					
Protected Phases	8					
Permitted Phases	8					
Actuated Green, G (s)	38.8					
Effective Green, g (s)	39.8					
Actuated g/C Ratio	0.52					
Clearance Time (s)	5.0					
Vehicle Extension (s)	3.0					
Lane Grp Cap (vph)	742					
v/s Ratio Prot	0.30					
v/s Ratio Perm	0.58					
Uniform Delay, d1	12.8					
Progression Factor	1.00					
Incremental Delay, d2	1.1					
Delay (s)	13.9					
Level of Service	B					
Approach Delay (s)	14.2					
Approach LOS	B					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.81	0.81	0.81	0.81	0.81	0.81
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frlb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	0.95	0.95	0.95	0.95	0.95
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1433	6035	3433	1433	6035	3433
Flt Permitted	0.85	0.85	0.85	0.85	0.85	0.85
Satd. Flow (perm)	1433	6035	3433	1433	6035	3433
Volume (vph)	0	0	399	1949	919	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	429	2096	988	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	429	2096	988	0
Confl. Peds. (#/hr)	20					
Turn Type	Split					
Protected Phases	8					
Permitted Phases	8					
Actuated Green, G (s)	38.8					
Effective Green, g (s)	39.8					
Actuated g/C Ratio	0.52					
Clearance Time (s)	5.0					
Vehicle Extension (s)	3.0					
Lane Grp Cap (vph)	742					
v/s Ratio Prot	0.30					
v/s Ratio Perm	0.58					
Uniform Delay, d1	12.8					
Progression Factor	1.00					
Incremental Delay, d2	1.1					
Delay (s)	13.9					
Level of Service	B					
Approach Delay (s)	14.2					
Approach LOS	B					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.81	0.81	0.81	0.81	0.81	0.81
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frlb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	0.95	0.95	0.95	0.95	0.95
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1433	6035	3433	1433	6035	3433
Flt Permitted	0.85	0.85	0.85	0.85	0.85	0.85
Satd. Flow (perm)	1433	6035	3433	1433	6035	3433
Volume (vph)	0	0	399	1949	919	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	429	2096	988	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	429	2096	988	0
Confl. Peds. (#/hr)	20					
Turn Type	Split					
Protected Phases	8					
Permitted Phases	8					
Actuated Green, G (s)	38.8					
Effective Green, g (s)	39.8					
Actuated g/C Ratio	0.52					
Clearance Time (s)	5.0					
Vehicle Extension (s)	3.0					
Lane Grp Cap (vph)	742					
v/s Ratio Prot	0.30					
v/s Ratio Perm	0.58					
Uniform Delay, d1	12.8					
Progression Factor	1.00					
Incremental Delay, d2	1.1					
Delay (s)	13.9					
Level of Service	B					
Approach Delay (s)	14.2					
Approach LOS	B					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.81	0.81	0.81	0.81	0.81	0.81
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frlb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	0.95	0.95	0.95	0.95	0.95
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1433	6035	3433	1433	6035	3433
Flt Permitted	0.85	0.85	0.85	0.85	0.85	0.85
Satd. Flow (perm)	1433	6035	3433	1433	6035	3433
Volume (vph)	0	0	399	1949	919	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	429	2096	988	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	429	2096	988	0
Confl. Peds. (#/hr)	20					
Turn Type	Split					
Protected Phases	8					
Permitted Phases	8					
Actuated Green, G (s)	38.8					
Effective Green, g (s)	39.8					
Actuated g/C Ratio	0.52					
Clearance Time (s)	5.0					
Vehicle Extension (s)	3.0					
Lane Grp Cap (vph)	742					
v/s Ratio Prot	0.30					
v/s Ratio Perm	0.58					
Uniform Delay, d1	12.8					
Progression Factor	1.00					
Incremental Delay, d2	1.1					
Delay (s)	13.9					
Level of Service	B					
Approach Delay (s)	14.2					
Approach LOS	B					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.81	0.81	0.81	0.81	0.81	0.81
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frlb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	0.95	0.95	0.95	0.95	0.95
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1433	6035	3433	1433	6035	3433
Flt Permitted	0.85	0.85	0.85	0.85	0.85	0.85
Satd. Flow (perm)	1433	6035	3433	1433	6035	3433
Volume (vph)	0	0	399	1949	919	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	429	2096	988	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	429	2096	988	0
Confl. Peds. (#/hr)	20					
Turn Type	Split					
Protected Phases	8					
Permitted Phases	8					
Actuated Green, G (s)	38.8					
Effective Green, g (s)	39.8					
Actuated g/C Ratio	0.52					
Clearance Time (s)	5.0					
Vehicle Extension (s)	3.0					
Lane Grp Cap (vph)	742					
v/s Ratio Prot	0.30					
v/s Ratio Perm	0.58					
Uniform Delay, d1	12.8					
Progression Factor	1.00					
Incremental Delay, d2	1.1					
Delay (s)	13.9					
Level of Service	B					
Approach Delay (s)	14.2					
Approach LOS	B					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.81	0.81	0.81	0.81	0.81	0.81
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frlb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	0.95	0.95	0.95	0.95	0.95
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1433	6035	3433	1433	6035	3433

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	0.97	0.99	0.96	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00
Flt Protected	0.99	0.99	0.99	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1773	1758	1734	3463	1740	3501	1740	3501	1740	3501	1740	3501
Flt Permitted	0.91	0.90	0.90	0.48	1.00	0.48	1.00	0.48	1.00	0.48	1.00	1.00
Satd. Flow (perm)	1633	1604	1604	886	3463	886	3463	886	3463	886	3463	3501
Volume (vph)	48	218	77	59	210	96	100	736	75	27	487	23
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	52	234	83	63	226	103	108	791	81	29	488	25
RTOR Reduction (vph)	0	12	0	0	15	0	0	15	0	0	8	0
Lane Group Flow (vph)	0	357	0	0	377	0	108	857	0	29	455	0
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	4	8	8	8	8	8	8	2	2	6	6	6
Permitted Phases	4	8	8	8	8	8	8	2	2	6	6	6
Actuated Green, G (s)	16.5	16.5	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4
Effective Green, g (s)	17.5	17.5	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4
Actuated g/C Ratio	0.40	0.40	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	651	639	371	1451	1451	186	1467	186	1467	186	1467	1467
v/s Ratio Prot	0.22	c0.24	0.29	0.59	c0.25	0.12	0.13	0.07	0.13	0.07	0.13	0.13
v/s Ratio Perm	0.55	0.59	0.16	0.16	0.16	0.16	0.31	0.16	0.31	0.16	0.31	0.31
Uniform Delay, d1	10.2	10.4	8.4	9.8	7.9	8.5	8.5	7.9	8.5	8.5	8.5	8.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	1.4	0.4	0.7	0.4	0.1	0.1	0.4	0.1	0.1	0.1	0.1
Delay (s)	11.1	11.8	8.9	10.5	8.3	8.6	8.6	8.3	8.6	8.6	8.6	8.6
Level of Service	B	B	A	B	A	A	A	A	A	A	A	A
Approach Delay (s)	11.1	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
Approach LOS	B	B	B	B	B	B	B	B	B	B	B	B
<b>Intersection Summary</b>												
HCM Average Control Delay	10.3											
HCM Volume to Capacity ratio	0.59											
Actuated Cycle Length (s)	43.9											
Intersection Capacity Utilization	65.7%											
Analysis Period (min)	15											
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.85	1.00	0.85	1.00	0.85	1.00	0.85	1.00	1.00
Satd. Flow (prot)	1770	6408	1474	1770	6408	1474	1770	6408	1474	1770	6408	1474
Flt Permitted	0.95	1.00	1.00	0.85	1.00	0.85	1.00	0.85	1.00	0.85	1.00	1.00
Satd. Flow (perm)	1770	6408	1474	1770	6408	1474	1770	6408	1474	1770	6408	1474
Volume (vph)	145	2693	373	0	0	0	0	0	0	681	222	56
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	156	2896	401	0	0	0	0	0	0	732	239	60
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	34	0
Lane Group Flow (vph)	156	2896	347	0	0	0	0	0	0	732	205	60
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Split	Split	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	4	4	4	4	4	4	4	2	2	1	1	6
Permitted Phases	4	4	4	4	4	4	4	2	2	1	1	6
Actuated Green, G (s)	45.4	45.4	45.4	45.4	45.4	45.4	45.4	22.2	22.2	30.3	30.3	30.3
Effective Green, g (s)	46.4	46.4	46.4	46.4	46.4	46.4	46.4	23.2	23.2	31.3	31.3	31.3
Actuated g/C Ratio	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.27	0.27	0.37	0.37	0.37
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	958	3469	798	958	3469	798	958	3469	798	171	1293	1293
v/s Ratio Prot	0.09	c0.45	0.24	0.16	0.83	0.44	0.24	c0.21	0.14	0.02	c0.19	0.19
v/s Ratio Perm	0.16	0.83	0.44	0.16	0.83	0.44	0.16	0.83	0.44	0.16	0.83	0.83
Uniform Delay, d1	9.9	16.4	11.8	9.9	16.4	11.8	9.9	16.4	11.8	26.4	19.7	21.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	1.9	0.4	0.1	1.9	0.4	0.1	1.9	0.4	3.7	1.0	1.2
Delay (s)	10.0	18.3	12.2	10.0	18.3	12.2	10.0	18.3	12.2	32.4	21.0	21.7
Level of Service	A	B	B	A	B	B	A	B	B	C	C	C
Approach Delay (s)	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	31.2	21.7	21.7
Approach LOS	B	B	B	B	B	B	B	B	B	C	C	C
<b>Intersection Summary</b>												
HCM Average Control Delay	20.5											
HCM Volume to Capacity ratio	0.81											
Actuated Cycle Length (s)	85.7											
Intersection Capacity Utilization	73.5%											
Analysis Period (min)	15											
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	0.97	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Flt Protected	1681	1718	2539	1770	3539	1770	3539	1770	3539	1770	3539	2787
Satd. Flow (prot)	1681	1718	2539	1770	3539	1770	3539	1770	3539	1770	3539	2787
Flt Permitted	558	145	571	0	0	0	1262	118	71	678	0	0
Satd. Flow (perm)	558	145	571	0	0	0	1262	118	71	678	0	0
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	600	156	614	0	0	0	1357	127	76	729	0	0
Adj. Flow (vph)	0	0	294	0	0	0	10	0	0	0	0	0
RTOR Reduction (vph)	388	388	320	0	0	0	1474	0	76	729	0	0
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50	50
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Split	Perm	Perm	Split	Perm	Perm	Split	Perm	Perm	Split	Perm	Perm
Protected Phases	4	4	4	2	2	2	6	6	6	6	6	6
Permitted Phases	18.8	18.8	18.8	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
Actuated Green, G (s)	18.8	18.8	18.8	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0
Effective Green, g (s)	0.30	0.30	0.30	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57
Actuated g/C Ratio	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	503	514	780	1977	1977	1977	119	2029	119	2029	0.21	0.21
Lane Grp Cap (vph)	0.22	c0.23	0.13	0.73	0.75	0.42	0.64	0.36	0.64	0.36	0.37	0.37
v/s Ratio Prot	0.73	0.75	0.42	10.0	10.0	10.0	9.0	7.2	9.0	7.2	0.64	0.36
v/s Ratio Perm	19.7	19.9	17.6	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.64	0.36
Uniform Delay, d1	5.4	6.2	0.4	1.6	1.6	1.6	10.7	0.1	10.7	0.1	1.6	0.1
Progression Factor	25.2	26.1	18.0	11.6	11.6	11.6	19.8	7.3	19.8	7.3	11.6	7.3
Incremental Delay, d2	C	C	B	B	B	B	B	B	B	B	B	B
Delay (s)	22.2	C	C	0.0	0.0	0.0	8.5	8.5	8.5	8.5	8.5	8.5
Level of Service	A	A	A	A	A	A	A	A	A	A	A	A
Approach Delay (s)	C	C	C	C	C	C	C	C	C	C	C	C
Approach LOS	C	C	C	C	C	C	C	C	C	C	C	C

Intersection Summary	HCM Average Control Delay	HCM Level of Service
HCM Average Control Delay	14.9	B
HCM Volume to Capacity ratio	0.75	8.0
Actuated Cycle Length (s)	62.8	C
Intersection Capacity Utilization	72.2%	15
Analysis Period (min)	15	

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	0.97	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Flt Protected	1681	1718	2539	1770	3539	1770	3539	1770	3539	1770	3539	2787
Satd. Flow (prot)	1681	1718	2539	1770	3539	1770	3539	1770	3539	1770	3539	2787
Flt Permitted	558	145	571	0	0	0	1262	118	71	678	0	0
Satd. Flow (perm)	558	145	571	0	0	0	1262	118	71	678	0	0
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	600	156	614	0	0	0	1357	127	76	729	0	0
Adj. Flow (vph)	0	0	294	0	0	0	10	0	0	0	0	0
RTOR Reduction (vph)	388	388	320	0	0	0	1474	0	76	729	0	0
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50	50
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Split	Perm	Perm	Split	Perm	Perm	Split	Perm	Perm	Split	Perm	Perm
Protected Phases	4	4	4	2	2	2	6	6	6	6	6	6
Permitted Phases	18.8	18.8	18.8	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
Actuated Green, G (s)	18.8	18.8	18.8	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0
Effective Green, g (s)	0.30	0.30	0.30	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57
Actuated g/C Ratio	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	503	514	780	1977	1977	1977	119	2029	119	2029	0.21	0.21
Lane Grp Cap (vph)	0.22	c0.23	0.13	0.73	0.75	0.42	0.64	0.36	0.64	0.36	0.37	0.37
v/s Ratio Prot	0.73	0.75	0.42	10.0	10.0	10.0	9.0	7.2	9.0	7.2	0.64	0.36
v/s Ratio Perm	19.7	19.9	17.6	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.64	0.36
Uniform Delay, d1	5.4	6.2	0.4	1.6	1.6	1.6	10.7	0.1	10.7	0.1	1.6	0.1
Progression Factor	25.2	26.1	18.0	11.6	11.6	11.6	19.8	7.3	19.8	7.3	11.6	7.3
Incremental Delay, d2	C	C	B	B	B	B	B	B	B	B	B	B
Delay (s)	22.2	C	C	0.0	0.0	0.0	8.5	8.5	8.5	8.5	8.5	8.5
Level of Service	A	A	A	A	A	A	A	A	A	A	A	A
Approach Delay (s)	C	C	C	C	C	C	C	C	C	C	C	C
Approach LOS	C	C	C	C	C	C	C	C	C	C	C	C

Intersection Summary	HCM Average Control Delay	HCM Level of Service
HCM Average Control Delay	24.2	C
HCM Volume to Capacity ratio	0.79	12.0
Actuated Cycle Length (s)	81.1	D
Intersection Capacity Utilization	74.2%	D
Analysis Period (min)	15	

c Critical Lane Group

10: Young St & Punahou St Project PM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Flt	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Flt Protected	1784	1784	1784	1784	1784	1784	1784	1784	1784	1784	1784	1784
Satd. Flow (prot)	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Flt Permitted	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Satd. Flow (perm)	94	183	44	37	261	44	24	651	40	71	571	59
Volume (vph)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak-hour factor, PHF	101	197	47	40	281	47	26	700	43	76	614	63
Adj. Flow (vph)	0	6	0	0	6	0	0	8	0	0	14	0
RTOR Reduction (vph)	0	339	0	0	362	0	0	735	0	76	663	0
Lane Group Flow (vph)	50	50	50	50	50	50	50	50	50	50	50	50
Confl. Peds. (#/hr)	Perm											
Turn Type	4	4	4	4	4	4	4	4	4	4	4	4
Protected Phases	8	8	8	8	8	8	8	8	8	8	8	8
Permitted Phases	2	2	2	2	2	2	2	2	2	2	2	2
Actuated Green, G (s)	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7
Effective Green, g (s)	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7
Actuated g/C Ratio	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	652	652	652	652	652	652	652	652	652	652	652	652
vis Ratio Prot	c0.23											
vis Ratio Perm	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
v/c Ratio	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Incremental Delay, d2	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
Delay (s)	A	A	A	A	A	A	A	A	A	A	A	A
Level of Service	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
Approach Delay (s)	A	A	A	A	A	A	A	A	A	A	A	A
Approach LOS	A	A	A	A	A	A	A	A	A	A	A	A

Intersection Summary	
HCM Average Control Delay	10.3
HCM Volume to Capacity ratio	0.54
Actuated Cycle Length (s)	43.0
Intersection Capacity Utilization	70.4%
Analysis Period (min)	15
c Critical Lane Group	

11: S. King St & Punahou St Project PM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Satd. Flow (prot)	1770	7521	1770	7521	1770	7521	1770	7521	1770	7521	1770	7521
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1770	7521	1770	7521	1770	7521	1770	7521	1770	7521	1770	7521
Volume (vph)	349	2517	29	0	0	0	0	426	160	445	378	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	375	2706	31	0	0	0	0	458	172	478	406	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	375	2735	0	0	0	0	0	458	161	478	406	0
Confl. Peds. (#/hr)	50	50	50	50	50	50	50	50	50	50	50	50
Turn Type	Split											
Protected Phases	4	4	4	4	4	4	4	4	4	4	4	4
Permitted Phases	2	2	2	2	2	2	2	2	2	2	2	2
Actuated Green, G (s)	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Effective Green, g (s)	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
Actuated g/C Ratio	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	665	2824	665	2824	665	2824	665	2824	665	2824	665	2824
vis Ratio Prot	0.21	c0.36										
vis Ratio Perm	0.56	0.97	0.56	0.97	0.56	0.97	0.56	0.97	0.56	0.97	0.56	0.97
v/c Ratio	21.7	26.9	21.7	26.9	21.7	26.9	21.7	26.9	21.7	26.9	21.7	26.9
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	1.1	10.5	1.1	10.5	1.1	10.5	1.1	10.5	1.1	10.5	1.1	10.5
Incremental Delay, d2	22.8	37.5	22.8	37.5	22.8	37.5	22.8	37.5	22.8	37.5	22.8	37.5
Delay (s)	C	D	C	D	C	D	C	D	C	D	C	D
Level of Service	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7
Approach Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Approach LOS	A	A	A	A	A	A	A	A	A	A	A	A

Intersection Summary	
HCM Average Control Delay	50.8
HCM Volume to Capacity ratio	1.02
Actuated Cycle Length (s)	87.9
Intersection Capacity Utilization	86.7%
Analysis Period (min)	15
c Critical Lane Group	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	0.86	1.00	0.99	1.00	1.00	0.95	1.00	0.93	1.00	0.93	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frb, ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frb, ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frb, Protected	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1770	6298	1770	6298	1770	6298	1770	6298	1770	6298	1770	6298
Frb Permitted	1770	6298	1770	6298	1770	6298	1770	6298	1770	6298	1770	6298
Satd. Flow (perm)	1770	6298	1770	6298	1770	6298	1770	6298	1770	6298	1770	6298
Volume (vph)	0	0	0	306	2563	223	247	406	0	0	1026	407
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	329	2756	240	266	437	0	0	1103	438
RTOR Reduction (vph)	0	0	0	0	17	0	0	0	0	0	0	14
Lane Group Flow (vph)	0	0	0	329	2979	0	266	437	0	0	1103	424
Confl. Peds. (#/hr)				50	50	50	50	50	50	50	50	50
Turn Type	Split											
Protected Phases	8 8 8											
Permitted Phases	5 2 2											
Actuated Green, G (s)	36.0 36.0 36.0											
Effective Green, g (s)	36.0 36.0 36.0											
Actuated g/C Ratio	0.45 0.45 0.45											
Clearance Time (s)	4.0 4.0 4.0											
Vehicle Extension (s)	3.0 3.0 3.0											
Lane Grp Cap (vph)	797	2884		270	1593		1062	444				
v/s Ratio Prot	0.19	c0.47		c0.10	0.12		0.31					
v/s Ratio Perm				c0.34								
v/c Ratio	0.41	1.05		0.99	0.27		1.04	0.95				
Uniform Delay, d1	14.9	22.0		18.9	13.8		28.0	27.5				
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00				
Incremental Delay, d2	0.3	32.3		50.3	0.1		38.1	31.2				
Delay (s)	15.2	54.3		69.2	13.9		66.1	58.6				
Level of Service	B	D		E	B		E	E				
Approach Delay (s)	0.0			50.4			64.0					
Approach LOS	A			D			E					
Intersection Summary												
HCM Average Control Delay	52.2 HCM Level of Service D											
HCM Volume to Capacity ratio	1.00											
Actuated Cycle Length (s)	80.0 Sum of lost time (s) 8.0											
Intersection Capacity Utilization	94.0% ICU Level of Service F											
Analysis Period (min)	15											
c Critical Lane Group												

EXISTING PLUS PROJECT  
INTERSECTION LEVEL OF SERVICE CALCULATIONS

2: S. Beretania St & Keeaumoko St Existing Plus Project PM  
KRC Kalakaua Housing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	0.86	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93
Lane Util. Factor	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93
Frb, ped/bikes	1.00	0.95	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85
Frb, ped/bikes	1770	6206	1768	3539	1768	3539	1768	3539	1768	3539	1768	1475
Flt Permitted	0.95	1.00	0.14	1.00	0.14	1.00	0.14	1.00	0.14	1.00	0.14	1.00
Satd. Flow (pc/m)	1770	6206	251	3539	251	3539	251	3539	251	3539	251	1475
Volume (vph)	0	0	177	1952	332	307	979	0	0	0	800	127
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	190	2099	357	330	1053	0	0	0	860	137
RTOR Reduction (vph)	0	0	0	30	0	0	0	0	0	0	0	31
Lane Group Flow (vph)	0	0	190	2426	0	330	1053	0	0	0	860	106
Confl. Peds. (#/hr)				50	50	50	50	50	50	50	50	50
Turn Type	Split											
Protected Phases	8 8 8 8 8 8 8 8 8 8 8 8											
Permitted Phases	pm+ptl											
Actuated Green, G (s)	31.2	31.2	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0
Effective Green, g (s)	31.2	31.2	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
Actuated g/C Ratio	0.37	0.37	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Gp Cap (vph)	656	2300	368	1891	368	1891	368	1891	368	1891	368	490
v/s Ratio Prot	0.11	0.39	0.14	0.30	0.14	0.30	0.14	0.30	0.14	0.30	0.14	0.24
v/s Ratio Perm			0.34		0.34		0.34		0.34		0.34	0.07
v/c Ratio	0.29	1.05	0.90	0.56	0.90	0.56	0.90	0.56	0.90	0.56	0.90	0.22
Uniform Delay, d1	18.7	26.5	19.9	13.0	19.9	13.0	19.9	13.0	19.9	13.0	19.9	20.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	35.2	23.3	0.4	23.3	0.4	23.3	0.4	23.3	0.4	23.3	2.4
Delay (s)	18.9	61.7	43.2	13.3	43.2	13.3	43.2	13.3	43.2	13.3	43.2	27.1
Level of Service	B	E	E	D	E	D	E	D	E	D	E	C
Approach Delay (s)	0.0		58.6		58.6		58.6		58.6		58.6	26.2
Approach LOS	A		E		E		E		E		E	C

Intersection Summary		HCM Level of Service	
HCM Average Control Delay	41.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95	Sum of lost time (s)	8.0
Actuated Cycle Length (s)	84.2	ICU Level of Service	E
Intersection Capacity Utilization	83.5%	Analysis Period (min)	15
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX C:  
APPROVED AND PENDING PROJECTS



Kalakaua Affordable Housing Approved Projects												
Intersection:	Keeaumoku/King											
	Northbound			Southbound			Eastbound			Westbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
<b>AM Peak Hour</b>												
Kapiolani MOB	0	16	0	10	10	0	53	0	0	0	0	0
Shriner's Hospital	0	0	0	0	0	0	0	3	0	0	0	0
Aloha Island Self Storage	0	0	0	0	0	0	0	4	0	0	0	0
<b>Total</b>	<b>0</b>	<b>16</b>	<b>0</b>	<b>10</b>	<b>10</b>	<b>0</b>	<b>53</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Intersection:	Keeaumoku/King											
	Northbound			Southbound			Eastbound			Westbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
<b>PM Peak Hour</b>												
Kapiolani MOB	0	37	0	31	13	0	80	0	0	0	0	0
Shriner's Hospital	0	0	0	0	0	0	0	3	0	0	0	0
Aloha Island Self Storage	0	0	0	0	0	0	0	6	0	0	0	0
<b>Total</b>	<b>0</b>	<b>37</b>	<b>0</b>	<b>31</b>	<b>13</b>	<b>0</b>	<b>80</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Kalakaua Affordable Housing Approved Projects												
Intersection:	Keeaumoku/Young											
	Northbound			Southbound			Eastbound			Westbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
<b>AM Peak Hour</b>												
Kapiolani MOB	0	0	69	36	0	0	0	5	0	20	4	32
Shriner's Hospital	0	0	0	0	0	0	0	0	0	0	0	0
Aloha Island Self Storage	0	0	0	1	0	0	0	0	0	0	0	3
<b>Total</b>	<b>0</b>	<b>0</b>	<b>69</b>	<b>37</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>20</b>	<b>4</b>	<b>35</b>
Intersection:	Keeaumoku/Young											
	Northbound			Southbound			Eastbound			Westbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
<b>PM Peak Hour</b>												
Kapiolani MOB	0	0	117	26	0	0	0	8	0	44	9	56
Shriner's Hospital	0	0	0	0	0	0	0	0	0	0	0	0
Aloha Island Self Storage	0	0	0	1	0	0	0	1	0	0	2	6
<b>Total</b>	<b>0</b>	<b>0</b>	<b>117</b>	<b>27</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>44</b>	<b>11</b>	<b>62</b>

Kalakaua Affordable Housing Approved Projects												
Intersection:	Kalakaua/Young											
	Northbound			Southbound			Eastbound			Westbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
<b>AM Peak Hour</b>												
Kapiolani MOB	21	20	0	0	0	0	0	22	11	0	0	0
Shriner's Hospital	0	0	0	0	0	0	0	0	0	0	0	0
Aloha Island Self Storage	3	0	0	0	5	0	0	0	1	0	0	0
<b>Total</b>	<b>24</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>22</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>
Intersection:	Kalakaua/Young											
	Northbound			Southbound			Eastbound			Westbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
<b>PM Peak Hour</b>												
Kapiolani MOB	22	22	0	0	0	0	0	30	19	0	0	0
Shriner's Hospital	0	0	0	0	0	0	0	0	0	0	0	0
Aloha Island Self Storage	8	0	0	0	7	0	0	0	2	0	0	0
<b>Total</b>	<b>30</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>0</b>

Kalakaua Affordable Housing Approved Projects												
Intersection:	Kalakaua/Beretania											
	Northbound			Southbound			Eastbound			Westbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
<b>AM Peak Hour</b>												
Kapiolani MOB	20	0	0	0	0	0	0	0	0	0	51	0
Shriner's Hospital	0	0	0	0	0	0	0	0	0	0	0	0
Aloha Island Self Storage	0	0	0	0	0	0	0	0	0	5	0	0
<b>Total</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>51</b>	<b>0</b>
Intersection:	Kalakaua/Beretania											
	Northbound			Southbound			Eastbound			Westbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
<b>PM Peak Hour</b>												
Kapiolani MOB	22	0	0	0	0	0	0	0	0	7	54	0
Shriner's Hospital	0	0	0	0	0	0	0	0	0	0	0	0
Aloha Island Self Storage	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>54</b>	<b>0</b>

Kalakaua Affordable Housing Approved Projects												
Intersection:	Punahou/H1 Off-Ramp											
	Northbound			Southbound			Eastbound			Westbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
<b>AM Peak Hour</b>												
Kapiolani MOB	0	14	0	0	0	0	0	0	51	0	0	0
Shrine's Hospital	0	3	0	0	0	0	0	0	16	0	0	0
Aloha Island Self Storage	0	2	0	0	0	0	0	0	3	0	0	0
<b>Total</b>	<b>0</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>70</b>	<b>0</b>	<b>0</b>	<b>0</b>
Intersection:	Punahou/H1 Off-Ramp											
	Northbound			Southbound			Eastbound			Westbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
<b>PM Peak Hour</b>												
Kapiolani MOB	0	19	0	0	0	0	0	0	54	0	0	0
Shrine's Hospital	0	21	0	0	0	0	0	0	12	0	0	0
Aloha Island Self Storage	0	3	0	0	0	0	0	0	4	0	0	0
<b>Total</b>	<b>0</b>	<b>43</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>70</b>	<b>0</b>	<b>0</b>	<b>0</b>

Kalakaua Affordable Housing Approved Projects												
Intersection:	Kalakaua/King											
	Northbound			Southbound			Eastbound			Westbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
<b>AM Peak Hour</b>												
Kapiolani MOB	0	42	0	0	11	0	0	0	0	0	0	0
Shrine's Hospital	0	0	0	0	0	0	0	3	0	0	0	0
Aloha Island Self Storage	0	2	0	4	2	0	4	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>44</b>	<b>0</b>	<b>4</b>	<b>13</b>	<b>0</b>	<b>4</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Intersection:	Kalakaua/King											
	Northbound			Southbound			Eastbound			Westbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
<b>PM Peak Hour</b>												
Kapiolani MOB	0	44	0	0	19	0	0	0	0	0	0	0
Shrine's Hospital	0	0	0	0	0	0	0	3	0	0	0	0
Aloha Island Self Storage	0	4	0	7	4	0	6	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>48</b>	<b>0</b>	<b>7</b>	<b>23</b>	<b>0</b>	<b>6</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Kalakaua Affordable Housing Approved Projects												
Intersection:	Punahou/Young											
	Northbound			Southbound			Eastbound			Westbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
<b>AM Peak Hour</b>												
Kapiolani MOB	0	0	0	0	0	0	14	0	8	0	0	0
Shriner's Hospital	0	3	0	0	2	0	0	0	0	0	0	0
Aloha Island Self Storage	0	2	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>
Intersection:	Punahou/Young											
	Northbound			Southbound			Eastbound			Westbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
<b>PM Peak Hour</b>												
Kapiolani MOB	0	0	0	0	0	0	19	0	11	0	0	0
Shriner's Hospital	0	3	0	0	17	0	0	0	0	0	0	0
Aloha Island Self Storage	0	3	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>0</b>	<b>19</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>0</b>

Kalakaua Affordable Housing Approved Projects												
Intersection:	Punahou/Beretania											
	Northbound			Southbound			Eastbound			Westbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
<b>AM Peak Hour</b>												
Kapiolani MOB	0	14	0	0	0	51	0	0	0	0	31	0
Shriner's Hospital	0	3	0	0	2	1	0	0	0	0	0	10
Aloha Island Self Storage	0	2	0	0	0	5	0	0	0	0	2	0
<b>Total</b>	<b>0</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>57</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>33</b>	<b>10</b>
Intersection:	Punahou/Beretania											
	Northbound			Southbound			Eastbound			Westbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
<b>PM Peak Hour</b>												
Kapiolani MOB	0	19	0	0	0	54	0	0	0	0	32	0
Shriner's Hospital	0	3	0	0	17	4	0	0	0	0	0	7
Aloha Island Self Storage	0	3	0	0	0	7	0	0	0	0	3	0
<b>Total</b>	<b>0</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>65</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>35</b>	<b>7</b>

Kalakaua Affordable Housing Approved Projects												
Intersection:	Punahou/King											
	Northbound			Southbound			Eastbound			Westbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
<b>AM Peak Hour</b>												
Kapiolani MOB	0	0	0	8	0	0	0	0	0	0	0	0
Shriner's Hospital	0	0	0	2	0	0	3	0	0	0	0	0
Aloha Island Self Storage	0	0	0	0	0	0	2	2	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Intersection: Punahou/King</b>												
<b>PM Peak Hour</b>												
Kapiolani MOB	0	0	0	11	0	0	0	0	0	0	0	0
Shriner's Hospital	0	0	0	13	4	0	3	0	0	0	0	0
Aloha Island Self Storage	0	0	0	0	0	0	3	4	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>4</b>	<b>0</b>	<b>6</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>



APPENDIX  
NOISE ASSESSMENT REPORT

G



D. L. ADAMS ASSOCIATES, LTD.  
 Consultants in Acoustics and Performing Arts Technologies

**Environmental Noise Assessment Report**  
**Hoʻomua**  
**Honolulu, Oahu, Hawaii**

May 2008

DLAA Project No. 08-08

Prepared for:  
 THM Partners LLC  
 Honolulu, Hawaii

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**TABLE OF CONTENTS**

<u>Section</u>	<u>Page</u>
1.0 EXECUTIVE SUMMARY .....	3
2.0 PROJECT DESCRIPTION .....	2
3.0 NOISE STANDARDS.....	2
3.1 State of Hawaii, Community Noise Control.....	2
3.2 U.S. Federal Highway Administration (FHWA).....	2
3.3 Hawaii Department of Transportation (HDOT) .....	3
3.4 U.S. Environmental Protection Agency (EPA) .....	3
3.5 U.S. Department of Housing and Urban Development (HUD).....	3
4.0 EXISTING ACOUSTICAL ENVIRONMENT .....	4
4.1 Noise Measurement Procedure.....	4
4.2 Noise Measurement Locations .....	4
4.3 Long-Term Noise Measurement Results.....	5
5.0 POTENTIAL NOISE IMPACTS DUE TO THE PROJECT.....	5
5.1 Project Construction Noise.....	5
5.2 Project Generated Stationary Mechanical Noise & Compliance with State of Hawaii Community Noise Control Rule .....	6
5.3 Compliance with FHWA/HDOT Noise Limits .....	6
5.3.1 Vehicular Traffic Noise Impacts on the Surrounding Community.....	6
5.3.2 Vehicular Traffic Noise Impacts on the Project .....	6
5.4 Compliance with HUD and EPA Noise Guidelines .....	6
5.5 Project Generated Noise from the Parking Garage.....	7
6.0 NOISE IMPACT MITIGATION .....	7
6.1 Mitigation of Construction Noise.....	7
6.2 Mitigation of Project Generated Mechanical Noise .....	8
6.3 Mitigation of Vehicular Traffic Noise.....	8
6.4 Mitigation of Project Generated Noise from the Parking Garage .....	8
REFERENCES.....	9
APPENDIX A .....	A-1

**LIST OF TABLES**

<u>Table Number</u>	<u>Page</u>
Table 1 Predicted Traffic Noise Levels With and Without the Project and Resulting Increases due to the Project.....	10

**LIST OF FIGURES**

<u>Figure Number</u>	
Figure 1 Hawaii Maximum Permissible Sound Levels for Various Zoning Districts.	
Figure 2 Federal Highways Administration Recommended Equivalent Hourly Sound Levels Based on Land Use.	
Figure 3 Noise Measurement and Prediction Locations.	
Figure 4 Graph of Long Term Noise Measurements.	
Figure 5 Typical Sound Levels from Construction Equipment.	

**1.0 EXECUTIVE SUMMARY**

- 1.1 The proposed Holomua residential development is located on Kalakaua Avenue, between Beretania Street and Young Street. Approximately 176 residential units, 242 parking stalls, and 2 loading spaces are planned for the 23 story multi-family complex, consisting of one and two bedroom units. The project site is currently vacant and is flanked by commercial buildings.
- 1.2 The project area currently experiences noise levels typical of an urban environment. Noise measurements taken on the existing project property show a day-night level,  $L_{dn}$ , of 65 dBA. These noise levels are at the threshold of the EPA and HUD exterior noise design goal of  $L_{dn} \leq 65$  dBA. It is recommended that the design of the condominium building incorporate increased sound attenuation measures at the exterior of the building facing Kalakaua Avenue.
- 1.3 During the project construction, the dominant noise sources will likely be earth moving equipment, such as bulldozers and diesel powered trucks. Noise from construction activities will occur on the project site. Noise from construction activities should be short term and must comply with State of Hawaii Community Noise Control Rules and a construction noise permit issued by the Department of Health.
- 1.4 After construction is complete, noise generated from stationary mechanical equipment on the project site must meet the State of Hawaii property line noise regulations. Noise mitigation options should be considered during the design of the condominium building.
- 1.5 The results of the vehicular traffic noise analysis show negligible increases in traffic noise levels due to the project. In addition, all existing and future predicted noise levels are expected to be below the FHWA/HDOT maximum noise limit of 67 dBA at the project site. Therefore, the project is not expected to produce a significant traffic noise impact.
- 1.6 Noise from the planned parking garage may be audible at the neighboring buildings. The design of the garage should incorporate noise control measures.

## 2.0 PROJECT DESCRIPTION

The proposed Holomua residential development is located on Kalakaua Avenue, between Beretania Street and Young Street. Approximately 176 residential units, 242 parking stalls, and 2 loading spaces are planned for the 23 story multi-family complex, consisting of one and two bedroom units. The project site is currently vacant and is flanked by commercial buildings.

## 3.0 NOISE STANDARDS

Various local and federal agencies have established guidelines and standards for assessing environmental noise impacts and set noise limits as a function of land use. A brief description of common acoustic terminology used in these guidelines and standards is presented in Appendix A.

### 3.1 State of Hawaii, Community Noise Control

The State of Hawaii Community Noise Control Rule [Reference 1] defines three classes of zoning districts and specifies corresponding maximum permissible sound levels due to *stationary* noise sources such as air-conditioning units, exhaust systems, generators, compressors, pumps, etc. The Community Noise Control Rule does not address most *moving* sources, such as vehicular traffic noise, air traffic noise, or rail traffic noise. However, the Community Noise Control Rule does regulate noise related to agricultural, construction, and industrial activities, which may not be stationary.

The maximum permissible noise levels are enforced by the State Department of Health (DOH) for any location at or beyond the property line and shall not be exceeded for more than 10% of the time during any 20-minute period. The specified noise limits which apply are a function of the zoning and time of day as shown in Figure 1. With respect to mixed zoning districts, the rule specifies that the primary land use designation shall be used to determine the applicable zoning district class and the maximum permissible sound level. In determining the maximum permissible sound level, the background noise level is taken into account by the DOH.

### 3.2 U.S. Federal Highway Administration (FHWA)

The FHWA defines four land use categories and assigns corresponding maximum hourly equivalent sound levels,  $L_{eq(h)}$ , for traffic noise exposure [Reference 2], which are listed in Figure 2. For example, Category B, defined as picnic and recreation areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals, has a corresponding maximum exterior  $L_{eq}$  of 67dBA and a maximum interior  $L_{eq}$  of 52 dBA. These limits are viewed as design goals, and all projects meeting these limits are deemed in conformance with FHWA noise standards. Calculation of traffic noise levels should be conducted using a Federal Highway Administration traffic noise model [Reference 3].

### 3.3 Hawaii Department of Transportation (HDOT)

The HDOT has adopted FHWA's design goals for traffic noise exposure in its noise analysis and abatement policy [Reference 4]. According to the policy, a traffic noise impact occurs when the predicted traffic noise levels "approach" or exceed FHWA's design goals or when the predicted traffic noise levels "substantially exceed the existing noise levels." The policy also states that "approach" means at least 1 dB less than FHWA's design goals and "substantially exceed the existing noise levels" means an increase of at least 15 dB.

### 3.4 U.S. Environmental Protection Agency (EPA)

The U.S. EPA has identified a range of yearly day-night equivalent sound levels,  $L_{dn}$ , sufficient to protect public health and welfare from the effects of environmental noise [Reference 5]. The EPA has established a goal to reduce exterior environmental noise to an  $L_{dn}$  not exceeding 65 dBA and a future goal to further reduce exterior environmental noise to an  $L_{dn}$  not exceeding 55 dBA. The EPA has also identified an interior noise level goal of 45 dBA to protect public health from indoor activity interference and annoyance. Additionally, the EPA states that these goals are not intended as regulations as it has no authority to regulate noise levels, but rather they are intended to be viewed as levels below which the general population will not be at risk from any of the identified effects of noise.

### 3.5 U.S. Department of Housing and Urban Development (HUD)

HUD's environmental noise criteria and standards in 24 CFR 51 [Reference 6] were established for determining housing project site acceptability. These standards are based on day-night equivalent sound levels,  $L_{dn}$ , and are not limited to traffic noise exposure. However, for project sites in the vicinity of highways, the  $L_{dn}$  may be estimated to be equal to the design hour  $L_{eq}(h)$ , provided "heavy trucks (vehicles with three or more axles) do not exceed 10 percent of the total traffic flow in vehicles per 24 hours and the traffic flow between 10:00 p.m. and 7:00 a.m. does not exceed 15 percent of the average daily traffic flow in vehicles per 24 hours." For these same conditions,  $L_{dn}$  may also be estimated as 3 dB less than the design hour  $L_{10}$ .

HUD site acceptability criteria rank sites as Acceptable, Normally Unacceptable, or Unacceptable. "Acceptable" sites are those where exterior noise levels do not exceed an  $L_{dn}$  of 65 dBA. Proposed housing projects on "Acceptable" sites do not require additional noise attenuation other than that provided by customary building techniques. "Normally Unacceptable" sites are those where the  $L_{dn}$  is above 65 dBA, but does not exceed 75 dBA. Housing on "Normally Unacceptable" sites requires some form of noise abatement, either at the property line or in the building construction, to ensure the interior noise levels are acceptable. "Unacceptable" sites are those where the  $L_{dn}$  is 75 dBA or higher. The term "Unacceptable" does not necessarily mean that housing cannot be built on those sites; however, more elaborate sound attenuation will likely be needed.

HUD's regulations do not contain standards for interior noise levels, rather attenuation requirement to achieve a goal of 45 dBA. This assumes that standard construction of any building will provide sufficient attenuation such that if the exterior  $L_{dn}$  is 65 dBA or less (i.e., an "acceptable site"), the interior  $L_{dn}$  will be 45 dBA or less.

#### 4.0 EXISTING ACOUSTICAL ENVIRONMENT

Two types of noise measurements were conducted to assess the existing acoustical environment in the vicinity of the project location, as shown in Figure 3. The first noise measurement type consisted of continuous long-term ambient noise level measurements (Location L1). The second type of noise measurement was short-term and included traffic counts (Location S1 and S2). The purpose of the short-term noise measurements and corresponding traffic counts were to validate a traffic noise prediction model. All noise measurements were conducted between May 1, 2008 and May 5, 2008.

##### 4.1 Noise Measurement Procedure

###### Long-Term Noise Measurement Procedure

Continuous, hourly, statistical sound levels were recorded for 5 days. The measurements were taken using a Larson-Davis Laboratories, Model 820, Type-1 Sound Level Meter together with a Larson-Davis, Model 2560 Type-1 Microphone. Calibration was checked before and after the measurements with a Larson-Davis Model CAL200 calibrator. Both the sound level meter and the calibrator have been certified by the manufacturer within the recommended calibration period. The microphone was mounted on a tripod, approximately 5 feet above grade. A windscreen covered the microphone during the entire measurement period. The sound level meter was secured in a weather resistant case.

###### Short-Term Noise Measurement Procedure

An approximate 30-minute equivalent sound level,  $L_{eq}$ , was measured. Vehicular traffic counts and traffic mix were documented during the measurement period. The noise measurement was taken using a Larson-Davis Laboratories, Model 824, Type-1 Sound Level Meter together with a Larson-Davis, Model 2541 Type-1 Microphone. Calibration was checked before and after the measurements with a Larson-Davis Model CAL200 calibrator. Both the sound level meter and the calibrator have been certified by the manufacturer within the recommended calibration period. The microphone and sound level meter were mounted on a tripod, approximately 5 feet above grade. A windscreen covered the microphone during the entire measurement period.

##### 4.2 Noise Measurement Locations

###### Long-Term Noise Measurement Location

Location L1: Positioned at the northern edge of the proposed development site, approximately 40 feet east of the edge-of-pavement of Kalakaua Avenue.

###### Short-Term Noise Measurement Locations

Location S1: Positioned adjacent to Beretania Street, between Punahou Street and Alexander Street, approximately 50 feet north of the edge-of-pavement.

Location S2: Positioned adjacent to Kalakaua Avenue, between King Street and Kanunu Street, approximately 30 feet west of the edge-of-pavement.

#### 4.3 Long-Term Noise Measurement Results

The measured ambient sound levels are representative of an urban environment and depend significantly on the vehicular traffic patterns of Kalakaua Avenue. The hourly equivalent sound levels,  $L_{eq}$ , at Location L1 generally range from 60 to 64 dBA during the day. At night, noise levels drop off and the hourly  $L_{eq}$  ranges from 53 to 60 dBA. The average day-night Level,  $L_{dn}$ , was calculated from the measured noise levels to be 65 dBA.

The results from the long-term noise measurement are graphically presented in Figure 4, which shows the measured equivalent sound level,  $L_{eq}$ , in A-weighted decibels (dBA) as a function of the measurement date and time. During the noise measurement period, heavy construction vehicles may have visited the project site to deliver or pick up materials. Clean-up activities may have also occurred on site. It was not possible to obtain a schedule or confirmation of these activities, however, the Figure 4 shows seven abnormal spikes in sound level that may have been caused by these construction vehicles.

The dominant and secondary noise sources are described below:

###### Noise Sources

**Dominant:** Vehicular traffic noise from Kalakaua Avenue, intermittent construction noise.

**Secondary:** Typical urban noises such as sirens, car horns, pedestrians etc., birds, mechanical equipment from neighboring buildings.

#### 5.0 POTENTIAL NOISE IMPACTS DUE TO THE PROJECT

##### 5.1 Project Construction Noise

Development of project areas will involve excavation, grading, and other typical construction activities during construction. The various construction phases of the project may generate significant amounts of noise. The actual noise levels produced during construction will be a function of the methods employed during each stage of the construction process. Typical ranges of construction equipment noise are shown in Figure 5. Earthmoving equipment, e.g., bulldozers and diesel-powered trucks, will probably be the loudest equipment used during construction.

**5.2 Project Generated Stationary Mechanical Noise & Compliance with State of Hawaii Community Noise Control Rule**

The proposed condominium building may incorporate stationary mechanical equipment that is typical for residential buildings. Expected mechanical equipment may include air handling equipment, condensing units, chillers, emergency generators, etc. Noise from this mechanical equipment and other stationary equipment must meet the State DOH noise rules, which stipulate maximum permissible noise limits at the property line. These noise limits are 60 dBA during the daytime hours (7:00 am to 10:00 pm) and 50 dBA during the night time hours (10:00 pm to 7:00 am) for multi-family housing. Mitigation of mechanical noise to meet the State DOH noise rules should be incorporated into the project design.

**5.3 Compliance with FHWA/HDOT Noise Limits**

A vehicular traffic noise analysis was completed for the existing conditions and the expected future year of completion (2010) projections with the "No Build" and "Build" conditions using the FHWA Traffic Noise Model Look-up Tables Software Version 2.5 (2004) [Reference 7]. The traffic noise analysis is based on the traffic counts provided by the Traffic Consultant [Reference 8]. Vehicular traffic noise levels were calculated for 2 locations (Locations A and B) along Kalakaua Avenue and Beretania Street in the vicinity of the Holomua project site, as shown in Figure 3. The results of the traffic noise analysis are described below and summarized in Table 1.

**5.3.1 Vehicular Traffic Noise Impacts on the Surrounding Community**

The traffic noise analysis shows that residences and commercial buildings located adjacent to Kalakaua Avenue and Beretania Street are expected to experience a negligible increase in traffic noise level due to the project. Likewise, the slight increases in traffic volume on other roads in the area due to the project are not expected to increase traffic noise by a considerable amount. Therefore, a significant noise impact on the surrounding community due to project generated traffic noise is not expected.

**5.3.2 Vehicular Traffic Noise Impacts on the Project**

Noise level projections at the façade of the proposed condominium on Kalakaua Avenue are predicted to be below the FHWA/HDOT maximum noise limit of 67 dBA. Therefore, a significant noise impact on the project due to vehicular traffic noise is not expected.

**5.4 Compliance with HUD and EPA Noise Guidelines**

The HUD noise guidelines state an exterior design goal of  $L_{dn} \leq 65$ . Similarly, the EPA has an existing design goal of  $L_{dn} \leq 65$  dBA and a future design goal  $L_{dn} \leq 55$  dBA for exterior noise levels. The results from the long-term noise measurements conducted at the proposed project site show a calculated day-night

level,  $L_{dn}$ , of 65 dBA. Therefore, the exterior noise levels at the façade of the proposed building facing Kalakaua are expected to meet the current EPA design goal as well as the HUD noise criteria for "Acceptable" housing sites.

It is important to note that the EPA noise guidelines are design goals and are not enforceable regulations. However, these guidelines and design goals are useful tools for assessing the noise environment.

**5.5 Project Generated Noise from the Parking Garage**

Noise generated from the proposed parking garage, i.e., car alarms, engine startup noise, and noisy mufflers, may cause excessive reverberation within the garage and could cause complaints from the neighboring buildings. Another source of annoyance may come from the squeal of tires around corners and on the garage ramps. These noises can be mitigated with an effective parking garage design.

**6.0 NOISE IMPACT MITIGATION**

**6.1 Mitigation of Construction Noise**

In cases where construction noise exceeds, or is expected to exceed the State's "maximum permissible" property line noise levels [Reference 1], a permit must be obtained from the State DOH to allow the operation of vehicles, cranes, construction equipment, power tools, etc., which emit noise levels in excess of the "maximum permissible" levels.

In order for the State DOH to issue a construction noise permit, the Contractor must submit a noise permit application to the DOH, which describes the construction activities for the project. Prior to issuing the noise permit, the State DOH may require action by the Contractor to incorporate noise mitigation into the construction plan. The DOH may also require the Contractor to conduct noise monitoring or community meetings inviting the neighboring residents and business owners to discuss construction noise. The Contractor should use reasonable and standard practices to mitigate noise, such as using mufflers on diesel and gasoline engines, using properly tuned and balanced machines, etc. However, the State DOH may require additional noise mitigation, such as temporary noise barriers, or time of day usage limits for certain kinds of construction activities.

Specific permit restrictions for construction activities [Reference 1] are:

"No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels ... before 7:00 a.m. and after 6:00 p.m. of the same day, Monday through Friday."

"No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels... before 9:00 a.m. and after 6:00 p.m. on Saturday."

"No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels on Sundays and on holidays."

The use of hoe rams and jack hammers 25 lbs. or larger, high pressure sprayers, chain saws, and pile drivers are restricted to 9:00 a.m. to 5:30 p.m., Monday through Friday. In addition, construction equipment and on-site vehicles or devices whose operations involve the exhausting of gas or air, excluding pile hammers and pneumatic hand tools weighing less than 15 pounds, must be equipped with mufflers [Reference 1].

The DOH noise permit does not limit the noise level generated at the construction site, but rather the times at which noisy construction can take place. Therefore, noise mitigation for construction activities should be addressed using project management, such that the time restrictions within the DOH permit are followed.

#### 6.2 Mitigation of Project Generated Mechanical Noise

The design of the proposed Holomua condominium building should give consideration to controlling the noise emanating from stationary mechanical equipment, such as emergency generators, chillers, compressors, air conditioning units, etc. so as to comply with the State of Hawaii Community Noise Control rules [Reference 1]. Noisy equipment should be located away from neighbors and residential units, as much as is practical. Enclosed mechanical rooms may be required for some equipment.

#### 6.3 Mitigation of Vehicular Traffic Noise

The traffic noise analysis shows no significant noise impacts to the project or the surrounding community. Therefore, noise mitigation for vehicular traffic noise is not required.

Although traffic noise levels from Kalakaua Avenue do not exceed the FHWA maximum noise limits at the project site, the calculated day-night level is at the threshold of the EPA and HUD noise guidelines. During the design phase of the building, we recommend that sound rated or insulated windows be considered for the units facing Kalakaua Avenue such that interior noise levels do not exceed the EPA and HUD noise goal of 45 dBA.

#### 6.4 Mitigation of Project Generated Noise from the Parking Garage

Noise emanating from the parking garage to the neighboring buildings may be audible and cause for complaint. Noise reduction measures should be considered during the design of the garage. Design could consider treating the floor of the garage to reduce fire squeal and treating the ceiling to reduce the build-up of noise within the garage.

#### REFERENCES

1. Chapter 46, *Community Noise Control*, Department of Health, State of Hawaii, Administrative Rules, Title 11, September 23, 1996.
2. *Department of Transportation, Federal Highway Administration Procedures for Abatement of Highway Traffic Noise*, Title 23, CFR, Chapter 1, Subchapter I, Part 772, 38 FR 15953, June 19, 1973; Revised at 47 FR 29654, July 8, 1982.
3. *Federal Highway Administration's Traffic Noise Model*, FHWA-RD-77-108; U.S. Department of Transportation, December 1978.
4. *Noise Analysis and Abatement Policy*, Department of Transportation, Highways Division, State of Hawaii, June 1977.
5. *Toward a National Strategy for Noise Control*, U.S. Environmental Protection Agency, April 1977.
6. *Department of Housing and Urban Development Environmental Criteria and Standards*, Title 24 CFR, Part 51, 44 FR 40860, July 12, 1979, Amended by 49 FR 880, January 6, 1984.
7. *Federal Highway Administration's Traffic Noise Model Look-up Tables Software*, Ver. 2.5; U.S. Department of Transportation, December 17, 2004.
8. *Draft Report - Holomua Transportation Impact Analysis*, Fehr and Peers Transportation Consultants, April 2008.

**TABLE 1:  
Predicted Traffic Noise Levels With and Without the Project and Resulting Increases Due  
to the Project\***

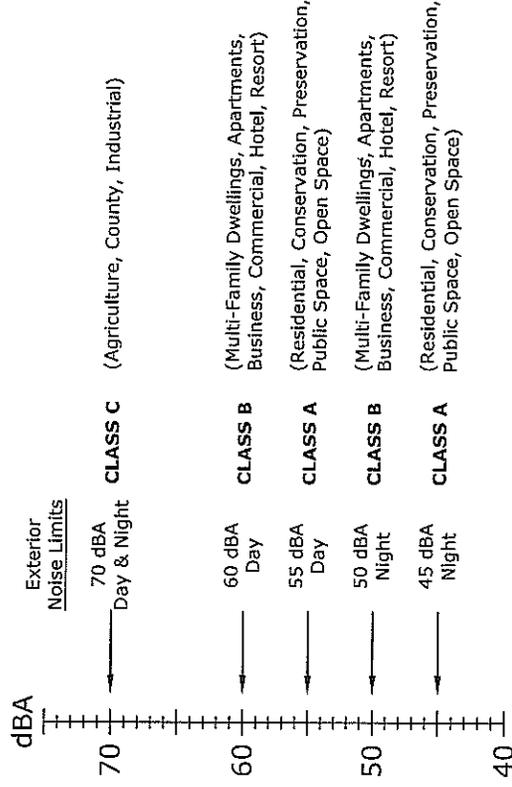
Noise levels shown in the table are based on peak-hour traffic volumes, and are expressed in A-weighted decibels (dBA).

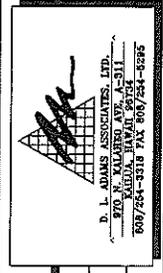
	Location A*		Location B*	
	AM	PM	AM	PM
Existing (Calculated)	66.5	66.3	66.8	65.8
Future Without Project (2010)	66.8	66.6	67.0	66.0
Future With Project (2010)	67.0	66.7	67.0	66.0
Future Increase Without Project (2010)	0.3	0.3	0.2	0.2
Future Increase With Project (2010)	0.5	0.3	0.2	0.2
Future Increase Due to Project (2010)	0.2	0.1	0.0	0.0

\* The noise level calculations were based on the traffic study provided by the Traffic Consultant [Reference 8].

• Location A - 30 feet east of Kalakaua Avenue edge-of-pavement  
Location B - 60 feet mauka of Beretania Street edge-of-pavement

Zoning District	Day Hours (7 AM to 10 PM)	Night Hours (10 PM to 7 AM)
<b>CLASS A</b> Residential, Conservation, Preservation, Public Space, Open Space	55 dBA (Exterior)	45 dBA (Exterior)
<b>CLASS B</b> Multi-Family Dwellings, Apartments, Business, Commercial, Hotel, Resort	60 dBA (Exterior)	50 dBA (Exterior)
<b>CLASS C</b> Agriculture, Country, Industrial	70 dBA (Exterior)	70 dBA (Exterior)

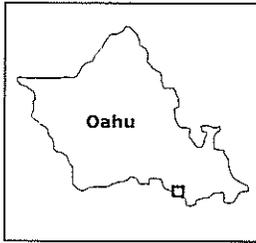




Hawaii Maximum Permissible Sound Levels for  
Various Zoning Districts  
Honolulu

Figure No  
**1**

Not to Scale  
Project No. 08-08  
Date May 2008  
Drawn By TRB



**LEGEND**

- Long Term Noise Measurement Location
- Short Term Noise Measurement Location
- Noise Prediction Locations
- Project Site



**D. L. ADAMS ASSOCIATES, LTD.**  
 670 N. KALANEOU AVE., A-511  
 KAILUA, HAWAII 96734  
 808/254-3316 FAX 808/254-6285

**Noise Measurement and Prediction Locations**

Holomua

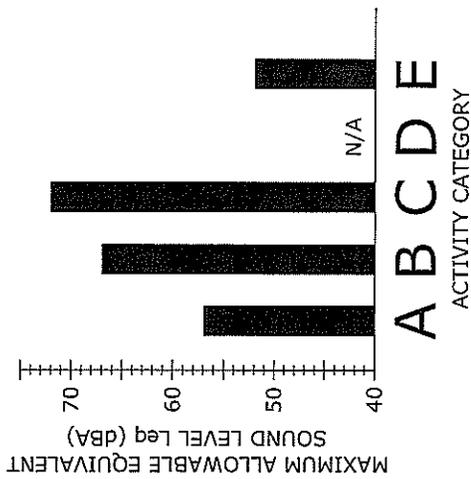
Not to Scale

Date: May 2008      Project No.: 08-08      Drawn By: DFD

Figure No

**3**

ACTIVITY CATEGORY	ACTIVITY CATEGORY DESCRIPTION	MAXIMUM EQUIVALENT SOUND LEVEL L <sub>eq(h)</sub>
<b>A</b>	LANDS ON WHICH SERENITY AND QUIET ARE OF EXTRAORDINARY SIGNIFICANCE AND SERVE AN IMPORTANT PUBLIC NEED AND WHERE THE PRESERVATION OF THOSE QUALITIES IS ESSENTIAL IF THE AREA IS TO CONTINUE TO SERVE ITS INTENDED PURPOSE.	57 dBA (EXTERIOR)
<b>B</b>	PICNIC AREAS, RECREATION AREAS, PLAYGROUNDS, ACTIVE SPORT AREAS, PARKS, RESIDENCES, MOTELS, HOTELS, SCHOOLS, CHURCHES, LIBRARIES, AND HOSPITALS.	67 dBA (EXTERIOR)
<b>C</b>	DEVELOPED LANDS, PROPERTIES, OR ACTIVITIES NOT INCLUDED IN ACTIVITY CATEGORIES A OR B ABOVE.	72 dBA (EXTERIOR)
<b>D</b>	UNDEVELOPED LAND	N/A
<b>E</b>	RESIDENCES, MOTELS, HOTELS, PUBLIC MEETING ROOMS, SCHOOLS, CHURCHES, LIBRARIES, HOSPITALS, AND AUDITORIUMS.	52 dBA (INTERIOR)



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**Federal Highways Administration Recommended Equivalent Hourly Sound Levels Based on Land Use**

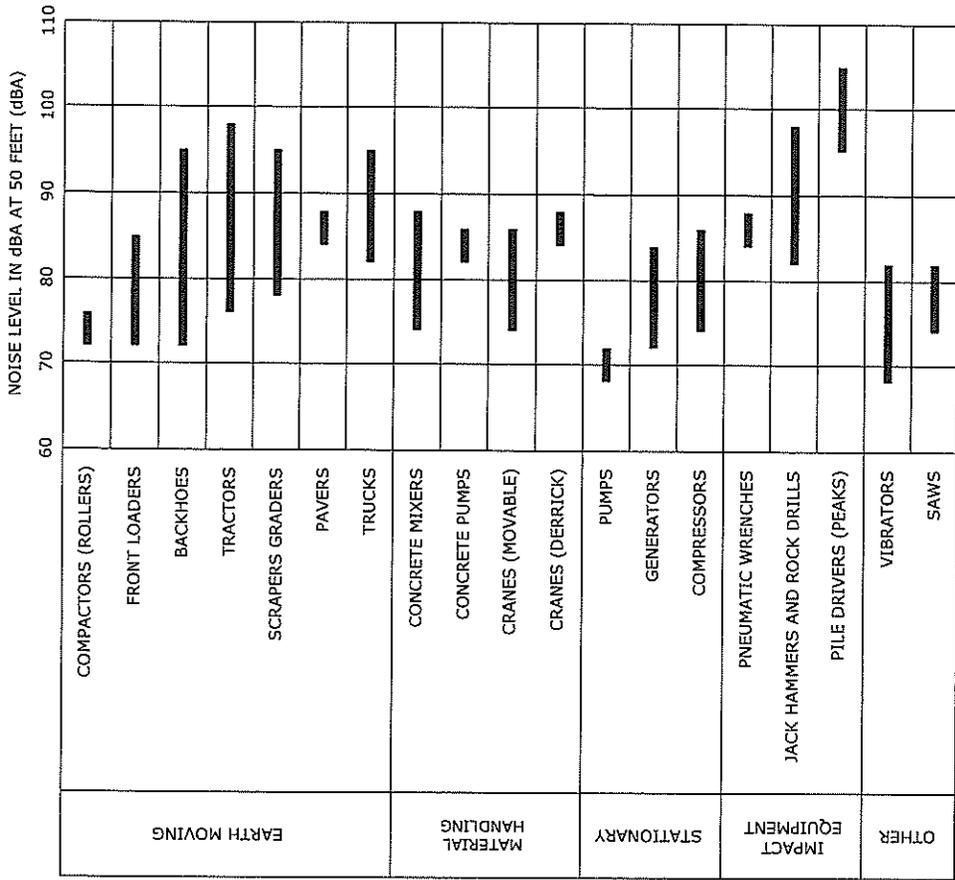
Holomua

Not to Scale

Date: May 2008      Project No.: 08-08      Drawn By: TRB

Figure No

**2**



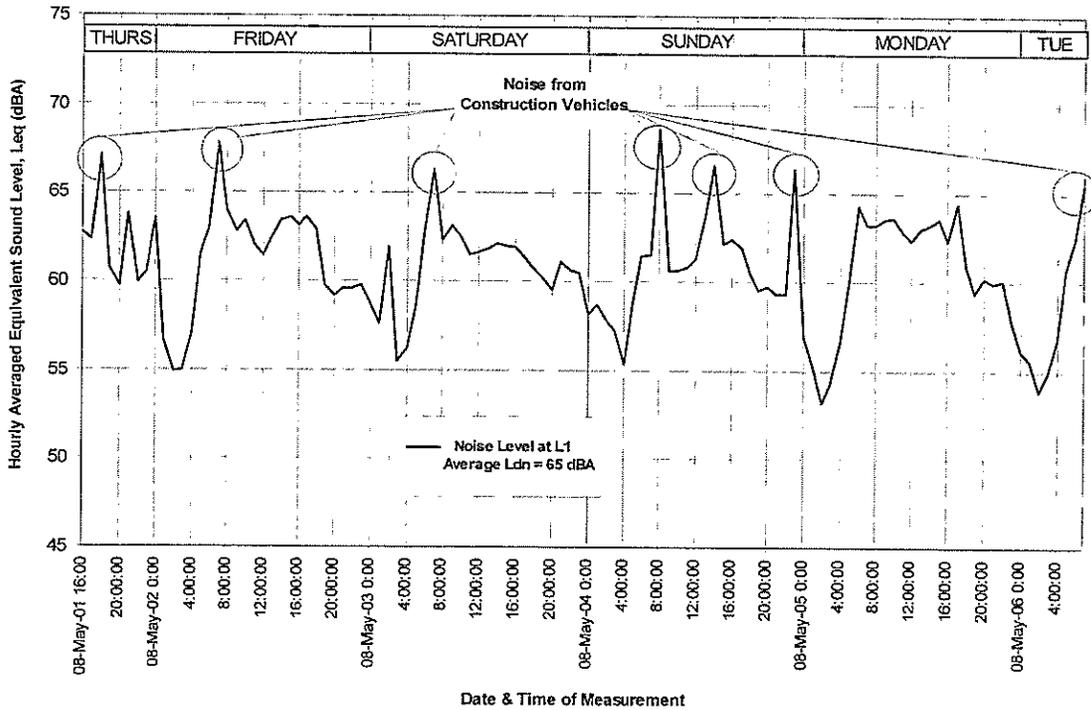
NOTE: BASED ON LIMITED AVAILABLE DATA SAMPLES

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Typical Sound Levels from Construction Equipment

Holomua  
 Not to Scale  
 Project No. 08-08  
 Date May 2008  
 Drawn By TRB

Figure No 5



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 808/254-3318 FAX 808/254-5235

Graph of Long Term Noise Measurements

Holomua  
 Not to Scale  
 Date May 2008  
 Project No. 08-08  
 Drawn By DFD

Figure No 4

## Acoustic Terminology

### Sound Pressure Level

Sound, or noise, is the term given to variations in air pressure that are capable of being detected by the human ear. Small fluctuations in atmospheric pressure (sound pressure) constitute the physical property measured with a sound pressure level meter. Because the human ear can detect variations in atmospheric pressure over such a large range of magnitudes, sound pressure is expressed on a logarithmic scale in units called decibels (dB). Noise is defined as "unwanted" sound.

Technically, sound pressure level (SPL) is defined as:

$$\text{SPL} = 20 \log (P/P_{ref}) \text{ dB}$$

where P is the sound pressure fluctuation (above or below atmospheric pressure) and  $P_{ref}$  is the reference pressure, 20  $\mu\text{Pa}$ , which is approximately the lowest sound pressure that can be detected by the human ear. For example:

$$\text{If } P = 20 \mu\text{Pa, then SPL} = 0 \text{ dB}$$

$$\text{If } P = 200 \mu\text{Pa, then SPL} = 20 \text{ dB}$$

$$\text{If } P = 2000 \mu\text{Pa, then SPL} = 40 \text{ dB}$$

## APPENDIX A

### Acoustic Terminology

The sound pressure level that results from a combination of noise sources is not the arithmetic sum of the individual sound sources, but rather the logarithmic sum. For example, two sound levels of 50 dB produce a combined sound level of 53 dB, not 100 dB. Two sound levels of 40 and 50 dB produce a combined level of 50.4 dB.

Human sensitivity to changes in sound pressure level is highly individualized. Sensitivity to sound depends on frequency content, time of occurrence, duration, and psychological factors such as emotions and expectations. However, in general, a change of 1 or 2 dB in the level of sound is difficult for most people to detect. A 3 dB change is commonly taken as the smallest perceptible change and a 6 dB change corresponds to a noticeable change in loudness. A 10 dB increase or decrease in sound level corresponds to an approximate doubling or halving of loudness, respectively.

### A-Weighted Sound Level

Studies have shown conclusively that at equal sound pressure levels, people are generally more sensitive to certain higher frequency sounds (such as made by speech, horns, and whistles) than most lower frequency sounds (such as made by motors and engines)<sup>1</sup> at the same level. To address this preferential response to frequency, the A-weighted scale was developed. The A-weighted scale adjusts the sound level in each frequency band in much the same manner that the

---

<sup>1</sup> D. W. Robinson and R. S. Dadson, "A Re-Determination of the Equal-Loudness Relations for Pure Tones," *British Journal of Applied Physics*, vol. 7, pp. 166 - 181, 1956. (Adopted by the International Standards Organization as Recommendation R-226.

human auditory system does. Thus the A-weighted sound level (read as "dBA") becomes a single number that defines the level of a sound and has some correlation with the sensitivity of the human ear to that sound. Different sounds with the same A-weighted sound level are perceived as being equally loud. The A-weighted noise level is commonly used today in environmental noise analysis and in noise regulations. Typical values of the A-weighted sound level of various noise sources are shown in Figure A-1.

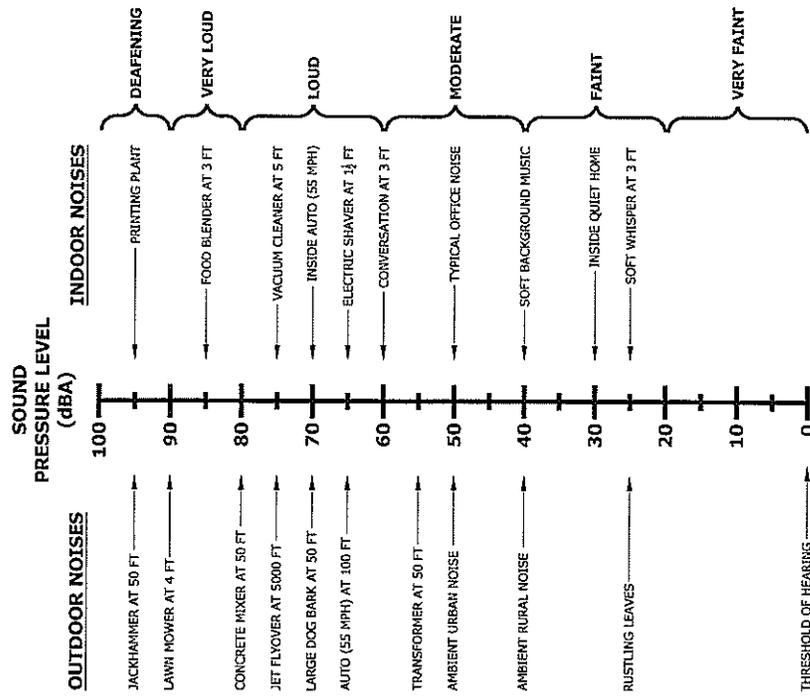


Figure A-1. Common Outdoor/Indoor Sound Levels

**Equivalent Sound Level**

The Equivalent Sound Level ( $L_{eq}$ ) is a type of average which represents the steady level that, integrated over a time period, would produce the same energy as the actual signal. The actual instantaneous noise levels typically fluctuate above and below the measured  $L_{eq}$  during the measurement period. The A-weighted  $L_{eq}$  is a common index for measuring environmental noise. A graphical description of the equivalent sound level is shown in Figure A-2.

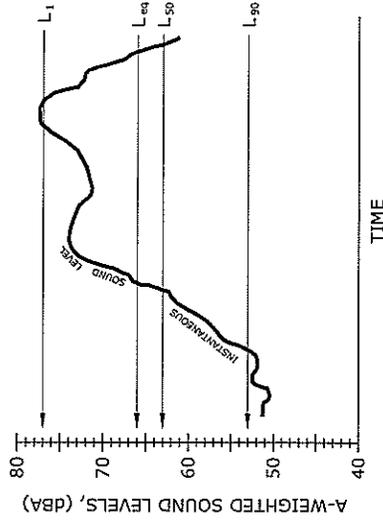


Figure A-2. Example Graph of Equivalent and Statistical Sound Levels

**Statistical Sound Level**

The sound levels of long-term noise producing activities such as traffic movement, aircraft operations, etc., can vary considerably with time. In order to obtain a single number rating of such a noise source, a statistically-based method of expressing sound or noise levels has been developed. It is known as the Exceedence Level,  $L_n$ . The  $L_n$  represents the sound level that is exceeded for n% of the measurement time period. For example,  $L_{10} = 60$  dBA indicates that for the duration of the measurement period, the sound level exceeded 60 dBA 10% of the time. Typically, in noise regulations and standards, the specified time period is one hour. Commonly used Exceedence Levels include  $L_{01}$ ,  $L_{10}$ ,  $L_{50}$ , and  $L_{90}$ , which are widely used to assess community and environmental noise. A graphical description of the equivalent sound level is shown in Figure A-2.

**Day-Night Equivalent Sound Level**

The Day-Night Equivalent Sound Level,  $L_{dn}$ , is the Equivalent Sound Level,  $L_{eq}$ , measured over a 24-hour period. However, a 10 dB penalty is added to the noise levels recorded between 10 p.m. and 7 a.m. to account for people's higher sensitivity to noise at night when the background noise level is typically lower. The  $L_{dn}$  is a commonly used noise descriptor in assessing land use compatibility, and is widely used by federal and local agencies and standards organizations.



APPENDIX  
SITE INFRASTRUCTURE ASSESSMENT

H

PRELIMINARY SITE INFRASTRUCTURE ASSESSMENT

For

**HOLOMUA**

at

Honolulu, Oahu, Hawaii

TMK 1st 2-4-006: 017 & 018

**1.1 INFRASTRUCTURE**

**1.1.1 Water**

Water for the Honolulu metropolitan area is drawn from the Metropolitan 180' System by the City and County of Honolulu, Board of Water Supply (BWS), and conveyed to communities through a network of distribution lines spanning from the Pearl Harbor basin out to East Honolulu.

Records at the BWS, Engineering Maintenance Unit, indicate an existing 8-inch water main within the vicinity of the project area located along the westerly side of Kalakaua Avenue and the southerly side of Young Street.

**Potential Impacts and Mitigation Measures**

Based on the apartment density, preliminary apartment unit plans, and Tables 100-18 and 100-20, Board of Water Supply, Water System Standards, dated 2002, and Uniform Plumbing Code, the proposed domestic water consumption flows are as follows:

**Table 1: Proposed Domestic Water Consumption Computation**

Flow Demand	Proposed Domestic Water Consumption
Average Daily Demand (gpd)	52,800
Maximum Daily Demand (gpd)	79,200
Peak Hour (gpd)	158,400
Peak Hour Design Flowrate (gpm)	277

Approval from BWS to connect to the system will be requested during the building permit process. The project will be subject to Cross-Connection Control and Backflow Prevention requirements prior to approval of the building permit.

Preliminary consultation with the BWS Customer Care Division indicated sufficient fire protection and domestic

Prepared by:

Engineering Dynamics Corp.  
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This work was prepared by me or under my supervision.

Engineering Dynamics Corp.



Ty Miyabuchi  
Registered Professional Engineer  
State of Hawaii Certificate #93378

This report is an "instrument of service". This work is part of an integrated process of technical design. Use outside this process is inappropriate and transfer of the report or its contents for other work may have serious consequences. Definitions used have only the meanings assigned to them by Engineering Dynamics Corp. in the contract employed.

capacity to serve the proposed multi-family high-rise development<sup>1</sup>.

Throughout the design and construction of the proposed development, coordination with BWS shall be maintained as necessary to ensure proper operation of existing water distribution and to mitigate potential interruptions of existing water service that may occur.

#### 1.1.2 Wastewater

The existing municipal wastewater system serving the project vicinity consists of a 6-inch gravity main along Kalakaua Avenue. Wastewater collected and managed by the sewer main is conveyed to the Ala Moana Pump Station for treatment and disposal.

Records at the Department of Planning and Permitting (DPP), Wastewater Branch (WWB), indicate that an existing 6-inch sewer lateral extending from the 6-inch sewer main along the easterly side of Kalakaua Avenue serves the proposed project site. A Site Development Application Form for Sewer Connection was applied for and approved by the DPP, WWB<sup>2</sup>.

#### Potential Impacts and Mitigation Measures

Based on the apartment density, preliminary apartment unit plans, and Chapter 20 Design Standards of the Department of Wastewater Management, Volume 1, dated July 1993, the proposed wastewater flows are as follows:

<sup>1</sup> Existing water system adequacy was based upon current BWS data. Final decision on the availability of water will be confirmed when the building permit is submitted for approval (Refer to attached letter).  
<sup>2</sup> Approved Sewer Connection Application (2008/SCA-0215) dated 4/03/08 was based on a unit density comprising of 80 one-bedroom units and 96 two-bedroom units (Refer to attached letter).

Table 2: Proposed Wastewater Flow Computation

Design Flowrate	Proposed Wastewater Flow
Average Flow (gpd)	39,424
Maximum Flow (gpd)	197,120
Design Average Flow (gpd)	56,672
Design Maximum Flow (gpd)	214,368
Design Peak Flow (gpd)	215,716

Throughout the design and construction of the proposed development, coordination with the City Wastewater Branch, Inspection Section and/or State Department of Health shall be maintained as necessary to ensure proper operation of the existing wastewater system and to mitigate potential interruptions of existing wastewater service that may occur.

#### 1.1.3 Drainage

Stormwater surface runoff from the project site is generally directed towards the Kalakaua Avenue gutter system where it is collected and managed by the catch basin at the southerly intersection of Kalakaua Avenue and Young Street. Storm runoff collected at the catch basin is conveyed by a 12'x8' concrete box culvert traversing beneath Kalakaua Avenue up to a reinforced concrete culvert at the intersection of Kalakaua Avenue and South King Street. The concrete culvert eventually spills downstream into the Ala Wai Canal.

#### Potential Impacts and Mitigation Measures

The proposed storm runoff pattern will generally follow that of the existing. A new onsite drainage system comprising of drain inlets and drain lines would be utilized to discharge storm runoff into the existing concrete box drain. As the existing site is predominately comprised of AC pavement an increase in storm runoff is not anticipated as a result of the proposed improvements.

Pollutants due to construction activities would be managed by Best Management Practices (BMPs) such as silt fences, construction accesses, dust fences, etc. Permanent BMPs may include drain inlet filter inserts, grassing of exposed soils, etc.

#### **1.1.4 Electrical/Telecommunication**

Existing overhead electrical lines and power poles are located within the vicinity of the project area frontage along Kalakaua Avenue.

An existing telecom box is located within the sidewalk fronting the project area along Kalakaua Avenue.

#### ***Potential Impacts and Mitigation Measures***

Consultation shall be initiated with HECO and Hawaiian Telcom to verify adequacy of utility services for the proposed development.

Throughout the design and construction of the proposed development, coordination with the respective authorities shall be maintained as necessary to ensure proper operation of existing utility service and to mitigate potential interruptions of existing utility service that may occur.



APPENDIX  
PRECONSULTATION LETTERS & RESPONSES



STATE OF HAWAII  
DEPARTMENT OF EDUCATION  
P.O. BOX 2380  
HONOLULU, HAWAII 96804

OFFICE OF SCHOOL FACILITIES AND SUPPORT SERVICES

March 18, 2008

Mr. Tom Schnell, AICP, Senior Associate  
PBR Hawaii & Associates, Inc.  
1001 Bishop Street, Suite 650  
Honolulu, Hawaii 96813

Dear Mr. Schnell:

**SUBJECT:** Pre-Consultation for Holomua Condominiums  
Honolulu, Oahu, Hawaii. TMK: (1) 2-4-06: 17 & 18

The Department of Education (DOE) has reviewed your request for pre-consultation on the potential impacts of the 168-unit Holomua Condominiums.

The 2007 Legislature passed a bill establishing school impact fees. The bill became Act 245 and is in the process of being implemented. Under this new law, it is possible the project will be required to pay an impact fee. We currently do not know whether this area will be in an impact district, or the amount of the fee per residential unit. If the project falls within an impact district, the DOE will meet with the developers of the project to discuss an agreement to mitigate the impacts of enrollment growth generated by this project.

We request more detailed information on the general price range, size and number of bedrooms for each residence plan.

Should you have any questions, please call George Casen of the Facilities Development Branch at 377-8308.

Sincerely yours,

*DM KASH*

Duane Y. Kashiwai  
Public Works Administrator  
Facilities Development Branch

DYK:to

c: Randolph Moore, Assistant Superintendent, OSFSS  
Clayton Kainanu, Acting CAS, McKinley/Roosevelt Complex Areas

**Appendix I: Pre-Consultation Letters**

Pre-consultation request letters were sent to the following list of agencies, organizations, and individuals. Where indicated, the agency, organization, or individual provided comments. The comment letters and responses follow this table.

AGENCY	REQUEST SENT	COMMENT RECEIVED
STATE OF HAWAII		
Department of Education	2-29-08	3-18-08
Department of Land and Natural Resources	2-29-08	
Hawaii Housing Finance & Development Corporation	2-29-08	
Office of Environmental Quality Control	2-29-08	
CITY & COUNTY OF HONOLULU		
Board of Water Supply	2-29-08	3-6-08
Department of Community Services	2-29-08	3-10-08
Department of Design and Construction	2-29-08	3-20-08
Department of Environmental Services	2-29-08	
Department of Facility Maintenance	2-29-08	3-20-8
Department of Parks and Recreation	2-29-08	3-4-08
Department of Transportation Services	2-29-08	3-25-08
Department of Planning and Permitting	2-29-08	
DPP - Land Use Approval Branch	2-29-08	3-13-08
DPP - Traffic Review Branch	2-29-08	
DPP - Zoning Plan Review Branch	2-29-08	
DPP - Civil Engineering Branch	2-29-08	
DPP - Subdivision Branch	2-29-08	
DPP - Wastewater Branch	2-29-08	
Fire Department	2-29-08	3-13-08
Police Department	2-29-08	3-5-08
PRIVATE ORGANIZATIONS & INDIVIDUALS		
Hawaiian Electric Company	2-29-08	4-24-08
Councilmember Ann Kobayashi	2-29-08	



**BOARD OF WATER SUPPLY**

CITY AND COUNTY OF HONOLULU  
630 SOUTH BERETANIA STREET  
HONOLULU, HI 96843



March 6, 2008

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May 27, 2008

Mr. Duane Y. Kashiwai  
Public Works Administrator, Facilities Development  
State of Hawaii'i, Department of Education  
P.O. Box 23360  
Honolulu, HI 96804

**SUBJECT: PRE-CONSULTATION FOR HOLOMUA HONOLULU,  
O-AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. Kashiwai,

Thank you for your letter dated March 18, 2008 regarding Holomua. Holomua will be a residential condominium with approvals processed under Chapter 201H, Hawaii Revised Statutes (HRS).

We acknowledge that it is possible that Holomua may be subject to an impact fee under HRS, Section 302A-1601 et. seq. As part of the 201H process, THM Partners LLC is requesting an exemption to any school impact fees.

The participation of the Department of Education in the environmental review process is appreciated.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

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Preconsultation Response.doc

Mr. Tom Schnell, AICP, Senior Associate  
PBR Hawaii & Associates, Incorporated  
1001 Bishop Street  
ASB Tower, Suite 604  
Honolulu, Hawaii 96813-3484

Dear Mr. Schnell:

Subject: Your Letter Dated February 29, 2008 on the Pre-Consultation for Holomua Condominiums, TMK: 2-4-6-17, 18.

Thank you for your letter on the proposed 168-unit condominium development.

The existing water system is presently adequate to accommodate the proposed development. However, please be advised that this information is based upon current data and, therefore, the Board of Water Supply reserves the right to change any position or information stated herein up until the final approval of your building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.

The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

The proposed project is subject to Board of Water Supply Cross-Connection Control and Backflow Prevention requirements prior to the issuance of the Building Permit Applications.

If you have any questions, please contact Robert Chun at 748-5443.

Very truly yours,

KEITH S. SHIDA  
Program Administrator  
Customer Care Division



May 27, 2008

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DEPARTMENT OF COMMUNITY SERVICES  
CITY AND COUNTY OF HONOLULU

715 SOUTH KING STREET, SUITE 311 • HONOLULU, HAWAII 96813 • AREA CODE 808 • PHONE: 738-7762 • FAX: 738-7732



MUFI HANNEMANN  
MAYOR

DEBORAH KIM MORIKAWA  
DIRECTOR  
ERNEST Y. MARTIN  
DEPUTY DIRECTOR

March 10, 2008

Mr. Tom Schnell, AICP  
PBR Hawaii  
1001 Bishop Street  
ASB Tower, Suite 650  
Honolulu, Hawaii 96813-3484

Dear Mr. Schnell:

Subject: Preconsultation for Holomua Condominiums  
Honolulu, Oahu, Hawaii, TMK: 2-4-06-17 and 18

The former Department of Housing and Community Development previously processed a request for exemptions from development requirements for a proposed rental project at this site. Resolution 97-341, CD1, adopted by the Honolulu City Council on December 3, 1997, authorized exemptions for Kulana Hale II Senior Living Residence. We understand that the current condominium proposal will involve exemptions to be processed under the Hawaii Housing Finance and Development Corporation rules and may involve financing as well.

We look forward to reviewing the Environmental Assessment when it becomes available. Thank you for the opportunity to provide these comments.

Sincerely,

*Deborah Kim Morikawa*  
Deborah Kim Morikawa  
Director

DKM:gk

**SUBJECT: PRE-CONSULTATION FOR HOLOMUA, HONOLULU,  
O-AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. Shida,

Thank you for your letter dated March 6, 2008 regarding Holomua. We offer the following responses to your preliminary comments:

1. Thank you for confirmation that the existing water supply is adequate at this time. Construction drawings will be submitted for review and approval prior to the issuance of the building permit.
2. As will be described in the draft EA, Holomua will be affordable housing subject to Section 201H, Hawaii Revised Statutes. As such, exemptions to ROH 14-6.1 and 14-6.4 relating to water and sewer connection fees will be requested.
3. Board of Water Supply Cross-Connection Control and Backflow Prevention requirements will be fulfilled prior to the issuance of the building permit.
4. On-site fire protection requirements will be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

The participation of the Board of Water Supply in the Environmental Assessment process is appreciated.

Sincerely,

PBR HAWAII

*Tom Schnell*  
Tom Schnell, AICP  
Senior Associate

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May 27, 2008

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CITY AND COUNTY OF HONOLULU  
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EUGENE C. LEE, P.E.  
DIRECTOR  
RUSSELL H. TAMANA, P.E.  
DEPUTY DIRECTOR

March 20, 2008

**SUBJECT: PRE-CONSULTATION FOR HOLOMUA, HONOLULU,  
O'AHU, HAWAII<sup>1</sup>, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Monkawa,

Thank you for your letter dated March 10, 2008 regarding Holomua. A copy of the Environmental Assessment will be provided for your department's review and comment.

The participation of the Department of Community Services in the Environmental Assessment process is appreciated.

Sincerely,

PBR HAWAII

Tom Schnell,  
Senior Associate, AICP

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Mr. Tom Schnell, AICP  
Senior Associate  
PBR Hawaii & Associates, Inc.  
1001 Bishop Street  
ASB Tower, Suite 650  
Honolulu, Hawaii 96813-3484

Dear Mr. Schnell:

**Subject: Pre-Consultation for Holomua Condominiums  
Honolulu, Oahu, Hawaii, TMK: (1) 2-4-06:17 & 18**

Thank you for giving us the opportunity to comment on the above Pre-Consultation.

The Department of Design and Construction (DDC) has the following comments:

- A sewer connection application will need to be filed with the Department of Planning and Permitting, Wastewater Branch to determine adequacy of existing sewer lines.
- DDC would like to be provided a copy of the Draft Environmental Assessment to review when it is published.

Should you have any questions, please contact Jay Hamai, Assistant Chief of our Wastewater Division, at 768-8799.

Very truly yours,

Eugene C. Lee, P.E.  
Director

ECL:lt (251289)

c: DDC Wastewater Division  
DDC Facilities Division



May 27, 2008

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MAUI HANNEMANN  
MAYOR



DEPARTMENT OF FACILITY MAINTENANCE  
**CITY AND COUNTY OF HONOLULU**  
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CRAIG I. NISHIMURA, P.E.  
ACTING DIRECTOR AND CHIEF ENGINEER  
GEORGE "KEDDY" MIYAMOTO  
DEPUTY DIRECTOR

IN REPLY REFER TO:  
DRM 08-229

March 20, 2008

Mr. Tom Schnell, AICP  
PBR Hawaii & Associates, Inc.  
1001 Bishop Street  
ASB Tower, Suite 650  
Honolulu, Hawaii 96813-3484

Dear Mr. Schnell:

Subject: Pre-Consultation for Holomua Condominiums  
Honolulu, Oahu, Hawaii, TMK: (1) 2-4-06: 17 & 18

Thank you for the opportunity to review and comment on the pre-consultation for the subject proposed Holomua Condominiums project.

We have no immediate or future work planned along City roadways or facilities in the vicinity of the subject project.

The majority of the proposed improvements will probably be located within privately-owned property and have negligible impact on our facilities and operations. Any associated improvements within adjacent City roadway right-of-way will have to be constructed in accordance with the City and County of Honolulu Standard Details.

Should you have any questions, please call Charles Pignataro of the Division of Road Maintenance, at 768-3697.

Sincerely,

Craig I. Nishimura P.E.  
Acting Director and Chief Engineer

**SUBJECT: PRE-CONSULTATION FOR HOLOMUA, HONOLULU,  
O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. Lee,

Thank you for your letter dated March 20, 2008 regarding Holomua.

A sewer connection application has been filed and approved as of April 3, 2008. We look forward to continuing to work with you and your staff. To that end, a copy of the draft EA will be provided for your review.

Thank you again for your participation in the preparation of the upcoming Environmental Assessment.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

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May 27, 2008

Mr. Craig I. Nishimura, P.E.  
Department of Facility Maintenance  
1000 Uluohia Street, Suite 215  
Kapolei, HI 96707

**SUBJECT: PRE-CONSULTATION FOR HOLOMUA, HONOLULU,  
O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. Nishimura,

Thank you for your letter dated March 20, 2008 regarding the above referenced project.

We acknowledge that the Department of Facility Maintenance has no immediate or future work planned along City roadways or facilities in the vicinity of Holomua.

Any improvements associated with Holomua within adjacent City roadway right-of-way will be constructed in accordance with the City and County of Honolulu Standard Details.

A copy of the Draft Environmental Assessment will be provided to your office.

The participation of the Department of Facility Maintenance in the environmental review process is appreciated.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

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DEPARTMENT OF PARKS AND RECREATION  
**CITY AND COUNTY OF HONOLULU**

KAPOLEI HALE, 1000 ULUOHIA STREET, STE. 309 • KAPOLEI, HAWAII 96707  
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MUFI HANNEMANN  
Mayor

LESTER K. C. CHANG  
DIRECTOR  
GAIL V. HARRAGUCHI  
DEPUTY DIRECTOR

March 4, 2008

Mr. Tom Schnell, AICP  
PBR HAWAII  
ASB Tower, Suite 650  
1001 Bishop Street  
Honolulu, Hawaii 96813

Dear Mr. Schnell:

Subject: Pre-Consultation for Holomua Condominiums  
Honolulu, Oahu, Hawaii TMK (1) 2-4-06: 17 & 18

Thank you for the opportunity to review and comment at the Pre-consultation stage of the Environmental Assessment for the Holomua Condominiums project.

The Department of Parks and Recreation is of the opinion that any new 168 unit residential condominium in this neighborhood has the potential to impact existing recreation facilities and programs and recommends that the developer incorporate plans for on site recreational facilities whether or not the project seeks an exemption from the Park Dedication Ordinance because of its affordable characteristics.

Should you have any questions, please contact Mr. John Reid, Planner, at 768-3017.

  
LESTER K. C. CHANG  
Director

LKCC:jr  
(2/13/07)

cc: Serge Krivatsy, THM Partners LLC



May 27, 2008

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MICHEL HANNEMANN  
MAYOR

WAYNE Y. YOSHIOKA  
DIRECTOR

RICHARD F. TORRES  
DEPUTY DIRECTOR

TP3/08-251271R

March 25, 2008

Mr. Tom Schnell, AICP  
PBR Hawaii & Associates, Inc.  
ASB Tower, Suite 650  
1001 Bishop Street  
Honolulu, Hawaii 96813-3484

Dear Mr. Schnell:

Subject: Holomua Condominiums

Thank you for your February 29, 2008, letter requesting our pre-assessment comments on the subject project.

We have the following comments for your consideration as you prepare the draft environmental assessment (EA):

1. Consideration should be given to incorporating facilities for a bus stop along the Kalakaua Avenue frontage of the project.
2. Project plans should include Americans with Disabilities Act accessible dropoff/pickup main entry and other site improvements to facilitate accessibility for persons with disabilities.

We look forward to reviewing the draft EA. Should you have any questions regarding these comments, please contact Ms. Faith Miyamoto at 768-8350.

Very truly yours,

WAYNE Y. YOSHIOKA  
Director

**SUBJECT: PRE-CONSULTATION FOR HOLOMUA, HONOLULU, O'AHU, HAWAII,**  
TMK: (1) 2-4-06: 17 & 18

Dear Mr. Chang,

Thank you for your letter dated March 3, 2008 regarding Holomua. Holomua will be a residential condominium with approvals processed under Chapter 201H, Hawaii Revised Statutes (HRS).

Holomua on-site amenities are proposed to be limited, to both hold the purchase price down as well as limit maintenance fees for residents. The developer plans to ask for an exemption to park dedication requirements (Chapter 22, Article 7, Revised Ordinances of Honolulu) through the 201H process.

Although the developer proposes to request an exemption to park dedication requirements, it should be noted that several parks are within walking distance (less than one mile) from the project site, providing both active and passive recreational opportunities for residents, including:

- Ala Moana Regional Park, 1201 Ala Moana Boulevard
- Ala Wai Community Park, 2015 Kapiolani Boulevard
- Ala Wai Promenade, 1828 Kalakaua Avenue
- Cartwright Neighborhood Park, 1314 Makiki Street
- Makiki District Park, 1527 Keenunoku Street
- McCully District Park, 831 Pumehana Street
- Mōlīlī Neighborhood Park, 1115 Isenberg Street
- Old Stadium Park, 2237 King Street
- Sheridan Community Park, 833 Piikoi Street
- Stevenson Recreation Center, community, 615 Auwahiolu Street
- Thomas Square, 1102 Victoria Street

The participation of the Department of Parks and Recreation in the Environmental Assessment process is appreciated.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

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May 27, 2008

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DEPARTMENT OF PLANNING AND PERMITTING  
**CITY AND COUNTY OF HONOLULU**

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HUFI HANNEMANN  
MAYOR

HENRY ERG, FAICP  
DIRECTOR

DAVID K. TANQUE  
DEPUTY DIRECTOR

2008/ELOG-538(p2)

March 13, 2008

Mr. Tom Schnell  
PBR Hawaii & Associates, Inc.  
1001 Bishop Street, Suite 650  
Honolulu, Hawaii 96813-3484

Dear Mr. Schnell:

Subject: Pre-Consultation for Holomua Condominiums  
1311 Kalakaua Avenue - Punahou  
Tax Map Key 2-4-6: 17 and 18

This is in response to your February 29, 2008 letter, requesting pre-consultation comments on the above-referenced project.

The project involves development of a 168-unit residential condominium building, with 51 percent (51%) of the units designated as affordable. You indicate that you will be preparing an application to obtain exemptions for affordable housing under 201H, Hawaii Revised Statutes (HRS).

The site consists of two (2) lots with a combined lot area of 21,339 square-feet, zoned BMX-3 Community Business Mixed Use District, where multifamily dwellings are a permitted principal use with conditions. The site exceeds the 5,000-square-foot minimum lot area. If the development will span the common property line, a conditional use permit for joint development may be required. (We note that 2007/CUP-76 was approved for joint development of Parcels 5, 17, and 18. However, that permit lapsed on December 12, 2003, because the applicant did not comply with the approval conditions within the specified time limits.)

Should you have any questions, please contact Pamela Davis of our staff at 768-8017.

Very truly yours,

Henry Erg, FAICP, Director  
Department of Planning and Permitting

HE:CS

Doc 602665

**SUBJECT: PRE-CONSULTATION FOR HOLOMUA, HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. Yoshioka,

Thank you for your letter dated March 25, 2008 regarding Holomua. We offer the following responses to your preliminary comments:

1. The site is well served by transportation options including The Bus as well as a bike route. Due to the proximity of existing stops and site's limited frontage, a transit stop is not proposed on Kalakaua Avenue in front of Holomua. Please note that 11 bus stops for multiple bus routes are located within ¼ mile walking distance from the Holomua site.
2. Holomua is intended to serve the community with needed housing options. As such, Holomua will be constructed in compliance with the Americans with Disabilities Act, ensuring accessibility for its residents and visitors.

A copy of the Draft Environmental Assessment will be provided to your office.

The participation of the Department of Transportation Services in the environmental review process is appreciated.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate



# PBR HAWAII & ASSOCIATES, INC.

May 27, 2008

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# HONOLULU FIRE DEPARTMENT CITY AND COUNTY OF HONOLULU

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Honolulu, Hawaii 96813-5007  
Phone: 808-723-7139 Fax: 808-723-7111 Internet: [www.honolulu.gov/hfd](http://www.honolulu.gov/hfd)



MUF HANNEWMANN  
*MAYOR*

KENNETH G. SILVA  
*FIRE CHIEF*  
ALVIN K. TOMITA  
*DEPUTY FIRE CHIEF*

March 13, 2008

**SUBJECT: PRE-CONSULTATION FOR HOLOMUA, HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. Eng,

Thank you for your letter dated March 13, 2008 regarding Holomua.

As you identify in your correspondence, the project site consists of two lots with a building intended to span the property line. The project developer intends to pursue a permit for joint development to ensure compliance with DPP requirements.

A copy of the Draft Environmental Assessment will be provided to your office.

The participation of the Department of Planning and Permitting in the environmental review process is appreciated.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

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Mr. Tom Schnell, AICP  
Senior Associate  
PBR Hawaii & Associates, Inc.  
American Savings Bank Tower  
1001 Bishop Street, Suite 650  
Honolulu, Hawaii 96813-3484

Dear Mr. Schnell:

Subject: Preconsultation for Holomua Condominiums  
Honolulu, Oahu, Hawaii  
Tax Map Key: 2-4-006: 017 and 018

In response to your letter dated February 29, 2008, regarding the above-mentioned subject, the Honolulu Fire Department (HFD) reviewed the material provided and requires that the following be complied with:

1. Provide a fire apparatus access road for every facility, building, or portion of a building hereafter constructed or moved into or within the jurisdiction when any portion of the facility or any portion of an exterior wall of the first story of the building is located more than 150 feet (45 720 mm) from a fire apparatus access road as measured by an approved route around the exterior of the building or facility. (1997 Uniform Fire Code, Section 902.2.1.)
2. Provide a water supply, approved by the county, capable of supplying required fire flow for fire protection to all premises upon which facilities or buildings, or portions thereof, are hereafter constructed or moved into or within the county.

On-site fire hydrants and mains capable of supplying the required fire flow shall be provided when any portion of the facility or building is in excess of the 150 feet (45 720 mm) from a water supply on a fire



Mr. Tom Schnell, AICP  
Page 2  
March 13, 2008

apparatus access road, as measured by an approved route around the exterior of the facility or building. (1997 Uniform Fire Code, Section 903.2, as amended.)

3. Submit civil drawings to the HFD for review and approval.

Should you have any questions, please call Battalion Chief Socrates Bratakos of our Fire Prevention Bureau at 723-7151.

Sincerely,

KENNETH G. SILVA  
Fire Chief

KGS/SY:jl

cc: Serge Krivatsy, THM Partners LLC

May 27, 2008

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Tel: (808) 712-7578

Chief Kenneth G. Silva  
Honolulu Fire Department  
636 South Street  
Honolulu, HI 96813-5007

**SUBJECT: PRE-CONSULTATION FOR HOLOMUA, HONOLULU,  
O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Chief Silva,

Thank you for your letter dated March 13, 2008 regarding Holomua. We offer the following responses to your preliminary comments:

1. Fire apparatus access roads shall be designed and constructed in accordance with the Uniform Fire Code, Section 9002.2.1, as amended.
2. Water infrastructure shall be designed and installed in accordance with the Uniform Fire Code, Section 903.2, as amended.
3. Civil drawings will be submitted to your department for your review and approval at the appropriate time.

We will provide a copy of the Draft EA for your review.

The participation of the Honolulu Fire Department in the Environmental Assessment process is appreciated.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

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Preconsultation Response.doc

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Tom Schnell, AICP  
April 24, 2008  
Page Two

April 24, 2008



Tom Schnell, AICP  
PBR Hawaii & Associates, Inc.  
ASB Tower - Suite 650  
1001 Bishop Street  
Honolulu, HI 96813-3384

Dear Mr. Schnell:

**Re: Holomua Condominiums  
Honolulu, Oahu  
(TMK: (1) 2-4-06: 17 & 18)**

Thank you for the pre-consultation materials and the opportunity to comment on this project. We apologize for the lateness of our response. Hawaiian Electric Company, Inc. (HECO) has no objections at this time. The following comments were received from our Engineering and Construction & Maintenance Departments:

(1) Engineering/Transmission & Distribution (Marc Mivaki, 543-7207). HECO currently has no existing electrical facilities within the proposed project area. We appreciate your efforts to keep us apprised of the planning process. As new project plans develop, please continue to keep us informed. We will be better able to evaluate any effects on our system facilities further along in the project's development. We request that development plans show all affected HECO facilities and address any conflicts between the proposed plans and HECO's existing facilities. Please forward the pre-final development plans to HECO for review.

Should it become necessary to relocate or redesign HECO's facilities, or to add new facilities, please submit a request in writing immediately upon that determination, and we will work with you so that construction of the project may proceed as smoothly as possible to minimize any delays in or impacts on the project schedule. HECO shall not be responsible for any delay or damage that may arise as a result of insufficient notice for relocation of our facilities. Please note that there may be costs associated with any relocation work, and that such costs may be borne by the requestor.

- (2) Engineering/Project Management (Kerstan Wong, 543-7059). In the event that existing facilities need to be moved and/or new facilities are required as a result of this project, a brief description and environmental analysis of such requirements should be included in the draft/final EIS.
- (3) Construction & Maintenance (Paul Nakagawa, 543-7062). For operation and maintenance purposes, HECO will require continued access to any of our facilities that may be impacted by the proposed project, as covered by existing easements or agreements regarding location or operation within the public rights-of-way. Should any relocation or addition of our facilities become necessary as a result of this project, please submit a formal request and coordinate these activities with the appropriate HECO department(s).

To ensure HECO's continuing input, I suggest dealing directly with the points of contact noted above. Thank you again for the opportunity to comment.

Sincerely,

Kirk S. Tomita  
Senior Environmental Scientist

cc: M. Miyaki/S. Uyehara/M. Lum  
K. Wong  
P. Nakagawa





May 27, 2008

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DUFF HARNEMANN  
MAYOR

OUR REFERENCE BS-KP

BOISSE P. CORREA  
CHIEF  
PAUL D. MUTZLU  
MICHAEL D. TUCKER  
DEPUTY CHIEFS

March 5, 2008

Mr. Tom Schnell, AICP  
PBR Hawaii & Associates, Inc.  
ASB Tower, Suite 650  
1001 Bishop Street  
Honolulu, Hawaii 96813-3484

Dear Mr. Schnell:

This is in response to your letter of February 29, 2008, requesting comments on a Pre-Consultation for the Holomua Condominiums project in Honolulu.

This project should have no significant impact on the facilities or operations of the Honolulu Police Department.

If there are any questions, please call Major Clayton Saito of District 1 at 529-3386 or Mr. Brandon Stone of the Executive Office at 529-3644.

Sincerely,

BOISSE P. CORREA  
Chief of Police

By   
DEBORA A. TANDAL  
Assistant Chief of Police  
Support Services Bureau

*Serving and Protecting With Aloha*

**SUBJECT: PRE-CONSULTATION FOR HOLOMUA, HONOLULU,  
O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. Tomita,

Thank you for your letter dated April 24, 2008 regarding Holomua. We offer the following responses to your preliminary comments:

We have researched the site and have found electrical facilities on adjacent TMKs 4 and 16, as well as overhead lines at the site's frontage on Kalakaua Avenue. The developer will continue to work with your staff to service Holomua as the project moves forward.

We appreciate your department's research and will provide a copy of the Draft EA for your review.

The participation of Hawaiian Electric Company in the Environmental Assessment process is appreciated.

Sincerely,

PBR HAWAII

  
Tom Schnell, AICP  
Senior Associate

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Preconsultation Response.doc



May 27, 2008

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**SUBJECT: PRE-CONSULTATION FOR HOLOMUA, O'AHU, HAWAII,  
TMK: (1) 2-4-06: 17 & 18**

Dear Chief Correa,

Thank you for your letter dated March 5, 2008 regarding Holomua.

We acknowledge your comment that the project should have not significant impact on the facilities or operations of the Honolulu Police Department.

We will provide a copy of the Draft EA for your review.

The participation of the Honolulu Police Department in the Environmental Assessment process is appreciated.

Sincerely,

PBR HAWAII

Tom Schmell, AICP  
Senior Associate

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APPENDIX  
DRAFT ENVIRONMENTAL ASSESSMENT  
COMMENT LETTERS AND RESPONSES

J

DEPARTMENT OF COMMUNITY SERVICES  
CITY AND COUNTY OF HONOLULU

715 SOUTH KING STREET, SUITE 311 • HONOLULU, HAWAII 96813 • PHONE: 768-7762 • FAX: 768-7792



MUFI HAHNEMANN  
MAYOR

DEBORAH KIM MORIKAWA  
DIRECTOR  
ERNEST Y. MARTIN  
DEPUTY DIRECTOR

June 26, 2008

Mr. Tom Schnell, AICP, Senior Associate  
PBR Hawaii Inc.  
1001 Bishop Street, Suite 650  
Honolulu, Hawaii 96813

Dear Mr. Schnell:

Subject: Draft Environmental Assessment  
Holomua

The Department of Community Services appreciates the opportunity to review and comment on the subject draft Environmental Assessment (EA). We understand that the proposed project will provide a total of 176 one and two bedroom residential units that will be sold as fee simple. The proposed project will also provide 242 parking stalls and 2 loading spaces.

The draft EA states that 51 percent of the units will be affordable to households earning less than 140 percent of median income, with the remaining units priced as "Gap Group" or "Workforce" housing. We understand that the project developer will pursue exemptions from planning, zoning, and land development standards pursuant to Chapter 201H, Hawaii Revised Statutes (HRS), and that such exemptions include exemptions from the payment of certain fees and assessments.

By way of clarification, "Gap Group" typically refers to households earning between 80 percent and 140 percent of median income. As such, the draft EA should state that the affordable rental units will be targeted to Gap Group households earning less than 140 percent of Honolulu's median income. The term "Workforce housing" should be described in terms of the income level and other characteristics of the target market. The EA should clearly state if any income restrictions, price restrictions, or buy-back provisions will be attached to the workforce housing units. Preliminary sales prices for the affordable (Gap Group) and workforce housing units should be disclosed in the body of the document and itemized by unit type. The parking to be assigned to each unit type should also be disclosed.

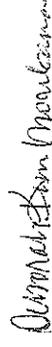
Mr. Tom Schnell, AICP  
June 26, 2008  
Page 2

The document should describe what government subsidies will be requested to develop the project, and the value of such subsidies. This disclosure should include the value of fees, taxes, and assessment that would normally be due and payable by the developer, but will be avoided should the project be developed under the provision of Chapter 201H, HRS. Such fees, assessments, and taxes could include, but are not limited to, park dedication fees, educational impact fees, building and grading fees, and general excise taxes. The financial benefit to the developer by the use of the Dwelling Unit Revolving Funds should also be disclosed.

While we recognize the need for the development of housing for households earning less than 140 percent of median income, there is also a need for housing for low and moderate income households earning less than 80 percent of median income. As presently structured, Holomua will not serve this income group notwithstanding the fact that the public is being requested to assist in the financing of the project through the Dwelling Unit Revolving fund, and exemptions from the payment of certain fees and assessments will be requested through the 201H process. It would be the preference of the City that a number of units in the project be set-aside for households earning less than 80 percent of median income.

Thank you again for the opportunity to provide these comments. Questions regarding this matter may be directed to Mr. Keith Ishida at 768-7750.

Sincerely,

  
Deborah Kim Morikawa  
Director

DKM:ki

cc: Office of Environmental Quality Control  
Hawaii Housing Finance and Development Corporation



# PBR HAWAII & ASSOCIATES, INC.

## PRINCIPALS

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August 7, 2008

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Deborah Kim Morikawa, Director  
City and County of Honolulu  
Department of Community Services  
715 S. King Street, Suite 311  
Honolulu, HI 96813

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, OAHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Morikawa,

Thank you for your letter dated June 26, 2008 regarding the Holomua Draft Environmental Assessment (EA). As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments.

Thank you for clarification regarding the Department of Community Services definitions of "Gap Group" and "Workforce Housing." THM Partners LLC is requesting approvals for Holomua pursuant Chapter 201H, Hawaii Revised Statutes (HRS). The Hawaii Housing and Finance Development Corporation (HHFDC) is processing the Chapter 201H, HRS application. In discussions with HHFDC they have noted that for the purpose of processing the Chapter 201H, HRS application and meeting the requirements of Chapter 201H, HRS, they consider the terms "affordable homes," "affordable housing" or "affordable units" to refer to homes, housing, or units priced to be affordable to households earning 140 percent or less of the HUD median income for Honolulu. As such, in the final EA, the terms "affordable homes," "affordable housing," or "affordable units" (as defined by HHFDC) will be used and references to "Gap Group" and "Workforce Housing" will be deleted. The terms "market rate homes," "market rate housing" or "market rate units" will be used to refer to the remainder of the units that are not priced as "affordable." We apologize for the confusion in the Draft EA and hope this provides clarification in the Final EA.

We also wish to clarify that all the Holomua units will be for sale and there will not be any units developed specifically as rental units, at either affordable or market rates; however in the event that all units cannot be sold immediately, THM Partners LLC reserves the right to rent units until they can be sold.

Deborah Kim Morikawa  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, OAHU, HAWAII, TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

To further clarify, at least 51 percent of the Holomua units will be for-sale affordable units priced to be affordable to households earning 140 percent or less of the HUD median income for Honolulu. The remaining units will be for-sale, moderately-priced, market rate units priced at rates for similar type units in the area. For more detail regarding estimated prices based on unit type, please see page 27 of the Market Study (Appendix B to the Draft and Final Environmental Assessment documents).

As stated in Section 2.2.2 of the Draft EA, per the requirements of HHFDC and as specified in Section 201H-47, HRS, there will be a 10-year buyback clause for the affordable units; therefore, if the purchaser of an affordable unit sells the unit within 10 years, HHFDC has the option to buy back the unit to resell as affordable. There will also be a shared appreciation clause as provided in Section 201H-47, HRS.

There will be no buyback or shared appreciation requirements for the market rate units, however, pursuant to 201H-47(g), preference will be given to qualified residents in the initial sale of the market rate units. This will be stated in the Final EA.

Regarding parking to be assigned to each unit, the plans included in the Draft EA provide for 245 parking stalls. As discussed in the Draft EA, THM Partners LLC requests the option to include a lesser number of 201 resident parking spaces (114 stalls/unit) and 10 guest parking stalls for a total of 211 parking stalls if required to make Holomua financially viable. Please note that unit plans and parking structure design are not finalized and additional changes regarding parking may be required; however it is envisioned that Holomua will provide at least one stall per unit. Detailed plans and parking analysis will be provided on architectural plans submitted for building permits. Considering the Holomua's close proximity to bus lines and major employment centers many residents and guests are anticipated to use public transportation, reducing the demand for parking stalls within Holomua.

Chapter 201H HRS allows for project design flexibility and cost savings to facilitate the development of affordable housing. As discussed in the Draft EA, THM Partners LLC is requesting exemptions from certain design requirements and permit and infrastructure fees as permitted under Chapter 201H HRS. While it is difficult to precisely ascribe a value to fees and assessments before building plans are permit-ready, THM Partners LLC offers estimates in the attachment to this letter. This information will be included in the Final EA in the form of this letter and the attachment.

The attachment to this letter also includes an estimate of the DURF (Dwelling Unit Revolving Fund) loan benefits. As an interim construction loan, DURF funds will be repaid to the state.

We appreciate the need for housing affordable to households earning less than 80 percent of median income. Unfortunately, due to the cost of land within the Honolulu urban core and the cost of construction, particularly the cost of structured parking, THM Partners LLC cannot offer

Deborah Kim Monikawa  
 SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18  
 August 7, 2008  
 Page 3

for sale units at prices to accommodate this demographic. As a result, the 201H application is being processed through the Hawaii Housing Finance and Development Corporation as opposed to the City and County of Honolulu. Correspondence from City and County of Honolulu Department of Planning and Permitting confirms that the Holomua 201H application can not be processed by the City and County of Honolulu because the project does not meet City and County of Honolulu eligibility requirements for the processing of a 201H application (see Appendix C of the Draft EA).

Thank you for reviewing the Draft EA. Your comments will be included in the Final EA

Sincerely,

PBR HAWAII



Tom Schnell, AICP  
 Senior Associate

Attachment

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
 Katherine Kealoha, Office of Environmental Quality Control  
 Serge Krivatsy, THM Partners, LLC

Holomua - Estimated Value of Requested Subsidies Associated with 201(H) and DURE Programs [1]

<u>201H Benefits</u>			
<u>Plan Review/Building Permit Fees</u>			
Plan Review Fee	\$2,500		
Building Permit Fee	\$170,500	[2]	\$173,000
Total			
<u>Other Permit/Installation Fees</u>			
Mass Grading Permit Fee	\$360		
Grading Permit Fee	\$87		
Private Storm Drain Connection Fee	\$100		
Sewer Installation Charge	N/A		
Total			\$547
<u>GET Exemption</u>			
Budgeted Construction Costs	\$41,651,000		
Architectural/Engineering/Other Fees	\$1,249,000		
Subtotal	\$42,900,000		
Tax Rate	4.5%		
Total			\$1,930,500
<u>Park Dedication</u> [3]			
Maximum Allowable Floor Area (sq. ft.)	53,348	2.5 FAR	
Required Park Area	10%		
sq. ft.	5,335		
Assumed Land Value	\$200	x	
Estimated In-Lieu Payment			\$1,067,000
<b>Total Estimated Value of 201H Subsidies</b>			<b>\$3,171,047</b>

DURE Loan Benefits      Interest Savings [4]      **\$1,568,417**

[1] Note: Analysis assumes all requested exemptions/subsidies are granted and approved as requested.

[2] Calculated as follows:

Estimated Construction Cost			
Rate	\$41,651,000	x	
Subtotal	0.004		
Base Fee	\$166,604		
Total	\$3,915		
	\$170,519		
		Rounded	\$170,500

DEPARTMENT OF PLANNING AND PERMITTING  
**CITY AND COUNTY OF HONOLULU**

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2008/EL0G-1400 (11)

MUFU HANWEMANN  
 MANAGER

HENRY ENG, FAICP  
 DIRECTOR

DAVID K. TANGRE  
 SENIOR MANAGER

[3] Assumes development to the maximum allowable building floor area without exemptions. If developed as proposed the required park dedication fee would be as calculated below.

Proposed Floor Area (assumes max requested FAR is used)	160,000 sq. ft.
Required Park Area	10%
Required Park Area	16,000 sq. ft.
Assumed Land Value	\$200 /sq. ft.
Estimated In-Lieu Payment	x \$3,200,000

[4] Cost savings associated with DURF loan calculated as follows:

Assumed Average Loan Balance		\$29,500,000
Construction/Self-Out Period	22 months	
Owner's Equity	5%	
Traditional Funding:		
Construction Loan	75%	\$3,245,000
Mezzanine/Equity Financing	20%	\$1,622,500
	95%	\$4,867,500
DURF Loan:		
Construction Loan	57.5%	\$2,487,833
DURF Loan	37.5%	\$811,250
	95%	\$3,299,083
Difference (Savings)		\$1,568,417

Mr. Tom Schnell  
 PBR Hawaii, Inc.  
 1001 Bishop Street  
 Honolulu, Hawaii 96813

July 7, 2008

Dear Mr. Schnell:

Subject: Draft Environmental Assessment (DEA)  
 Holomua Housing Project  
 1315 Kalakaua Avenue - Punahou  
 Tax Map Key 2-4-6: 17 and 18

Thank you for the opportunity to comment on the above combined Draft Environmental Assessment (DEA) and application for exemptions pursuant to Chapter 201H-38, Hawaii Revised Statutes, which was submitted on June 6, 2008 for our review. The developer of the proposed 23-story, 176-unit condominium project (identified as "Holomua") will be seeking exemptions from various planning, zoning, and construction standards pursuant to Chapter 201H, HRS. The application for exemptions is being processed by the Hawaii Housing and Finance Development Corporation (HHFDC) because the proposed project does not meet City eligibility requirements for the processing of a 201H application by the Department of Planning and Permitting (DPP). After the State completes its review process, the request for exemptions will be submitted directly to the Honolulu City Council for action.

In our letter of April 15, 2008 (DPP Reference No. 2008/EL0G-645), we confirmed that the project is not eligible for DPP processing of the exemption requests under Section III-2(a) of the City's Land and Housing Development Program Rules and Regulations ("Rules"). The Holomua project does not meet the eligibility requirements because it does not set aside the required minimum number of units for certain target income groups. The project will not meet the requirement that at least ten percent (10%) of the dwellings (i.e., 18 units) will be sold to families earning less than 80 percent (80%) of the area median income, and that at least 20 percent (20%) of the dwellings (i.e., 35 units) will be sold to those households earning 81 to 120 percent (81% - 120%) of area median income. Instead, the Holomua project will allocate a minimum of 51 percent (51%) of the units for households, earning up to 140 percent (140%) of area median income, while the remaining units will be sold at market price. Therefore, the project consists more of "market" units than "affordable" units.

The Holomua consists of a 220-foot high building, with 80 one-bedroom units and 96 two-bedroom units, totaling about 155,000 square-feet in floor area, along with an 8-level parking garage. The 7.26 floor area ratio (FAR) is nearly three times that allowed by the Land Use Ordinance (LUO) development standards for the BMX-3 Community Business Mixed Use District. Because there is only a proposed 10-year period of affordability and lower income households will not benefit from the project, the DPP has serious concerns regarding certain requests for zoning exemptions for Holomua, i.e., the excessive height and density proposed.

No private indoor and outdoor recreational facilities, or amenities, are proposed for the project residents, despite the fact that there are very few public parks nearby. Hence, the DPP objects to the request for exemptions from park dedication requirements because public facilities in the vicinity are already heavily utilized.

Our comments on the above and other issues are outlined in the table below. The table provides a quick comparison of the LUO and park dedication regulations, the exemptions granted to the predecessor project (Kulana Hale II) on the same site (which was approved under Chapter 201E, HRS, but not constructed) and the Holomua project. Please note that the bulk of our comments are typical for a project that would be processed by our department if that project were eligible under the Rules. We would normally resolve outstanding project design issues (e.g., on-site recreational amenities, building location) with the applicant during the process. However, since the DEA review represents the main opportunity for the DPP to review and comment on the project, prior to transmittal of a request for exemptions from the HHFDC to the City Council, we would ask that you address or incorporate our comments in the Final EA.

Comparison Reference Table

Eligibility Requirements per City Land and Housing Development Program Rules	Minimum City Requirements	Kulana Hale II (Previously Approved)	Holomua (requested/proposed)
Target income groups (% of units to various income groups) Remainder may be market priced units	10% @ ≤ 80% median 20% @ ≤ 120% median 20% @ ≤ 140% median	40% @ ≤ 60% median income 10% @ ≤ 140% median income	51% @ ≤ 140% median income
Length of participation	≤ 50% units @ market 10-year buy-back or shared equity; also DPP suggested policy of 25+ years for rentals	50% @ market rates 30 years for rentals at affordable rates	49% @ market price 10-year buy-back
Size of project	50 units	162 units	176 units

**DEVELOPMENT STANDARDS:**

	LUO Requirements (BMX-3 District)	Kulana Hale II (Previously approved)	Holomua (requested/proposed)
Maximum Floor Area	2.5 FAR (53,347 sq. ft. of floor area without open space bonus)	6.3 FAR (133,864 sq. ft. of floor area)	7.26 FAR (155,000+ sq. ft. of floor area)
Maximum Height	150 feet	166 feet	220 feet
Roof top machinery Height Limit	18 feet above maximum height limit (150 feet)	24 feet (above the roof)	(unable to verify from the DEA)
Street Setback (Height Limit)	Not more than twice the distance from street centerline	None	60 ft. x 30 ft. encroachment
Front Yard Side Yard Rear Yard	10 feet 10 feet 10 feet	10 feet* 0 – 1 foot None (*except canopy and manager's office)	None 0-5 feet 10 feet
Landscape	All yards except for necessary access	Met front and rear requirements	None
Required parking: Kulana Hale: 184 Holomua: 242	Based on size of units plus 1 guest parking stall per 10 units; also 1 stall per 400 sq. ft. of retail/commercial	78 Plus full number of stalls required for retail space & guest parking	3 alternatives proposed range from 211 to 242 parking stalls
Required Loading: Kulana Hale: 2 Holomua: 2	2 spaces required based on number of units 1 <sup>st</sup> : 12 x 35 x 14 ft 2 <sup>nd</sup> : 8.5 x 19 x 10 ft	1 <sup>st</sup> : 12 x 14 x 10 ft* 2 <sup>nd</sup> : 8.5 x 19 x 10 ft (*exemption for size & vertical clearance)	1 <sup>st</sup> : 12 x 35 ft* 2 <sup>nd</sup> : 8.5 x 19 ft (*located outside and encroaches into the side yard setback)
<b>PARK DEDICATION:</b>			
(Kulana Hale II):	13,386 sq.ft.	3,688 sq.ft (outdoor) 2,175 sq. ft. (mig. rm.) 3,812 sq.ft (activity rm.)	None
(Holomua):	15,500 sq.ft.	(common lanai)	

OTHER:		
Unit Types	N/A	90 studio 45 one-bedroom 27 two-bedroom
Retail Uses	Allowed (parking standards applies)	2,000 square feet commercial/retail use
		80 one-bedroom 96 two-bedroom
		None

The DPP comments:

Site Development Division

1. The proposed driveways on Kalakaua Avenue should be designed to facilitate right turn in and out movements only, and the direction of traffic flow within the porte cochere should be specified.
2. The access width of the porte cochere should be wide enough for two (2) lanes of traffic. The proposed 22-foot width should be adequate for this project.
3. The 11-foot wide connections to Beretania Street and Young Street at the rear of the property should be kept open for pedestrian traffic.
4. Loading areas should be designed so that vehicles can enter and exit the driveways to Kalakaua Avenue in a forward manner, and they should be easily accessible by tenants.
5. Construction plans for all work within and affecting City streets should be submitted to the DPP Traffic Review Branch for review and comment. Traffic control plans during construction should be submitted for review and approval, as required.
6. A Sewer Connection application was approved on April 3, 2008 (File No. 2008/SCA-0215).
7. The DPP does not support the requested exemption from Park Dedication requirements, Chapter 22, Section 7, ROH. The project, as planned, does not provide any on-site facilities for the active recreation for its residents, and, therefore, would potentially impact existing public park facilities and programs that are already heavily used.
8. If the developer does not provide an on-site park with active recreation facilities, then the park dedication requirement may be satisfied by payment of a fee as provided under the Park Dedication Ordinance.

Building Division

1. The provided parking spaces and/or areas must meet minimum LUO standards. Maneuvering areas must be clearly shown. (See Sheet A-2.0 & A-2.1)
2. All required yards shall be landscaped. All planted material and landscaping shall be provided with a permanent irrigation system. Complete landscape plans required.
3. Parking structures with open or partially open perimeter walls which are adjacent to zoning lots with side or rear yard requirements shall meet the following requirements:
  - a. Each parking deck along the abutting property line shall have a perimeter wall at least two feet in height to screen vehicular lights otherwise cast onto adjacent property.
  - b. An 18-inch landscaping strip along the abutting property line shall be provided. This strip shall consist of landscaping a minimum of 42 inches in height. A solid wall 42 inches in height may be substituted for this requirement.
  - c. A minimum two-inch caliper tree shall be planted for every 50 feet of building length, abutting a required yard.

Planning Division

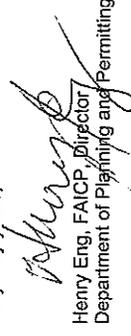
1. Scenic Views - A view shed analysis should be conducted and its findings be discussed in the final EA justifying the exemption listed on page 33 of the DEA.
2. Plazas - The project should consider incorporating a "green roof." This would create "the plaza as a true outdoor room concept" as encouraged in the Primary Urban Center Development Plan (PUC DP).
3. Maximum Building Heights - The proposed increased building height should be evaluated against the findings from the view shed analysis.
4. Pedestrian Amenities - The project as proposed does not appear to support pedestrian activity as envisioned by the PUC DP. The building design and streetscape environment should reflect a pedestrian-centric theme as indicated in the PUC DP. "Along principal streets, buildings should be designed to reflect human scale, to create pleasant walking conditions, and to provide attractive front entrances." The project should consider deletion of the pickup/drop off area. This would eliminate the second driveway, improving pedestrian safety and circulation.
5. The project site is located between two (2) major bus lines (King and Beretania Streets) and has the opportunity to contribute to and enhance the pedestrian network.

Land Use Permits Division

1. The height exemption request to allow a building height of 220 feet, which is 46 percent (46%) beyond the 150 feet maximum height permit for the site, is excessive. By comparison, the building on the adjoining property to the north, Kulana Hale I is 150 feet in height and obtained an exemption to allow rooftop equipment to exceed the 18-foot height standard. Kulana Hale II, which was previously proposed for the subject site, received an exemption for a proposed height of 166 feet, pursuant to then Chapter 201E, HRS.
2. Show the 150-foot building height limit on the building section and elevations. Show the impacts and discuss the relationship of proposed building height with those of the surrounding buildings, especially from along Kalakaua Avenue. This should be done using photo overlays. Discuss how the increased building height could be mitigated.
3. The proposed building design and height appear to ignore view, light, and privacy concerns of residents of the adjoining elderly housing project (Kulana Hale I) to the north, and could create potential impacts. The project design should consider creative alternatives as the proposed design and location of the building could create a canyon-like effect. The Final EA should include studies to discuss distances and views between the buildings.
4. Various front, side, rear, and street setback exemptions are requested. The request to allow a 61-foot high portion of the building (garage structure) to be located up to the property line would result in a zero side yard setback to the north and little buffer between the Holomua garage structure and development on the adjoining property. We recommend design revisions to mitigate privacy impacts. Show and discuss how the visual impact of the eight (8) levels of parking could be mitigated along Kalakaua Avenue.
5. Discuss other design alternatives, such as having units up to the front yard setback line that could screen the parking structure, and possibly reduce the number of floors and building height.
6. Specify the aisle width between the left exterior wall and the elevator core (see Sheet A-2.0). Explain how vehicles can get around the elevator core that encroaches into the parking aisle.
7. Based on the limited drawings provided (full-size scaled drawings were requested but unavailable), the DPP is not able to confirm the proposed floor area total. Nevertheless, the 7.2 FAR stated in the DEA represents a significant increase in density and more than twice the maximum density (3.5 FAR) permitted under the LUO with open space bonuses. For comparison purposes, the previously proposed Kulana Hale II (Senior housing) project was capped at a 6.3 FAR. And, while the Kulana Hale I project was granted an exemption to develop to a 6.5 FAR, the lower height of that building plus the construction of three (3) levels of parking resulted in overall less mass on that adjoining site.

8. Full drawings were not available to verify the dwelling unit size; therefore, we could not calculate or confirm the number of required parking spaces and the density specified in the DEA. The Final EA should provide more details in the parking analysis. If any of the dwelling units are larger than 800 square-feet, two (2) parking spaces would be required for each unit, but in no case should there be less than one (1) space per unit, plus one (1) guest stall per 10 units (176/10=18).
  9. The DPP suggests that a retail component be included at the ground level, to wrap around the parking structure and break up the bulk of the structure, and carry out the synergy from the surrounding retail uses as part of the existing streetscape. Ground-floor retail was a component of the proposed Kulana Hale II project. The Final EA should address the alternative of a ground-floor retail component.
  10. The existing mahogany trees along Kalakaua, (between Beretania Street and Kepiokani Boulevard) are on the City and County's List of Exceptional Trees, and must not be removed without DPP approval.
  11. A conditional use permit to allow joint development of Parcels 17 and 18 was approved on June 6, 2008 (Job Reference No. 2008/CUP-37).
  12. A grading permit may be required. The Final EA should discuss the amount of grading and excavation in cubic yards, and present the specifics of the Best Management Practices (BMP) to minimize runoff during construction period.
  13. The City Council is not authorized to grant an exemption for "school impact fees."
- We would appreciate your sending a hard copy of the Final Environmental Assessment to us when it is available. Please contact Jenny Lee of our staff at 768-8027, if you have any questions regarding the above comments.

Very truly yours,

  
Henry Eng, FAICP, Director  
Department of Planning and Permitting

HE:nt

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# PBR HAWAII

S. ASSOCIATES, INC.

August 7, 2008

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PLANNING • LANDSCAPE ARCHITECTURE • ENVIRONMENTAL STUDIES • ENTERTAINMENTS • PERMITTING • GRAPHIC DESIGN

Henry Eng, FAICP, Director  
City and County of Honolulu  
Department of Planning and Permitting  
650 S. King Street, 7<sup>th</sup> Floor  
Honolulu, HI 96813

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. Eng,

Thank you for your letter dated July 7, 2008 regarding the Holomua Draft Environmental Assessment (EA). As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments.

Thank you for your explanation regarding why the Holomua 201H application is being processed by the Hawaii Housing Finance and Development Corporation (HHFDC) and not the City and County of Honolulu Department of Planning and Permitting (DPP). In discussions with HHFDC they have noted that for the purpose of processing the Chapter 201H, HRS application and meeting the requirements of Chapter 201H, HRS, they consider the terms "affordable homes," "affordable housing" or "affordable units" to refer to homes, housing, or units priced to be affordable to households earning 140 percent or less of the HUD median income for Honolulu. At least 51 percent of the Holomua units will be within this "affordable" range. The remaining units will be moderately-priced, market rate units priced comparably to similar type units in the area.

In general, DPP compares Holomua to Kulana Hale II which was approved for the same site in 1997. Kulana Hale II was approved under Chapter 201H, HRS and received various building requirement exemptions; however, the project was never built. In the 10 years since Kulana Hale II was approved, the project was not built because the Kulana Hale II developer could not make the project financially viable, even with the exemptions granted in 1997. The Kulana Hale II developer eventually sold the property to the current owner, KRC Partners LLC. The applicant, THM Partners LLC (an affiliate of KRC Partners LLC) has now designed Holomua to address current financial realities, such as the cost of land in urban Honolulu and current building material and construction costs.

Recent residential condominium projects in Honolulu have focused on high-end, luxury units. Holomua fills a void by providing affordable housing and moderately-priced market rate housing in urban Honolulu, thus creating the opportunity for home ownership in close proximity to jobs and urban amenities.

Mr. Henry Eng, FAICP  
HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII,  
TMK: (1) 2-4-06: 17 & 18  
Page 2 of 7

Holomua is a new and separate proposal from Kulana Hale II. We understand that Holomua does not meet the City and County of Honolulu eligibility requirements for processing of a 201H application by DPP. As such the Holomua 201H application is being processed by HHFDC. Chapter 201H, HRS, authorizes the HHFDC to develop, or assist in the development, of housing projects which are exempt from certain statutes, ordinances, charter provisions, and rules of any governmental agency relating to planning, zoning, and construction standards for subdivisions and development and improvement of land.

Holomua is a new and separate proposal from Kulana Hale II. We understand that Holomua does not meet the City and County of Honolulu eligibility requirements for processing of a 201H application by DPP. As such the Holomua 201H application is being processed by HHFDC. Chapter 201H, HRS, authorizes the HHFDC to develop, or assist in the development, of housing projects which are exempt from certain statutes, ordinances, charter provisions, and rules of any governmental agency relating to planning, zoning, and construction standards for subdivisions and development and improvement of land.

In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemptions requested reasonable and necessary to make the project financially viable.

While DPP has "serious concerns" regarding the Holomua's proposed height and density because "there is only a proposed 10-year period of affordability and lower income households will not benefit from the project," please note that Holomua will be providing affordable housing in accordance with the provisions of Chapter 201H, HRS.

Regarding long-term affordability, per the requirements of HHFDC and as specified in Section 201H-47, HRS, there will be a 10-year buyback requirement for the affordable units; therefore, if the purchaser of an affordable unit sells the unit within 10 years, HHFDC has the option to buy back the unit to resell as affordable. There will also be a shared appreciation clause as provided in Section 201H-47, HRS. Regarding unit pricing, the Holomua affordable units will be priced to be affordable to households earning 140 percent or less of the HUD median income for Honolulu. The market rate units will be moderately-priced at rates for comparable units in the area.

Consideration should be given to overall housing supply and demand as it relates to housing in urban Honolulu. The Holomua affordable units meet an immediate need for affordable homes in the Honolulu urban core. The market units, while not priced as low as the affordable units, will be at the lower range of market rates for urban Honolulu due to their smaller size, limited amenities, overall finishes, and other factors that do not make them comparable to other recently-built urban Honolulu high-rise condominiums. In the future, the affordable units—as well as the market units—will still be at the lower price ranges for comparable units in the area, thus filling a long-term need for housing at moderate price levels. Holomua units are not being designed or built to compete or compete with luxury high-rise condominiums recently built in urban core. The more supply of affordable and moderately priced units that are built in the urban core, the

more opportunities there will be in the future for people to buy reasonably-priced units, as there will be more available inventory in the lower price ranges.

In the Comparison Reference Table provided in your letter, DPP has correctly identified the target income groups; length of participation; size of project; floor area ratio; and height proposed for Holomua. The following are clarifications of elements also identified in the Comparison Reference Table:

Roof top machinery is proposed to be 10 feet, five inches above the roof.

The street setback (height limit) is correctly identified as 60 feet x 30 feet. It should be noted that this encroachment is between the 18<sup>th</sup> floor and roof of the building as shown on Sheet A3.0 of the architectural plans.

The front yard setback of ten feet is satisfied. The Holomua structure is set back from the side yards between zero and five feet. The rear yard setback is satisfied except for a 10 foot by 27 foot encroachment and a 5 foot by 37 foot encroachment at the rear of the building to accommodate mechanical equipment and exterior stairs.

All yards, with exception of the rear yard, not occupied by structure or access will be landscaped. The Final EA will include a landscape plan.

Regarding parking, the plans included in the Draft EA provide for 245 parking stalls. As discussed in the Draft EA, THM Partners LLC requests the option to include a lesser number of 201 resident parking spaces (1.14 stalls/unit) and 10 guest parking stalls for a total of 211 parking stalls. Please note that unit plans and parking structure design are not finalized and additional changes regarding parking may be required; however it is envisioned that Holomua will provide at least one stall per unit.

Considering Holomua's close proximity to bus lines and major employment centers many residents and guests are anticipated to use public transportation, reducing the demand for parking stalls within Holomua.

The two loading spaces are proposed to measure 8.5 x 16 feet and 12 x 35 feet as shown on the Site Plan, Sheet C-4.

THM Partners LLC is requesting an exemption to the park dedication requirements. However, since the Draft EA was prepared, building plans have been modified to include a 1,196 square foot on-site activity room. The activity room will include a kitchen and bathroom. The Final EA will include this information.

Retail uses are not proposed at Holomua. The immediate neighborhood is well served by existing retail uses on sites more suitable for commercial real estate and parking. The site's

limited size and frontage limit the ability to provide retail uses. Furthermore, the additional required parking (one space per 400 square feet for most retail uses and restaurants) would make the development of retail space unfeasible due to cost and the additional levels of parking structure that would be required. It is estimated that Holomua's structured parking will cost \$40,000 per stall to construct—this is due to the site's relatively small size and the need for multiple decks.

Site Development Division Comments:

1. The driveways are proposed to be right in and out movements only. The direction of traffic flow will be specified.
2. Note that a pick-up/drop-off area is proposed rather than a port cochere. We acknowledge that the proposed 22-foot width for the pick-up/drop-off area is adequate.
3. The 11-foot accesses at the rear of the property will remain open. However, building access will be limited to the front of the structure for security reasons.
4. Loading areas are adjacent to vehicle maneuvering areas that will allow for turning movements enabling vehicles to enter Kalākaua in a forward manner.
5. Construction plans for all work within and affecting City streets will be submitted to the DPP Traffic Review Branch for review and comment. Traffic control plans during construction will be prepared and submitted for review and approval, as required.
6. We acknowledge your confirmation that a Sewer Connection application was approved on April 3, 2008 (File No. 2008/SCA-0215).
7. An on-site activity room has been included in the plans as noted above; however THM Partners LLC still seeks an exemption to Park Dedication and fee-in-lieu requirements. We note that Pawa'a Neighborhood Park is located on Young Street and is approximately 500 feet from the Holomua site. Casual observation indicates that this park is not heavily used.

Building Division Comments:

1. As discussed above, the plans included in the Draft EA provide for 245 parking stalls. As discussed in the Draft EA, THM Partners LLC requests the option to include a lesser number of 201 resident parking spaces (1.14 stalls/unit) and 10 guest parking stalls for a total of 211 parking stalls. Please note that unit plans and parking structure design are not finalized and additional changes regarding parking may be required; however it is envisioned that Holomua will provide at least one stall per unit. Maneuvering areas are shown on Sheets A-2.0 and A-2.1.
2. All areas not occupied by building or vehicle maneuvering area will be landscaped, except the rear yard, where light access for vegetation will be limited. The Final EA will include a landscape plan.
3. The parking structure will have partially open perimeter walls. However, as required, each parking deck along the abutting property line shall have at least a two-foot high perimeter wall to screen vehicular lights. Perimeter landscaping will be provided in the front yard as well as along the south property line. Landscaping will include two-inch caliper trees as required. The Final EA will include a landscape plan.

Planning Division Comments:

1. Scenic Views – A view shed analysis has been prepared and will be included in the Final EA.
2. Piazas – We appreciate the suggestion of incorporating a “green roof” however with the limited roof area, the mechanical room requirements, and cost considerations to keep Holomua affordable, a green roof is not practical for this building.
3. Maximum Building Heights – The Final EA will include a view shed analysis along with discussion of building heights.
4. Pedestrian Amenities – DPP suggests eliminating the pick-up/drop-off area at the front of the building as a strategy to improve pedestrian safety and circulation. The Holomua design includes a pickup/drop-off area on site to prevent dangerous maneuvers (picking up or dropping off passengers) within the street right of way. Further, two driveway cuts are proposed so that vehicles can easily maneuver in and out of the parking and loading areas in a forward manner. Front yard areas not occupied by the vehicle access will be fully landscaped. Landscaping, in concert with the existing, large-canopy mahogany street trees will help to provide a pedestrian-scale environment and an attractive front building entrance.
5. We acknowledge that the site is located in an area convenient to transit. The addition of Holomua, front yard landscaping, separated pedestrian walkway to the front entrance of the building will contribute to the pedestrian network.

Land Use Permits Division:

1. We disagree that the height exemption request is excessive. We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet); and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.
2. The Final EA will include a view shed analysis along with discussion of building heights. The building height will be mitigated with building articulation that will create visual interest as discussed below.
3. The design of Holomua will allow for separation from the adjacent building, Kulana Hale I. Holomua is designed as a residential tower atop a parking pedestal. The residential tower walls (including the north wall facing Kulana Hale I) are articulated with jogs, building insets, windows, and lanais. This allows 30 to 40 feet between structures from the 9<sup>th</sup> floor up. Holomua, as proposed, arguably provides more visual interest than a structure built to the maximum building height and to the 10-foot building setback, which would satisfy City and County land use requirements.
4. Similar to the adjacent Kulana Hale I, THM Partners LLC proposes to construct the parking structure to the property line. Decreasing this footprint would necessitate either reducing parking, constructing additional parking levels, or reducing the unit count.

5. Reducing parking to fewer than one space per unit would reduce the number of parking levels and overall building height, but would also reduce marketability of the units, as well as possibly creating negative impacts to neighborhood parking. Additional levels of parking would result in a taller building with more levels of parking visible to the residents of Kulana Hale I in addition to making the structure prohibitively expensive. Reducing unit count renders the project financially unviable.
6. Multiple design alternatives have been considered. Striking a balance between pedestrian environment and vehicle access is a challenge for this site with limited frontage on an arterial street. Ground floor residences on Kalākaua Avenue have been deemed unfeasible due to the site’s limited frontage where most of the front yard is occupied by necessary vehicle driveways. Ground floor units would be less desirable to potential owners with (real or perceived) concerns about safety and noise. Commercial/retail uses at the ground floor were also considered and decided against due to the site’s limited size and the substantial amount of parking required.
7. Within the parking structure a 20-foot clear vehicle aisle is provided between the elevator bank and the north wall.
8. Floor area calculations were provided in the Draft EA (see Sheet A-0). The Draft EA proposed a floor area ratio (FAR) of 7.2; current plans, which will be included in the Final EA, propose a slightly higher FAR of 7.5. We acknowledge that this is a greater FAR than Kulana Hale II (6.5 FAR), however the applicant has designed Holomua to address current financial realities, such as the cost of land in urban Honolulu and current building material and construction costs. It is also notable that while the floor area of Holomua is greater than Kulana Hale II, the unit count is similar, with 14 more units, representing a similar density and potential number of residents. In light of the affordable housing provided by Holomua, THM Partners LLC finds the proposed density reasonable.
9. As discussed above, the plans included in the Draft EA provide for 245 parking stalls. As discussed in the Draft EA, THM Partners LLC requests the option to include a lesser number of 201 resident parking spaces (1.14 stalls/unit) and 10 guest parking stalls for a total of 211 parking stalls. Please note that unit plans and parking structure design are not finalized and additional changes regarding parking may be required; however it is envisioned that Holomua will provide at least one stall per unit. Detailed plans and parking analysis will be provided on architectural plans submitted for building permits. As discussed above, retail uses are not proposed at Holomua because the site’s limited frontage and size allows for vehicle access and little else. Further, the additional required parking (one space per 400 square feet of most retail uses and restaurants) would make the development of retail space unfeasible due to cost and the additional level of parking structure that would be required. It is estimated that Holomua’s structured parking will cost \$40,000 per stall to construct—this is due to the site’s relatively small size and the need for multiple decks.
10. We acknowledge your comment that the mahogany trees along the Kalākaua frontage are on the City’s list of exceptional trees. THM Partners LLC intends to protect these trees and considers the existing trees an asset to the site, contributing to the pedestrian

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CITY AND COUNTY OF HONOLULU  
801 SOUTH BERETANIA STREET • HONOLULU, HAWAII 96813  
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BOISSE P. CORREA  
CHIEF  
PAULO PUTZLU  
KARLA A. GOUSEY  
DEPUTY CHIEFS

BUFF NAJHEMANN  
SAYON

OUR REFERENCE BS-KP

June 10, 2008

Mr. Henry Eng, FAICP  
HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII,  
TMK: (1) 2-4-06: 17 & 18  
Page 7 of 7

- environment by adding visual interest, separation from traffic, shade, and mitigating noise.
- 11. We acknowledge your comment that a conditional use permit to allow joint development of Parcels 17 and 18 was approved on June 6, 2008 (Job Reference No. 2008/CUP-37).
- 12. Grading and erosion control plans, including best management practices, will be provided in the Final EA.
- 13. We acknowledge your comment that the City Council is not authorized to grant an exemption for school impact fees. This issue will be addressed with the appropriate State agencies.

Thank you for reviewing the Draft EA. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners, LLC

Mr. Tom Schnell, Senior Associate  
PBR Hawaii and Associates, Inc.  
ASB Tower, Suite 650  
1001 Bishop Street  
Honolulu, Hawaii 96813-3484

Dear Mr. Schnell:

This is in response to your letter of June 3, 2008, requesting comments on the Draft Environmental Assessment for the Holomua project located at 1315 Kalaikaua Avenue.

This project should have no significant impact on the facilities or operations of the Honolulu Police Department.

If there are any questions, please call Major Clayson Saito of District 1 at 529-3386 or Mr. Brandon Stone of the Executive Office at 529-3644.

Sincerely,

BOISSE P. CORREA  
Chief of Police

By   
DEBORA A. TANDAL  
Assistant Chief of Police  
Support Services Bureau

cc: Ms. Katherine Kealoha, OEQC  
Mr. Leonell Domingo, HHFDC



August 7, 2008

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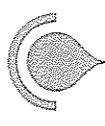
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BOARD OF WATER SUPPLY  
CITY AND COUNTY OF HONOLULU  
630 SOUTH BERETANIA STREET  
HONOLULU, HI 96843



June 23, 2008

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DEAN A. NAKANO  
Deputy Manager and Chief Engineer

Mr. Tom Schnell

PBR Hawaii & Associates, Inc.  
ASB Tower, Suite 650  
1001 Bishop Street  
Honolulu, Hawaii 96813

Dear Mr. Schnell:

Subject: Your Letter Dated June 3, 2008 on the Draft Environmental Assessment for  
Holomua, TMK: 2-4-6-17-18

Thank you for the opportunity to comment on the proposed 176-unit condominium development.

The existing water system is presently adequate to accommodate the proposed residential development. However, please be advised that this information is based upon current data and, therefore, the Board of Water Supply reserves the right to change any position or information stated herein up until the final approval of your building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.

The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

The proposed project is subject to Board of Water Supply cross-connection control and backflow prevention requirements prior to the issuance of the Building Permit Application.

If you have any questions, please contact Robert Chun at 748-5443.

Very truly yours,  
  
KEITH S. SHIDA  
Program Administrator  
Customer Care Division

cc: Office of Environmental Quality Control  
Mr. Leonell A. Domingo, Hawaii Housing Finance & Development Corporation

Boisse P. Correa, Chief of Police  
Police Department  
City and County of Honolulu  
801 S. Beretania Street  
Honolulu, HI 96813

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Chief Correa,

Thank you for your letter dated June 10, 2008 regarding the Holomua Draft Environmental Assessment (EA). As the planning consultant for the applicant, THM Partners LLC, we acknowledge your comment that this project should have no significant impact on the facilities or operation of the Honolulu Police Department.

Thank you for reviewing the Draft EA. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivaly, THM Partners, LLC



August 7, 2008

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MAYOR

WAYNE YOSHIOKA  
DIRECTOR

RICHARD E. TORRES  
DEPUTY DIRECTOR

TP6/08-265161R

June 23, 2008

PBR Hawaii  
ASB Tower, Suite 650  
1001 Bishop Street  
Honolulu, Hawaii 96813

Attention: Mr. Tom Schnell

Subject: Holomua Draft Environmental Assessment report

This responds to your letter of June 3, 2008, requesting our review and comment on the subject Draft Environmental Assessment (DEA) for the Holomua project.

We have no comments to offer at this time.

Thank you for the opportunity to comment on the matter.

Very truly yours,

WAYNE Y. YOSHIOKA  
Director

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. Shida,

Thank you for your letter dated June 23, 2008 regarding the Holomua Draft Environmental Assessment (EA). As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments.

We acknowledge that based upon current data, the existing water system is presently adequate to accommodate Holomua. We also acknowledge that the final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

As described in the draft EA, Holomua will be affordable housing developed pursuant to Chapter 201H, Hawaii Revised Statutes. As such, the applicant requests a deferral of the Water System Facilities Charge for resource development, transmission and daily storage [BWS Rules and Regulations Sections 1-102, 2-202(2) and 2-202(3)].

On-site fire protection requirements will be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

We acknowledge that Holomua is subject to Board of Water Supply Cross-Connection Control and Backflow Prevention requirements prior to the issuance of the Building Permit Application.

Thank you for reviewing the Draft EA. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsky, THM Partners, LLC



**PBR HAWAII**  
& ASSOCIATES, INC.

August 7, 2008

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MURI HANNEBMAN  
MAYOR



June 23, 2008

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, OAHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. Yoshioka,

Thank you for your letter dated June 23, 2008 regarding the Holomua Draft Environmental Assessment (EA). As the planning consultant for the applicant, THM Partners, LLC, we acknowledge your letter indicating that your department has no comments at this time.

Thank you for reviewing the Draft EA. Your letter will be included in the Final EA.

Sincerely,

PBR HAWAII



Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners, LLC

Mr. Tom Schnell, AICP  
PBR HAWAII  
ASB Tower, Suite 650  
1001 Bishop Street  
Honolulu, Hawaii 96813

Dear Mr. Schnell:

Subject: Draft Environmental Assessment for Holomua Condominiums  
Honolulu, Oahu, Hawaii TMK (1) 2-4-06: 17 & 18

Thank you for the opportunity to review and comment on the Draft Environmental Assessment for the Holomua Condominiums project.

The Department of Parks and Recreation is disappointed that the developers of the Holomua Condominium project are not going to incorporate on-site recreational facilities as recommended by the department in our comments at the pre-consultation stage of the EIS process.

We understand the developers will be seeking various exemptions through the 201 H process, including park dedication requirements. In order to achieve the desired affordability of the condominium units however, it is difficult to understand how incorporating an on-site recreational facility, as recommended in such a large (176 unit), multimillion dollar condominium project would cost so much as to affect the affordability of the units.

The Draft EIS states 51 percent of the Holomua units will be priced to be affordable to households earning 140 percent or less of the HUD median income and the remaining units will be priced as "Gap Group" or "Workforce" housing.

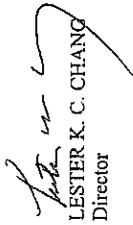
LESTER K. C. CHANG  
DIRECTOR  
GAIL Y. HANAGUCHI  
SUPERVISOR



Mr. Tom Schnell, AICP  
 June 23, 2008  
 Page 2

The intended target group is certainly one that will include families with young children, who will not be able to independently access the recreational facilities identified as being located within less than a mile of the project. On site recreational facilities are important for those families and we request that the develop

Should you have any questions, please contact Mr. John Reid, Planner, at 768-3017.

  
 LESTER K. C. CHANG  
 Director

LKCC:jr  
 (244966)

cc: Office of Environmental Quality Control  
 Hawaii Housing Finance & Development Corporation  
 Robert Sumitomo, Department of Planning and Permitting  
 Serge Krivatsy, THM Partners LLC

August 7, 2008

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Lester K. C. Chang, Director  
 City and County of Honolulu  
 Department of Parks and Recreation  
 1000 Uluohia Street, Suite 309  
 Kapolei, HI 96707

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
 HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. Chang,

Thank you for your letter dated June 23, 2008 regarding the Holomua Draft Environmental Assessment (EA). As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments.

We note that your comment letter contains an incomplete sentence on the second page reading, "On site recreational facilities are important for those families and we request that the develop...". A phone discussion with staff indicated that your department desired some form of on-site recreational facility, however, a revised letter was not provided.

As described in the Draft Environmental Assessment and in previous correspondence, the applicant is proposing limited on-site recreational facilities to 1) help keep initial purchase prices low; and, 2) reduce maintenance fees for residents. Rising costs for basics such as property insurance, electricity and city sewer service have resulted in yearly increases to condominium maintenance fees island-wide. A recent search of Makiki condominiums priced between \$350,000 and \$400,000 report monthly fees ranging from \$344 to \$571 per month in addition to monthly taxes ranging from \$87 to \$135 per month. The majority of Holomua owners will be those earning 140 percent or less of the HUD median income for Honolulu. To make units affordable for these buyers in the long-term, it will be important to keep maintenance fees low by limiting project amenities and on-going maintenance costs.

However, since the Draft EA was prepared, building plans have been modified to include a 1,196 square foot on-site activity room. The activity room will include a kitchen and bathroom. The Final EA will include this information. Additionally, it should be noted that Pawa'a Neighborhood Park is located approximately 500 feet from the site. Casual observation indicates that this park is not heavily used.

In addition to controlling sprawl and reducing reliance on the automobile, one of the benefits of urban living is access to Honolulu's extensive system of parks. Public parks are especially important for the working population for whom rising maintenance fees and costly gym memberships compete for limited monthly budgets.

Mr. Lester K.C. Chang  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, OAHU, HAWAII, TMK: (O) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

Thank you for reviewing the Draft EA. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII



Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners, LLC

DEPARTMENT OF DESIGN AND CONSTRUCTION  
CITY AND COUNTY OF HONOLULU

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EUGENE C. LEE, P.E.  
DIRECTOR  
RUSSELL H. TAKAKA, P.E.  
DEPUTY DIRECTOR

MURF HANNEMANN  
MANOR

June 24, 2008

Mr. Tom Schnell  
PBR Hawaii & Associates, Inc.  
1001 Bishop Street  
ASB Tower, Suite 650  
Honolulu, Hawaii 96813-3484

Dear Mr. Schnell:

Subject: Draft Environmental Assessment  
Holomua, 1315 Kalakaua Avenue  
TMK: (1) 2-4-6 17 & 18

Thank you for giving us the opportunity to comment on the above Draft Environmental Assessment.

The Department of Design and Construction does not have any comments to offer at this time.

Very truly yours,



Eugene C. Lee, P.E.  
Director

ECL:lit (284975)



August 7, 2008

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MUFI HAHNEMANN  
MAYOR

KENNETH G. SILVA  
FIRE CHIEF  
ALVIN K. TOMITA  
DEPUTY FIRE CHIEF

June 26, 2008

Mr. Tom Schnell  
PBR Hawaii & Associates, Inc.  
American Savings Bank Tower  
1001 Bishop Street, Suite 650  
Honolulu, Hawaii 96813-3484

Dear Mr. Schnell:

Subject: Draft Environmental Assessment  
Holomua  
1315 Kalakaua Avenue  
Honolulu, Hawaii  
Tax Map Keys: 2-4-006: 017 and 018

In response to your letter dated June 3, 2008, regarding the above-mentioned subject, the Honolulu Fire Department (HFD) reviewed the material provided and requires that the following be complied with:

1. Provide a fire apparatus access road for every facility, building, or portion of a building hereafter constructed or moved into or within the jurisdiction when any portion of the facility or any portion of an exterior wall of the first story of the building is located more than 150 feet (45 720 mm) from a fire apparatus access road as measured by an approved route around the exterior of the building or facility. (1997 Uniform Fire Code, Section 902.2.1.)
2. Provide a water supply, approved by the county, capable of supplying required fire flow for fire protection to all premises upon which facilities or buildings, or portions thereof, are hereafter constructed or moved into or within the county.

On-site fire hydrants and mains capable of supplying the required fire flow shall be provided when any portion of the facility or building is in

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. Lee,

Thank you for your letter dated June 24, 2008 regarding the Holomua Draft Environmental Assessment (EA). As the planning consultant for the applicant, THM Partners, LLC, we acknowledge that the Department of Design and Construction has no comments at this time.

Thank you for reviewing the Draft EA. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonel A. Domingos, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners, LLC



# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

Mr. Tom Schnell  
Page 2  
June 26, 2008

excess of the 150 feet (45 720 mm) from a water supply on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building. (1997 Uniform Fire Code, Section 903.2, as amended.)

3. Submit civil drawings to the HFD for review and approval.

Should you have any questions, please call Battalion Chief Socrates Bralakos of our Fire Prevention Bureau at 723-7151.

Sincerely,

KENNETH G. SILVA  
Fire Chief

cc: Leonell Domingo, Hawaii Housing Finance and  
Development Corporation  
Office of Environmental Quality Control

KGS/SK:j

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Chief Kenneth G. Silva  
Honolulu Fire Department  
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Honolulu, HI 96813-5007

SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18

Dear Chief Silva,

Thank you for your letter dated June 26, 2008 regarding the Holomua Draft Environmental Assessment (EA). As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments.

1. Fire apparatus access roads shall be designed and constructed in accordance with the Uniform Fire Code, Section 9002.2.1, as amended.
2. Water infrastructure shall be designed and installed in accordance with the Uniform Fire Code, Section 903.2, as amended.
3. Civil drawings will be submitted to your department for your review and approval at the appropriate time.

Thank you for reviewing the Draft EA. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners, LLC

DEPARTMENT OF FACILITY MAINTENANCE  
CITY AND COUNTY OF HONOLULU

1000 Ulukoua Street, Suite 215, Kapolei, Hawaii 96707  
Phone: (808) 766-3343 • Fax: (808) 768-3381  
Website: www.honolulu.gov



MUFI HANNEMANN  
MAYOR

CRAG I. NISHIMURA, P.E.  
DIRECTOR AND CHIEF ENGINEER  
GEORGE KEOKI MIYAMOTO  
DEPUTY DIRECTOR

IN REPLY REFER TO:  
DRM 08-548

June 30, 2008

Mr. Tom Schnell  
PBR Hawaii & Associates, Inc.  
1001 Bishop Street  
ASB Tower, Suite 650  
Honolulu, Hawaii 96813-3484

Dear Mr. Schnell:

Subject: Draft Environmental Assessment (DEA)  
Holomua 1315 Kalakaua Avenue  
Honolulu, Oahu, Hawaii, TMK: (1) 2-4-06: 17 & 18

Thank you for the opportunity to review and comment on the DEA for the subject proposed Holomua Condominiums project.

The majority of the proposed improvements will be located within privately-owned property and have negligible impact on our facilities and operations. Any associated improvements within adjacent City roadway right-of-way will have to be constructed in accordance with the City and County of Honolulu Standard Details.

Should you have any questions, please call Charles Pignataro of the Division of Road Maintenance, at 768-3697.

Sincerely,

Craig I. Nishimura, P.E.  
Director and Chief Engineer

c: Office of Environmental Control  
Hawaii Housing Finance & Development Corporation



PBR HAWAII  
& ASSOCIATES, INC.

August 7, 2008

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Craig I. Nishimura, P.E., Director and Chief Engineer  
City and County of Honolulu  
Department of Facility Maintenance  
1000 Ulukoua Street, Suite 215  
Kapolei, HI 96707

SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18

Dear Mr. Nishimura,

Thank you for your letter dated June 26, 2008 regarding the Holomua Draft Environmental Assessment (EA). As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments.

We acknowledge your comment that the majority of the proposed improvements will be located within privately-owned property and have negligible impact on the City's facilities and operations.

Any associated improvements within adjacent City roadway right-of-way will be constructed in accordance with the City and County of Honolulu Standard Details.

Thank you for reviewing the Draft EA. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners, LLC



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



PBR HAWAII  
& ASSOCIATES, INC.

OFFICE OF SCHOOL FACILITIES AND SUPPORT SERVICES

June 27, 2008

Mr. Tom Schnell, AICP, Senior Associate  
PBR Hawaii  
1001 Bishop Street, Suite 650  
Honolulu, Hawaii 96813

Dear Mr. Schnell:

SUBJECT: Draft Environmental Assessment for Holomua Condominiums  
Honolulu, Oahu, Hawaii, TMK: (1) 2-4-06: 17 & 18

The Department of Education (DOE) has reviewed the Draft Environmental Assessment (DEA) for the 168-unit Holomua Condominiums.

Under the new law passed by the 2007 Legislature, there are no provisions for exemptions if a project is located in an impact district. We currently do not know whether this area will be in an impact district, or the amount of the fee per residential unit. Should the project fall within an impact district, the DOE will consult with the developers of the project to reach an agreement to mitigate the impacts to school enrollment generated by this project.

The multipliers that you cite in section 3.4.1 under *Schools: Potential Impacts and Mitigation Measures* are not accurate. Please use the following multipliers and number of students generated, which were calculated by the DOE specifically for this project:

Multiplier	Number of Students	Multiplier	Number of Students
Market	12.3	Affordable	17.2
Multi-family	0.2	Multi-family	4.3
0.15	3.28	0.05	5.16
0.04	4.1	0.06	
0.05			

Should you have any questions, please call Heidi Meeker of the Facilities Development Branch at 377-8307.

Sincerely yours,

Duane Y. Kashiwai  
Public Works Administrator

cc: Randolph Moore, Assistant Superintendent, OSRSS  
Raelene Chuck, EDD, CAS, McKinley/Roosevelt Complex Areas  
Katherine Puana Kealoha, Director, OPQC  
Janice N. Takahashi, Interim Executive Director, HRPDC

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

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Tel: (808) 242-2878

August 7, 2008

Duane Y. Kashiwai, Public Works Administrator  
State of Hawaii  
Department of Education  
P.O. Box 2360  
Honolulu, HI 96804

SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, OAHU, HAWAII, TMK: (1) 2-4-06: 17 & 18

Dear Mr. Kashiwai,

Thank you for your letter dated June 27, 2008 regarding the Holomua Draft Environmental Assessment (EA). As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments.

1) We understand that the Department of Education (DOE) does not yet know if Holomua will be within an impact district as provided under HRS Section 302A-1601 et seq. We understand that under the law there are no provisions for exemptions if a project is located in an impact district. However, since adequate capacity exists at local schools to accommodate potential students residing at Holomua, no adverse impact to schools is expected.

2) Thank you for clarifying the multipliers and number of students generated for Holomua. We will include the information regarding the projected number of students in the Final EA.

Thank you for reviewing the Draft EA. Your comments will be included in the Final EA

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonel A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners, LLC

LINDA LINGLE  
GOVERNOR



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

July 8, 2008

Mr. Tom Schnell  
PBR Hawaii & Associates, Inc.  
ASB Tower  
1001 Bishop Street, Suite 650  
Honolulu, Hawaii 96813

Dear Mr. Schnell:

Subject: Holomua – Draft Environmental Assessment (Draft EA)

Thank you for requesting the Department of Transportation's (DOT) review of the subject project.

The proposed 176 unit residential condominium project will not significantly impact any State highways facilities.

The DOT appreciates the opportunity to provide comments.

Very truly yours,

BRENNON T. MORIOKA, PH.D., P.E.  
Director of Transportation

BRENNON T. MORIOKA  
DIRECTOR

Deputy Directors  
MICHAEL D. FORBAY  
FRANCIS PAUL KEENO  
BRONN H. SENGUCHI

IN REPLY REFER TO:  
DJR 0906  
STP 8.2926



PBR HAWAII  
& ASSOCIATES, INC.

August 7, 2008

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Brennon T. Morioka, PH.D., P.E.,  
Director of Transportation  
State of Hawaii  
Department of Transportation  
869 Punchbowl Street  
Honolulu, HI 96813-5097

SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18

Dear Mr. Morioka,

Thank you for your letter dated July 8, 2008 regarding the Holomua Draft Environmental Assessment. As the planning consultant for the applicant, THM Partners, LLC, we acknowledge your comment that the proposed residential condominium project will have negligible impact on State highways facilities.

Thank you for reviewing the Draft EA. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Keatolia, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners, LLC



Page 2  
July 7, 2008



**The Senate**  
State of Hawaii

STATE CAPITOL  
HONOLULU, HAWAII 96813

July 7, 2008

Janice Takahashi  
Interim Executive Director  
Hawaii Housing Finance and Development Corp.  
677 Queen Street  
Honolulu, Hawaii 96813

Dear Ms. Takahashi:

I am writing to express my concerns regarding THM Partners LLC's Holomua, a 176-unit affordable housing project proposed at 1315 Kalakaua Avenue.

As the State Senator representing this area, I was dismayed to learn at a recent Neighborhood Board #10 meeting (June 19, 2008) that neighboring senior citizen residents had not been briefed on the project by the project's development team this year. Given the number of senior citizens residing at adjacent Kulana Hale and One Kalakaua facilities whose concerns raise legitimate issues, I believe that HHFDC and OEQC should require THM Partners to respond to the neighbors' concerns.

Specifically, neighboring residents have raised concerns about requested exemptions from zoning requirements (e.g., exceeding allowable maximum height of 150' by going up to 220'; exceeding maximum allowable density of 2.5 with a density equaling 7.26; exemptions from off-street parking requirements, and so on) that would substantially impact their quality of life in the area.

The very narrow footprint of the proposed Holomua parcel, combined with its location mid-block on Kalakaua Avenue, also raises concerns about traffic congestion and pedestrian safety in the Beretania, Young and King Streets and Kalakaua Avenue intersections. As a result of heavy traffic congestion and safety issues impacting area pedestrians, the City administration installed a mid-block pedestrian crosswalk on Young Street in recent years. However, the availability of that crosswalk does not diminish the hazardous conditions involving Beretania Street/Kalakaua Avenue crossings.

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DOVINA MENDRADO KIM  
VICE PRESIDENT

GARY L. HODGSON  
PRESIDENT EMERITUS

FRANK M. HARRIS  
PRESIDENT EMERITUS

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LORRAINE A. NUUPE

SECOND DISTRICT  
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SEVENTH DISTRICT  
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ROBERT BINKA

TWENTY-THIRD DISTRICT  
CLAYTON LEEF

TWENTY-FOURTH DISTRICT  
JULIA TOMARA

TWENTY-FIFTH DISTRICT  
FRANK HONOLUA

CHIEF CLERK  
CHLOE TANIGUCHI

I believe that on-site analysis and discussions with area residents, particularly senior residents from Kulana Hale, One Kalakaua and Banyan Tree Plaza, will identify a greater hazard zone than indicated by the Draft EA.

Thank you for the opportunity to comment on the Holomua Project Draft EA. Please contact me at 586-6890 if you have additional questions or comments.

Sincerely,

Senator Carol Fukunaga  
District 11 (Maiki/Tantalus, Punchbowl, Ala Moana-McCully)

C: Office of Environmental Quality Control  
PBRI Hawaii (Tom Schnell, Senior Associate)



# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

Senator Carol Fukunaga  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU,  
HAWAII, TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

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PLANNING • LANDSCAPE ARCHITECTURE • ENVIRONMENTAL STUDIES • ENTITLEMENTS • PERMITTING • GRAPHIC DESIGN

Senator Carol Fukunaga  
State of Hawaii, District 11  
Hawaii State Capitol, Room 216  
415 S. Beretania Street  
Honolulu, HI 96813

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Senator Fukunaga,

Thank you for your letter addressed to Janice Takahashi, Interim Executive Director, Hawaii Housing Finance and Development Corporation (HHFDC) dated July 7, 2008 regarding the Hololoma Draft Environmental Assessment (EA). As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments.

Regarding your concerns about public participation, THM Partners LLC, presented the Hololoma project at three Neighborhood Board meetings: 1) the Makiki/Lower Punchbowl/Tantalus Neighborhood Board meeting on April 17, 2008; 2) the Makiki/Lower Punchbowl/Tantalus Neighborhood Board meeting on June 19, and 3) the McCully/M6th/Hil Neighborhood Board meeting on July 3. In addition, the EA process provided the opportunity for the public to gain information and provide comments on Hololoma. As a result of this outreach, combined with consultation with public agencies, THM Partners LLC received over 80 comment letters regarding Hololoma.

The concerns you note reflect many of the concerns raised by the community. We have responded to all concerns with individual response letters and by providing additional information in the Final EA.

Regarding your specific concerns we provide the following information:

1. *Neighboring residents have raised concerns about requested exemptions from zoning requirements (e.g., exceeding allowable maximum height of 150' by going up to 220', exceeding maximum allowable density of 2.5 with a density equating 7.26; exemptions from off-street parking requirements, and so on) that would substantially impact their quality of life in the area.*

**Response:** We acknowledge that exemptions to height and density are proposed. In light of the affordable housing provided by Hololoma, THM Partners LLC finds the exemptions reasonable and necessary to make the project financially viable. Recent residential condominium projects in Honolulu have focused on high-end, luxury units. Hololoma fills a void by providing affordable housing and moderately-priced market rate housing in urban Honolulu, thus creating the opportunity for home ownership in close proximity to jobs and urban amenities.

The existing height limit for the Hololoma property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors. This is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Kulana Hale (170 feet), Banyan Tree Plaza (350 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). The attached exhibit shows the Hololoma height in relation to existing building heights in the neighborhood.

We also note that a previously approved project for the Hololoma property (Kulana Hale II) was granted exemptions for height (166 feet) and density. While Kulana Hale II would have been lower in height than Hololoma, it would have been similar in density (162 units vs. 176 units for Hololoma). This similar density at lower height was achieved because the Kulana Hale II units would have been much smaller than the Hololoma units.

In the end, Kulana Hale II was never built because it was not financially viable, despite the exemptions granted and the strong demand for affordable housing in Honolulu. The Kulana Hale II developer eventually sold the property to the current owner, THM Partners LLC. THM Partners LLC has now designed Hololoma to address current financial realities, such as the cost of land in urban Honolulu and current building material and construction costs.

Regarding parking, the Hololoma plans included in the Draft EA provide for 245 parking stalls. As discussed in the Draft EA, THM Partners LLC requests the option to include a lesser number of 201 resident parking spaces (1.14 stalls/unit) and 10 guest parking stalls for a total of 211 parking stalls if required to make Hololoma financially viable. Please note that unit plans and parking structure design are not finalized and additional changes regarding parking may be required; however it is envisioned that Hololoma will provide at least one stall per unit.

2. *The very narrow footprint of the proposed Hololoma parcel, combined with its location mid-block on Kalakaua Avenue, also raises concerns about traffic congestion and pedestrian safety in the Beretania Young and King Streets and Kalakaua Avenue intersections. As a result of heavy traffic congestion and safety issues impacting area pedestrians, the City administration installed a mid-block pedestrian crosswalk on Young Street in recent years. However, the availability of that crosswalk does not diminish the hazardous conditions involving Beretania Street/Kalakaua Avenue crossings.*

**Response:** We acknowledge that local streets serve substantial volumes of traffic. The Hololoma traffic impact analysis projects traffic in the area will increase even without Hololoma due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Hololoma would effect nearby intersections, with the addition Hololoma, increased delays at the Beretania/Ke'eanuoku intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Hololoma is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Hololoma site include complete sidewalks and signalized crosswalks at intersections. The transportation impact analysis shows that the increment of traffic generated by the Hololoma will not result in a significant impact at any of the study intersections including those on Kalakaua Avenue, Young Street, Beretania Street, and King Street. Thus, Hololoma will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Hololoma building

Page 2  
July 7, 2008



**The Senate**  
*State of Hawaii*

STATE CAPITOL

HONOLULU, HAWAII 96813

July 7, 2008

Janice Takahashi  
Interim Executive Director  
Hawaii Housing Finance and Development Corp.  
677 Queen Street  
Honolulu, Hawaii 96813

Dear Ms. Takahashi:

I am writing to express my concerns regarding THM Partners LLC's Holomua, a 176-unit affordable housing project proposed at 1315 Kalakaua Avenue.

As the State Senator representing this area, I was dismayed to learn at a recent Neighborhood Board #10 meeting (June 19, 2008) that neighboring senior citizen residents had not been briefed on the project by the project's development team this year. Given the number of senior citizens residing at adjacent Kulana Hale and One Kalakaua facilities whose concerns raise legitimate issues, I believe that HHFDC and OEQC should require THM Partners to respond to the neighbors' concerns.

Specifically, neighboring residents have raised concerns about requested exemptions from zoning requirements (e.g., exceeding allowable maximum height of 150' by going up to 220'; exceeding maximum allowable density of 2.5 with a density equaling 7.26; exemptions from off-street parking requirements, and so on) that would substantially impact their quality of life in the area.

The very narrow footprint of the proposed Holomua parcel, combined with its location mid-block on Kalakaua Avenue, also raises concerns about traffic congestion and pedestrian safety in the Beretania, Young and King Streets and Kalakaua Avenue intersections. As a result of heavy traffic congestion and safety issues impacting area pedestrians, the City administration installed a mid-block pedestrian crosswalk on Young Street in recent years. However, the availability of that crosswalk does not diminish the hazardous conditions involving Beretania Street/Kalakaua Avenue crossings.

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DONNA MERRIDAO KIM  
VICE PRESIDENT  
GARY L. HOOPER  
MAJORITY LEADER  
FRED HEMMINGES  
MINORITY LEADER

FIRST DISTRICT  
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SECOND DISTRICT  
ROSE L. KEOLIOALANI  
THIRD DISTRICT  
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FOURTH DISTRICT  
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FIFTH DISTRICT  
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SEVENTH DISTRICT  
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EIGHTH DISTRICT  
BOB BILM  
NINTH DISTRICT  
LEE HAMA, JR.  
TENTH DISTRICT  
JIMMY T. MURPHY  
ELEVENTH DISTRICT  
TERRY FUJIMURA  
TWELFTH DISTRICT  
EDSON TRINIDAD  
THIRTEENTH DISTRICT  
TUDHOPE O. HUI  
FOURTEENTH DISTRICT  
DANNA HIGGINS  
FIFTEENTH DISTRICT  
RODNEY HANAKOHA  
SIXTEENTH DISTRICT  
DAVID W. LEE  
SEVENTEENTH DISTRICT  
RON HENNINGSON  
EIGHTEENTH DISTRICT  
CAROL A. HANAKOHA  
NINETEENTH DISTRICT  
JIM HANAKOHA

TWENTYFIFTH DISTRICT  
WILLIAMS  
TWENTYFIRST DISTRICT  
COLLEEN HANABUSA  
TWENTYSECOND DISTRICT  
ROBERTA L. UNDERWOOD  
TWENTYTHIRD DISTRICT  
CAROL A. HANAKOHA  
TWENTYFOURTH DISTRICT  
JULIA TORRES  
TWENTYFIFTH DISTRICT  
DORIS O. HANAKOHA  
DORIS O. HANAKOHA

I believe that on-site analysis and discussions with area residents, particularly senior residents from Kulana Hale, One Kalakaua and Banyan Tree Plaza, will identify a greater hazard zone than indicated by the Draft EA.

Thank you for the opportunity to comment on the Holomua Project Draft EA. Please contact me at 586-6690 if you have additional questions or comments.

Sincerely,

*Carol Fukunaga*  
Senator Carol Fukunaga  
District 11 (Maikai/Tantalus, Punchbowl, Ala Moana-McCully)

C: Office of Environmental Quality Control  
PBR Hawaii (Tom Schnell, Senior Associate)



August 7, 2008

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*Executive Vice-President*

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*Executive Vice-President*

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*Vice-President*

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*Principal*

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*Chief Financial Officer*

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*Associate*

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DACHENG DONG, LEED-AP  
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PLANNING • LANDSCAPE ARCHITECTURE • ENVIRONMENTAL STUDIES • EXHIBITS • PERMITTING • GRAPHIC DESIGN

Senator Carol Fukunaga  
State of Hawaii, District 11  
Hawaii State Capitol, Room 216  
415 S. Beretania Street  
Honolulu, HI 96813

**SUBJECT: HOLONUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Senator Fukunaga,

Thank you for your letter addressed to Janice Takahashi, Interim Executive Director, Hawaii Housing Finance and Development Corporation (HHFDC) dated July 7, 2008 regarding the Hololoma Draft Environmental Assessment (EA). As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments.

Regarding your concerns about public participation, THM Partners LLC, presented the Hololoma Board project at three Neighborhood Board meetings: 1) the Makiki/Over Punchbowl/Tantalus Neighborhood Board meeting on April 17, 2008; 2) the Makiki/Over Punchbowl/Tantalus Neighborhood Board meeting on June 19, and 3) the McCully/Mo'ili'i Neighborhood Board meeting on July 3. In addition, the EA process provided the opportunity for the public to gain information and provide comments on Hololoma. As a result of this outreach, combined with consultation with public agencies, THM Partners LLC received over 80 comment letters regarding Hololoma.

The concerns you note reflect many of the concerns raised by the community. We have responded to all concerns with individual response letters and by providing additional information in the Final EA.

Regarding your specific concerns we provide the following information:

1. *Neighboring residents have raised concerns about requested exemptions from zoning requirements (e.g., exceeding allowable maximum height of 150' by going up to 220'; exceeding maximum allowable density of 2.5 with a density equating 7.26; exemptions from off-street parking requirements, and so on) that would substantially impact their quality of life in the area.*

**Response:** We acknowledge that exemptions to height and density are proposed. In light of the affordable housing provided by Hololoma, THM Partners LLC finds the exemptions reasonable and necessary to make the project financially viable. Recent residential condominium projects in Honolulu have focused on high-end, luxury units. Hololoma fills a void by providing affordable housing and moderately-priced market rate housing in urban Honolulu, thus creating the opportunity for home ownership in close proximity to jobs and urban amenities.

Senator Carol Fukunaga  
SUBJECT: HOLONUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU,  
HAWAII, TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

The existing height limit for the Hololoma property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors. This is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Kulana Hale (170 feet), Banyan Tree Plaza (350 feet), Punalou Regency (180 feet); and 1450 Young Street (226 feet). The attached exhibit shows the Hololoma height in relation to existing building heights in the neighborhood.

We also note that a previously approved project for the Hololoma property (Kulana Hale II) was granted exemptions for height (166 feet) and density. While Kulana Hale II would have been lower in height than Hololoma, it would have been similar in density (162 units vs. 176 units for Hololoma). This similar density at lower height was achieved because the Kulana Hale II units would have been much smaller than the Hololoma units.

In the end, Kulana Hale II was never built because it was not financially viable, despite the exemptions granted and the strong demand for affordable housing in Honolulu. The Kulana Hale II developer eventually sold the property to the current owner, THM Partners LLC. THM Partners LLC has now designed Hololoma to address current financial realities, such as the cost of land in urban Honolulu and current building material and construction costs.

Regarding parking, the Hololoma plans included in the Draft EA provide for 245 parking stalls. As discussed in the Draft EA, THM Partners LLC requests the option to include a lesser number of 201 resident parking spaces (1.14 stalls/unit) and 10 guest parking stalls for a total of 211 parking stalls if required to make Hololoma financially viable. Please note that unit plans and parking structure design are not finalized and additional changes regarding parking may be required; however it is envisioned that Hololoma will provide at least one stall per unit.

2. *The very narrow footprint of the proposed Hololoma parcel, combined with its location mid-block on Kalakaua Avenue, also raises concerns about traffic congestion and pedestrian safety in the Beretania, Young and King Streets and Kalakaua Avenue intersections. As a result of heavy traffic congestion and safety issues impacting area pedestrians, the City administration installed a mid-block pedestrian crosswalk on Young Street in recent years. However, the availability of that crosswalk does not diminish the hazardous conditions involving Beretania Street/Kalakaua Avenue crossings.*

**Response:** We acknowledge that local streets serve substantial volumes of traffic. The Hololoma traffic impact analysis projects traffic in the area will increase even without Hololoma due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Hololoma would effect nearby intersections, with the addition Hololoma, increased delays at the Beretania/Ke'e'eaumuku intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Hololoma is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Hololoma site include complete sidewalks and signalized crosswalks at intersections. The transportation impact analysis shows that the increment of traffic generated by the Hololoma will not result in a significant impact at any of the study intersections including those on Kalakaua Avenue, Young Street, Beretania Street, and King Street. Thus, Hololoma will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Hololoma building

Senator Carol Fukunaga  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU,  
HAWAII, TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 3

(including the garage entrance) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

Thank you for reviewing the Draft EA. Your participation in the Environmental Assessment process on behalf of your constituency is appreciated and your comments will be included in the Final EA.

Sincerely,

PBR HAWAII



Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivtsov, THM Partners, LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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MAKIKI/LOWER PUNCHBOWL/TANTALUS NEIGHBORHOOD BOARD NO. 10  
c/o NEIGHBORHOOD COMMISSION • 530 SOUTH KING STREET ROOM 406 • HONOLULU, HAWAII, 96813  
PHONE (808) 768-3710 • FAX (808) 768-3711 • INTERNET: <http://www.honolulu.gov>

RECEIVED  
HAWAII HOUSING FINANCE  
& DEVELOPMENT CORP.

July 7, 2008

Hawai'i Housing Finance and Development Corp.  
677 Queen Street  
Honolulu, HI 96813.

2008 JUL -7 P 3:20

Board Members:

On April 17, 2008 and June 19, 2008 the Holomua project at 1315 Kalakaua Ave. presented their project to the Makiki Neighborhood Board. At neither meeting did the Board take a position supporting the project or disapproving of the project. There was little discussion or comment on April 17<sup>th</sup>.

By the June 19<sup>th</sup> meeting, there had been more than sixty letters from neighbors concerning the project. The letters are attached. More than twenty people discussed the project at the June meeting. Almost all the letters and statements were in opposition to the project. Concerns were about the height, the blocking of view, sun, and breeze; traffic; noise; safety; and reduce quality of life for the neighbors.

The developer pointed out the serious need for affordable housing and that the previously approved use of the property was unable to be financially viable. The Mayor's representative supported the need for affordable housing.

Sincerely,



John Steelquist  
Chair  
Makiki/Lower Punchbowl/Tantalus  
Neighborhood Board No. 10

Cc: Senator Carol Fukunaga  
Representative Della Belatti  
Mayor Mufi Hannemann  
Councilmember Ann Kobayashi  
Councilmember Rod Tam  
Mayor's representative Chrystin Eads



Gann's Neighborhood Board system - Established 1973



August 7, 2008

June 6, 2008

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DAOHENG DONG, LEED-AP  
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Mr. John Steelquist  
Makiki/Lower Punchbowl/Tanalius Board #10  
c/o Neighborhood Commission  
530 S. King Street, Room 406  
Honolulu, HI 96813

SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, OAHU, HAWAII, TMK: (1) 2-4-06: 17 & 18

Dear Mr. Steelquist,

Thank you for your letter dated July 7, 2008 regarding the Holomua Draft Environmental Assessment (EA). As the planning consultant for the applicant, THM Partners LLC, we appreciate the Neighborhood Board providing a forum for discussion of the Holomua on April 17<sup>th</sup> and June 19<sup>th</sup>. We also appreciate the Board collecting and forwarding all written statements.

The concerns you note in your letter are consistent with the written statements provided by community members. We have responded to all concerns with individual response letters and have provided you copies of all responses to comment letters submitted to the Board. We have provided additional information in the Final EA, as appropriate.

Thank you for participating in the Environmental Assessment process. Your comments and those of your constituents will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawai'i Housing Finance & Development Corporation  
Kandienne Kealoha, Office of Environmental Quality Control  
Serge Kitavasy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tanalius Neighborhood Board

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Neighborhood Board No. 10  
Makiki Chair John Steelquist  
c/o 530 S King Street, Room 406  
Honolulu, Hawaii 96813

Re: Holomua Project

Dear Chair Steelquist:

I am writing to express my concerns regarding the height variance being requested by the Holomua Project.

I am a resident of One Kalakaua and have lived there for 10 1/2 years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because: The laws regarding space & number of buildings were good laws to prevent overcrowding and preserve the quality of life. The allowance of variances makes

them subject to abuse. The congestion on Kalakaua often

drives into Waikiki is not only a waste in both rush hours

in that of "kaitiki" but in the evening for entertainment,

weekend backing up across young street is a major

problem for the safety of pedestrians & vehicular traffic.

Just the construction of this building will cause no end of problems of

traffic and street closures endangering both people & adjacent buildings.

It will probably cause a wind tunnel created by the trade wind.

Coming down from Magoon Valley and a shade problem for the

historic neighboring Trees lining Kalakaua Avenue.

Thank you for your consideration,

B. Kalani Hill

# 1010 Kalaheala Ave

1314 Kalaheala Ave

Honolulu HI 96826

same thing,



August 7, 2008

**PRINCIPALS**  
THOMAS S. WITTEN, ASLA  
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*Executive Vice-President*  
RUSSELL Y. L. CHUNG, PASLA  
*Executive Vice-President*

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GRANT T. AURAKAMIA, AICP  
*Principal*

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*Chairman Emeritus*

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*Senior Associate*

KEVIN K. MISHKAWA, ASLA  
*Associate*

KIM MITSAMI YUEN, LEED-AP  
*Associate*

SCOTT ALIHA, AURIGO  
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SCOTT MURAKAMI, ASLA, LEED-AP  
*Associate*

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Wailuku, Hawaii 96793-1271  
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Ms. B. Lelani Pyle  
**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII,**  
**TMK: (1) 2-4-06: 17 & 18**  
August 7, 2008  
Page 2

**Wind Tunnel:** We acknowledge your concern for the environmental conditions of Kalakaua Avenue upon completion of construction. Holomua is designed to be set back from the street from the ninth floor to the top of the building. This design feature, combined with the fact that Holomua's frontage is relatively limited should reduce the wind tunnel or canyon effect that can be created when buildings are massed close to the street on both sides of a block.

**Shading of Trees:** The large mahogany trees located in the Kalakaua Street right of way are not proposed to be removed, and it is not expected that Holomua will shade the trees to the extent that they will suffer. They are designated as "exceptional" trees by the City and County of Honolulu. THM Partners LLC intends to protect these trees and considers the existing trees an asset to the site, contributing to the pedestrian environment by adding visual interest, separation from traffic, shade, and mitigating noise.

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet, for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet); and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final Environmental Assessment.

Thank you for your comments. Your comments will be included in the Final EA.  
Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU,**  
**O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Pyle,

Thank you for your letter dated June 6, 2008, addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about traffic congestion, pedestrian safety, physical impacts such as wind and shade and the height exemption request opening the doors for additional height exemptions. We offer the following response to your concerns.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Ke'eaumoku intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

**Pedestrian Safety:** Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalakaua Avenue, Young Street, Beretania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exit) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

**Noise:** The environmental noise assessment report prepared for the Holomua Draft EA included sound measurements of existing noise conditions from the Holomua site. According to the environmental noise assessment report, the Holomua site is currently exposed to moderate and sometimes high ambient noise levels. Noise sources include vehicular traffic noise and typical urban noises such as sirens, car horns, and mechanical equipment from neighboring buildings. If One Kalakaua is in conformance with all State Department of Health noise requirements (Hawaii Administrative Rules Chapter 11-46, "Community Noise Control.") the impacts to Holomua should be within acceptable State noise standards.

July 6, 2008

RECEIVED  
HAWAII HOUSING FINANCE  
DEVELOPMENT CORP

2008 JUL -8 A 11: 13

To: Office of Environmental Quality Control  
235 South Beretania Street, Suite 702  
Honolulu, HI 96813  
586-4186 fax

Hawaii Housing and Finance Development Corporation  
677 Queen St.  
Honolulu, HI 96813  
Attn: Leonel Domingo  
587-0588 fax

PRR Hawaii  
ASB Tower, Suite 650  
1001 Bishop Street  
Honolulu, HI 96813  
Attn: Tom Schnell  
tschnell@prrhawaii.com  
523-1402 fax

From: Dee Robinson, Administrator  
One Kalakaua Senior Living  
1314 Kalakaua Ave.  
Honolulu, HI 96826  
(808)983-4414 or (808)983-4400  
(808)983-4490 fax

Re: Holomua Public Comments

To Whom It May Concern:

I am submitting the following comments regarding the Holomua Project on behalf of One Kalakaua Senior Living.

I understand the Holomua Project is requesting a height variance in exchange for offering 51% of their units as affordable housing. We understand the need for affordable housing in our community, and are not opposed to the Project being built, however do want to keep our neighborhood within the existing height limitations, as we are already a highly dense area.

The proposed height variance causes us great concern for the following reasons:

- **Traffic and Pedestrian Safety**

The project is located amidst one of the most heavily used traffic interchanges in town today. Two short blocks of Kalakaua serve as a heavily used connection between King and Beretania Streets, both major

thoroughfares. The Project fronts on Kalakaua Avenue, a major route to Waikiki and the Convention Center from the H1 Eastbound Exit at Punahou. In addition, King and Punahou Streets are frequently used to gain entry to the H1 Westbound. We see gridlock daily in these areas.

Kalakaua Avenue merges into Beretania Street at the end of our block. Fronting the Project, traffic is backed up daily along Kalakaua Avenue and the additional ingress and egress of cars to and from the building will potentially disrupt traffic flow even further, increasing the traffic congestion problems in this area, making an already bad problem, worse.

The majority of pedestrians in this area are seniors, due to the high concentration of senior housing in the area. Heavy traffic from drivers turning left from Beretania, followed by the very short distance to the 4 way stop on Young and Kalakaua, creates a hazardous environment for the seniors and other pedestrians attempting to cross the roadway. Crossing Kalakaua at the intersection of Beretania, is extremely dangerous as cars are turning onto Kalakaua to go to Waikiki, then when the light changes, cars are turning onto Beretania to go to Downtown.

What measures will be taken to address these serious safety concerns?

- **Noise**

In the past, another building (1485 Young St.) on our Ewa side was granted a height variance after we had already submitted our plans, received approval and construction had begun. When the neighboring project was completed, we received noise complaints from them stating that the equipment on our roof was too noisy and bothering the tenants of the building in the higher units. Our building spent tens of thousands of dollars hiring engineers and consultants to assist us with these issues that were a direct result of the height variance the other building was awarded.

What measures will this Project put in place to prevent this from happening? Should we be penalized again because our building meets the height restrictions?

- **Other General Concerns**

**Density/Public Safety:** Our area is already very dense and we have a high senior population. How will this impact emergency response, evacuation and disaster situations? Is the city prepared to appropriately meet the needs of this area?

The increased vehicle density will seriously impact ingress and egress in this area as well as safety of pedestrians.



Public Utilities Infrastructure: Is the city prepared to handle the increased stress on the electric, sewer and water systems in our neighborhood?

Affordable Housing: I understand the need to encourage developers to build more affordable housing, but is 10 years seems like a short-term gain that has the potential for long-term negative impacts on our neighborhood.

I would like to end by saying again, that we do support the need for affordable housing. Projects such as Kulana Hale, which is adjacent to where the proposed Holomua Project will be built, is 100% affordable for 30 years, and was built within the height requirements. We just ask that Holomua do the same.

Height limits are largely designed to make sure a development does not drastically change the look or feel of a neighborhood. Our neighborhood is well on its way to becoming an urban jungle. Why do we have zoning regulations if they can so easily be changed? Variances may make things "legally correct" but it does not mean it is always the "morally acceptable" means to an end.

August 7, 2008

Dee Robinson, Administrator  
One Kalakaua Senior Living  
1314 Kalakaua Ave.  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Robinson,

Thank you for your letter dated July 6, 2008 regarding the Holomua Draft Environmental Assessment (EA). As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments.

*1. Traffic and Pedestrian Safety. The project is located amidst one of the most heavily used traffic interchanges in town today. Two short blocks of Kalakaua serve as a heavily used connection between King and Beretania Streets, both major thoroughfares. The Project fronts on Kalakaua Avenue, a major route to Waikiki and the convention Center from the HI Eastbound Exit at Punahou. In addition, King and Punahou Streets are frequently used to gain entry to the HI Westbound. We see gridlock daily in these areas.*

*Kalakaua Avenue merges into Beretania Street at the end of our block. Fronting the Project, traffic is backed up daily along Kalakaua Avenue and the additional ingress and egress of cars to and from the building will potentially disrupt traffic flow even further, increasing the traffic congestion problems in this area, making an already bad problem, worse.*

*The majority of pedestrians in this area are seniors, due to the high concentration of senior housing in the area. Heavy traffic from drivers turning left from Beretania, followed by the very short distance to the 4 way stop on Young and Kalakaua, creates a hazardous environment for the seniors and other pedestrians attempting to cross the roadway. Crossing Kalakaua at the intersection of Beretania, is extremely dangerous as cars are turning onto Kalakaua to go to Waikiki, then when the light changes, cars are turning onto Beretania to go to Downtown. What measures will be taken to address these serious safety concerns?*

**Response:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Kc'eaumoku intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

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Ms. Dee Robinson  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU,  
HAWAII, TMK: (1)2-4-06: 17 & 18  
August 7, 2008  
Page 2

Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The transportation impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalakana Avenue, Young Street, Beretania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

2. *Noise. In the past, another building (1485 Young St.) on our Ewa side was granted a height variance after we had already submitted our plans, received approval and construction had begun. When the neighboring project was completed, we received noise complaints from them stating that the equipment on our roof was too noisy and bothering the tenants of the building in the higher units. Our building span tens of thousands of dollars hiring engineers and consultants to assist us with these issues that were a direct result of the height variance the other building was awarded.*

*What measures will the Project put in place to prevent this from happening? Should we be penalized again because our building meets the height restrictions?*

**Response:** The environmental noise assessment report prepared for the Holomua Draft EA included sound measurements of existing noise conditions from the Holomua site. According to the environmental noise assessment report, the Holomua site is currently exposed to moderate and sometimes high ambient noise levels. Noise sources include vehicular traffic noise and typical urban noises such as sirens, car horns, and mechanical equipment from neighboring buildings. If One Kalakana is in conformance with all State Department of Health noise requirements (Hawaii Administrative Rules Chapter 11-46, "Community Noise Control") the impacts to Holomua should be within acceptable State noise standards.

3. *Density/Public Safety: Our area is already very dense and we have a high senior population. How will this impact emergency response, evacuation and disaster situations? Is the city prepared to appropriately meet the needs of this area?*

*The increased vehicle density will seriously impact ingress and egress in this area as well as safety of pedestrians.*

**Response:** Comments received from City and County of Honolulu indicate that the addition of Holomua will not cause an impact on existing police facilities or operations. Comments from Honolulu Fire Department state that the Fire Department will require appropriate access and water supply. Building plans will be provided to the Fire Department for review as part of the building permit process to ensure fire/life/safety standards are satisfied.

As discussed above, the additional density is not expected to impact the pedestrian environment. No changes to the off-site pedestrian infrastructure are proposed.

Ms. Dee Robinson  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU,  
HAWAII, TMK: (1)2-4-06: 17 & 18  
August 7, 2008  
Page 3

4. *Public Utilities Infrastructure. Is the city prepared to handle the increased stress on the electric, sewer and water systems in our neighborhood?*

**Response:** THM Partners LLC has been working with City departments that provide public facilities to ensure that adequate sewer and water can be provided. To that end, a sewer connection application was approved on April 3, 2008. Comments from the Board of Water Supply indicate that the existing water system is able to accommodate Holomua. THM Partners LLC will continue to work with City departments as well as utility providers such as electric and cable to ensure that Holomua is adequately served and does not impact service to the surrounding community.

5. *Affordable Housing. I understand the need to encourage developers to build more affordable housing, but is 10 years seems like a short-term gain that has the potential for long-term negative impacts on our neighborhood.*

**Response:** The Holomua affordable units meet an immediate need for affordable homes in the Honolulu urban core. The market units, while not priced as low as the affordable units, will be at the lower range of market rates for urban Honolulu due to their smaller size. Limited amenities, overall finishes, and other factors that do not make them comparable to other recently-built urban Honolulu high-rise condominiums. In the future, the affordable units—as well as the market units—will still be at the lower price ranges for comparable units in the area, thus filling a long-term need for housing at moderate price levels. Holomua units are not being designed or built to compete or compete with luxury high-rise condominiums recently built in urban core. The more supply of affordable and moderately priced units that are built in the urban core, the more opportunities there will be in the future for people to buy reasonably-priced units, as there will be more available inventory in the lower price ranges.

Thank you for reviewing the Draft EA. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII



Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tanalanui Neighborhood Board

1551 S. Beretania St.  
Apt. 1503  
Honolulu, Hawaii 96826  
June 20, 2008

Dear Mayor Hanemann,

What a legacy for your tenure. The end justifies the means!

It seems the guid pro quo in this Kolona building is "affordable" housing. Where is the gain, though, in this for the City if this profitable plot of land developed is for at mere ten year span.

For this the City would give up the limits for Makiki set by other local groups? Where, pray tell, are the conscionable reasons for overriding the concerns of us who live in Kulana Hale adjacent to this project? What traffic, sewer, water, noise, Makiki Stream and other environmental issues

have really been looked at without the overriding plus of additional housing for the middle income?

One of the daily realities at Kulana Hale is that ambulances and firetrucks go by daily and all too often stopping the Kalekale and Makua Alii have stops too! With the added eight flows of cars are the ambulances going to be able to navigate the already terrible traffic of Beretania and Kulana?

I am fearful when I cross that intersection. Come walk with us slow moving pedestrians.

May you never be old, infirm, or depressed at the phenomena of this with-it group of permit allusers to override legally set limits.

The reason this is addressed to you is because your spokesman at the Neighborhood Council Mtg last night, Christa Eads, could only point to the direction that she's been instructed to rant for "chanting to the sound of the viol!"

Remember Cenzo though.

"For I will not hear the melody of the viol.  
But let judgment run down as waters,  
And righteousness as a mighty stream."

Yours truly,  
Eiko Uyekawa

cc: Senator Carol Fukunaga  
Representative Della Blalatti  
Governor Linda Singel  
Councilmember Aund Kolayashi



# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

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PLANNING • LANDSCAPE ARCHITECTURE • ENVIRONMENTAL STUDIES • ENTERTAINMENTS / PERMITTING • GRAPHIC DESIGN

Eiko Uyehara  
1551 S. Beretania St., Apt. 1503  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU,  
O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Uyehara,

Thank you for your letter addressed to Mayor Hanemann. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of Mayor Hanemann or the City and County of Honolulu.

As noted in your letter you are concerned about maintaining affordability for a period of time exceeding ten years, demand on public infrastructure, emergency services and pedestrian safety. We offer the following responses to your concerns.

**10-year Participation:** The Holomua affordable units meet an immediate need for affordable homes in the Honolulu urban core. The market units, while not priced as low as the affordable units, will be at the lower range of market rates for urban Honolulu due to their smaller size, limited amenities, overall finishes, and other factors that do not make them comparable to other recently-built urban Honolulu high-rise condominiums. In the future, the affordable units—as well as the market units—will still be at the lower price ranges for comparable units in the area, thus filling a long-term need for housing at moderate price levels. Holomua units are not being designed or built to compete or compare with luxury high-rise condominiums recently built in urban core. The more supply of affordable and moderately priced units that are built in the urban core, the more opportunities there will be in the future for people to buy reasonably-priced units, as there will be more available inventory in the lower price ranges.

**Public Facilities/Infrastructure:** THM Partners LLC has been working with City Departments that provide public facilities to ensure that adequate sewer and water can be provided. To that end, a sewer connection application was approved on April 3, 2008. Comments from the Board of Water Supply indicate that the existing water system is able to accommodate the Holomua. THM Partners LLC will continue to work with City public facility providers as well as utility providers such as electric and cable to ensure that Holomua is adequately served and does not impact service to the surrounding community.

**Density/Public Safety:** Comments received from City and County of Honolulu indicate that the addition of Holomua will not cause an impact on existing police facilities or operations. Comments from Honolulu Fire Department state that the Fire Department will require appropriate access and water supply. Building plans will be provided to the Fire Department for review as part of the building permit process to ensure fire/life/safety standards are satisfied.

Ms. Eiko Uyehara  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII,  
TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

**Pedestrian Safety:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would effect nearby intersections, with the addition of Holomua, increased delays at the Beretania/Keolu intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Holomua is not expected to impact existing conditions regarding pedestrian street crossings as Holomua will not increase or decrease signal timing for neighborhood crosswalks. The existing pedestrian system consists of continuous sidewalks and marked cross-walks. Signal timing for pedestrian crossings is established by the City and County of Honolulu Department of Transportation Services and is a factor of balancing pedestrian crossing time while maintaining vehicular traffic flow.

Thank you for your comments. Your comments will be included in the Final EA.  
Sincerely,

PBR HAWAII  


Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivitsky, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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1314 Kalaheou Avenue, Apt. 614  
Honolulu, HI 96826

June 9, 2008

Neighborhood Board No. 10  
c/o 530 South King Street, Room 406  
Honolulu, HI 96813

Attn: John Steelquist  
Makiki Chair

Dear Mr. Steelquist:

I have been advised that there is a request by the Holomua project for a height variance on this project to increase the height of the building.

I am writing to express my concerns and trust that this variance will not be approved.

I am an owner of an apartment in the One Kalakaua Senior Living Condominium and have lived there since the project opened in 1997.

If this variance is approved there will be:

- \* A sizeable increase in vehicle traffic, not only cars but motorcycles, bikes, scooters ..etc.
- \* An increase in pedestrians and the danger if may cause the pedestrians of this building and the neighborhood high rise buildings on Young St. including One Kalakaua Senior Living Association.

I would be unable to attend any public hearing regarding this matter but I hope you will be able to introduce my in the support of oppsing this variance.

Very truly yours,

*Harriet D. Rotz*  
Harriet D. Rotz

HDR/amm

August 7, 2008

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Harriet D. Rotz  
1314 Kalaheou Avenue, #614  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Rotz,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about increased traffic congestion and pedestrian safety. We offer the following response to your concerns.

**Traffic & Pedestrian Safety:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Ke'eannoku intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalaheou Avenue, Young Street, Beretania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exit) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

*Tom Schnell*

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsky, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

A personal note...

June 4, 2008

Mr. Steelquist -  
I have lived at Kulaua  
Hale for over 9 years and I  
do not want that building to  
to go up behind the power  
station higher than me.

Aina Okinaka  
1551 S. Beretania St  
Hon. HI 96826  
1416



# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

Ms. Hinae Okinaka  
1551 S. Beretania St., Apt. 1416  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU,  
O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Okinaka,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tanalan Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tanalan Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about the proposed height exemption for Holomua. We offer the following response to your comments.

We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet, including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

**PBR HAWAII**  
Tom Schnell, AICP  
Senior Associate

cc: Leonel A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivitsky, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tanalan Neighborhood Board

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Tel: (808) 248-5078



June 15, 2008

Mr. John Steelquist  
Chair, Neighborhood Board No. 10  
530 S. King Street, Suite 406  
Honolulu, HI 96813

Re: Variance request of lifting height restriction at  
1315 Kalakaua Avenue

Dear Mr. Steelquist,

I am a resident of One Kalakaua, a Senior Living Center which is directly across from the proposed construction condo project. I am writing to ask you to oppose this variance request.

By allowing the height limit from 150 ft. to 220 ft. will create more traffic problem at this narrow two way street. I would like to ask you and board members to visualize this area, Kalakaua, Beretania and Young street intersections, before making a recommendation to the City Council. These intersections are already very congested and dangerous to both drivers and pedestrians. I am very concerned about the density of this neighborhood.

Thank you in advance for your consideration.

Sincerely yours,

*Hiroko Vaughan*

Hiroko Vaughan  
1314 Kalakaua Avenue  
Honolulu, HI 96826

August 7, 2008

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Tel: (808) 242-2878

PBR HAWAII  
& ASSOCIATES, INC.

Hiroko Vaughan  
1314 Kalakaua Avenue  
Honolulu, HI 96826

SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU,  
O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18

Dear Ms. Vaughan,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about increased traffic congestion. We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Ke'eaumoku intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalakaua Avenue, Young Street, Beretania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exit) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonel A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivavsky, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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August 7, 2008

June 4, 2008

Mr. John Steelquist  
Makiki Chair of  
Neighborhood Board No. 10  
c/o 530 S. King St., Rm. 406  
Honolulu, HI 96813

RE: June 19, 2008 Neighborhood Board Meeting

Dear Mr. Steelquist,

I live at Kulana Hale and am writing to express my concern about the proposed height restriction increase for the Holomua Condo Project that is being discussed for 1315 Kalanikau Ave.

I didn't know that the board was thinking about the possible height restriction increase last month, and I am asking that this matter be open for discussion at the June 19<sup>th</sup> meeting.

The height increase will interfere with my view and the increased traffic congestion will cause problems in our neighborhood. A height increase will put further burden our area's sewer system, as well.

Sincerely,

*Alice May Drury*  
1551 S. Beretania St.  
Apt. 1510  
Honolulu, HI 96826

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PLANNING • LANDSCAPE ARCHITECTURE • ENVIRONMENTAL STUDIES • ENTITLEMENTS / PERMITTING • GRAPHIC DESIGN

Alice May Drury  
1551 S. Beretania Street, #1510  
Honolulu, HI 96826

SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06-17 & 18

Dear Ms. Drury,

Thank you for your letter dated June 4, 2008, addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

Your letter requested that Holomua be discussed at the June 19, 2008 Neighborhood Board Meeting. We note that Holomua was discussed at that meeting.

As noted in your letter you are concerned about the proposed height exemption for Holomua, the view from Kulana Hale, increased traffic congestion, and the burden to the sewer system. In response to your concerns we offer the following responses.

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet, for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (3350 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final Environmental Assessment (EA).

**Views:** Regarding your concern about views from Kulana Hale, Holomua is designed as a residential tower atop a parking structure pedestal. The residential tower walls (including the north wall facing Kulana Hale) are setback from the parking structure and are articulated with jogs, building insets, windows, and lanais. This allows 30 to 40 feet between Holomua and Kulana Hale from the 9<sup>th</sup> floor up. The Final EA will include a visual analysis showing a three-dimensional view of Holomua in context with the surrounding structures.

Ms. Alice May Drury  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU,  
HAWAII, TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

Traffic Congestion: We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition of Holomua, increased delays at the Beretania/Ke'eumoku intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Public Utilities Infrastructure: THM Partners LLC has been working with City departments that provide public facilities to ensure that adequate sewer and water can be provided. To that end, a sewer connection application was approved on April 3, 2008. Comments from the Board of Water Supply indicate that the existing water system is able to accommodate Holomua. THM Partners LLC will continue to work with City departments as well as utility providers such as electric and cable to ensure that Holomua is adequately served and does not impact service to the surrounding community.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII



Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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June 8, 2008

Neighborhood Board #10  
Makiki Chair John Steelquist  
C/o 530 S. King Street, Room 406  
Honolulu, HI, 96813

Sir:

I am a handicap resident of One Kalakaua Senior Retirement Home and am not in favor of the Holomua project that is wanting to be built.

I do a lot of walking and find that I can barely safely cross the street at the corners of Kalakaua Avenue and Beretania Avenue and that of Kalakaua and Young Street. Please don't wait till someone is hurt or killed before your committee take any kind of action. Please take time and observe the traffic in this area. The owners of One Kalakaua is made up of seniors and many are not able to cross the street safely even with the traffic signals.

Where are all the cars parked at the Holomua project going to exit and enter with the heavy traffic in this area?

Sincerely,



Amy Jung  
1314 Kalakaua Ave. #605  
Honolulu, HI 96826



**PBR HAWAII**  
& ASSOCIATES, INC.

August 7, 2008

Amy Jung  
1314 Kalaikua Avenue #605  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU,  
O'AHU, HAWAII, TWR: (1) 2-4-06: 17 & 18**

Dear Ms. Jung,

Thank you for your letter dated June 8, 2008, addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steedquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu. You letter notes concerns about pedestrian safety, traffic, and the Holomua entrance and exit. In response to your concerns we offer the following responses.

We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Ke'eauunoku intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalaikua Avenue, Young Street, Beretania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exist) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

Thank you for your comments. Your comments will be included in the Final Environmental Assessment.

Sincerely,

PBR HAWAII

Tom Schnell, AICP

Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation

Katherine Kealoha, Office of Environmental Quality Control

Serge Krivayus, THM Partners, LLC

John Steedquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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**PBR HAWAII**  
& ASSOCIATES, INC.

August 7, 2008

Benjamin H. Bond Jr.  
1314 Kalaikua Avenue, Apt. 1011  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU,  
O'AHU, HAWAII, TWR: (1) 2-4-06: 17 & 18**

Dear Mr. Bond:

Thank you for your letter dated June 8, 2008, addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steedquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu. You letter notes concerns about the proposed height exemption for Holomua, traffic and pedestrian safety, wind, views, and noise. In response to your concerns we offer the following responses.

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet, for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final Environmental Assessment.

**Traffic & Pedestrian Safety:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Ke'eauunoku intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalaikua Avenue, Young Street, Beretania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exist) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

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Mr. Benjamin H. Bond Jr.  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU,  
HAWAII, TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

Wind Tunnel: We acknowledge your concern for the environmental conditions of Kalakaua Avenue upon completion of construction. Holomua is designed to be set back from the street from the ninth floor to the top of the building. This design feature, combined with the fact that Holomua's frontage is relatively limited should reduce the wind tunnel or canyon effect that can be created when buildings are massed close to the street on both sides of a block.

Views: Regarding your concern about views Holomua is designed as a residential tower atop a parking structure pedestal. The residential tower walls (including the north wall facing Kulana Hale) are setback from the parking structure and are articulated with jogs, building insets, windows, and lanais. This allows 30 to 40 feet between Holomua and Kulana Hale from the 9<sup>th</sup> floor up. The Final Environmental Assessment will include a visual analysis showing a three-dimensional view of Holomua in context with the surrounding structures.

Noise: The environmental noise assessment report prepared for the Holomua Draft EA included sound measurements of existing noise conditions from the Holomua site. According to the environmental noise assessment report, the Holomua site is currently exposed to moderate and sometimes high ambient noise levels. Noise sources include vehicular traffic noise and typical urban noises such as sirens, car horns, and mechanical equipment from neighboring buildings. If One Kalakaua is in conformance with all State Department of Health noise requirements (Hawaii Administrative Rules Chapter 11-46, "Community Noise Control.") the impacts to Holomua should be within acceptable State noise standards.

Thank you for your comments. Your comments will be included in the Final Environmental Assessment.

Sincerely,

PBR HAWAII



Tom Seimell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THEM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantatus Neighborhood Board

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Neighborhood Board No. 10

Makiki Chair John Steelquist  
c/o 530 S King Street, Room 406  
Honolulu, Hawaii 96813

Re: Holomua Project

Dear Chair Steelquist:

I am writing to express my concerns regarding the height variance being requested by the Holomua Project.

I am a resident of One Kalakaua and have lived there for 2 1/2 years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because:

It will block the sunshine + view for TENANTS ON KALAKAUA AVE.

Also block sun for swimming pool + patio area.

Traffic on Kalakaua Ave already heavy + it will be more dangerous.

Thank you for your consideration,

*Bernice C. Choy*  
*One Kalakaua Senior Living*  
*1314 Kalakaua Ave. Apt. 1004*  
*Honolulu, HI 96826-1926*



# PBR HAWAII & ASSOCIATES, INC.

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August 7, 2008

Bernice Choy  
1314 Kalaikua Avenue, #1004  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII, TMA: (1) 2-4-06: 17 & 18**

Dear Ms. Choy,

Thank you for your letter dated June 4, 2008, addressed to Makiki/Lower Punchbowl/Tanalius Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tanalius Neighborhood Board or the City and County of Honolulu.

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

**Traffic/Pedestrian Safety:** Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The transportation impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalaikua Avenue, Young Street, Beretama Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonail A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Keatoha, Office of Environmental Quality Control  
Serge Krivitsky, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tanalius Neighborhood Board

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Neighborhood Board No. 10

Makiki Chair John Steelquist

c/o 530 S King Street, Room 406

Honolulu, Hawaii 96813

Re: Holomua Project

Dear Chair Steelquist:

I am writing to express my concerns regarding the height variance being requested by the Holomua Project.

I am a resident of One Kalaikua and have lived there for \_\_\_\_\_ years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because:

*Living at Kalaikua for over 8 years and watching the heavy traffic everyday I am afraid to walk on the sidewalk by the ocean. It is not always there and I am afraid to walk on the sidewalk by the ocean. I am 100 years old and I am afraid to walk on the sidewalk by the ocean.*

Thank you for your consideration,

*Bernice Choy*



August 7, 2008

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Tel: (808) 242-2878

Bernice Louis  
1314 Kalakaua Avenue  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU,  
O'AHU, HAWAII, TMR: (1) 2-4-06: 17 & 18**

Dear Ms. Louis

Thank you for your letter dated June 4, 2008, addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about increased traffic congestion and the pedestrian safety. We offer the following response to your concerns.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition of Holomua, increased delays at the Beretania/Ke'eumoku intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

**Pedestrian Safety:** Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The transportation impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalakaua Avenue, Young Street, Beretania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schreil, AICP  
Senior Associate

cc: Leonel A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Keatoha, Office of Environmental Quality Control  
Serge Krivitsky, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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June 10, 2008

Neighborhood Board  
Chair John Steelquist.

Dear Mr. Steelquist

I am a resident of Kulana Hale and have lived here for 10 years.

I understand the neighborhood board is considering the possible height restriction increase. I am concerned about the height restriction and the traffic in this area. I oppose the height increase because it will block my view and we don't need more strains on our City's sewer system.

Thank you.

Bernice M. Pfeiffer

Bernice M. Pfeiffer  
1551 S. Beretania St. #1115  
Hon. HI. 96826



# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

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Vice-President

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Principal

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Tel: (808) 242-2878

Bernice M. Pfeiffer  
1551 S. Bereiana St., #1115  
Honolulu, HI 96826

**SUBJECT: HONOLULU DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, OAHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Pfeiffer,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tanalius Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tanalius Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about increased traffic congestion as a result of Hololoma. We offer the following response to your concerns.

**Traffic & Pedestrian Safety:** We acknowledge that local streets serve substantial volumes of traffic. The Hololoma traffic impact analysis projects traffic in the area will increase even without Hololoma due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Hololoma would affect nearby intersections, with the addition Hololoma, increased delays at the Bereiana/Ke eaumoku intersection are only projected to increase by 2.1 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Hololoma is not expected to impact existing conditions regarding pedestrian street crossings as Hololoma will not increase or decrease signal timing for neighborhood crosswalks. The existing pedestrian system consists of continuous sidewalks and marked cross-walks. Signal timing for pedestrian crossings is established by the City and County of Honolulu Department of Transportation Services and is a factor of balancing pedestrian crossing time while maintaining vehicular traffic flow.

Thank you for reviewing the Draft EA. Your comments will be included in the Final EA.

Sincerely,

**PBR HAWAII**

Tom Schnell, A.I.C.P.  
Senior Associate

cc: Leonel A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tanalius Neighborhood Board

OAHU:8086601 Hololoma EAVENDEA Comment Letters/Responses/Community Responses/Bernice M. Pfeiffer.doc

June 5 2008

John Steelquist  
Neighborhood Board No 10

Dear Mr. Steelquist

I am a resident of Kulana Hele for 10 years. I oppose a height increase because it will block my view. I want to express my concerns & opposition to any height restriction increase, we dont need more strains on our City's sewer system

Thank you

Bernice M. Pfeiffer

Bernice M. Pfeiffer  
1551 S. Bereiana St. #1115  
Hon. Hi. 96826



August 7, 2008

Ms. Bernice Pfeiffer  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU,  
HAWAII, TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

Bernice M. Pfeiffer  
1551 S. Beretania St.  
#1115  
Honolulu, HI 96826

SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18

Dear Ms. Pfeiffer,

Thank you for your letter dated June 5, 2008, addressed to Makiki/Lower  
Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning  
consultant for the applicant, THM Partners LLC, we are responding to your comments.  
We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus  
Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about the proposed height exemption for  
Holomua, the view from Kulana Hale and demand on the City's sewer system. We offer  
the following response to your concerns.

**Building Height:** We note that height limit for the Holomua property is 150 feet. The  
additional height requested (70 feet, for a total of 220 feet) will allow for seven additional  
floors and is not out of context with the surrounding area, as several nearby buildings  
exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet);  
and 1450 Young Street (226 feet). In light of the affordable housing provided by  
Holomua, THM Partners LLC finds the exemption reasonable. The height exemption  
request will be discussed in the Final Environmental Assessment.

**Views:** Regarding your concern about views from Kulana Hale, Holomua is designed as  
a residential tower atop a parking structure pedestal. The residential tower walls  
(including the north wall facing Kulana Hale) are setback from the parking structure and  
are articulated with jogs, building insets, windows, and lanais. This allows 30 to 40 feet  
between Holomua and Kulana Hale from the 9<sup>th</sup> floor up. The Final Environmental  
Assessment will include a visual analysis showing a three-dimensional view of Holomua  
in context with the surrounding structures.

**Public Utilities/Infrastructure:** THM Partners LLC has been working with City  
departments that provide public facilities to ensure that adequate sewer and water can be  
provided. To that end, a sewer connection application was approved on April 3, 2008.  
Comments from the Board of Water Supply indicate that the existing water system is able  
to accommodate Holomua. THM Partners LLC will continue to work with City  
departments as well as utility providers such as electric and cable to ensure that Holomua  
is adequately served and does not impact service to the surrounding community.

BRINDICALS  
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PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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Betty Mann  
1551 S. Banelania St #716  
Honolulu, Hawaii 96826

2

Neighborhood Board No 10  
Mabelle Clair John Steadquist  
530 S. King St. Room 406  
Honolulu, Hawaii, 96813

Alpha Clair Steadquist:

I am writing to ask that you add to the agenda for the June 19th meeting a discussion about the proposed height restriction increase for the Kulanua Condo project at 1315 Kulanua

I live at Kulanua Hale and have been a resident for 4+ years. I would have been at the May meeting of our neighborhood board meeting to oppose the height restriction increase but did not know a word of its being proposed.  
I am concerned about the proposed project putting 245 cars to town on T. Kulanua Ave. This will create a major traffic flow jam up.

I am also very worried about this building blocking my view - which means I would lose almost all my daylight and air flow. I would have to have artificial light on all day and evening putting a strain on our electric company.

I would like to speak at the meeting

Thanks for your attention

Betty Mann



August 7, 2008

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*Executive Vice-President*

RUSSELL Y. CHUNG, ASLA  
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*Chairman Emeritus*

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KEVIN K. NISHIKAWA, ASLA  
*Associate*

KIMI MIKAMAI, AICP  
*Associate*

SCOTT ALIKA, AIA/IBCO  
*Associate*

SCOTT MURAKAMI, ASLA, LEED-AP  
*Associate*

DA CHENG DONG, LEED-AP  
*Associate*

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Ms. Betty Mason  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU,  
HAWAII, TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

intersections, with the addition Holomua, increased delays at the Beretania/Keeaumoku intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Public Utilities Infrastructure: THM Partners LLC has been working with City departments and HECO to ensure that adequate public facilities can be provided. THM Partners LLC will continue to work with City departments as well as utility providers such as electric and cable to ensure that Holomua is adequately served and does not impact service to the surrounding community.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18

Dear Ms. Mason,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

Your letter requested that Holomua be discussed at the June 19, 2008 Neighborhood Board Meeting. We note that Holomua was discussed at that meeting.

As noted in your letter you are concerned about the proposed height exemption for Holomua, the view from Kulana Hale, increased traffic congestion, and the burden to the electrical system. In response to your concerns we offer the following responses.

Building Height: We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet, for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final Environmental Assessment.

Views: Regarding your concern about views from Kulana Hale, Holomua is designed as a residential tower atop a parking structure pedestal. The residential tower walls (including the north wall facing Kulana Hale) are setback from the parking structure and are articulated with jogs, building insets, windows, and lanais. This allows 30 to 40 feet between Holomua and Kulana Hale from the 9<sup>th</sup> floor up. The Final Environmental Assessment will include a visual analysis showing a three-dimensional view of Holomua in context with the surrounding structures.

Traffic Congestion: We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby



# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

Makiki Chair  
John Steelquist

I am a resident of  
Malama Hale, I have been  
here for 1 year now. I am  
opposed to any ~~heightening~~  
limit on the way around  
I have one son only who lives  
in Tokyo, this living here in  
Honolulu is so close as I can  
live to him. I am an outdoor  
person and not just live in a  
building other all I can see is  
another building close to my  
land so I would have no view  
of any of the ~~heightening~~  
I am against any building  
in the lot between my view  
and the 7-11 store

Betty Wells  
#614  
Malama Hale  
8/1/08

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Executive Vice-President

RUSSELL YI CHING, ASLA  
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VINCENT SHIGERUNI  
Vice-President

GRANT E. AURAKAM, AICP  
Principal

CHAIRMAN EMERITUS  
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Chairman Emeritus

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Senior Associate

KAREN K. NISHIGAWA, ASLA  
Associate

KIM MIKAKAH YOKI, LEED-AP  
Associate

SCOTT ALINA ARRIGO  
Associate

SCOTT TAIUKAKAH, ASLA, LEED-AP  
Associate

DACHENG DONG, LEED-AP  
Associate

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Betty Wells  
1551 S. Beretania Street, #614  
Honolulu, HI 96826

SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU,  
O'AHU, HAWAII, TMR: (D) 2-4-06: 17 & 18

Dear Ms. Wells,

Thank you for your letter dated June 4, 2008, addressed to Makiki/Lower Punchbowl/Tanalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tanalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about the proposed height exemption for Holomua. We offer the following response to your concerns.

We note that the height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet, including Banyan Tree Plaza (330 feet), Punahoa Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Kavalay, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tanalus Neighborhood Board

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*Maliki Neighbors head Board  
530 S. King 406  
Honolulu, HI 96813*

*My concern is about the noise,  
the height and the traffic  
congestion. My concern is that  
it won't stop, the restrictions will  
get higher & higher.*

*Carmen B. Davis  
802,  
1551 South Beretania Street*

August 7, 2008

**PRINCIPALS**  
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President  
R. STAN DUNCAN, ASLA  
Executive Vice-President  
RUSSELL Y. J. CHUNG, PASLA  
Executive Vice-President  
VINCENT SINGHAKUNI  
Vice-President  
GRANT T. NURUKAMANI, LICP  
Principal

Carmen B. Davis  
1551 S. Beretania Street  
#802  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Davis,

**CHAIRMAN EMERITUS**  
W. FRANK BRANDT, PASLA  
Chairman Emeritus

Thank you for your letter dated June 4, 2008, addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

**ASSOCIATES**  
TOM SCHNELL, LICP  
Senior Associate

RAYMOND T. HIGA, ASLA  
Senior Associate  
KEVIN K. NISHIKAWA, ASLA  
Associate

As noted in your letter you are concerned about the proposed height exemption for Holomua, increased traffic congestion, and noise. We offer the following responses to your concerns.

KIMI ARIKAWA YUEN, LICP, MAP  
Associate

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition of Holomua, increased delays at the Beretania/Ke'eumoku intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

SCOTT ALIKA ABRIGO  
Associate  
SCOTT MUMAKAMI, ASLA, LICP, MAP  
Associate  
DACHENG DONG, LICP, MAP  
Associate

**Noise:** The environmental noise assessment report prepared for the Holomua Draft EA included sound measurements of existing noise conditions from the Holomua site. According to the environmental noise assessment report, the Holomua site is currently exposed to moderate and sometimes high ambient noise levels. Noise sources include vehicular traffic noise and typical urban noises such as sirens, car horns, and mechanical equipment from neighboring buildings. If One Kalakaua is in conformance with all State Department of Health noise requirements (Hawaii Administrative Rules Chapter 11-46, "Community Noise Control") the impacts to Holomua should be within acceptable State noise standards.

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**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for

**WAILUKU OFFICE**  
1797 Wili Ii Loop, Suite 4  
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Tel: (808) 242-3878

Mr. Carmen B. Davis  
SUBJECT: HOLOMOEA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII,  
TRK: (I) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet); and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII



Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsky, THM Partners, LLC  
John Steigquist, Makiki/Lower Punchbowl/Tanaitus Neighborhood Board

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Neighborhood Board No. 10  
Makiki Chair John Steigquist  
c/o 530 S. King St RM 406  
Honolulu HI 96813

Re. Agenda for June 19 meeting

Dear Chair Steigquist:  
We are writing to request that you add to the June 19 agenda discussion about the proposed height restriction increase for the Holomua Condo Project that is being discussed for 1315 Kekaula Ave.

As resident of Kihuna Hale for 3 years and would like an opportunity to express our concerns and opposition to any height restriction increase. We are concerned about the traffic congestion in this area. It will also block our view and breeze.

Makiki for your consideration.



6/14/08

Cindy & Bill Ong  
1551 S. Beretania St. #1215  
Hon. HI 96826  
June 4, 2008



August 7, 2008

**PRINCIPALS**

**THOMAS WITTEN, ASLA**  
*President*

**R. STEVENS CAN, ASLA**  
*Executive Vice-President*

**RUSSELL YI CHUNG, ASLA**  
*Executive Vice-President*

**VINCENT SHIGEKUNI**  
*Vice-President*

**GRANT T. MURAKAMI, AICP**  
*Principal*

**CHAIRMAN EMERITUS**

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*Chairman Emeritus*

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**KEVIN K. NISHIKAWA, ASLA**  
*Associate*

**KIMHIKARI YUEN, LEED-AP**  
*Associate*

**SCOTT AUKA, AURIGO**  
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Mr. Bill & Mrs. Cindy Ong  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU,  
HAWAII, TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mrs. & Mr. Ong,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

Your letter requested that Holomua be discussed at the June 19, 2008 Neighborhood Board Meeting. Holomua was added to the agenda and discussed at this meeting. At the June 19<sup>th</sup> meeting the following concerns were raised. A) When the Holomua developers came to the April 2008 meeting, the neighbors across the street were not notified. B) At 1450 Young Street, the building next door got a height variance and now the residents complain about the noise from the equipment on their roof. C) There should be more studies about the impact on infrastructure, increased traffic and people, the entrance/exit on Kalakaua Avenue, and the health of elderly in the area and at Kulana Hale. The traffic study mentioned "no significant impact," but there were concerns about the possible increase in traffic from Punahou Street, Bereania Street and Kalakaua Avenue. D) A resident pointed out that a seven-story garage would be 50 feet from her apartment. She feared raised rents, increased electricity bills and blocked sunlight. E) A resident stated that undergrounding of utilities is very expensive, there should be a moratorium on height, and he wants current laws enforced. At 1314 Kalakaua he has a good view. When Holomua goes up, he will lose the view and even the sky. There is glare/reflection from the wall across the street in the afternoon.

After the discussion, the following motion was adopted, "The Makiki/Lower Punchbowl/Tantalus Neighborhood Board No. 10 comments the developers of the Holomua project for providing much-needed affordable housing. The Board has heard the community concerns about increased traffic, parking, pedestrian safety and loss of view plane. The Board is not taking a position in favor or opposition the project, but will forward the letters received from community members on to the appropriate agency or agencies."



# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

Neighborhood Bd.  
Makiki/Harboview

06-03-08

I do not approve  
of increasing height  
restrictions I lived  
at Kulana Hale for  
ten years and the  
traffic situation is  
terrible as it is.  
Please open the  
restrictions.

*David Wong*

### PRINCIPALS

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President

B. STAN DUNCAN, ASLA  
Executive Vice-President

RUSSELL Y. I. CHUNG, PASLA  
Executive Vice-President

VINCENT SHIGERUNI  
Vice-President

GRANT T. MURAKAMI, AICP  
Principal

CHAIRMAN EMERITUS  
W. BRANN BRANDE, PASLA  
Chairman Emeritus

### ASSOCIATES

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Senior Associate

RAYMOND T. HIGA, ASLA  
Senior Associate

KEVIN K. NISHIKAWA, ASLA  
Associate

KAMI MIKAMI YUEN, LEED AP  
Associate

SCOTT ALUKA AIRRIGO  
Associate

SCOTT MURAKAMI, ASLA, LEED AP  
Associate

DACHENG DONG, LEED AP  
Associate

### HONOLULU OFFICE

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David Wong  
1551 S. Beretania St.  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, OAHU, HAWAII, TMR: (J) 2-4-06: 17 & 18**

Dear Mr. Wong,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steedquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu. As noted in your letter, you are concerned about increased traffic congestion, and pedestrian safety. We offer the following responses to your concerns.

**Traffic:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Keano intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

**Pedestrian Safety:** Holomua is not expected to impact existing conditions regarding pedestrian street crossings as Holomua will not increase or decrease signal timing for neighborhood crosswalks. The existing pedestrian system consists of continuous sidewalks and marked crosswalks. Signal timing for pedestrian crossings is established by the City and County of Honolulu Department of Transportation Services and is a factor of balancing pedestrian crossing time while maintaining vehicular traffic flow.

Thank you for your comments. Your comments will be included in the Final EA.  
Sincerely,

PBR HAWAII  
*Tom Schnell*

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivansky, THM Partners LLC  
John Steedquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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1314 Kalakaua Ave. #1509  
Honolulu, HI 96826  
June 16, 2008

Mr. John Steelquist, Chair  
Neighborhood Board No. 10  
530 S. King Street, Suite 406  
Honolulu HI 96813

Re: Proposed Height of Holomua Project

Dear Mr. Steelquist:

We are residents of One Kalakaua and look directly across Kalakaua Avenue at the site of the Holomua Project. Kalakaua Avenue merges into Beretania Street at the end of our block. We daily see the heavy traffic using both Kalakaua Avenue and Beretania Street since they are both major thoroughfares. Traffic is often backed up along Kalakaua Avenue fronting the Project and the ingress and egress of cars to and from the building will disrupt traffic flow thus increasing the traffic congestion problem. Allowing the additional units in the Project will make a bad traffic problem even worse. Crossing Kalakaua Avenue at the intersection can be hazardous as cars are turning into Kalakaua Avenue to go to Waikiki. Then with the light change, cars are turning into Beretania Street to go Downtown. Drivers making the turns have missed seeing the pedestrians in the crosswalk. Increasing the traffic at this intersection will make it more hazardous for the crossing pedestrians.

We therefore object to lifting the height limits of the Holomua Project.

Sincerely,

Francis C. H. Lum  
  
Bertha Y. Lum

August 7, 2008

Francis & Bertha Lum  
1314 Kalakaua Avenue, #1509  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. & Mrs. Lum,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

**Traffic & Pedestrian Safety:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Ke'eaumoku intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Holomua is not expected to impact existing conditions regarding pedestrian street crossings as Holomua will not increase or decrease signal timing for neighborhood crosswalks. The existing pedestrian system consists of continuous sidewalks and marked cross-walks. Signal timing for pedestrian crossings is established by the City and County of Honolulu Department of Transportation Services and is a factor of balancing pedestrian crossing time while maintaining vehicular traffic flow.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schmell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners, LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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Ms. Francis Soon  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII,  
TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

equipment from neighboring buildings. If One Kalakaua is in conformance with all State Department of Health noise requirements (Hawaii Administrative Rules Chapter 11-46, "Community Noise Control.") the impacts to Holomua should be within acceptable State noise standards.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII



Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivasy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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Neighborhood Board No. 10  
Makiki Chair John Steelquist  
c/o 530 S King Street, Room 406  
Honolulu, Hawaii 96813

Re: Holomua Project

Dear Chair Steelquist:

I am writing to express my concerns regarding the height variance being requested by the Holomua Project.

I am a resident of One Kalakaua and have lived there for 10 years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because:

We don't need anymore traffic and an addition to the  
traffic.

Thank you for your consideration, Gladys Helms



# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

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**PLANNING • LANDSCAPE ARCHITECTURE • ENVIRONMENTAL STUDIES • ENTITLEMENTS / PERMITTING • GRAPHIC DESIGN**

Gladys Helbush  
1314 Kalaheua Avenue  
Honolulu, HI 96826

**SUBJECT: HOLOMANA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, OAHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Helbush,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

**Traffic:** We acknowledge that local streets serve substantial volumes of traffic. The Holomanu traffic impact analysis projects traffic in the area will increase even without Holomanu due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomanu would affect nearby intersections, with the addition Holomanu, increased delays at the Beletania/Ke'eamaoka intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

**Noise:** The environmental noise assessment report prepared for the Holomanu Draft EA included sound measurements of existing noise conditions from the Holomanu site. According to the environmental noise assessment report, the Holomanu site is currently exposed to moderate and sometimes high ambient noise levels. Noise sources include vehicular traffic noise and typical urban noises such as sirens, car horns, and mechanical equipment from neighboring buildings. If One Kalaheua is in conformance with all State Department of Health noise requirements (Hawaii Administrative Rules Chapter 11-46, "Community Noise Control.") the impacts to Holomanu should be within acceptable State noise standards.

Thank you for your comments. Your comments will be included in the Final EA.  
Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Kiyavsky, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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Neighborhood Board No. 10  
Makiki Chair John Steelquist  
c/o 530 S. King Street, Room 406  
Honolulu, Hawaii 96813

Re: JUNE 19 MEETING

Dear Mr. Steelquist,

I am a resident of Kalaheua Hale.

I am writing to ask that you discuss the proposed height restriction increase for the Holomanu Condo Project that is being discussed for 1315 Kalaheua Ave. I am worried about the traffic in the area, and I disagree with a height increase.

Thank you for your help.

*James Karpf* 7/16/02  
1557 S. Beale Avenue, SF.



August 7, 2008

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Vice-President

GRANT MUKAKAMI, AICP  
Principal

Jane Rapozo  
1551 S. Beretania St., Apt. 1402  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Rapozo,

CHAIRMAN/EMERITUS  
W. FRANK BRANDT PASLA  
Chairman Emeritus

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Senior Associate

RAYMOND T. HIGA, ASIA  
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Ms. Jane Rapozo  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII,  
TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalakaua Avenue, Young Street, Beretania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exit) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

Thank you for your comments. They will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schmell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu

Your letter requested that Holomua be discussed at the June 19, 2008 Neighborhood Board Meeting. We note that Holomua was discussed at that meeting.

As noted in your letter you are concerned about the proposed height exemption for Holomua, increased traffic congestion, and pedestrian safety. We offer the following responses to your concerns.

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

**Traffic:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Ke'eaumoku intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

**Pedestrian Safety:** Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at

Jerry Smollen  
1551 Bereford #1112  
Hon, HI 96826

Neighborhood Board NO. 10  
c/o 530 S. King St., Room 406  
Hon, HI 96813

Re: Agenda for June 19 Meeting

Dear Chair Stegelquist:

I am writing to request that you add to the June 19 agenda discussion about the proposed height restriction increase for the Holouua Condo Project that is being discussed for 1315 Kalakaua Ave. I am a resident of Kulana Hale and have lived here for 4 years.

I am opposed to any building higher than 30 feet on that property. It would increase congestion, traffic and block my view. Never mind the noise and commotion in the building project.

I suggest the property owners do the community and their conscience a favor and Donate on that property, simply grass, Trees and benches.

Mahalo for your consideration,  
? Smollen



**PBR HAWAII**  
& ASSOCIATES, INC.

August 7, 2008

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President

R. STAN DUNCAN, ASLA  
Executive Vice-President

RUSSELL Y. L. CHUNG, PASLA  
Executive Vice-President

VINCENT SHIGEKUNI  
Vice-President

GRANT T. MURAKAMI, AICP  
Principal

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Chairman Emeritus

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Senior Associate

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Tel: (808) 212-2378

Jerry Smollen

1551 S. Beretania St. #1112  
Honolulu, HI 96826

July 4, 2008

To whom it may concern,

This relates to the Holomua Project proposed for 1315 Kalaikoua Ave.

There appears to be a problem with this venture. The developers want to get an exemption to build beyond the set height limits. Including eight more levels of parking space.

In the June 30, 2008 edition of the Honolulu Advertiser, a developer is quoted as saying, "I think the whole issue is the market and what the market is willing to pay." By building higher, and including affordable units, the developers are able to make a favorable return.

I wonder how many of the main players concerning this project; the developers, city council members, those that are able to approve such exemptions, live in this area.

I understand that the Makiki area is the most densely populated area in the state. If you see the traffic around here on some early afternoons, in the middle of the week, in the middle of the year, it's like you would see around Friday at rush hour, or at Christmas time. I have seen ambulances and fire trucks having problems getting through. I have seen an ambulance that couldn't get through, make a U-turn, apparently going to find another way.

If you have congestion in your body, it's something, if you can, want to alleviate, not want to increase. It's acting irresponsibly to your health.

It seems to be a matter of fattening the wallets of the developers at the expense of a reasonably contented neighborhood, or living to live in a peaceful and less stressful lifestyle. To me one is healthy and one is not.

The proximity of the Holomua Project to Kulana Hale also creates not only a view issue, but also a privacy issue.

I understand Kaka'ako has higher height limits.

Aloha, Jerry Smollen

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. Smollen,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

Your letter requested that Holomua be discussed at the June 19, 2008 Neighborhood Board Meeting. We note that Holomua was discussed at that meeting.

As noted in your letter you are concerned about the proposed height exemption for Holomua and potential noise impacts. We offer the following responses to your concerns.

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

**Noise:** The environmental noise assessment report prepared for the Holomua Draft EA included sound measurements of existing noise conditions from the Holomua site. According to the environmental noise assessment report, the Holomua site is currently exposed to moderate and sometimes high ambient noise levels. Noise sources include vehicular traffic noise and typical urban noises such as sirens, car horns, and mechanical equipment from neighboring buildings. If One Kalaikoua is in conformance with all State Department of Health noise requirements (Hawaii Administrative Rules Chapter 11-46, "Community Noise Control.") the impacts to Holomua should be within acceptable State noise standards.

Thank you for your comments. They will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schreel, AICP  
Senior Associate

cc: Leonel A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivansky, THM Partners, LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

Jerry Smollen  
1551 S. Beretania St., Apt. 1112  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII, TMK: (3) 2-4-06-17 & 18**

Dear Mr. Smollen,

Thank you for your letter Dated July 4, 2008 regarding the Holomua Draft Environmental Assessment (EA). As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments.

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet); and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

**Traffic:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Ke eaunuku intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

**Views & Privacy:** Holomua is designed as a residential tower atop a parking pedestal. The residential tower walls (including the north wall facing Kulana Hale I) are articulated with jogs, building insets, windows, and lanais. This allows 30 to 40 feet between structures from the 6<sup>th</sup> floor up. Holomua, as proposed, arguably provides more visual interest than a structure built to the maximum building height and to the 10-foot building setback, which would satisfy City and County land use requirements.

Thank you for reviewing the Draft EA. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Kathrina Kealoha, Office of Environmental Quality Control  
Serge Krivansky, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tamatis Neighborhood Board

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Chief/Principal Designer

Neighborhood Board #10  
Makiki Chair John Steelquist  
c/o 530 S King Street Room 406  
Honolulu, HI 96813

Re: Holomua Project

Dear Chair Steelquist:

I am writing to address my concerns regarding the height variance being requested by the Holomua Project.

As a 10 year resident of one Kalaheua Senior Living I oppose the project variance which will allow a height to be built at 1305 Kalaheua. I am very concerned about the additional traffic in this area and the potential added change to the many Senior Citizens who live here, many Senior Citizens who live here, many Senior Citizens who live here,

This variance will allow 7 floors for parking in this proposed building, much of which will be available for parking to outsiders. Most of these "parking space non-users" will have to be crossing Kalaheua or Beretania to return to

June 19, 2008

*to their own home. Many of these will be slow walking Senior Citizens. This seems like an invitation to pedestrian injuries or fatalities.*

*I am also concerned about the strain of 176 more apartments will put a strain on our sewer system.*

*Sincerely,*

*Joan F. White  
1314 Kalaniana'olani Avenue Apt 1213  
Honolulu, HI 96826*



# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

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Joan F. White  
1314 Kalaniana'olani Avenue, #1213  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. White,

Thank you for your letter dated June 19, 2008, addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about increased traffic congestion, selling of parking spaces to non-residents and pedestrian safety. We offer the following responses to your concerns.

**Traffic:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Bereania/Ke'eumoku intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

**Parking:** The parking floors proposed are necessary to serve residents of Holomua and there are no plans to rent parking spaces to non-residents. It is anticipated that residents purchasing Holomua affordable and market rate units may have vehicles. It is also anticipated that Holomua's urban location and close proximity to numerous amenities such as grocery stores, parks, schools, employment centers, childcare facilities, and activity centers, will reduce Holomua resident's reliance on automobiles for daily needs. Further, the Holomua site is within 650 feet of bus stops on three transit corridors. Given the proximity to transit, it is anticipated that residents may use the bus to commute and travel to other regional destinations rather than using personal cars for all trips.

**Pedestrian Safety:** Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at

Ms. Joan White  
SUBJECT: HOLONUUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII.  
TRAC: (1) 2-4-06; 17 & 18  
August 7, 2008  
Page 2

intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalakana Avenue, Young Street, Beretama Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

Thank you for your comments. They will be included in the Final EA.  
Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsky, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Rantalus Neighborhood Board

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Johanne B. Shaw  
Apr. 16 15  
1551 S. Beretama St.  
Honolulu, HI 96826

6-5-08

Dear Neighborhood Board No. 10  
Maulei Chair John Steelquist  
40530 S. King St. Room 406  
Honolulu, HI 96813

Re: Agenda for June Meeting;  
Dear Chair Steelquist,

I am writing to request that you vote to the June 10 agenda discussions about the proposed height restrictions being discussed for the Holomua Lents Project that is 1315 Kalaniana'one Ave.

I am a resident of Kalanua Hill for 7 years. I was not aware that the neighborhood boundaries surrounding the project height restrictions increase in May and was the an opportunity to express my concerns and voice opposition to any height restrictions increase and also understand the impact in this area and the light increase because it will take my view. I am I have own Obumatai analitis and am sorry to go to my job. The only way I can help see the view of Maulei and the Mauna Kea. As a pet a outdoor night next to my window also will get that light in, stopping your will consider my concern, Maulei!

Sincerely - Johanne B. Shaw



August 7, 2008

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Ms. Johanna B. Shaw  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII,  
TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet, for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet); and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final Environmental Assessment.

**Views:** Regarding your concern about views from Kulana Hale, Holomua is designed as a residential tower atop a parking structure pedestal. The residential tower walls (including the north wall facing Kulana Hale) are setback from the parking structure and are articulated with jogs, building insets, windows, and lanais. This allows 30 to 40 feet between Holomua and Kulana Hale from the 9<sup>th</sup> floor up. The Final Environmental Assessment will include a visual analysis showing a three-dimensional view of Holomua in context with the surrounding structures.

Thank you for your comments. They will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Shaw,

Thank you for your letter dated June 5, 2008, addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter you requested that Holomua be placed on the June Neighborhood Board meeting agenda because you are concerned about the proposed height exemption for Holomua and the view from Kulana Hale. We offer the following response to your concerns.

**June Neighborhood Board Meeting:** Holomua was added to the agenda and discussed at the June 19<sup>th</sup> meeting. The following concerns were raised. A) When the Holomua developers came to the April 2008 meeting, the neighbors across the street were not notified. B) At 1450 Young Street, the building next door got a height variance and now the residents complain about the noise from the equipment on their roof. C) There should be more studies about the impact on infrastructure, increased traffic and people, the entrance/exit on Kalakaua Avenue, and the health of elderly in the area and at Kulana Hale. The traffic study mentioned "no significant impact," but there were concerns about the possible increase in traffic from Punahou Street, Beretania Street and Kalakaua Avenue. D) A resident pointed out that a seven-story garage would be 50 feet from her apartment. She feared raised rents, increased electricity bills and blocked sunlight. E) A resident stated that undergrounding of utilities is very expensive, there should be a moratorium on height, and he wants current laws enforced. At 1314 Kalakaua he has a good view. When Holomua goes up, he will lose the view and even the sky. There is glare/reflection from the wall across the street in the afternoon.

The following motion was adopted, "The Makiki/Lower Punchbowl/Tantalus Neighborhood Board No. 10 commends the developers of the Holomua project for providing much-needed affordable housing. The Board has heard the community concerns about increased traffic, parking, pedestrian safety and loss of view plane. The Board is not taking a position in favor or opposition the project, but will forward the letters received from community members on to the appropriate agency or agencies."



# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

Joyce Masuda  
1314 Kalakana Avenue, #701  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU,  
O'AHU, HAWAII, T.M.K. (J) 2-4-06: 17 & 18**

Dear Ms. Masuda,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about traffic and pedestrian safety, the view from One Kalakana, and demand on the City's sewer system. We offer the following response to your concerns.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition of Holomua, increased delays at the Berechna/Keananoku intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

**Pedestrian Safety:** Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalakana Avenue, Young Street, Betaniana Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exit) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

**Views:** Regarding your concern about views from One Kalakana, Holomua is designed as a residential tower atop a parking structure pedestal. The residential tower walls are setback from the parking structure and are articulated with jogs, building insets, windows, and terraces. The Final Environmental Assessment will include a visual analysis showing a three-dimensional view of Holomua in context with the surrounding structures.

**Public Utilities/Infrastructure:** THM Partners LLC has been working with City departments that provide public facilities to ensure that adequate sewer and water can be provided. To that end, a sewer connection application was approved on April 3, 2008. Comments from the Board of Water Supply indicate that the existing water system is able to accommodate Holomua. THM Partners LLC will continue to work with City departments as well as utility providers such as electric and cable to ensure that Holomua is adequately served and does not impact service to the surrounding community.

Neighborhood Board No. 10

Makiki Chair John Steelquist

c/o 530 S King Street, Room 406

Honolulu, Hawaii 96813

Re: Holomua Project

Dear Chair Steelquist:

I am writing to express my concerns regarding the height variance being requested by the Holomua Project.

I am a resident of One Kalakana and have lived there for 3 years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because:

*It will block my view and put additional pressure on our City's water system.*

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Thank you for your consideration,

*Joyce Masuda*  
APT # 701

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June 16, 2008

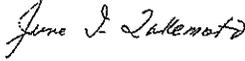
Mr. John Steelquist, Chair  
Neighborhood Board No. 10  
530 South King Street, Suite 400  
Honolulu, Hawaii 96813

Re: Lifting Makiki Height Restrictions

Dear Mr. Steelquist:

I oppose lifting the height restrictions at the proposed Holomua project and would appreciate your passing this letter on to the other board members and making a note of my opposition in the records of the board. I am a resident of One Kalaikaua and I am very concerned about the density of this neighborhood.

Sincerely,



Ms. Joyce Masuda  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII,  
TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII



Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners, LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

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June I. Takemoto  
1314 Kalaheka Avenue  
Honolulu, HI 96826

SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU,  
O'AHU, HAWAII, TMRK: (1) 2-4-06: 17 & 18

Dear Ms. Takemoto:

Thank you for your letter regarding the Holomua Draft Environmental Assessment (EA). We recognize that your letter was addressed to Neighborhood Board #10 Chairman, John Steelquist. We are responding to your comments as the Planning Consultant on behalf of the applicant, THM Partners LLC. Our response is not intended to represent the views or opinions of the City and County of Honolulu, City/County staff or its appointed and elected officials.

Your letter expressed a general concern about the density in the area and requested that the Neighborhood Board make a note of your opposition to the proposal.

We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet, for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet, including Banyan Tree Plaza (350 feet), Punchou Regency (180 feet), and 1450 Young Street (226 feet). We also note that the density proposed is not significantly greater than the previously approved density for Kulaana Hale II. In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final Environmental Assessment.

Thank you for your comments. They will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivasy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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PLANNING • LANDSCAPE ARCHITECTURE • ENVIRONMENTAL STUDIES • ENTITLEMENTS • PERMITTING • GRAPHIC DESIGN

Neighborhood Board No. 10

Makiki Chair John Steelquist

c/o 530 S King Street, Room 406  
Honolulu, Hawaii 96813

Re: Holomua Project

Dear Chair Steelquist:

I am writing to express my concerns regarding the height variance being requested by the Holomua Project.

I am a resident of One Kalaheka and have lived there for 1 years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because:

Many cars traversing Kalaheka Avenue from

Postman's Street and going north are fast driving.

Many of the residents of One Kalaheka's, Denver Springs,

and others, are, in fact shaken and are either walking

like myself, will be in great danger while crossing

Kalaheka Avenue because of the already congested

and highway. The right-of-way for the Holomua

Project will only increase the traffic problem and not

Thank you for your consideration,

of the project and wishes the changes I am

request.

Please do not consent to the variance

myself for the Holomua Project.

Makiko,

Shirley

Robert, Sr,

One Kalaheka.





**PBR HAWAII**  
& ASSOCIATES, INC.

August 7, 2008

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Lawrence C. Holley  
1551 S. Beretania St., #809  
Honolulu, HI 96826

**SUBJECT: HOLONOMA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. Holley,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about the proposed height exemption for Hololoma, the view from Kulana Hale, increased traffic congestion, and the burden to the sewer system. In response to your concerns we offer the following responses.

**Building Height:** We note that height limit for the Hololoma property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (330 feet), Punahou Regency (180 feet); and 1450 Young Street (226 feet). In light of the affordable housing provided by Hololoma, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final Environmental Assessment.

**Views:** Regarding your concern about views from Kulana Hale, Hololoma is designed as a residential tower atop a parking structure/pedestal. The residential tower walls (including the north wall facing Kulana Hale) are setback from the parking structure and are articulated with jogs, building insets, windows, and lanais. This allows 30 to 40 feet between Hololoma and Kulana Hale from the 9<sup>th</sup> floor up. The Final Environmental Assessment will include a visual analysis showing a three-dimensional view of Hololoma in context with the surrounding structures.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Hololoma traffic impact analysis projects traffic in the area will increase even without Hololoma due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Hololoma would affect nearby intersections, with the addition Hololoma, increased delays at the Beretania/Ke'eauunoku intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Mr. Lawrence Holley  
SUBJECT: HOLONOMA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII,  
TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

**Public Utilities Infrastructure:** THM Partners LLC has been working with City departments that provide public facilities to ensure that adequate sewer and water can be provided. To that end, a sewer connection application was approved on April 3, 2008. Comments from the Board of Water Supply indicate that the existing water system is able to accommodate Hololoma. THM Partners LLC will continue to work with City departments as well as utility providers such as electric and cable to ensure that Hololoma is adequately served and does not impact service to the surrounding community.

Thank you for your comments. Your comments will be included in the Final EA.  
Sincerely,

PBR HAWAII

Tom Schnell, A.I.C.P.  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivays, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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August 7, 2008

**PRINCIPALS**

THOMAS S. WHITTEN, ASLA  
President

R. STAN DUNCAN, ASLA  
Executive Vice-President

RUSSELL Y. CHUNG, PASLA  
Executive Vice-President

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Lawrence Ngirameretros  
1551 S. Bereiana St Apt 716  
Honolulu, Hawaii, 96726

Neighborhood Board No 10  
Makiki Chair John Steelquist  
530 So King St. Room 406  
Honolulu, Hawaii 96813

Agenda for June 19th meeting  
Dear Chair Steelquist

I am writing to request that you add to the June 19th agenda a discussion about the proposed height restriction increase for the Holomua Condo project. This is being discussed for 1315 Kalaheua Ave.

I am a resident of Kulana Hale and have lived there for over 3 years and was not aware of this project. I would like to express my concerns and I am opposed to the increase in height of this building. I am also concerned about the increase of traffic on Kalaheua Ave. I am also very concerned about the construction will block daylight and airflow to my and many other apartments at Kulana Hale. Mahalo for your consideration.

*Lawrence Ngirameretros*  
Lawrence Ngirameretros

Lawrence Ngirameretros  
1551 S. Bereiana St., #716  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. Ngirameretros,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

Your letter requested that Holomua be discussed at the June 19, 2008 Neighborhood Board Meeting. We note that Holomua was discussed at that meeting.

As noted in your letter you are concerned about the proposed height exemption for Holomua, increased traffic congestion, the views from Kulana Hale, as well as air flow and light. We offer the following responses to your concerns.

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet, for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final Environmental Assessment (EA).

**Views/Light/Airflow:** Regarding your concern about views from Kulana Hale, Holomua is designed as a residential tower atop a parking structure pedestal. The residential tower walls (including the north wall facing Kulana Hale) are setback from the parking structure and are articulated with jogs, building insets, windows, and lanais. This allows 30 to 40 feet between Holomua and Kulana Hale from the 9th floor up. The Final EA will include a visual analysis showing a three-dimensional view of Holomua in context with the surrounding structures.

Mr. Lawrence Ngiramerikos  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII,  
TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretama/Ke'eaunoku intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Thank you for your comments. Your comments will be included in the Final EA.  
Sincerely,

PBR HAWAII



Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivitsky, THM Partners, LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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Neighborhood Board No. 10

Makiki Chair John Steelquist

c/o 530 S King Street, Room 406

Honolulu, Hawaii 96813

Re: Holomua Project

Dear Chair Steelquist:

I am writing to express my concerns regarding the height variance being requested by the Holomua Project.

I am a resident of One Kalakaua and have lived there for \_\_\_\_\_ years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because: I enjoy having my grandchildren

over on the weekends. They especially enjoy the  
pool area. You agree to increase the height  
variance will decrease the amount of sun

in the area & will be a big disappointment to us all

I am mostly concerned about the traffic. Just  
one fatality is one too many.

Thank you for your consideration,





August 7, 2008

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Executive Vice-President

RUSSELL YI CHUNG, FASLA  
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GRANT T. AURAKAMI, AICP  
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Chairman Emeritus

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Ms. Lila Park  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII,  
TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

impacts on adjacent structures. In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption requests reasonable. The height exemption request will be discussed in the Final Environmental Assessment.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivtasy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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Dear Ms. Park,  
Thank you for your letter dated June 4, 2008, addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about the proposed height exemption for Holomua and increased traffic congestion. In response to your concerns we offer the following responses.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Ke'eaumoku intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

**Pedestrian Safety:** Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalakaua Avenue, Young Street, Bercania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exit) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

**Building Height/Shade:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet, for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). Shading to properties west of Holomua will be more or less limited depending on time of year. Holomua is designed to be set back from the street from the ninth floor to the top of the building. This design feature, combined with the fact that Holomua's slender residential tower should also limit shade



# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

Karla Kral  
3232 Castle St.  
Honolulu, Hawaii 96815

Aloha Senator Fukunaga,

I am writing to you with concern about the potential building of the Holomua condo project at 1315 Kalaikoa Ave.

I am a caregiver at Kulana Hale (1551 S Beretania) and formerly One Kalaikoa. Coming and going from the area for over 5 years I've noticed not only an increase in traffic and parking difficulty but greater danger to local residents, mostly very senior, who can and do walk, some unaided, others with canes, walkers, wheelchairs and scooters.

This has been exacerbated by the extended sidewalk closings and lane closures on Kalaikoa, Young and King streets by the Aloha Storage building.

It would seem that further major construction would hamper residents morale and safety even more. In addition to the information that the Holomua project at 1315 Kalaikoa is attempting to go over the permitted height restriction, which would only increase the density of the neighborhood detrimentally. The stress on existing infrastructure would be frightful, especially in the event of an emergency.

It has been further stated that the Holomua project would be adding extra parking to accommodate for the additional units. The level of this and any parking for that matter, would be extremely hazardous to the health & respiratory well being of the residents of Kulana Hale units on that makai side.

Lastly let me mention the view plane. That would totally disappear for the makai residents of Kulana Hale. Many of these folks chose the units so they see the ocean, and many are home bound with their windows the outlet to the world.

Mahalo for your time and consideration.

Respectfully,

*Karla Kral*  
Karla Kral

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Executive Vice-President

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Karla Kral  
3232 Castle Street  
Honolulu, HI 96815

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU,  
OAHU, HAWAII, TRM: (D) 2-4-06: 17 & 18**

Dear Ms. Kral:

Thank you for your letter regarding the Holomua Draft Environmental Assessment (EA). We recognize that your letter was addressed to Senator Fukunaga. We are responding to your comments as the planning consultant on behalf of the applicant, THM Partners LLC. Our response is not intended to represent the views or opinions of Senator Fukunaga or any other State staff or State appointed and elected officials.

As noted in your letter you are concerned about the proposed height exemption for Holomua, the view from Kulana Hale, increased traffic congestion, pedestrian safety, demand on parking and public infrastructure. We offer the following responses to your concerns.

**Traffic & Pedestrian Safety:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Ke'eunokui intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The transportation impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalaikoa Avenue, Young Street, Beretania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

**Infrastructure and Public Safety:** Comments received from City and County of Honolulu indicate that the addition of Holomua will not cause an impact on existing police facilities or operations. Comments from Honolulu Fire Department state that the Fire Department will require appropriate access and water supply. Building plans will be provided to the Fire Department for review as part of the building permit process to ensure fire/life/safety standards are satisfied.

As discussed above, the additional density is not expected to impact the pedestrian environment. No changes to the off-site pedestrian infrastructure are proposed.

Neighborhood Board # 10  
Maiki Chair John Steegquist  
530 S. King St., Room 406  
Honolulu, Hawaii 96813

Maiki Chair Steegquist: Re Holomua Project  
Word of the height variance requested by The  
Holomua Project compels me to voice opposition.

As a resident of One Kalaheau since July  
1998, I am opposed to the height increase for  
various reasons, the main one being the wind  
tunnel problem will increase the strength of  
the wind if the height variance is granted.  
Right now we have a wind tunnel problem  
on the Ewa side of One Kalaheau, making it  
dangerous to walk on that side when the Ewa  
winds are strong.

I know how dangerous a wind tunnel  
can be. My husband ended up in Queen's  
Emergency when we lived in Waikiki, because  
of the wind tunnel.

Sincerely,  
Katherine C. Brown  
1314 Kalaheua Ave. # 408  
Honolulu, HI 96826-1901

Ms. Karla Kral  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, OAHU, HAWAII,  
TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

**Parking:** Holomua plans provide for 245 parking stalls. As discussed in the Draft EA, THM Partners LLC requests the option to include a lesser number of 201 resident parking spaces (1.14 stalls/unit) and 10 guest parking stalls for a total of 211 parking stalls. Please note that unit plans and parking structure design are not finalized and additional changes regarding parking may be required; however it is envisioned that Holomua will provide at least one stall per unit. Detailed plans and parking analysis will be provided on architectural plans submitted for building permits.

**Views:** We acknowledge that exemptions to height and density are proposed. In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemptions reasonable and necessary to make the project financially viable. Recent residential condominium projects in Honolulu have focused on high-end, luxury units. Holomua fills a void by providing affordable housing and moderately-priced market rate housing in urban Honolulu, thus creating the opportunity for home ownership in close proximity to jobs and urban amenities. Regarding your concern about views from Kulanā Hale, Holomua is designed as a residential tower atop a parking structure pedestal. The residential tower walls (including the north wall facing Kulanā Hale) are setback from the parking structure and are articulated with jogs, building insets, windows, and lanais. This allows 30 to 40 feet between Holomua and Kulanā Hale from the 9<sup>th</sup> floor up. The Final Environmental Assessment will include a visual analysis showing a three-dimensional view of Holomua in context with the surrounding structures.

Thank you for your comments. They will be included in the Final EA.

Sincerely,

PBR HAWAII



Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners LLC  
Senator Carol Fukunaga



# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

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Executive Vice-President

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Executive Vice-President

VINCENT SHERMAN  
Vice-President

GRAYTTI MURAKAMI, AICP  
Principal

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Senior Associate

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Associate

KIMUHIKAKI YOUNG, LEED-AP  
Associate

SCOTT ALIKA, AIA/LEED-AP  
Associate

SCOTT NAKAKAMA, A.S.I.A., LEED-AP  
Associate

DA CHENG DONG, LEED-AP  
Associate

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June 6, 2008

*Rec: please give copy. Katsuya*

Katherine C. Akona  
1314 Kalakana Avenue, #408  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, OAHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Akona,

Thank you for your letter dated June 18, 2008 addressed to Makiki/Lower Punchbowl/Tanialus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tanialus Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about the effects on the physical environment, specifically if a wind tunnel is created by the addition of Holomua. We acknowledge your concern for the environmental conditions of Kalakana Avenue upon completion of construction. Holomua is designed to be set back from the street from the ninth floor to the top of the building. This design feature, combined with the fact that Holomua's frontage is relatively limited should reduce the wind tunnel or canyon effect that can be created when buildings are massed close to the street on both sides of a block.

Thank you for your comments. Your comments will be included in the Final EA. Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsky, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tanialus Neighborhood Board

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Mr. John Steelquist, Makiki Chair  
Neighborhood Board No. 10  
c/o 530 S. King Street, Room 406  
Honolulu, HI 96813

Re: Holomua Project

Dear Mr. Steelquist:

I am writing to express my concerns regarding the height variance being sought by the Holomua Project.

I am the owner of Unit 1102 at One Kalakana Senior Living for the past 8 years. In the past, as a result of a height variance granted to our neighbor on Young Street, we have received noise violation citations pertaining to our air conditioning unit located on the roof of our building. I understand that we are forced to turn down our air conditioning system during the night, which makes it quite uncomfortable during the summer months. We would not desire to have this happen again due to any height variations granted to the Holomua Project. Furthermore, a height variation would also cause the blocking of sunlight into our pool area which becomes quite cold due to strong winds. We have regularly scheduled water exercises twice a week in the mornings.

Due to the above reasons we are strongly opposed to granting a height variation to the Holomua Project. We hope that you will give our opinions due consideration.

Katsuya and Foshir S. Nohara  
1314 Kalakana Ave #1102



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*Principal*

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*Associate*
- KIMMIKAWA YUEN, LEED-AP  
*Associate*
- SCOTT ALIKA, AIA/INGO  
*Associate*
- SCOTT MURAKAMI, ASIA, LEED-AP  
*Associate*
- DACHENG DONG, LEED-AP  
*Associate*

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- Wailuku, Hawaii 96793-1271
- Tel: (808) 242-2878

August 7, 2008

Katsuya and Tositi Nohara  
1314 Kalakaua Avenue, #1102  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU,  
O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mrs. & Mr. Nohara,

Thank you for your letter dated June 6, 2008, addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about the building's physical impacts such as wind and shade as well as the potential for complaints related to noise. We offer the following response to your concerns.

**Wind Tunnel/Shade:** We acknowledge your concern for the environmental conditions of Kalakaua Avenue upon completion of construction. Holomua is designed to be set back from the street from the ninth floor to the top of the building. This design feature, combined with the fact that Holomua's frontage is relatively limited should reduce the wind tunnel or canyon effect that can be created when buildings are massed close to the street on both sides of a block. Shading to properties west of Holomua will be more or less limited depending on time of year. Holomua's slender tower should also limit shade impacts on adjacent structures.

**Noise:** The environmental noise assessment report prepared for the Holomua Draft EA included sound measurements of existing noise conditions from the Holomua site. According to the environmental noise assessment report, the Holomua site is currently exposed to moderate and sometimes high ambient noise levels. Noise sources include vehicular traffic noise and typical urban noises such as sirens, car horns, and mechanical equipment from neighboring buildings. If One Kalakaua is in conformance with all State Department of Health noise requirements (Hawaii Administrative Rules Chapter 11-46, "Community Noise Control.") the impacts to Holomua should be within acceptable State noise standards.

Thank you for your comments. They will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Kravtsov, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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JUL 11 11 14 AM '08  
Ms. Lillian Yamada  
1551 South Beretania Street  
Honolulu, Hawaii 96826

July 7, 2008

Ms. Katherine Puana Kealoha, Director  
Office of Environmental Quality Control  
235 South Beretania Street, Suite 702  
Honolulu, Hawaii 96813

Ms. Leonell Domingo  
Hawaii Housing Finance and Development Corp.  
677 Queen Street  
Honolulu, Hawaii 96813

Mr. Tom Schnell  
PBR HAWAII  
1001 Bishop Street  
ASB Tower, Suite 650  
Honolulu, HI 96813

Re: Draft Environmental Assessment for Holomua Project  
(1) 2-4-6:17 and 18

Ladies and Gentleman:

I am writing to ask that, prior to your acceptance of the draft environmental assessment referenced above, you require additional action on the part of THM Partners, the proposed developer of a residential condominium project called Holomua in Makiki, to address and resolve significant environmental, safety, social and health concerns about the project.

Most significantly, because this project is planned to be 51 percent "affordable", the developer is seeking exemption from certain height and setback restrictions. We ask that you refuse to approve such exemptions or take further action until further corrective action is taken by THM to resolve all of our concerns.

I am one of more than 25 residents in the area who attended a recent Makiki Neighborhood Board meeting to voice our concerns, and one of 58 senior citizens who have written to the Neighborhood Board to further object to the lifting of height and setback restrictions. As you will note, we are not opposing the project altogether, but simply opposing the lifting of these restrictions based on the current draft EA.

Ms. Katherine Puana Kealoha  
Ms. Leonell Domingo  
Mr. Tom Schnell  
July 7, 2008  
Page 2

Neighborhood Board Chair John Steelquist assured us that all of our letters and our expression of concern would be forwarded to you for further consideration.

In addition to the significant concerns raised below, we note that the rendering in Figure 2 of the draft Environmental Assessment is erroneous, depicting our building (Kulana Hale) as a solid wall, when, in fact, Kulana Hale consists entirely of windows facing the proposed Holomua Project—all of which will be a mere 20 feet away from the Holomua construction, eight stories of parking (or solid wall) and Holomua's building.

1) Traffic

We believe, based on personal observation, experience and common sense, that the draft EA vastly understates the negative impact on traffic in this congested area. We ask that you request the developer to provide you with copies of the police reports about pedestrian accidents and fatalities in the area (we are aware of at least two fatalities). We reside in a Senior Living environment (as is One Kaka'auka, just across the street) and any impacts must be taken into account in light of the current residents.

According to the draft EA, "Holomua would not have a significant impact at any of the study intersections." The draft EA further states that "the unacceptable operating level at the Beretania Street/Keeanunoku intersection in the future is caused by the cumulative effect of future traffic, with or without the addition of Holomua." We believe it is *absolutely unacceptable* to use the poor traffic conditions already in existence as an *excuse* to make a bad situation even more dangerous.

a. Seniors

As noted above, Kulana Hale is a senior affordable rental project and One Kaka'auka is a senior living building just across the street. This neighborhood consists largely of senior residents, many with limited mobility. Creating additional traffic problems is not simply a matter of safety—for many residents it is already, or could be with the addition of more cars – a matter of life and death.

b. Market based units

Because the proposed project will consist only of 51 percent affordable units, we would anticipate that the market priced units will attract residents with cars. We do not believe that the draft EA adequately addresses the real world impact of market priced units and the additional

Ms. Katherine Puana Kealoha  
Ms. Leonell Domingo  
Mr. Tom Schnell  
July 7, 2008  
Page 3

parking and traffic that will be generated along the public streets. We request that you require the developer address and quantify the parking that can be anticipated with both the affordable and market priced units.

c. "D" rating

Table 3 in the draft EA traffic study lists several areas where the traffic conditions are rated a "D" and, we believe, even those areas that are already a "C" might be more hazardous than the rating suggests due to the elderly population in the area. Again, we believe it is imperative that you not allow the "excuse" of poor traffic and density to be allowed to make a dangerous situation deadly.

2) Noise

The draft EA does not sufficiently address the construction and daily operation noise of parking that will be a matter of mere feet (as few as 20) from the living room residents of Kulana Hale. We want you to require that the developer conduct studies and have an open and transparent process for our meaningful participation to ensure that our residents' health and safety will not be adversely affected.

3) Density

Our most serious objection to the lifting of height and setback restrictions (and notably not the project itself) is that in the interest of promoting affordable housing and allowing density increases in the urban core, the project goes too far in packing people in right next to Kulana Hale. The additional floors, additional parking is what will create intense pressure and threatens the livability of the Kulana Hale residences. We want the developer to meet with Kulana Hale and other residences in the area to hear and address our concerns. They have completely failed the test of being good neighbors to date.

4) Infrastructure

Again, we believe the draft EA inadequately identifies and addresses the additional burdens on sewer, water, police and fire department service in the area, due largely to the additional units that will be built if height and setback restrictions are lifted. We want the developer to recognize and develop a plan for the intense packing in of people in this very small footprint in an already densely crowded area of our Honolulu.



August 7, 2008

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*Executive Vice-President*  
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*Principal*

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6) Potential hazardous materials

We know that there is a Seven-Eleven very close to where construction of Holomua will take place and want to know what efforts will be made to protect the integrity of underground gasoline storage tanks.

6) Lack of meaningful affordability units

The draft Holomua Environmental Assessment claims that strong demand for affordable workforce housing is evidenced by the strong rental demand in the immediate area as well as relatively high prices for existing residential products. According to the draft EA, Holomua is intended to provide a needed housing type at an affordable price. However, the project itself will merely be 51 percent "affordable" and only for ten (10) years. The neighboring project (Kulana Hale) is entirely affordable rental units for a 30 year period and we want you to seriously question whether lifting height restrictions and set back restrictions *permanently* is truly justified for this project when so many of the traffic, noise, congestion and density issues are considered.

Although HRS 201H allows for certain exemptions to foster the development of affordable housing, it does not *mandate* that exemptions be granted when the trade-offs in terms of health, safety, environment are too great.

7) Tree removal

We understand from pictures in the draft EA that trees may be planted, but also that current tree(s) will be removed and we want to know what is being done by the developer to preserve and protect the existing trees.

In short, and in conclusion, we are asking for your help in establishing a more meaningful process for addressing community concerns. In the meantime, we are working with community leaders to explore issues that we have raised here, such as requesting police traffic reports and conducting some public forums to further discuss the important matters of affordable housing as well as the health, safety and well being of residents already in the dense urban core.

Mahalo for your consideration.

**PBR HAWAII**  
& ASSOCIATES, INC.

Ms. Lillian Yamada  
1551 S. Beretania Street #504  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Yamada,

Thank you for your letter dated July 7, 2008 regarding the Holomua Draft Environmental Assessment (EA). As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments.

**Rendering (Figure 2).** We acknowledge that the rendering in Figure 2 does not provide any building detail relative to Kulana Hale 1. The purpose of the rendering was to show Holomua's architecture. Regarding your concern about the distance between Kulana Hale and Holomua, Holomua is designed as a residential tower atop a parking structure pedestal. The residential tower walls (including the north wall facing Kulana Hale) are setback from the parking structure and are articulated with jogs, building insets, windows, and lanais. This allows 30 to 40 feet between Holomua and Kulana Hale from the 9<sup>th</sup> floor up. In addition, as part of the Final EA, we have included a visual analysis which provides a three-dimensional view of Holomua, showing the building in context with the surrounding structures.

**Traffic.** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would effect nearby intersections, with the addition Holomua, increased delays at the Beretania/Ke'eaumoku intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

**Seniors.** We acknowledge your concern for neighboring residents and recognize that many of the residents in the community are seniors. Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The transportation impact analysis shows that the increment of traffic generated by the Holomua will not result in a

significant impact at any of the study intersections including those on Kalia Avenue, Young Street, Bereiana Street, and King Street. Thus, Hololoma will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Hololoma building (including the garage entrance) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

Market Based Units. It is anticipated that residents purchasing Hololoma affordable and market rate units may have vehicles. It is also anticipated that Hololoma's urban location and close proximity to numerous amenities such as grocery stores, parks, schools, employment centers, childcare facilities, and activity centers, will reduce Hololoma resident's reliance on automobiles for daily needs. Further, the Hololoma site is within 650 feet of bus stops on three transit corridors. Given the proximity to transit, it is anticipated that residents may use the bus to commute and travel to other regional destinations rather than using personal cars for all trips.

Despite Hololoma's proximity to amenities and public transportation, the Hololoma plans included in the Draft EA provide for 242 parking stalls (satisfying the City's minimum parking requirement). As discussed in the Draft EA, THM Partners LLC requests the option to include a lesser number of 201 resident parking spaces (1.14 stalls/unit) and 10 guest parking stalls for a total of 211 parking stalls if required to make Hololoma financially viable. Please note that unit plans and parking structure design are not finalized and additional changes regarding parking may be required; however it is envisioned that Hololoma will provide at least one stall per unit.

"D" Rating. The Transportation Impact Analysis Report was prepared to analyze any potential significant adverse impacts of Hololoma on the surrounding transportation system. The analysis was prepared following standard traffic engineering practice. Under standard traffic engineering practice and procedures Level of Service "D" is considered an acceptable level of service.

Noise. The environmental noise assessment report prepared for the Hololoma Draft EA included sound measurements of existing noise conditions from the Hololoma site. Short-term noise impacts from construction activities are expected during the construction period; however construction noise will be short-term and limited to daylight hours. Proper mitigation measures will be implemented to minimize noise impacts, and all work will comply with the State Department of Health (DOH) noise requirements and limits. Regarding noise impacts after construction building's design includes noise mitigation measures such as fully enclosing the parking structure on the Kulana Hale (mauka) side of the building. This should control noise as well as other effects such as headlight glare and exhaust emissions. The long-term operation of Hololoma will be in conformance with DOH noise requirements and limits (Hawaii Administrative Rules Chapter 11-46, "Community Noise Control.")

Density. We acknowledge that height, density, and setback exemptions are proposed. In light of the affordable housing provided by Hololoma, THM Partners LLC finds the exemptions reasonable.

The existing height limit for the Hololoma property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors. This is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Kulana Hale (170 feet), Banyan Tree Plaza (350 feet), Punaohu Regency (180 feet); and 1450 Young Street

(226 feet). The attached exhibit shows the Hololoma height in relation to existing building heights in the neighborhood.

We note that a previously approved project for the Hololoma property (Kulana Hale II) was granted exemptions for height (166 feet), density, and setbacks. While Kulana Hale II would have been lower in height than Hololoma, it would have been similar in density (162 units vs. 176 units for Hololoma). This similar density at lower height was achieved because the Kulana Hale II units would have been much smaller than the Hololoma units.

In the end, Kulana Hale II was never built because it was not financially viable, despite the exemptions granted and the strong demand for affordable housing in Honolulu. The Kulana Hale II developer eventually sold the property to the current owner, THM Partners LLC. THM Partners LLC has now designed Hololoma to address current financial realities, such as the cost of land in urban Honolulu and current building material and construction costs.

Regarding your request for the Hololoma developer (THM Partners LLC) to hear and address your concerns, THM Partners LLC, presented the Hololoma project at three Neighborhood Board meetings: 1) the Makiki/Lower Punchbowl/Tantalus Neighborhood Board meeting on April 17, 2008; 2) the Makiki/Lower Punchbowl/Tantalus Neighborhood Board meeting on June 19; and 3) the McCully/A65 'ii'iii Neighborhood Board meeting on July 3. In addition, the EA process provided the opportunity for the public to gain information and provide comments on Hololoma. As a result of this outreach, combined with consultation with public agencies, THM Partners LLC received over 80 comment letters regarding Hololoma.

The concerns you note reflect many of the concerns raised by the community. We have responded to all concerns with individual response letters and by providing additional information in the Final EA.

Infrastructure. The applicant has consulted with City and County Facility Maintenance, Board of Water Supply, Department of Planning and Permitting, Fire Department, and Police Department with regard to availability of services.

Comments received from City and County of Honolulu Police Department indicates that the addition of Hololoma will not cause a significant impact on existing police facilities or operations. Comments from Honolulu Fire Department require appropriate access and water supply. Building plans will be provided to the Fire Department for review as part of the building permit process to ensure fire/life/safety standards are satisfied.

Regarding infrastructure, a sewer connection application was approved on April 3, 2008. Comments from the Board of Water Supply indicate that the existing water system is able to accommodate Hololoma. THM Partners LLC will continue to work with City departments as well as utility providers such as electric and cable to ensure that Hololoma is adequately served and does not impact service to the surrounding community.

Potential Hazardous Materials. The construction of Hololoma is not expected to have any effect on underground storage tanks on adjacent properties. Hololoma is designed to be above the existing grade and a minimum of grading and excavation will be necessary.

Ms. Lillian Yamada  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-  
66: 17 & 18  
August 7, 2008  
Page 4

Tree Removal. The large mahogany trees located in the Kalakaua Street right of way are not proposed to be removed. They are designated as "exceptional" trees by the City and County of Honolulu. THM Partners LLC intends to protect these trees and considers the existing trees an asset to the site, contributing to the pedestrian environment by adding visual interest, separation from traffic, shade, and mitigating noise.

Thank you for reviewing the Draft EA. Your comments will be included in the Final EA.

Sincerely,

PER HAWAII



Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawai'i Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivavsky, THM Partners, LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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William Yamada  
1551 So. Beretania St. #504  
Honolulu, Hawaii 96826

Neighborhood Board #10  
Makiki Chair John Steelquist  
c/o 590 So. King St. Room 406  
Honolulu, Hawaii 96813

Re: Agenda for June 19 Meeting  
Dear Chair Steelquist:

I was not aware that the neighborhood board was considering the possible height reduction measure eliminating setbacks for the proposed Holomua Condo Project for 1315 Kalaheou Ave.

As a resident of the senior building of Kuleana Hale, I am appalled & outraged of the proposed project which will shut our building.

What is being proposed will have dire



# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

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Conspicuous to the environment as well as in front of structures such as dining, traffic, etc., tower, congestive, etc. But the Kulana Hale apartments side facing the proposed Holomua condo will have direct impact by the deprivation of their view and, most importantly, the open air and sunlight they now have.

There is a great deterioration on the height restrictions including setbacks in place now... please enforce the building code.

Your consideration is vital in the matter.

Methale,  
*[Handwritten Signature]*

Lillian Yamada  
1551 S. Beretania St., #504  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HOLOLULU, OAHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Yamada,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about the proposed height exemption for Holomua, the view from Kulana Hale, increased traffic congestion, and the burden to the sewer system. In response to your concerns we offer the following responses:

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet, for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet); and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final Environmental Assessment.

**Views:** Regarding your concern about views from Kulana Hale, Holomua is designed as a residential tower atop a parking structure pedestal. The residential tower walls (including the north wall facing Kulana Hale) are setback from the parking structure and are articulated with logs, building insets, windows, and lanais. This allows 30 to 40 feet between Holomua and Kulana Hale from the 9th floor up. The Final Environmental Assessment will include a visual analysis showing a three-dimensional view of Holomua in context with the surrounding structures.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Keolu intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Ms. Lillian Yamada  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII,  
TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

Public Utilities Infrastructure: THM Partners LLC has been working with City departments that provide public facilities to ensure that adequate sewer and water can be provided. To that end, a sewer connection application was approved on April 3, 2008. Comments from the Board of Water Supply indicate that the existing water system is able to accommodate Holomua. THM Partners LLC will continue to work with City departments as well as utility providers such as electric and cable to ensure that Holomua is adequately served and does not impact service to the surrounding community.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII



Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

June 16, 2008

Mr. John Steelquist, Chair  
Neighborhood Board No. 10  
530 South King Street, Suite 406  
Honolulu, Hawaii 96813

Re: Lifting Makiki Height Restrictions

Dear Mr. Steelquist:

I oppose lifting the height restrictions at the proposed Holomua project and would appreciate your passing this letter on to the other board members and making a note of my opposition in the records of the board. I am a resident of One Kalaukaia and I am very concerned about the density of this neighborhood.

Sincerely,





# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

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Mr. Lloyd Namihira  
1314 Kalakaua Ave.  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. Namihira,

Thank you for your letter dated June 16, 2008 regarding the Holomua Draft Environmental Assessment (EA). As the planning consultant for the applicant, THM Partners LLC, we acknowledge your general opposition to the proposed building height.

We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet); and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

*Tom Schuall*

**PBR HAWAII**  
Tom Schuall, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivavsky, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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Lois T Norris  
1314 Kalakaua Ave, Apt 1113  
Honolulu HI 96826

June 7, 2008

To whom it may concern:

I have been a resident of Honolulu since 1959, and have welcomed many of the changes that came after statehood. But our habit of allowing high-rises with height variances to blight so many of our neighborhoods is not one of them! So little attention is paid to infrastructure, including sewers and electric power, and traffic increases, and also increased dangers to pedestrians in these areas.

As a 90 year old resident of One Kalakaua, I strongly appose the height variance applied for by the Holomua Project planned for 1315 Kalakaua Avenue. We have already allowed one such variance in the immediate vicinity of my building, and I think we need to agree that enough is enough ! There are far too many elderly people in this area to safely allow for the increased traffic on Kalakaua, Young, and Beretania streets that this height variance would bring.

Also, as a Board member of the One Kalakaua Homeowner's Association I am aware that a building next to ours on Young Street that did receive a variance has cost us money and staff time, because their management complained repeatedly to the Dept of Health about the noise generated by the chillers on our roof. I would hate to see us have to go through this again --- after all, we were here first, and our height is in compliancel

With my thanks for your consideration on this matter that is of great importance to the elderly at One Kalakaua,

Sincerely,  
*Lois T Norris*

Lois T Norris



**PRINCIPALS**

THOMAS WITTEN, ASLA  
President

R. SHAN DUNCAN, ASLA  
Executive Vice-President

MUSSELL YI CHUNG, ASLA  
Executive Vice-President

VINCENT SHIGESUNI  
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Principal

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August 7, 2008

Lois T. Norris  
1314 Kalakaua Avenue, #1113  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Norris,

Thank you for your letter dated June 7, 2008 addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about increased traffic congestion and noise. We offer the following responses to your concerns.

**Traffic & Pedestrian Safety:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition of Holomua, increased delays at the Beretania/Ke'eaumoku intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalakaua Avenue, Young Street, Beretania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exit) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

Ms. Lois T. Norris  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII,  
TMK: (1) 2-4-06: 17 & 18  
August 4, 2008  
Page 2

**Noise:** The environmental noise assessment report prepared for the Holomua Draft EA included sound measurements of existing noise conditions from the Holomua site. According to the environmental noise assessment report, the Holomua site is currently exposed to moderate and sometimes high ambient noise levels. Noise sources include vehicular traffic noise and typical urban noises such as sirens, car horns, and mechanical equipment from neighboring buildings. If One Kalakaua is in conformance with all State Department of Health noise requirements (Hawaii Administrative Rules Chapter 11-46, "Community Noise Control.") the impacts to Holomua should be within acceptable State noise standards.

Thank you for reviewing the Draft EA. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

Neighborhood Board No. 10

Makiki Chair John Steelquist

c/o 530 S King Street, Room 406

Honolulu, Hawaii 96813

Re: Holomua Project

Dear Chair Steelquist:

I am writing to express my concerns regarding the height variance being requested by the Holomua Project.

I am a resident of One Kalaikaua and have lived there for 10 1/2 years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because:

- ① It will encourage the construction of more high rise buildings despite the paucity of population.
- ② Another factor in the increase of energy, i.e. electricity, water, needed to supply the additional space from above will be used to conserving.

Thank you for your consideration,

*Maria O. Pell (Maria O. Pell)*  
1314 Kalaikaua Ave, #809  
Honolulu, HI 96826

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SCOTT ALIKA AMINGO  
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SCOTT MORGAN, AIA, LEED-AP  
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**WAILUKU OFFICE**

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Wailuku, Hawaii 96793-1271  
Tel: (808) 242-2878

Dear Ms. Pell,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about the proposed height exemption for Holomua and consequences on traffic, pedestrian safety and energy demand. We offer the following responses to your concerns.

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet); and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

**Pedestrian Safety:** Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalaikaua Avenue, Young Street, Berehania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exity) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Berehania/Keaunohou

Ms. Marie O. Pell  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-  
06: 17 & 18  
August 7, 2008  
Page 2

intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM.

**Energy Conservation:** Holomua represents a more compact development and intensive use of urban lands near employment, recreation, and commercial centers reducing the reliance on automobiles. Addressing your specific concerns regarding electrical energy, where feasible, the applicant will incorporate energy efficient appliances and building features.

Thank you for your comments. They will be included in the Final EA.

Sincerely,

PBR HAWAII



Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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June 10, 2008

Neighborhood Board No. 10  
Makiki Chair, Mr. John Steelquist  
C/o 530 S. King Street, Room 406  
Honolulu, Hawaii 96813

Re: Holomua Project

Dear Chair Steelquist:

I am a resident of One Kalakaua and have lived here for 10 years.

I am writing to express my concerns regarding the height variance requested by the Holomua Project. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I am very much opposed to the height increase because of the reasons as stated below.

1. Whenever a pedestrian crosses the intersection of Beretania Street and Kalakaua Avenue, it takes up half of the "traffic light time" to get to the other side of the street. This allows only about 6 cars to make a left turn into Kalakaua Avenue and the cars are backed up especially during rush hours.
2. Whenever there is an accident or congestion on the westbound freeway traffic, all the traffic pours into Beretania Street. Whenever there is a function in Waikiki (parades, sunset on the beach, hulauleas, Christmas shopping traffic back-up from the Ala Moana Shopping Center, etc.) cars are backed up on Kalakaua Avenue, Beretania Street, Young Street and all of the side streets surrounding the proposed Holomua Project.
3. Most of the residents in our surrounding community are senior citizens and are not able to get from point "A" to point "B" with dexterity as would a younger person.

I humbly request that you deny the height variance being requested by the Holomua Project.



# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

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Tel: (808) 242-2878

Mary Yamakawa  
1314 Kalaikaua Avenue, #1104  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, OAHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Yamakawa,

Thank you for your letter dated June 10, 2008 addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about traffic congestion and pedestrian safety. We offer the following response to your concerns.

We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Berehania/Ke'eannuoku intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalaikaua Avenue, Young Street, Berehania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exist) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

Thank you for your comments. They will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate



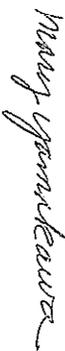
cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katharine Kealoha, Office of Environmental Quality Control  
Serge Khivatsky, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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Makiki Chair, Mr. John Steelquist

Your attention to the foregoing will be most appreciated.

Sincerely,



Mary Yamakawa  
1314 Kalaikaua Avenue #1104  
Honolulu, Hawaii 96826

Masaru & Mitsue Yokota

June 18, 2008

Neighborhood Board #10  
Makiki Chair  
Mr. John Steelquist  
530 S. King St. #406  
Honolulu, HI 96813

Re: Holomua Project

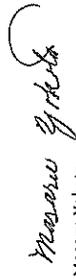
Dear Mr. Steelquist,

We are owners of a unit at One Kalakaua and have lived here since November of 2005. We are unable to attend the meeting on June 19 but would like to voice our opinion on the request for a height variance for the above mentioned project.

We feel that a variance to the height limit should not be granted. This would mean more traffic in already very congested intersections, and as a result, it would make the neighborhood more dangerous for the seniors in our building as well as our other neighbors and people passing through. The higher building would block the sunlight reaching our property, including our swimming pool and gardens. It would also negatively affect the Honolulu skyline which must be protected.

Height restrictions are not arbitrarily imposed and should be strictly adhered to. If another variance is granted in the area, it will set a precedent for more deviations and make the existing legal height limit meaningless. This would also negatively affect property values in the area. We do not want to see that happen to our neighborhood.

Thank you,

  
Masaru Yokota  
  
Mitsue Yokota



**PBR HAWAII**  
& ASSOCIATES, INC.

August 7, 2008

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*Executive Vice-President*

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*Executive Vice-President*

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*Vice-President*

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Wailuku, Hawaii 96793-1271  
Tel: (808) 242-2526

Masaru & Mitsue Yokota  
1314 Kalakaua Avenue, #406  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, OAHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. & Mrs. Yokota,

Thank you for your letter dated June 18, 2008 addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter, you are concerned about the proposed height exemption for Holomua and increased traffic congestion. We offer the following responses to your concerns.

**Traffic:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Ko'eau moku intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalakaua Avenue, Young Street, Beretania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exit) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

Height: We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet; including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet); and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

Thank you for your comments. They will be included in the Final EA.  
Sincerely,

PBR HAWAII



Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawai'i Housing Finance & Development Corporation  
Katherine Kealooha, Office of Environmental Quality Control  
Serge Krivansky, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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June 19, 2008

Neighborhood Board No. 10

Makiki, Olani Paha, Honolulu

90530 So. Kapiolani Blvd. #106

Honolulu HI 96813

Re: Holomua Project

Dear Chair Rubergin:

I am writing to express my concern regarding the height variance being requested by the Holomua Project.

I am a resident of the Kulekua Lower Hono and have lived there for 10 years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because it will have more cars entering the Kulekua Ave since there will be no other exit or entry except into Kulekua Ave.

Thank you for your consideration.

Dwight L. Cherry

April 24<sup>th</sup>  
1314 Kulekua Ave.



August 7, 2008

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President

R. STAN DUNCAN, ASLA  
Executive Vice-President

RUSSELL Y. CHUNG, ASLA  
Executive Vice-President

VINCENT SHIGEKUNI  
Vice-President

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Principal

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Chairman Emeritus

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Senior Associate

KEVIN K. NISHIKAWA, ASLA  
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KIM MIKIKAMI YUEN, LEED+AP  
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SCOTT A. LUKE, ADRIGD  
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SCOTT A. URUKAKAMI, ASLA, LEED+AP  
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DACHENG DONG, LEED+AP  
Associate

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WAILUKU OFFICE  
1711 Aiea Loop, Suite 4  
Wailuku, HI 96793-7571  
Tel: (808) 242-2878

June 18, 2008

Dear Mr. Steelquist,

I have lived at 1. Kalabawa Ave. for some time now, and I strongly object to the Holomua building. It is against the height restrictions, and therefore should not be able to be built. Please hear our concerns.

Very truly yours  
Miriam Peterson

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Chung,

Thank you for your letter dated June 19, 2008 addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter, you are concerned about increased traffic congestion. We offer the following response to your concern.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition of Holomua, increased delays at the Beretania/Ke'eaumoku intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

**Pedestrian Safety:** Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalakaua Avenue, Young Street, Beretania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exit) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

Thank you for your comments. They will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawai'i Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

## PRINCIPALS

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Executive Vice-President

RUSSELL Y.H. CHUNG, PASLA  
Executive Vice-President

VINCENT SHIGERSON  
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Associate

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SCOTT ALIKA AMRIGO  
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PLANNING • LANDSCAPE ARCHITECTURE • ENVIRONMENTAL STUDIES • ENTITLEMENTS / PERMITTING • GRAPHIC DESIGN

Miriam Dawson  
1314 Kalaheka Avenue  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, OAHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mrs. Dawson,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

Please note that Holomua will be providing affordable housing in accordance with the provisions of Chapter 201H, HRS. We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet, including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

Thank you for your comments. They will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc:

- Leonell A. Domingo, Hawai'i Housing Finance & Development Corporation
- Katherine Kealoha, Office of Environmental Quality Control
- Serge Krivatsy, THM Partners LLC
- John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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Neighborhood Board No. 10

Makiki Chair John Steelquist

c/o 530 S King Street, Room 406

Honolulu, Hawaii 96813

Re: Holomua Project

Dear Chair Steelquist:

I am writing to express my concerns regarding the height variance being requested by the Holomua Project.

I am a resident of One Kalaheka and have lived there for 14 years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because: I have arthritis & walk with a walker & cane. I need my exercise, so walking is helpful to me. The height increase affects my activities because of the increase of the fire & number of pedestrians. will cause handshakes. Also, over view of Diamond will be blocked.

I have worked very hard in my younger years & feel I have earned the right to a happy retirement. Please don't disappoint me.

Thank you for your consideration,



August 7, 2008

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Tel: (808) 242-2576

Neighborhood Board No. 10

Makiki Chair John Steelquist

c/o 530 S King Street, Room 406

Honolulu, Hawaii 96813

Re: Holomua Project

Dear Chair Steelquist:

I am writing to express my concerns regarding the height variance being requested by the Holomua Project.

I am a resident of One Kalakaua and have lived there for 20 years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because:

IT WILL BLOCK MY VIEW FROM MY APARTMENT.

TRAFFIC INCREASE IN THE AREA.

LESS STREET PARKING.

MORE CONCRETE AND PERFECTION OF SW/HIGH.

Thank you for your consideration,

*Tom Schnell*

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Resident of One Kalakaua,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter, you are concerned about pedestrian safety and the view from One Kalakaua. In response to your concerns we offer the following responses.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition of Holomua, increased delays at the Beretania/Ke'eaumoku intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

**Views:** Regarding your concern about views from One Kalakaua, Holomua is designed as a residential tower atop a parking structure pedestal. The residential tower walls are setback from the parking structure and are articulated with jogs, building insets, windows, and lanais. The Final Environmental Assessment will include a visual analysis showing a three-dimensional view of Holomua in context with the surrounding structures.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: **Leonell A. Domingo, Hawai'i Housing Finance & Development Corporation**  
**Katherine Kealoha, Office of Environmental Quality Control**  
**Serge Krivatsy, THM Partners, LLC**  
**John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board**

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# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

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Resident of One Kalakana (Name Unreadable 2)  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU,  
HAWAII, TRM: (1) 2-4-06: 17 & 18  
August 4, 2008  
Page 2

Despite Holomua's proximity to amenities and public transportation, the Holomua plans included in the Draft EA provide for 245 parking stalls. As discussed in the Draft EA, THM Partners LLC requests the option to include a lesser number of 201 resident parking spaces (1.14 stalls/unit) and 10 guest parking stalls for a total of 211 parking stalls if required to make Holomua financially viable. Please note that unit plans and parking structure design are not finalized and additional changes regarding parking may be required; however it is envisioned that Holomua will provide at least one stall per unit.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawai'i Housing Finance & Development Corporation

Kathleen Kealoha, Office of Environmental Quality Control

Serge Krivarsy, THM Partners LLC

John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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As noted in your letter, you are concerned about the view from One Kalakana, increased traffic congestion, demand for street parking, and sun/heat reflection. In response to your concerns, we offer the following responses.

**Views:** Regarding your concern about views from One Kalakana, Holomua is designed as a residential tower atop a parking structure pedestal. The residential tower walls are setback from the parking structure and are articulated with jogs, building insets, windows, and lanais. The building articulation, coupled with the fact that it is a narrow tower should minimize reflection of the sun on nearby structures. The Final Environmental Assessment will include a visual analysis showing a three-dimensional view of Holomua in context with the surrounding structures.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Berehania/Keananohu intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

**Parking:** It is anticipated that residents purchasing Holomua affordable and market rate units may have vehicles. It is also anticipated that Holomua's urban location and close proximity to numerous amenities such as grocery stores, parks, schools, employment centers, childcare facilities, and activity centers, will reduce Holomua resident's reliance on automobiles for daily needs. Further, the Holomua site is within 650 feet of bus stops on three transit corridors. Given the proximity to transit, it is anticipated that residents may use the bus to commute and travel to other regional destinations rather than using personal cars for all trips.



August 7, 2008

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VINCENT SHIGEKUNI  
Vice-President

GRANT T. HURAKAMI, AICP  
Principal

Natalia Steele  
1551 S. Beretania St., Apt. 1213  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Steele,

Thank you for your letter dated June 4, 2008 addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter, you are concerned about the proposed height exemption for Holomua. We offer the following response to your concerns.

Building Height: We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schmell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawai'i Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivaisy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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6/4/08

The Makiki/Lower Punchbowl Neighborhood Board

I live at Kulana Hale, on the sunny side. I oppose the building being built at all, but please oppose raising the height restrictions

I oppose the height increases

*Natalia Steele*

1551 S. Beretania  
Kulana Hale, #1213  
Honolulu, HI  
96813

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# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

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Tel: (808) 232-2576

Mr. & Mrs. Nelson Waikiki  
1551 S. Beretania St., Apt. 803  
Honolulu, HI 96826

**SUBJECT: HOLOMANA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU,  
O'AHU, HAWAII, TMR: (I) 2-4-06: I7 & I8**

Dear Mr. & Mrs. Waikiki:

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tanalus Neighborhood Board Chair John Steadquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tanalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter, you are concerned about the effects on public infrastructure and emergency services. We offer the following responses to your concerns.

**Emergency Services:** We have consulted with emergency service providers and comments received from City and County of Honolulu indicates that the addition of Holomanu will not cause an impact on existing police facilities or operations. Comments from Honolulu Fire Department state that the Fire Department will require appropriate access and water supply. Building plans will be provided to the Fire Department for review as part of the building permit process to ensure fire/safety standards are satisfied.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomanu traffic impact analysis projects traffic in the area will increase even without Holomanu due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomanu would affect nearby intersections, with the addition of Holomanu, increased delays at the Beretania/Keolu intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

**Public Facilities:** THM Partners LLC has been working with City departments that provide public facilities to ensure that adequate sewer and water can be provided. To that end, a sewer connection application was approved on April 3, 2008. Comments from the Board of Water Supply indicate that the existing water system is able to accommodate Holomanu. THM Partners LLC will continue to work with City departments as well as utility providers such as electric and cable to ensure that Holomanu is adequately served and does not impact service to the surrounding community.

Thank you for your comments. They will be included in the Final EA.  
Sincerely,

PBR HAWAII

Tom Schnell, AICP

Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Kravitsy, THM Partners, LLC  
John Steadquist, Makiki/Lower Punchbowl/Tanalus Neighborhood Board  
O'ahu20080801 Holomanu Comment LetterResponseCommunityResponse@hawaii Waikiki\_J Response.doc

Dear Steadquist,  
I'm a resident of Kalaheo, Hawaii  
and I would like to see and my wife  
for many medical reasons. I  
propose then joined with my wife  
for reasons  
Thank you for your consideration  
Mr. Tom Schnell  
Kulaheo, HI 96853  
1551 S. Beretania St.  
Honolulu, HI 96826



Nelson N Waikiki  
 Kulana Hale Apt 803  
 1551 S. Beretania St.  
 Honolulu, HI 96826

June 9, 2008

Neighborhood Board No. 10  
 Makiki Chair John Steelquist  
 C/O 530 S. King St. Rm. 406  
 Honolulu, HI 96813

Re: Agenda for June 19 Meeting

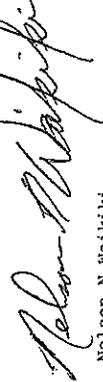
Dear Chair Steelquist:

I'm one of many very concerned resident that request you add to the June 19 agenda discussion, the proposed height restriction increase for the Holomua Condo Project that is being discussed for 1315 Kalakaua Ave.

I've lived in the State of Hawaii for all my life and most of it has been in the Makiki area. Today I'm concerned about population density and the proposed building height restriction increase next to Kulana Hale. I was not aware this neighborhood board was considering the possible height restriction increase in May. I'm interested in hearing people concerns on this project and also voice my concerns if time permits. To the people residing here, this is a very large issue.

I oppose this height restriction increase, because of population strain and the congestion it will cause in an area that is already overwhelmed.

Thank you for your consideration,

  
 Nelson N Waikiki

Copy to: Staff Assistant K. Russell Ho

August 7, 2008

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 President

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VINCENT SHIGERUNI  
 Vice-President

GRANT T. MURAKAMI, AICP  
 Principal

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 Associate

SCOTT MURKAMIA, ASLA, LEED-AP  
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DACHUNG DONG, LEED-AP  
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**PBR HAWAII**  
 & ASSOCIATES, INC.

Nelson N. Waikiki  
 1551 S. Beretania St., #803  
 Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. Waikiki,

Thank you for your letter dated June 9, 2008 addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter, you are concerned about the proposed height exemption for Holomua and increased traffic congestion. We offer the following response to your concerns.

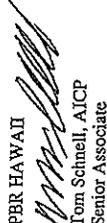
**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet, including Banyan Tree Plaza (330 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

**Traffic & Pedestrian Safety:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Keolu intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Holomua is not expected to impact existing conditions regarding pedestrian street crossings as Holomua will not increase or decrease signal timing for neighborhood crosswalks. The existing pedestrian system consists of continuous sidewalks and marked crosswalks. Signal timing for pedestrian crossings is established by the City and County of Honolulu Department of Transportation Services and is a factor of balancing pedestrian crossing time while maintaining vehicular traffic flow.

Thank you for your comments. They will be included in the Final EA.

Sincerely,

**PBR HAWAII**  
  
 Tom Schnell, AICP  
 Senior Associate

cc: Leonel A. Domingo, Hawaii Housing Finance & Development Corporation  
 Katherine Keneloa, Office of Environmental Quality Control  
 Serge Kivratsy, THM Partners, LLC  
 John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board



# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

Neighborhood Board No. 10

Makiki Chair John Steelquist

c/o 530 S King Street, Room 406

Honolulu, Hawaii 96813

Re: Holomua Project

Dear Chair Steelquist:

I am writing to express my concerns regarding the height variance being requested by the Holomua Project.

I am a resident of One Kalakaua and have lived there for 1 years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because:

- I will be prevented from walking to my car and I fear the great increase of traffic the variance will bring. Also, with the increase in variance in our community, the need for senior housing is far greater than that for lower income housing.
- The Kalakaua is good evidence there is already a long list of applicants with no apartments available for sale.

Thank you for your consideration,

*Nora Uyeda*  
 One Kalakaua Drive  
 1314 Kalakaua Ave, #1201  
 Honolulu, HI, 96826

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*President*

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*Senior Associate*

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Wailuku, Hawaii 96791-1271  
Tel: (808) 742-2976

Nora Uyeda  
1314 Kalakaua Avenue, #1201  
Honolulu, HI 96826

SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, OAHU, HAWAII, TMK: (1) 2-4-06: 17 & 18

Dear Ms. Uyeda,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter, you are concerned about increased traffic congestion and indicate that there is a strong demand for senior housing rather than affordable housing. In response to your concerns we offer the following responses:

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Keolu intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

**Senior Housing:** The applicant has commissioned a market study that indicates a strong demand for affordable housing in Honolulu. Holomua will be available to persons regardless of age, provided potential residents can satisfy income requirements.

Thank you for your comments. They will be included in the Final EA.

Sincerely,

PBR HAWAII

*Tom Schneel*  
 Tom Schneel, AICP  
 Senior Associate

cc: Leonell A. Domingo, Hawai'i Housing Finance & Development Corporation  
 Katherine Keoloha, Office of Environmental Quality Control  
 Serge Kiriyasu, THM Partners, LLC  
 John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

June 17, 2008

## PRINCIPALS

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President

IL STANFORDIAN, ASLA  
Executive Vice-President

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Executive Vice-President

VINCENT SUGERUNI  
Vice-President

GRANT L. MURAKAMI, AICP  
Principal

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Senior Associate

KEVIN K. NISHIKAWA, ASLA  
Associate

KIMI MIKAMI YUEN, LEED-AP  
Associate

SCOTT ALIKA AIRIGO  
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Olivia Au  
1314 Kalaikoa Ave.  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Au,

Thank you for your letter dated June 17, 2008 regarding the Holomua Draft Environmental Assessment (EA). As the planning consultant for the applicant, THM Partners LLC, we acknowledge your general opposition to the proposed building height.

We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet, including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

Thank you for your comments. They will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivavsky, THM Partners, LLC  
John Steelquist, Makiki/Lower Punchbowl/Taantatus Neighborhood Board

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Mr. Steelquist,

I am writing regarding the building  
Holomua. I live on I Kalaikoa and  
I am against the height increase of  
this building. It goes against height  
requirements.

Aloha,  
Olivia Au



**PBR HAWAII**  
& ASSOCIATES, INC.

August 7, 2008

Neighborhood Board No. 10

Makiki Chair John Steelquist

c/o 530 S King Street, Room 406

Honolulu, Hawaii 96813

Re: Holomua Project

Dear Chair Steelquist:

I am writing to express my concerns regarding the height variance being requested by the Holomua Project

I am a resident of One Kalaheua and have lived there for 9 years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because:

*It will block light from our building  
It will increase traffic in the area  
it will be already heavy*

Thank you for your consideration,

*Patricia Conrad*

**PRINCIPALS**

THOMAS WITTEN, ASLA  
*President*

R. STAN DUNCAN, ASLA  
*Executive Vice-President*

RUSSELL YU, CHUNG, PASLA  
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Tel: (808) 242-2878

Patricia Conrad  
1314 Kalaheua Avenue  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, OAHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Conrad,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tanalua Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tanalua Neighborhood Board or the City and County of Honolulu.

As noted in your letter, you are concerned about the proposed height exemption for Holomua and pedestrian safety. We offer the following response to your concerns.

**Traffic/Pedestrian Safety:** Holomua is not expected to substantially change the pedestrian environment and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The transportation impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalaheua Avenue, Young Street, Beretania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet including Banyan Tree Plaza (350 feet), Panahou Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final Environmental Assessment (EA).

Thank you for your comments. They will be included in the Final EA.

Sincerely,

**PBR HAWAII**

*Tom Schwell*

Tom Schwell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawai'i Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners, LLC  
John Steelquist, Makiki/Lower Punchbowl/Tanalua Neighborhood Board

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August 7, 2008

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Neighborhood Board No. 10  
Makiki Chair John Steelquist  
c/o 530 S King Street, Room 406  
Honolulu, Hawaii 96813

Re: Holomua Project

Dear Chair Steelquist:

I am writing to express my concerns regarding the height variance being requested by the Holomua Project.

I am a resident of One Kalakaua and have lived there for 47 years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because:

- (a) Be too noisy & congested with more cars.
  - (b) I oppose a height increase because it will block my view.
- 
- 
- 
- 

Thank you for your consideration,

*Rachael S. Chang*  
1314 Kalakaua Ave., Apt. 811  
Hon., HI. 96826-1929

Rachael S. Chang  
1314 Kalakaua Avenue, #811  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII, TMK: (1)2-4-06: 17 & 18**

Dear Ms. Chang,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about about the proposed height exemption for Holomua, the view from One Kalakaua and increased traffic congestion. In response to your concerns we offer the following responses.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretani/A'Ke'e mauka intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

**Views:** Regarding your concern about views from One Kalakaua, Holomua is designed as a residential tower atop a parking structure pedestal. The residential tower walls are setback from the parking structure and are articulated with jogs, building insets, windows, and lanais. The Final Environmental Assessment will include a visual analysis showing a three-dimensional view of Holomua in context with the surrounding structures.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawai'i Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivaisy, THM Partners, LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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Rose E. Obermiller  
1571 S. Beutavia St.  
Apt. 1604 HNLHI. 96826

Neighborhood Board No. 10  
Makiki Civic Center, Honolulu  
70-360 S. King St., Room 406  
Honolulu, Hi. 96813

Re: Request for June 19 meeting  
Dear Miss Holquist:

I am writing to request that  
you add to the June 19th agenda  
discussion about the proposed height  
restrictions in case for the Robinson  
Center project that is being discussed  
for 1315 Kalaniana'one Ave.

I am a resident of Kurena  
Hale and have lived here for  
quite some time and am aware  
that the neighborhood board  
was considering the possible  
height restrictions in some in  
Hale and would like an  
opportunity to express my  
concern and opposition to any  
height restriction increases.

I am concerned about the traffic  
in this area. The study  
concerns to improve most of  
the time, I have become  
frustrated. I oppose a height  
increase because it will allow  
back my view, put additional  
strain on our City's sewer  
system and other public services.

Makaha for your consideration.

Rose

Rose E. Obermiller  
1571 S. Beutavia St.  
Apt. 1604, HNLHI.  
96826 944-1965



**PRINCIPALS**  
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*Executive Vice-President*

RUSSELL Y. I. CHUNG, ASLA  
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*Vice-President*

GRANT T. MURAKAMI, AICP  
*Principal*

**CHAIRMAN/EMERITUS**  
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*Chairman Emeritus*

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KIMI MURAKAMI YUEN, LEED-AP  
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SCOTT ALIKA ADRIGO  
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**PBR HAWAII**  
 & ASSOCIATES, INC.

August 7, 2008

Rose E. Obermolte  
 1551 S. Beretania St., #1604  
 Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
 HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Obermolte,

Thank you for your letter dated June 5, 2008, addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter you requested that Holomua be discussed at the June 19<sup>th</sup> Neighborhood Board meeting because are concerned about the proposed height exemption for Holomua, traffic congestions, the view from Kulana Hale and demand on the City's sewer system. We offer the following response to your concerns.

Your letter requested that Holomua be discussed at the June 19, 2008 Neighborhood Board Meeting. We note that Holomua was discussed at that meeting.

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet, for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet); and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final Environmental Assessment.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Ke'eaumoku intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

**Views:** Regarding your concern about views from Kulana Hale, Holomua is designed as a residential tower atop a parking structure pedestal. The residential tower walls (including the north wall facing Kulana Hale) are setback from the parking structure and are articulated with jogs, building insets, windows, and lanais. This allows 30 to 40 feet between Holomua and Kulana Hale from the 9<sup>th</sup> floor up. The Final Environmental Assessment will include a visual analysis showing a three-dimensional view of Holomua in context with the surrounding structures.

Rose E. Obermolte  
 SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU,  
 HAWAII, TMK: (1) 2-4-06: 17 & 18  
 August 7, 2008  
 Page 2

**Public Utilities/Infrastructure:** THM Partners LLC has been working with City departments that provide public facilities to ensure that adequate sewer and water can be provided. To that end, a sewer connection application was approved on April 3, 2008. Comments from the Board of Water Supply indicate that the existing water system is able to accommodate Holomua. THM Partners LLC will continue to work with City departments as well as utility providers such as electric and cable to ensure that Holomua is adequately served and does not impact service to the surrounding community.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
 Senior Associate

cc: Leonell A. Domingo, Hawai'i Housing Finance & Development Corporation  
 Katherine Kealoha, Office of Environmental Quality Control  
 Serge Krivaisy, THM Partners, LLC  
 John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

Neighborhood Board No. 10

Makiki Chair John Steelquist

c/o 530 S King Street, Room 406

Honolulu, Hawaii 96813

Re: Holomua Project

Dear Chair Steelquist:

I am writing to express my concerns regarding the height variance being requested by the Holomua Project.

I am a resident of One Kalakaua and have lived there for 10 years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because:

- My apartment at One Kalakaua is directly opposite the proposed lobby. Other than*
- conspicuously blocking my view and the noise*
- of construction, a massive variance with no setback*
- and the added height will cause added congestion.*

Thank you for your consideration,

*Michael Edwards*  
apt 1107, One Kalakaua

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President

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Executive Vice-President

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**WAILUKU OFFICE**

200 Wai'anae Loop, Suite 4  
Wailuku, Hawaii 96793-1211

Tel: (808) 242-2578

Dear Ms. Edwards,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter, you are concerned about the proposed height exemption for Holomua, the view from One Kalakaua, increased traffic congestion and construction noise. In response to your concerns we offer the following responses:

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet, for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahon Regency (180 feet); and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final Environmental Assessment.

**Views:** Regarding your concern about views from One Kalakaua, Holomua is designed as a residential tower atop a parking structure pedestal. The residential lower walls are setback from the parking structure and are articulated with jogs, building insets, windows, and banais. The Final Environmental Assessment will include a visual analysis showing a three-dimensional view of Holomua in context with the surrounding structures.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretani/Keolu intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Sally Edwards  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU,  
HAWAII, TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

Noise: The environmental noise assessment report prepared for the Holomua Draft EA included sound measurements of existing noise conditions from the Holomua site. According to the environmental noise assessment report, the Holomua site is currently exposed to moderate and sometimes high ambient noise levels. Noise sources include vehicular traffic noise and typical urban noises such as sirens, car horns, and mechanical equipment from neighboring buildings. If One Kalakaua is in conformance with all State Department of Health noise requirements (Hawaii Administrative Rules Chapter 11-46, "Community Noise Control.") the impacts to Holomua should be within acceptable State noise standards. Short-term noise impacts from construction activities are expected during the construction period. Construction noise will be short-term and limited to daylight hours. Proper mitigation measures will be implemented to minimize noise impacts, and all work will comply with the State Department of Health (DOH) noise limits.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII



Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners, LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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Neighborhood Board No. 10  
Makiki Chair John Steelquist  
c/o 530 S King Street, Room 406  
Honolulu, Hawaii 96813

Re: Holomua Project  
Dear Chair Steelquist:

I am writing to express my concerns regarding the height variance being requested by the Holomua Project.

I am a resident of One Kalakaua and have lived there for 10 years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because:

IT WILL BLOCK MY VIEW  
IT WILL SHADE AND DARKEN  
I'M CONCERN ABOUT THE TRAFFIC  
IN OUR AREA, AND THE DANGER  
IT MAY CAUSE PEDESTRIANS AND  
CHILDREN AT ONE KALAKAUA SENIOR CENTER

Thank you for your consideration,

Sally V. Judy  
June 6, 2008



# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

**PRINCIPALS**  
THOMAS S. WATKER, AIA, A  
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R. STAN DUNCAN, AIA, A  
Executive Vice-President  
RUSSELL Y. CHUNG, PLSA  
Executive Vice-President  
VINCENT SHIGEKUNI  
Vice-President  
GRANT L. AURAKAM, AICP  
Principal

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PLANNING • LANDSCAPE ARCHITECTURE • ENVIRONMENTAL STUDIES • ENTITLEMENTS • PERMITTING • GRAPHIC DESIGN

Sally Tully  
1314 Kalaheua Avenue  
Honolulu, HI 96826

**SUBJECT:** HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU,  
OAHU, HAWAII, TMK: (1) 2-4-06: 17 & 18

Dear Ms. Tully,

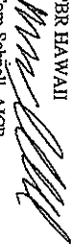
Thank you for your letter dated June 6, 2008 addressed to Makiki/Lower Punchbowl/Tanahua Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tanahua Neighborhood Board or the City and County of Honolulu.

As noted in your letter, you are concerned about the proposed height exemption for Holomua and pedestrian safety. We offer the following response to your concerns.

**Pedestrian Safety:** Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The transportation impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalaheua Avenue, Young Street, Berehana Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahoa Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

Thank you for your comments. They will be included in the Final EA.  
Sincerely,

PBR HAWAII  
  
Tom Schmell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Khvalsky, THM Partners, LLC  
John Steelquist, Makiki/Lower Punchbowl/Tanahua Neighborhood Board

04b18262686601 Holomua BAYARDI EA Comment Letter/Response/Community Response/Sally Tully.doc

Neighborhood Board No. 10  
Makiki Chair John Steelquist  
c/o 530 S King Street, Room 406  
Honolulu, Hawaii 96813

Re: Holomua Project

Dear Chair Steelquist:

I am writing to express my concerns regarding the height variance being requested by the Holomua Project.

I am a resident of One Kalaheua and have lived there for 2 years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because it will block my views and put additional strains on our city's systems.

Thank you for your consideration,

  
Sarah Kim  
Apt # 1413



August 7, 2008

**PRINCIPALS**  
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President

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Ms. Sarah Kim  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

**Public Utilities/Infrastructure:** THM Partners LLC has been working with City departments that provide public facilities to ensure that adequate sewer and water can be provided. To that end, a sewer connection application was approved on April 3, 2008. Comments from the Board of Water Supply indicate that the existing water system is able to accommodate Holomua. THM Partners LLC will continue to work with City departments as well as utility providers such as electric and cable to ensure that Holomua is adequately served and does not impact service to the surrounding community.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schrell, AICP  
Senior Associate

cc: Leonel A. Domingo, Hawai'i Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners, LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

031616202686.01 Holomua EABADEA Comment Letters/Responses/Community Responses/Sarah Kim.doc

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Kim,

Thank you for your letter dated June 6, 2008, addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter, you are concerned about traffic congestion, pedestrian safety, the view from One Kalakaua, and demand on the City's sewer system. We offer the following response to your concerns.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would effect nearby intersections, with the addition Holomua, increased delays at the Beretania/Keeaunoku intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

**Pedestrian Safety:** Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalakaua Avenue, Young Street, Beretania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exist) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

**Views:** Regarding your concern about views from One Kalakaua, Holomua is designed as a residential tower atop a parking structure pedestal. The residential tower walls are setback from the parking structure and are articulated with jogs, building insets, windows, and lanais. The Final Environmental Assessment will include a visual analysis showing a three-dimensional view of Holomua in context with the surrounding structures.

May 29, 2008

To whom it may concern:

I have read in the Honolulu Star Bulletin that Developer THM Partners is proposing to build a new 176-unit residential condominium near the intersection of Kalakaua Avenue and Beretania Street.

According to the Star Bulletin, Half of the Holomua project at 1315 Kalakaua Ave., next to the 7-Eleven store, would be designated affordable, enforced via a buyback clause in sales of the fee-simple units. I have learned that the affordable designation would not be required to be maintained after 10 years. After ten years, the project would no longer required to be affordable. I live in an affordable rental unit that would be next to this project.

The Star Bulletin said that plans call for 23 floors including a 245-space parking garage on seven levels at the Holomua Project.

At 220 feet, the project would exceed the 150-foot city height limitations on the parcel, according to plans presented to the Makiki/Lower Punchbowl/Tantalus Neighborhood Board.

Please do not support the height increases. A project of the size proposed would burden our city's ability to provide services to the residents already in this dense urban core.

*Very expensive # 1003  
1551 S Beretania  
I'm also against having a building for close  
to Holomua State.*



# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

## PRINCIPALS

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*President*

R. STAN DUNCAN, AIA  
*Executive Vice-President*

RUSSELL S. CHUNG, PLSIA  
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*Associate*

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Vera Stolfee  
1551 S. Beretania Street, #1003  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, OAHU, HAWAII, TMK: (J) 2-4-06: 17 & 18**

Dear Ms. Stolfee,

Thank you for your letter dated May 29, 2008 regarding the Holomua Draft Environmental Assessment (EA). As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments.

**10-year Participation:** The Holomua affordable units meet an immediate need for affordable homes in the Honolulu urban core. The market units, while not priced as low as the affordable units, will be at the lower range of market rates for urban Honolulu due to their smaller size, limited amenities, overall finishes, and other factors that do not make them comparable to other recently-built urban Honolulu high-rise condominiums. In the future, the affordable units—as well as the market units—will still be at the lower price ranges for comparable units in the area, thus filling a long-term need for housing at moderate price levels. Holomua units are not being designed or built to compete or compete with luxury high-rise condominiums recently built in urban core. The more supply of affordable and moderately priced units that are built in the urban core, the more opportunities there will be in the future for people to buy reasonably-priced units, as there will be more available inventory in the lower price ranges.

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

**Public Utilities Infrastructure:** THM Partners LLC has been working with City departments that provide public facilities to ensure that adequate sewer and water can be provided. To that end, a sewer connection application was approved on April 3, 2008. Comments from the Board of Water Supply indicate that the existing water system is able to accommodate Holomua. THM Partners LLC will continue to work with City departments as well as utility providers such as electric and cable to ensure that Holomua is adequately served and does not impact service to the surrounding community.

Thank you for reviewing the Draft EA. Your comments will be included in the Final EA.  
Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc:

- Leonel A. Domingo, Hawai'i Housing Finance & Development Corporation
- Katherine Kealoha, Office of Environmental Quality Control
- Serge Krivtsov, THM Partners, LLC
- John Steigquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board
- Ovalovozz@6601 Holomua EA/MS/EA Comment LetterResponseCommunityResponseVera StolfeeResponse.doc



August 7, 2008

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RUSSELL YI, CHUNG, PASLA  
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June 17, 2008

Dear Mr. Steelquist,  
 I am deeply concerned that  
 Holomua developer THM Partners is  
 requesting lowering the height limitation  
 of 150 ft. to 220 ft.  
 I vehemently oppose their  
 request. Already in that area  
 we have the Banyan Court Center,  
 Palena Hale, One Palakana,  
 Triggie, all become a  
 major problem.  
 The neighborhood board  
 needs to work together to oppose  
 this.  
 Sincerely,  
 Violet S. Mau

Violet S. Mau  
 1314 Kalakaua Avenue  
 Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU,  
 O'AHU, HAWAII, TMK: (1) 2-4-06-17 & 18**

Dear Ms. Mau,

Thank you for your letter dated June 18, 2008 addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter, you are concerned about the proposed height exemption for Holomua and traffic congestion. We offer the following response to your concerns.

We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition of Holomua, increased delays at the Bereiania/Keanuoku intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final Environmental Assessment.

Thank you for your comments. Your comments will be included in the Final Environmental Assessment.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
 Senior Associate

cc: Leonell A. Domingo, Hawai'i Housing Finance & Development Corporation  
 Katherine Kealoha, Office of Environmental Quality Control  
 Serge Krivatsky, THM Partners, LLC

John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board  
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# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

## PRINCIPALS

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*Executive Vice-President*

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Tel: (808) 242-3474

Neighborhood Board No. 10  
Maiki Chair John Steelquist  
c/o 530 S King Street, Room 406  
Honolulu, HI 96813

Re: Holomua Project

Dear Chair Steelquist:

I am writing to express my concerns regarding the height variance being requested by Holomua Project:

I am a resident of One Kalakaua and have lived there for eight and one half years. I am very concerned about the increase in household and vehicle density that will result if the current height limitations on the parcel are raised. Bounded by Beretania, Kalakaua, King and Punahou, the project is located amidst one of the most heavily used traffic interchanges in town today. Two short blocks of Kalakaua serve as a sensitive, heavily used connection between King and Beretania, the town's major arteries to and from the urban core. The proposed development fronts on Kalakaua, a segment of the dogleg route to Waikiki and the Convention Center from the H1 Eastbound exit at Punahou. In addition, King and Punahou are frequently used to gain entry to the H1 Westbound.

A variance for the site at this time will not only cause the volume of street traffic to grow but will set a precedence for additional exemptions and more cars and pedestrians in the future. Congestion on the streets along with more and more high rise apartments, including low-income condos for the growing population of at risk elders, will surely have an unfavorable impact on plans for evacuation, search and rescue by City and State agencies responsible for public safety.

Thank you for your consideration,

Virgil Meeker # 1103

Virgil Meeker  
1314 Kalakaua Avenue #1103  
Honolulu, HI 96826

SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, OAHU, HAWAII, TMK: (1) 2-4-06: 17 & 18

Dear Mr. Meeker,

Thank you for your letter addressed to Maiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Maiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter, you are concerned about traffic congestion and pedestrian safety. We offer the following responses to your concerns.

**Pedestrian Safety:** Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalakaua Avenue, Young Street, Beretania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exit) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Ke'eaumoku intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Mr. Virgil Meeker  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-  
06: 17 & 18  
August 7, 2008  
Page 2

**Emergency Services:** Comments received from City and County of Honolulu indicate that the addition of Holomua will not cause an impact on existing police facilities or operations. Comments from Honolulu Fire Department state that the Fire Department will require appropriate access and water supply. Building plans will be provided to the Fire Department for review as part of the building permit process to ensure fire/life/safety standards are satisfied.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII



Tom Schnell, AICP  
Senior Associate

cc: Leonel A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivansy, THM Partners, LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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Neighborhood Board No. 10  
Makiki Chair John Steelquist  
c/o 530 S King Street, Room 406  
Honolulu, Hawaii 96813

Re: Holomua Project

Dear Chair Steelquist:

I am writing to express my concerns regarding the height variance being requested by the Holomua Project.

I am a resident of One Kalakaua and have lived there for 10 years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because:

Additional height would mean a higher population density - in more people and increased traffic in the area. At the present time, there is often traffic gridlock at the intersection of KALAKAUA AVE and BOND STREET, KALAKAUA and Young St. KALAKAUA and SOIKING St. A New BUILDING with a height variance would result in more congestion. This would also make crossing the above intersections much more hazardous for all pedestrians, especially for the many older citizens living in the area.

Thank you for your consideration,



WALTER K. H. KAM  
1314 KALA-KAUA AVE, #509  
Honolulu, HI 96826



# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

**PRINCIPALS**  
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President  
R. STAN DUNCAN, ASLA  
Executive Vice-President  
RUSSELL Y. LUCHUNG, PASLA  
Executive Vice-President  
VINCENT SHIGEKUNI  
Vice-President  
GRANT T. MURAKAMI, AICP  
Principal

Walter K.H. Kam  
1314 Kalaheka Avenue, #509  
Honolulu, HI 96826

**CHAIRMAN/EMERITUS**  
W. HIRAKI, ASLA  
Chairman Emeritus

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, OAHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

**ASSOCIATES**  
TONI SCHELL, AICP  
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Associate  
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Associate  
SCOTT AIKIA, AIA/REG  
Associate  
SCOTT MURAKAMI, ASLA, LEED-AP  
Associate  
DACHENG DONG, LEED-AP  
Associate

Dear Mr. Kam,  
Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter, you are concerned about traffic congestion and pedestrian safety. We offer the following responses to your concerns.

**Pedestrian Safety:** Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalia Avenue, Young Street, Bereiana Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exit) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition of Holomua, increased delays at the Bereiana/Kc. eannoku intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Thank you for your comments. Your comments will be included in the Final EA.  
Sincerely,

PBR HAWAII  
Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingos, Hawaii's Housing Finance & Development Corporation  
Katherine Keahoha, Office of Environmental Quality Control  
Serge Kivirasy, THM Partners, LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board  
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PLANNING • LANDSCAPE ARCHITECTURE • ENVIRONMENTAL STUDIES • ENTITLEMENTS • PERMITTING • GRAPHIC DESIGN

Makiki Community Board,

I would like to express my concern about the proposed 220' tall building they want to build at 1315 Kalia. I feel that this height is justified enough & they should be permitted to exceed the current height restriction.

I have lived at 1515 S. Bereiana for 10 years & every 17 years when lets keep making the way it is & not like downtown.

Thank you

DAYTON, YES.  
*Dayton*  
LET'S KEEP MAKIKI WAIKIKI



August 7, 2008

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Neighborhood Board No. 10  
Makiki Chair John Steelquist  
c/o 530 S King Street, Room 406  
Honolulu, Hawaii 96813

Re: Holomua Project

Dear Chair Steelquist:

I am writing to express my concerns regarding the height variance being requested by the Holomua Project.

I am a resident of One Kalakaua and have <sup>currently moving in,</sup> lived there for ~~five~~ years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because:

THE CITY HEIGHT LIMITATION WAS ESTABLISHED FOR A REASON AND SHOULD NOT BE DISCRIMINATELY VIOLATED TO GRANT A VARIANCE TO

ANY DEVELOPER WHO REQUESTS ONE. THE DEVELOPER SHOULD BE REQUIRED TO PERFORM AN ENVIRONMENTAL IMPACT ASSESSMENT/STATEMENT TO CONSIDER ALL IMPACTS ON THE NEIGHBORHOOD AND COMMUNITY IN THE SURROUNDING

AREA TO MINIMIZE ANY FURTHER DETRIMENTAL EFFECTS. NO VARIANCE SHOULD BE GRANTED UNTIL AN EIS IS PREPARED AND FILED. IMPACT SHOULD BE SOLICITED FROM ALL AGENCIES AND NEIGHBORING INTERESTS. NO CONSTRUCTION SHOULD BE PERMITTED TO PROCEED UNTIL A COMPLETE ASSESSMENT IS MADE AND AGREED UPON.  
Thank you for your consideration,

*Yoshito Hirokawa*

YOSHITO HIROKAWA #610  
1314 KALANAKUA AVE #610  
HONOLULU HI 96826

*Shelby O. Hirokawa*  
SHELBY O. HIROKAWA  
1314 KALANAKUA AVE #610  
HONOLULU HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. Dayton,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter, you are concerned about the proposed height exemption for Holomua and increased traffic congestion. In response to your concerns, we offer the following responses.

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet, including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet); and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would effect nearby intersections, with the addition Holomua, increased delays at the Beretania/Ke'eauonuku intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

*Tom Schnell*

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawai'i Housing Finance & Development Corporation  
Katherine Keoloha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners, LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

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PLANNING • LANDSCAPE ARCHITECTURE • ENVIRONMENTAL STUDIES • ENTITLEMENTS / PERMITTING • GRAPHIC DESIGN

Yoshio & Gladys Hironaka  
1314 Kalaikua Avenue, #610  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, OAHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. & Mrs. Hironaka,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter, you are concerned about the proposed height exemption for Holomua and effects on traffic and pedestrian safety. We offer the following response to your concern.

**Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet; including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final Environmental Assessment (EA).

**Pedestrian Safety:** Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalaikua Avenue, Young Street, Beretania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exit) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

Mr. & Mrs. Hironaka  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, OAHU, HAWAII, TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would effect nearby intersections, with the addition Holomua, increased delays at the Beretania/Keananoku intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc:

Leonell A. Domingo, Hawai'i Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsky, THM Partners, LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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August 7, 2008

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Neighborhood Board No. 10  
Makiki Chair John Steelquist  
c/o 530 S King Street, Room 406  
Honolulu, Hawaii 96813

Re: Holomua Project

Dear Chair Steelquist:

I am writing to express my concerns regarding the height variance being requested by the Holomua Project.

I am a resident of One Kalakaua and have lived there for 17 years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because:

- More sky-high condos & more residents will OVER-POPULATE this small Spring St / Kalakaua area.
- Please don't BROTHER us with a sky-high construction next door!

Thank you for your consideration,

*Daniel Fujikawa*  
*Aiko M. Fujikawa*

*Appt. 505, 1314 Kalakaua Ave., Honolulu, HI 96826*

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Mr. & Mrs. Fujikawa,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about traffic, pedestrian safety and the proposed height exemption for Holomua. We offer the following response to your concerns.

**Pedestrian Safety:** Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalakaua Avenue, Young Street, Berefania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exit) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative affect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Berefania/Keaumoku intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Ms. & Mr. Fujikawa  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII,  
TMK: (J) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

Building Height: We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

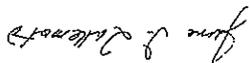


Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Khvatsy, THM Partners LLC  
John Steedquist, Makiki/Lower Punchbowl/Tamahas Neighborhood Board

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Sincerely,



I oppose filing the height restrictions at the proposed Holomua project and would appreciate your passing this letter on to the other board members and making a note of my opposition in the records of the board. (I am a resident of One Kalaheka and I am very concerned about the density of this neighborhood.

Dear Mr. Steedquist:

Re: Liking Makiki Height Restrictions

Honolulu, Hawaii 96813  
530 South King Street, Suite 408  
Neighborhood Board No. 10

Mr. John Steedquist, Chair

June 16, 2008



August 7, 2008

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June 2008

Neighborhood Board No. 10  
Makiki Chair John Steelquist  
c/o 530 S. King Street, Room 406  
Honolulu, Hawaii 96813

Re: Agenda for June 19 Meeting

Dear Chair Steelquist:

I am writing to request that you add to the June 19 agenda discussion about the proposed height restriction increase for the Holomua Condo Project that is being discussed for 1315 Kalaikaua Avenue.

I am a resident of Kulana Hale and had not been aware that the neighborhood board was considering the possible height restriction increase in May. I would like an opportunity to express my concerns and opposition to any height restriction increase. I am concerned about the traffic in this area. I oppose a height increase because it will block my view, put additional strains on our City's sewer system and other public services.

Mahalo for your consideration,

*I have been here for 7 yrs  
Kathryn K. Quast  
1557  
1557 S. Bulevarie #1515  
Hon. HI 96826*

Thank you for your comments. They will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schoell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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Associate  
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August 7, 2008

Kathryn K. Clark  
1551 S. Beretania St., Apt. 1515  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TRM: (1) 2-4-06: 17 & 18**

Dear Ms. Clark,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

Your letter requested that Holomua be discussed at the June 19, 2008 Neighborhood Board Meeting. We note that Holomua was discussed at that meeting.

As noted in your letter you are concerned about the proposed height exemption for Holomua, increased traffic congestion, and demand on public infrastructure. We offer the following responses to your concerns.

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet, including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Ke'e/eaunuku intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Ms. Kathryn Clark  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII,  
TRM: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

**Public Infrastructure:** THM Partners LLC has been working with City departments that provide public facilities to ensure that adequate sewer and water can be provided. To that end, a sewer connection application was approved on April 3, 2008. Comments from the Board of Water Supply indicate that the existing water system is able to accommodate Holomua. THM Partners LLC will continue to work with City departments as well as utility providers such as electric and cable to ensure that Holomua is adequately served and does not impact service to the surrounding community.

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivansy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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June 16, 2008

Mr. John Steelquist, Chair  
Neighborhood Board No. 10  
530 South King Street, Suite 408  
Honolulu, Hawaii 96813

Re: Lifting Makiki Height Restrictions

Dear Mr. Steelquist:

I oppose lifting the height restrictions at the proposed Holomua project and would appreciate your passing this letter on to the other board members and making a note of my opposition in the records of the board. I am a resident of One Kalaheka and I am very concerned about the density of this neighborhood. *Please do not allow this to happen.*

Sincerely,

*Eline Macfarland  
Apt. 1001*

*Attn: Mr. John Steelquist  
Neighborhood Board No. 10  
c/o 530 S. King Street Rm. 408  
Honolulu, Hawaii 96813*

*Re: Height Restriction Process*

*Dear Mr. Steelquist,*

*Please do not allow an increase in height restrictions.*

*I live at One Kalaheka and the increase would  
make traffic congested and dangerous and*

*add to noise pollution. It would seriously  
impede my view and cause much more  
from traffic, etc. and set a dangerous  
precedent.*

*Makaha,*

*Eline Macfarland  
Unit # 1001*



# PBR HAWAII & ASSOCIATES, INC.

## PRINCIPALS

TRIONASS WITTEN, ASIA  
*President*

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*Executive Vice-President*

RUSSELL YI-CHUNG, ASIA  
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VINCENT SHIGKUNI  
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*Principal*

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*Senior Associate*

KEVIN K. NISHIKAWA, ASIA  
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KIM AIKIMANI YUEN, LEED-AP  
*Associate*

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August 7, 2008

Elaine McQuaid  
1314 Kalakana Avenue, #1001  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. McQuaid,

Thank you for your letters addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letters you are concerned about the proposed height exemption for Holomua, the view from One Kalakana, increased traffic congestion and noise. We offer the following response to your concerns.

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet, for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final Environmental Assessment.

**Views:** Regarding your concern about views from Kulana Hale, Holomua is designed as a residential tower atop a parking structure pedestal. The residential tower walls (including the north wall facing Kulana Hale) are setback from the parking structure and are articulated with jogs, building insets, windows, and lanais. This allows 30 to 40 feet between Holomua and Kulana Hale from the 9<sup>th</sup> floor up. The Final Environmental Assessment will include a visual analysis showing a three-dimensional view of Holomua in context with the surrounding structures.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Ka'euanuoka intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Ms. Elaine McQuaid  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII,  
TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

**Noise:** The environmental noise assessment report prepared for the Holomua Draft EA included sound measurements of existing noise conditions from the Holomua site. According to the environmental noise assessment report, the Holomua site is currently exposed to moderate and sometimes high ambient noise levels. Noise sources include vehicular traffic noise and typical urban noises such as sirens, car horns, and mechanical equipment from neighboring buildings. If One Kalakana is in conformance with all State Department of Health noise requirements (Hawaii Administrative Rules Chapter 11-46, "Community Noise Control.") the impacts to Holomua should be within acceptable State noise standards.

Thank you for your comments. Your comments will be included in the Final EA.  
Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Kivatsy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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August 7, 2008

To the Members of the Neighborhood Board Number 10:

Please do not approve of the increase in height for buildings in the Makiki area. This is a design district for a reason.

We already have the most dense population of any area on the island.

We live in this neighborhood.

We understand that there will be additional construction, but we are opposed to additional construction that FURTHER increases height restrictions, adds additional floors, additional parking, additional congestion. Mahalo nui for your consideration.

Please do not hesitate to ask us, your neighbors, or to meet with us personally. Many of us are opposed to the height restrictions increasing. Please ask us.

*Harriet H. Falconer*

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Harriet Falconer

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Falconer:

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, TIM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter you are concerned about the proposed density of Holomua. In response to your concerns we offer the following responses.

Holomua was added to the June 19, 2008 agenda for Neighborhood Board #10 and discussed at this meeting. At the June 19<sup>th</sup> meeting the following concerns were raised. A) When the Holomua developers came to the April 2008 meeting, the neighbors across the street were not notified. B) At 1450 Young Street, the building next door got a height variance and now the residents complain about the noise from the equipment on their roof. C) There should be more studies about the impact on infrastructure, increased traffic and people, the entrance/exit on Kalakaua Avenue, and the health of elderly in the area and at Kaulana Hale. The traffic study mentioned "no significant impact," but there were concerns about the possible increase in traffic from Punahou Street, Beretania Street and Kalakaua Avenue. D) A resident pointed out that a seven-story garage would be 50 feet from her apartment. She feared raised rents, increased electricity bills and blocked sunlight. E) A resident stated that undergrounding of utilities is very expensive, there should be a moratorium on height, and he wants current laws enforced. At 1314 Kalakaua he has a good view. When Holomua goes up, he will lose the view and even the sky. There is glare/reflection from the wall across the street in the afternoon.

The following motion was adopted, "The Makiki/Lower Punchbowl/Tantalus Neighborhood Board No. 10 commends the developers of the Holomua project for providing much-needed affordable housing. The Board has heard the community concerns about increased traffic, parking, pedestrian safety and loss of view plane. The Board is not taking a position in favor or opposition the project, but will forward the letters received from community members on to the appropriate agency or agencies."

Ms. Harriet Falconer  
SUBJECT: HOLOMANA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII  
TRK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

June 10, 2008

Thank you for your comments. Your comments will be included in the Final EA.

Sincerely,

PBR HAWAII



Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tamalus Neighborhood Board

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Neighborhood Board No. 10  
Makihi Chair John Steelquist  
c/o 530 S. King Street, Room 406  
Honolulu, Hawaii 96813

RE: Holomanu Project

Dear Chair Steelquist:

We are writing to express our concerns regarding the height variances being requested by the Holomanu Project.

My wife's mother, Doris M. Anderson, was a resident of One Kalakaua Senior Living. She purchased an apartment (#909) there before construction of One Kalakaua Senior Living was started, and moved into Apartment 909 in October, 1997 (when occupancy of the building started). She continued to live there until her passing in 2004. At that time my wife inherited the apartment and it is now owned jointly by my wife and myself. At the present time, we have rented the apartment out but in the future we intend to live there ourselves. We are opposed to the granting of the height variance because of the increase in traffic and the danger that it may cause to pedestrians. The block of Kalakaua Avenue from Young Street to Berehana is a heavily congested traffic area and it will only become worse with more apartments being built.

In addition, we believe that height and other building code regulations should be followed and that variances should only be granted, on a case-by-case basis, where there is an overwhelming community need for such variance. What is the "compelling community need" in the present request for a height variance? The "need for more apartments" is not, by itself, a compelling need -- otherwise it could apply to all requests for height variances, making a mockery of existing height limitations.

Thank you for your consideration.

Very truly yours,



ANDREW O. EGSETH, JR.



BARBARA M. EGSETH



August 7, 2008

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President

R. STAN DUNCAN, ASLA  
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Vice-President

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Wailuku, Hawaii 96793-1271  
Tel: (808) 242-2878

Mr. Andrew & Mrs. Barbara Eggeeth  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU,  
HAWAII, TMK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

The exemptions requested are reasonable considering that affordable housing has been a serious problem that has only gotten worse with the recent real estate boom. Thank you for your comments. Your comments will be included in the Final Environmental Assessment.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivatsy, THM Partners LLC  
John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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Dear Mr. & Mrs. Eggeeth,  
Thank you for your letter dated June 4, 2008, addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

You letter notes concerns about the proposed height exemption for Holomua, traffic, and pedestrian safety. In response to your concerns we offer the following responses.

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet; including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet); and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

**Traffic & Pedestrian Safety:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Beretania/Ke'eaumoku intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalakaua Avenue, Young Street, Beretania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exit) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.



# PBR HAWAII & ASSOCIATES, INC.

August 7, 2008

Sigrid Grover  
1314 Kalakaua Avenue, #1012  
Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT,  
HONOLULU, O'AHU, HAWAII; TMK: (1) 2-4-06: 17 & 18**

Dear Ms. Grover,

Thank you for your letter addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

As noted in your letter, you are concerned about the proposed height exemption for Holomua, the view from Kulauna Hale, traffic congestion and pedestrian safety. We offer the following response to your concerns.

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet), and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final EA.

**Traffic Congestion:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Bevetania/Keeunuku intersection are projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

**Pedestrian Safety:** Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalakaua Avenue, Young Street, Bevetania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exit) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

**PRINCIPALS**  
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Neighborhood Board No. 10  
Makiki Chair John Steelquist  
c/o 530 S King Street, Room 406  
Honolulu, Hawaii 96813  
Re: Holomua Project

Dear Chair Steelquist:  
I am writing to express my concerns regarding the height variance being requested by the Holomua Project.

I am a resident of One Kalakaua and have lived there for 2 years. I am very concerned about the traffic in this area and the danger it may cause pedestrians. I oppose a height increase because:

- I HOPE TO LIVE HERE FOR THE REST OF MY LIFE. I HOPE TO KEEP THE VALUE OF MY INVESTMENT IN MY APARTMENT. I FEAR THE CONGESTION AND HEIGHT OF THE PROPOSED RETIREMENT BUILDING.

Thank you for your consideration,

SIGRID K. GROVER DANIEL UNIT 1012  
1314 KALAKAUA AVE.  
Sigrid K. Grover



Ms. Sigrid Grover  
 SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06:17 & 18  
 August 7, 2008  
 Page 2

Thank you for your comments. They will be included in the Final EA.

Sincerely,

PBR HAWAII

Tom Schnell, AICP  
 Senior Associate

cc: Leonell A. Domingo, Hawai'i Housing Finance & Development Corporation  
 Katherine Keoloha, Office of Environmental Quality Control  
 Serge Kivvatsy, THM Partners, LLC  
 John Steelquist, Makiki/Lower Punchbowl/Tantalus Neighborhood Board

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August 7, 2008

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Benjamin H. Bond Jr.  
 1314 Kalakaua Avenue, Apt. 1011  
 Honolulu, HI 96826

**SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU, HAWAII, TMK: (1) 2-4-06:17 & 18**

Dear Mr. Bond:

Thank you for your letter dated June 8, 2008, addressed to Makiki/Lower Punchbowl/Tantalus Neighborhood Board Chair John Steelquist. As the planning consultant for the applicant, THM Partners LLC, we are responding to your comments. We are not responding on behalf of the Makiki/Lower Punchbowl/Tantalus Neighborhood Board or the City and County of Honolulu.

You letter notes concerns about the proposed height exemption for Holomua, traffic and pedestrian safety, wind, views, and noise. In response to your concerns we offer the following responses.

**Building Height:** We note that height limit for the Holomua property is 150 feet. The additional height requested (70 feet, for a total of 220 feet) will allow for seven additional floors and is not out of context with the surrounding area, as several nearby buildings exceed 150 feet: including Banyan Tree Plaza (350 feet), Punahou Regency (180 feet); and 1450 Young Street (226 feet). In light of the affordable housing provided by Holomua, THM Partners LLC finds the exemption reasonable. The height exemption request will be discussed in the Final Environmental Assessment.

**Traffic & Pedestrian Safety:** We acknowledge that local streets serve substantial volumes of traffic. The Holomua traffic impact analysis projects traffic in the area will increase even without Holomua due to the cumulative effect of future projects and a projected regional growth rate of two percent. As an example of how Holomua would affect nearby intersections, with the addition Holomua, increased delays at the Bereiania/Ke'eaumoku intersection are only projected to increase by 2.7 seconds during the AM peak hour and 1.8 seconds during the PM Peak Hour.

Holomua is not expected to substantially change the pedestrian environment, and no change to pedestrian safety is anticipated. All streets immediately surrounding the Holomua site include complete sidewalks and signalized crosswalks at intersections. The traffic impact analysis shows that the increment of traffic generated by the Holomua will not result in a significant impact at any of the study intersections including those on Kalakaua Avenue, Young Street, Bereiania Street, and King Street. Thus, Holomua will not require any changes to existing pedestrian crossing times or signal phasing at any location. In addition, the Holomua building (including the garage entrance/exit) will be located approximately 30 feet behind the sidewalk so that pedestrians will be clearly visible to drivers of vehicles exiting and entering the site driveway.

Mr. Benjamin H. Bond Jr.  
SUBJECT: HOLOMUA DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU, O'AHU,  
HAWAII, TRK: (1) 2-4-06: 17 & 18  
August 7, 2008  
Page 2

**Wind Tunnel:** We acknowledge your concern for the environmental conditions of Kalakaua Avenue upon completion of construction. Holomua is designed to be set back from the street from the ninth floor to the top of the building. This design feature, combined with the fact that Holomua's frontage is relatively limited should reduce the wind tunnel or canyon effect that can be created when buildings are massed close to the street on both sides of a block.

**Views:** Regarding your concern about views Holomua is designed as a residential tower atop a parking structure pedestal. The residential tower walls (including the north wall facing Kulana Hale) are setback from the parking structure and are articulated with jogs, building insets, windows, and lanais. This allows 30 to 40 feet between Holomua and Kulana Hale from the 9<sup>th</sup> floor up. The Final Environmental Assessment will include a visual analysis showing a three-dimensional view of Holomua in context with the surrounding structures.

**Noise:** The environmental noise assessment report prepared for the Holomua Draft EA included sound measurements of existing noise conditions from the Holomua site. According to the environmental noise assessment report, the Holomua site is currently exposed to moderate and sometimes high ambient noise levels. Noise sources include vehicular traffic noise and typical urban noises such as sirens, car horns, and mechanical equipment from neighboring buildings. If One Kalakaua is in conformance with all State Department of Health noise requirements (Hawaii Administrative Rules Chapter 11-46, "Community Noise Control.") the impacts to Holomua should be within acceptable State noise standards.

Thank you for your comments. Your comments will be included in the Final Environmental Assessment.  
Sincerely,

PRR HAWAII



Tom Schnell, AICP  
Senior Associate

cc: Leonell A. Domingo, Hawaii Housing Finance & Development Corporation  
Katherine Kealoha, Office of Environmental Quality Control  
Serge Krivarsy, THM Partners LLC  
John Steelquist, Makis/Lower Punchbowl/Tantalus Neighborhood Board