DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honoluludpp.org • CITY WEB SITE: www.honolulu.gov

KIRK CALDWELL
MAYOR

GEORGE I. ATTA, FAICP
DIRECTOR

ARTHUR D. CHALLACOMBE
DEPUTY DIRECTOR

2014/ED-8(SB)

January 12, 2015

Ms. Jessica Wooley
Office of Environmental Quality Control
Department of Health, State of Hawaii
235 South Beretania Street, Room 702
Honolulu, Hawaii 96813

JAN 23 2015
FILE COPY
JAN 23 2015

RECEIVED
'15 JAN 12 A9:34
OFC. OF ENVIRONMENTAL QUALITY CONTROL

Dear Ms. Wooley:

SUBJECT: Chapter 343, Hawaii Revised Statutes
Final Environmental Assessment

Project:	2424 Kalakaua
Applicant:	BRE Waikiki Owner LLC
Agent:	Group 70 International, Inc. (Christine Ruotola)
Location:	2139 Kuhio Avenue – Waikiki
Tax Map Key:	2-6-23: 9, 10, 11, 12, 77, 78, and 80
Proposal:	The redevelopment and renovation of the three podium levels (including basement) of the Hyatt Regency Waikiki Beach Resort and Spa.

Attached and incorporated by reference is the Final Environmental Assessment (FEA) prepared by the Applicant for the project. Based on the significance criteria outlined in Title 11, Chapter 200, Hawaii Administrative Rules, we have determined that the preparation of an Environmental Impact Statement is not required, and have issued a Finding of No Significant Impact. Please publish this in the **January 23, 2015**, issue of the Office of Environmental Quality Control (OEQC) Environmental Notice.

We have enclosed two hard copies of the FEA, as well as a copy on compact disc. Also, we have attached a completed OEQC publication form and project summary, and will submit the same publication form and project summary via electronic mail to your office.

Should you have any questions, please contact Sery Berhanu of our Urban Design Branch at 768-8033 or via email at sberhanu@honolulu.gov.

Very truly yours,

George I. Atta, FAICP
Director

Enclosure: FEA, two hard copies and one disk
One copy of OEQC Publication Form

Doc 1208315

APPLICANT ACTIONS
SECTION 343-5(C), HRS
PUBLICATION FORM (JANUARY 2013 REVISION)

Project 2424 Kalakaua
Island: Oahu
District: Waikiki
TMK: (1) 2-6-23: 9, 10, 11, 12, 77, 78, and 80
Permits: City and County of Honolulu: Waikiki Special District Permit, Minor; Special Management Area Permit, Major; Surface Encroachment Variance; Construction Dewatering Permit; Building Permits; Drain Connection; Sewer Connection; Street Usage; Construction Plan Review.
State of Hawai'i: National Pollutant Discharge Elimination Permit; Construction Noise Permit.

Approving Agency:
City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, Hawaii 96813
Contact: Sery Berhanu - (808) 768-8033

Applicant:
BRE Waikiki Owner LLC
345 Park Avenue
New York, New York 10154
Contact: Jeff Dinsmore - (808) 692-0071

Consultant:
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813
Contact: Christine Ruotola - (808) 523-5866

Status (check one only):

__DEA-AFNSI	Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of DEA, a completed OEQC publication form, along with an electronic word processing summary and a PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov; a 30-day comment period ensues upon publication in the periodic bulletin.
_X_FEA-FONSI	Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and a PDF copy (send both summary and PDF to oeqchawaii@doh.hawaii.gov; no comment period ensues upon publication in the periodic bulletin.
__FEA-EISPN	Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov; a 30-day consultation period ensues upon publication in the periodic bulletin.
__Act 172-12 EISPN	Submit the approving agency notice of determination on agency letterhead, an OEQC publication form, and an electronic word processing summary (you may send the summary to oeqchawaii@doh.hawaii.gov. NO environmental assessment is required and a 30-day consultation period upon publication in the periodic bulletin.
__DEIS	The applicant simultaneously transmits to both the OEQC and the approving agency, a hard copy of the DEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the DEIS (you may send both the summary and PDF to oeqc@doh.hawaii.gov); a 45-day comment period ensues upon publication in the periodic bulletin.
__FEIS	The applicant simultaneously transmits to both the OEQC and the approving agency, a hard copy of the FEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the FEIS (you may send both the summary and PDF to oeqc@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.

__ Section 11-200-23 Determination	The approving agency simultaneously transmits its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS to both OEQC and the applicant. No comment period ensues upon publication in the periodic bulletin.
__Statutory hammer Acceptance	The approving agency simultaneously transmits its notice to both the applicant and the OEQC that it failed to timely make a determination on the acceptance or nonacceptance of the applicant's FEIS under Section 343-5(c), HRS, and that the applicant's FEIS is deemed accepted as a matter of law.
__Section 11-200-27 Determination	The approving agency simultaneously transmits its notice to both the applicant and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is not required. No EA is required and no comment period ensues upon publication in the periodic bulletin.
__Withdrawal (explain)	

Summary (Provide proposed action and purpose/need in less than 200 words. Please keep the summary brief and on this one page)**:**

The redevelopment of a basement and levels one through three of an existing 39-story hotel. The redevelopment will entail improvement of the existing retail facilities, improvement of the pedestrian circulation experience, the inclusion of a second floor lanai shopping arcade, the addition of a new porte cochere along Koa Avenue, the addition of new elevators at the porte cochere, that will take visitors directly to the hotel lobby and upper floors, and the construction of a new hotel pool deck on the third floor. The retail revelopment project will not increase total floor area of the hotel. Parking for the project will continue to be provided at the hotel basement level and at the parking garage located east of the hotel.

2424 KALAKAUA

WAIKĪKĪ, ISLAND OF O'AHU, HAWAI'I

FINAL ~~DRAFT~~ ENVIRONMENTAL ASSESSMENT

JANUARY 2015 OCTOBER 2014

GROUP 70 INTERNATIONAL

2424 KALAKAUA

Waikīkī, Island of Oʻahu, Hawaiʻi

Final ~~Draft~~ Environmental Assessment

This environmental document is prepared in accordance with the requirements of Chapter 343, HRS and Hawaiʻi Administrative Rules, Title 11, Department of Health.

Applicant:
BRE Waikiki Owner LLC
345 Park Avenue
New York, NY 10154

Prepared by:
Group 70 International, Inc.
925 Bethel Street, 5th Floor
Honolulu, HI 96813

January 2015 ~~**October 2014**~~

TABLE OF CONTENTS

Section **Page**

Table of Contents i
List of Tables iii
List of Figures iii
Technical Appendices iv

1.0 INTRODUCTION 1-1
1.1 Project Information Summary 1-1
1.2 Project Site 1-8
1.3 Overview of the Planned Project 1-8
1.4 Purpose of the Environmental Assessment 1-8
1.5 Listing of Required Government Permits and Approvals 1-9
1.6 Agencies, Organizations and Individuals Contacted During the Pre-Consultation Process 1-9

2.0 DESCRIPTION OF THE PROPOSED ACTION 2-1
2.1 Project Location and Characteristics 2-1
2.2 Purpose of the Proposed Project 2-2
2.3 Description of the Proposed Project 2-10
2.3.1 Summary of Project Program 2-24
2.3.2 Open Space 2-24
2.3.3 Circulation 2-26
2.4 Project Utilities and Infrastructure 2-26
2.4.1 Water 2-29
2.4.2 Wastewater 2-29
2.4.3 Drainage System 2-29
2.4.4 Solid Waste Disposal 2-29
2.4.5 Other Utilities 2-29
2.4.6 Access, Roadways, and Parking 2-29
2.5 Construction Characteristics 2-30
2.5.1 Landscape Management 2-30
2.5.2 Excavations 2-30
2.5.3 General Construction 2-30
2.6 Employment and Hours of Operation 2-31
2.7 Summary of Projected Costs 2-31

3.0 DESCRIPTION OF THE ENVIRONMENTAL SETTING, POTENTIAL IMPACTS AND MITIGATION MEASURES 3-1
3.1 Topography 3-1
3.2 Geology and Soils 3-1
3.3 Climate 3-3
3.4 Natural Hazards 3-3
3.4.1 Hurricanes and Tropical Storms 3-3
3.4.2 Earthquake 3-4
3.4.3 Flooding 3-4
3.4.4 Tsunami Inundation 3-6
3.4.5 Climate Change and Sea Level Rise 3-6
3.5 Botanical Resources 3-8

3.5.1 Flora ... 3-8
3.5.2 Fauna ... 3-8
3.6 Air Quality ... 3-9
3.7 Noise ... 3-10
3.8 Utilities and Infrastructure ... 3-11
3.8.1 Waster System ... 3-11
3.8.2 Wastewater ... 3-11
3.8.3 Storm Drainage ... 3-12
3.8.4 Electrical ... 3-12
3.9 Hazardous Waste ... 3-12
3.10 Traffic and Roadways ... 3-13
3.11 Parking and Loading ... 3-21
3.11.1 Parking ... 3-21
3.11.2 Loading ... 3-27
3.12 Socio-Economic Conditions ... 3-27
3.13 Public Facilities and Services ... 3-29
3.13.1 Police Protection ... 3-29
3.13.2 Fire Protection ... 3-29
3.13.3 Emergency Medical Services and Hospital Services ... 3-30
3.13.4 Schools ... 3-30
3.13.5 Libraries ... 3-30
3.13.6 Public Parks ... 3-31
3.13.7 Solid Waste ... 3-31
3.13.8 Public Transit Service: TheBus ... 3-31
3.14 Historical and Archaeological Resources ... 3-32
3.15 Cultural Resources ... 3-34
3.16 View Planes, Corridors and Resources ... 3-37
3.17 Short Term Impacts ... 3-42
3.18 Potential Cumulative and Secondary Impacts ... 3-43

4.0 ALTERNATIVES TO THE PROPOSED PROJECT ... 4-1
4.1 Alternative A – No Action ... 4-1
4.2 Alternative B – Alternative Location ... 4-1
4.3 Alternative C – Alternative Designs and Materials for the Proposed Project ... 4-1

5.0 APPLICABLE LAND USE PLANS AND POLICIES ... 5-1
5.1 Hawai‘i State Plan ... 5-1
5.2 Hawai‘i State Land Use District Boundaries ... 5-6
5.3 Hawai‘i Coastal Zone Management ... 5-6
5.4 2050 Sustainability Plan ... 5-11
5.5 City and County of Honolulu General Plan ... 5-12
5.6 City and County of Honolulu PUC Development Plan ... 5-15
5.7 City and County of Honolulu LUO and WSD ... 5-18
5.8 City and County of Honolulu SMA ... 5-29
5.9 Waikīkī Livable Community Project ... 5-31

6.0 FINDINGS SUPPORTING ANTICIPATED DETERMINATION ... 6-1
6.1 Anticipated Determination ... 6-1
6.2 Reasons for Supporting the Anticipated Determination ... 6-1
6.3 Summary ... 6-3

7.0 LIST OF REFERENCES 7-1

8.0 LIST OF AGENCIES, ORGANIZATIONS AND INDIVIDUALS RECEIVING COPIES OF THE EA 8-1

LIST OF TABLES

1-1 Listing of Anticipated Government Permits & Approvals 1-9
2-1 Existing & Proposed Uses 2-24
2-2 Open Space Summary 2-24
3-1 Potable Water Requirements 3-11
3-2 Existing and Projected LOS Traffic Operating Conditions 3-15
3-3 Peak Hour Trip Generation Characteristics 3-16
5-1 LUO Article 9: Development Standards for Waikīkī Special District Precinct 5-26

LIST OF FIGURES

1-1 Project Location Map 1-2
1-2 City and County of Honolulu, TMK Parcel Map of Project Area 1-3
1-3 State Land Use Districts Designations 1-4
1-4 City and County of Honolulu Primary Urban Center Land Use Designation 1-5
1-5 City and County of Honolulu Zoning & Waikīkī Special District Designations 1-6
1-6 City and County of Honolulu Special Management Area 1-7
2-1 Aerial View of the Existing Project Area 2-2
2-2 Existing First Floor Plan 2-3
2-3 Existing Second Floor Plan 2-4
2-4 Existing Third Floor Plan 2-5
2-5 Existing South Elevation 2-6
2-6 Existing West Elevation 2-7
2-7 Existing North Elevation 2-8
2-8 Existing East Elevation 2-9
2-9 Rendering of Retail Redevelopment 2-12
2-10 Proposed Site Plan 2-13
2-11 Proposed First Floor Plan 2-14
2-12 Proposed Second Floor Plan 2-15
2-13 Proposed Third Floor Plan 2-16
2-14 Proposed South Elevation 2-17
2-15 Proposed West Elevation 2-18
2-16 Proposed North Elevation 2-19
2-17 Proposed East Elevation 2-20
2-18 Rendering of Arrival Area and Porte Cochere 2-21
2-19 Rendering of Streetscape and Retail Frontage 2-22
2-20 Rendering of Second Level 2-23
2-21 Proposed Open Space Plan 2-25
2-22 Existing Circulation Diagram 2-27
2-23 Proposed Circulation Diagram 2-28

3-1 U.S. Department of Agriculture Soils Conservation Service, Soils Classification Map..... 3-2
3-2 Flood Insurance Rate Map & Current County Tsunami Evacuation Zone 3-5
3-3 Existing Peak Hours of Traffic 3-14
3-4 Distribution of Site Generated Vehicles 3-17
3-5 Year 2017 Peak Hour of Traffic Without Project 3-19
3-6 Year 2017 Peak Hour of Traffic With Project 3-20
3-7 Existing Basement Parking Layout.....3-23
3-8 Existing Off-Site Parking 3-24
3-9 Proposed Basement Parking Layout 3-25
3-10 Parking and Loading Calculations.....3-26
3-11 Proposed First Floor Loading 3-28
3-12 Site Photo Key.....3-39
3-13 View from Kalākaua Avenue looking east towards the project site. 3-40
3-14 View from Kalākaua Avenue looking north toward the project site.....3-40
3-15 View from western portion of the site south towards Waikīkī Beach.....3-41
3-16 View from the southern portion of the site looking south towards Waikīkī Beach. 3-41
3-17 View from southwest portion of the project site looking south toward Waikīkī Beach...3-42
5-1 Yard Averaging Diagram 5-27
5-2 Transitional Height Setback.....5-28

TECHNICAL APPENDICES

A. Comment Letter and Responses

B. Traffic Impact Report for the Hilton Hawaiian Village Renovations. (Wilson Okamoto Corporation, June 2014).

C. Archaeological Literature Review and Field Inspection for the Hyatt Waikiki Redevelopment Project, Waikīkī Ahupuaʻa, Honolulu (Kona) District, Oʻahu. (Cultural Surveys Hawaiʻi, Inc., August 2014).

D. Cultural Impact Assessment for the Hyatt Waikīkī Redevelopment Project, Waikīkī Ahupuaʻa, Honolulu (Kona) District, Oʻahu TMK: [1] 2-6-023: 009-012, 077, 078, 080 por. (Cultural Surveys Hawaiʻi, Inc., August 2014).

Section 1.0

INTRODUCTION

1.0 INTRODUCTION

This ~~Draft~~ Environmental Assessment (EA) has been prepared in accordance with the requirements of Chapter 343, Hawai'i Revised Statutes (HRS) and Hawai'i Administrative Rules, Title 11, Department of Health, which set forth the requirements for the preparation of environmental assessments.

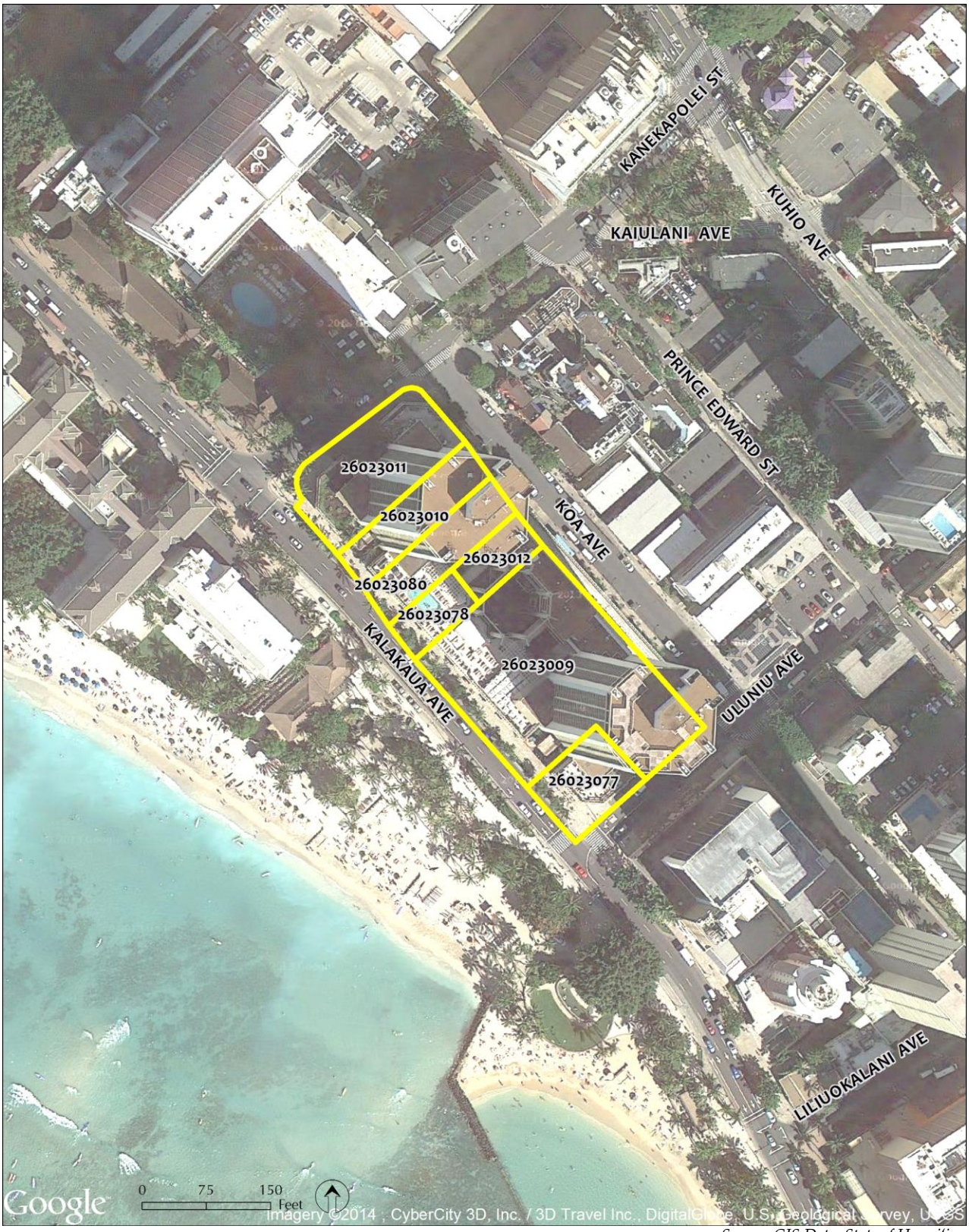
1.1 PROJECT INFORMATION SUMMARY

Applicant:	BRE Waikiki Owner LLC 345 Park Avenue New York, NY 10154
Accepting Authority:	City and County of Honolulu Department of Planning and Permitting
Class of Action Ch. 343, HRS:	Located in the Special Management Area and Waikīkī Special District (WSD)
Name of Action:	2424 Kalakaua Waikīkī, Kona District, O'ahu (*Figure 1-1)*
Planning/Environmental Consultant:	Group 70 International, Inc. 925 Bethel Street, 5th Floor Honolulu, Hawai'i 96813
Tax Map Keys (TMK):	2-6-23: 9,10,11,12, 77, 78, and 80 (*Figure 1-2*)
Land Area:	2.4 acres
Location:	Waikīkī, O'ahu, Hawai'i
State Land Use District:	Urban District (*Figure 1-3*)
City and County of Honolulu:	
Primary Urban Center Development Plan:	Resort (*Figure 1-4*)
Zoning (Land Use Ordinance):	WSD, Resort Mixed Use Precinct (*Figure 1-5*)
Special Management Area (SMA):	Entire project area within SMA (*Figure 1-6*)

Landowners:

TMK	Fee Owner
2-6-23:10 and 11	BEA Investments, LLC
2-6-23: 9, 12, 77, 78, and 80	2424 Kalakaua Associates

Figure 1-1
Project Location Map

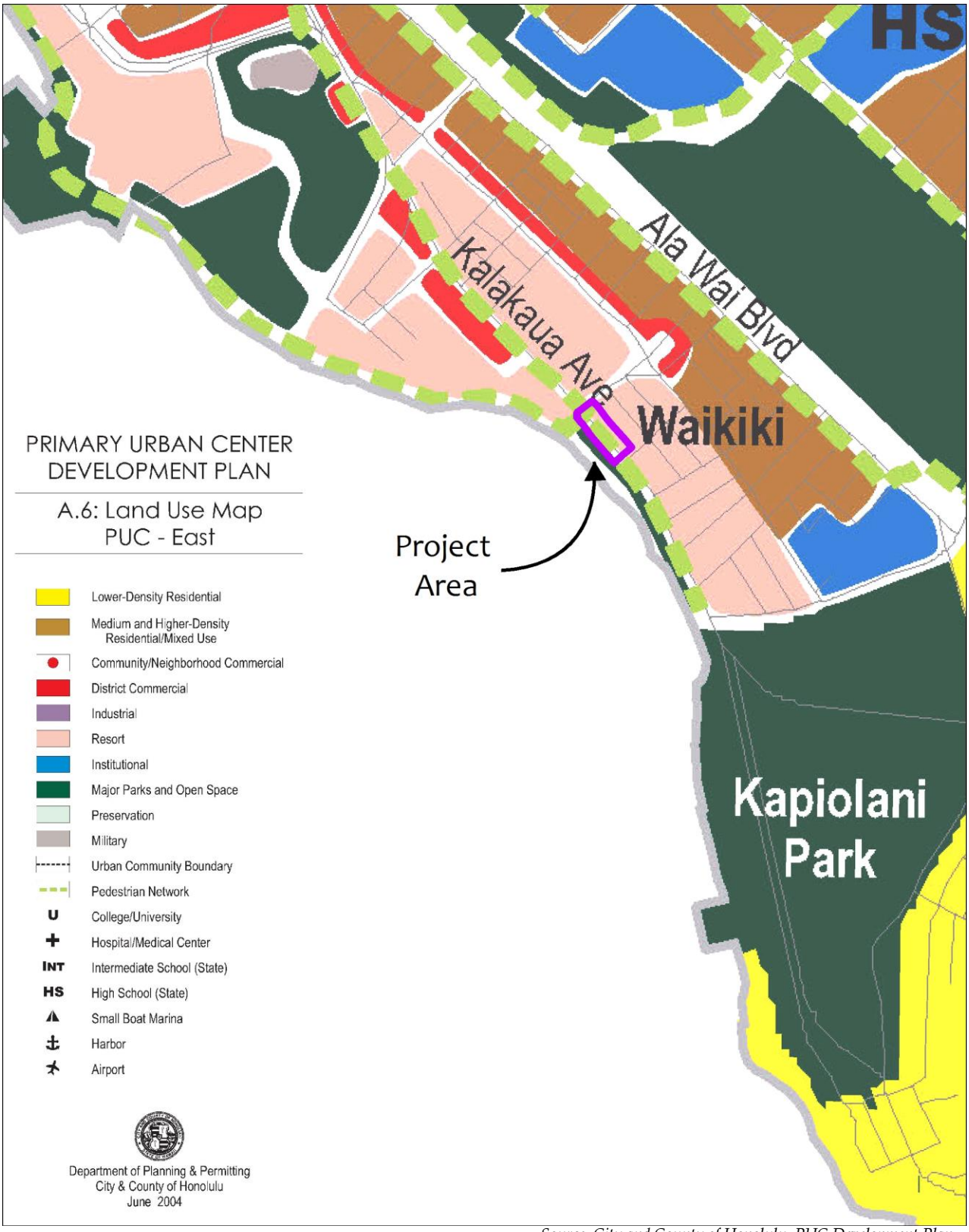


Source: GIS Data, State of Hawai'i

Figure 1-2
City and County of Honolulu, TMK Parcel Map of Project Area

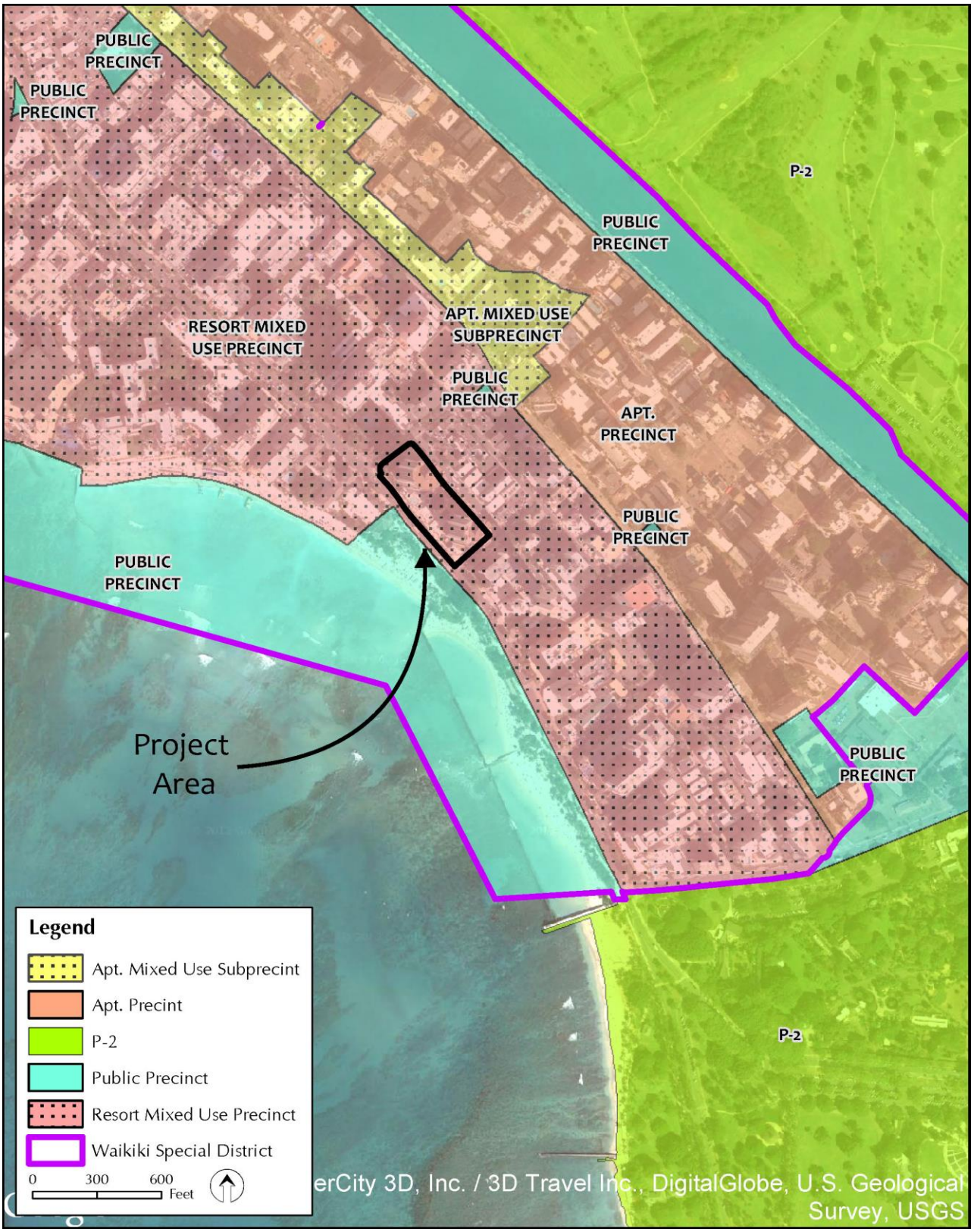
Source: GIS Data, State of Hawai'i

Figure 1-3
State Land Use District Designations



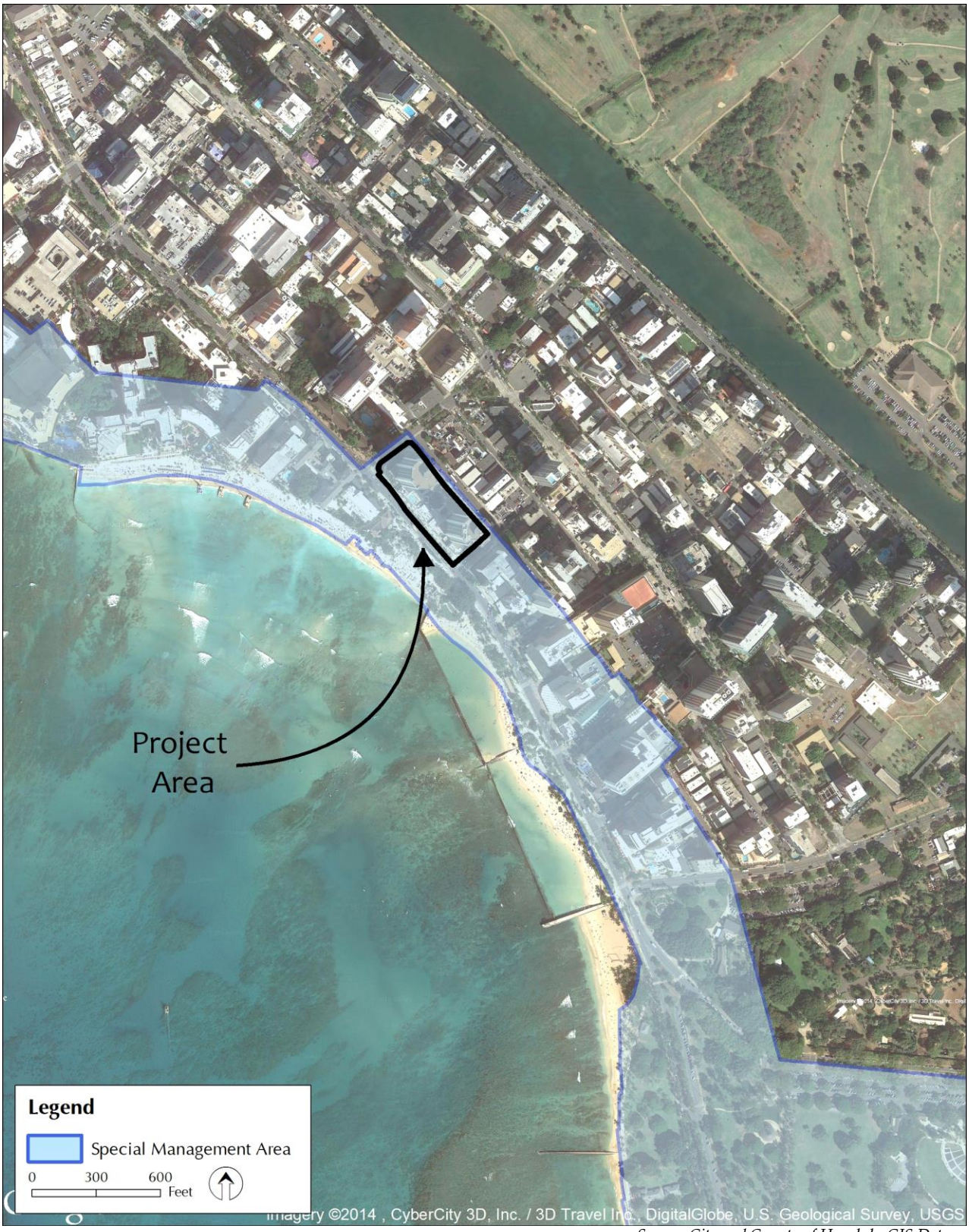
Source: City and County of Honolulu, PUC Development Plan

Figure 1-4
City and County of Honolulu Primary Urban Center Land Use Designation



Source: City and County of Honolulu GIS Data

Figure 1-5
City and County of Honolulu Zoning & Waikīkī Special District Designations



Source: City and County of Honolulu GIS Data

Figure 1-6
City and County of Honolulu Special Management Area

1.2 PROJECT SITE

BRE Waikiki Owner LLC, is proposing a reconfiguration of spaces in the hotel and retail podium at the Hyatt Regency Waikiki Beach Resort and Spa (Hyatt Regency Hotel) located in Waikīkī, O'ahu, Hawai'i. The project site lies near the center of Waikīkī bounded by Koa Avenue to the north, Ka'iulani Avenue to the west, Kalākaua Avenue to the south, and Uluniu Avenue to the east (*Figure 1-1*). The project area encompasses approximately 2.4 acres and is identified as TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80.

1.3 OVERVIEW OF THE PLANNED PROJECT

The 2424 Kalakaua project represents Hyatt's continued commitment to enhancing the visitor and resident experience in Waikīkī. The proposed improvements will result in enhanced retail facilities, hotel amenities, and street experience that fit with the existing setting of the hotel. The project will improve the character of this area and provide quality experiences to visitors and guests.

The project will include improvements to the existing retail facilities, the addition of a new porte cochere along Koa Avenue, improved pedestrian circulation and inclusion of a second floor lanai shopping arcade. The project will also include new elevators at the porte cochere that will take visitors directly to the hotel lobby and upper floors, and a new hotel pool deck located on the third floor. The retail redevelopment project will not increase total floor area at the hotel. Parking will continue to be provided in the hotel basement level and at the parking garage east of the hotel on Uluniu Avenue.

The 2424 Kalakaua project will not only bring added value to the immediate property, but will be an achievement in Waikīkī's ongoing transformation. Further, the retail redevelopment will help to ensure the viability of Waikīkī as the State's most prominent economic asset and strengthen its position in the global tourism market.

1.4 PURPOSE OF THE ENVIRONMENTAL ASSESSMENT

In accordance with the requirements of Chapter 343, HRS, a Draft EA is being prepared as the proposed project is located in the SMA and WSD. The Draft EA will be published in the Office of Environmental Quality Control (OEQC) Environmental Notice, which will commence a 30-day public review period.

The ~~Draft~~ EA is presented in eight sections and includes the following: a detailed project description and analysis of alternatives; a list of necessary approvals; a description of the environmental setting; a section that identifies potential impacts and proposed mitigative measures on identified natural, cultural, and socioeconomic resources as well as existing infrastructure; a discussion of the project's relationship to State and County land use designations and regulations; the anticipated determination and reasons for its believed outcome; an updated list of agencies, organizations, and individuals that participated in the pre-consultation phase of the ~~Draft~~ EA; and a list of references cited or used in developing the ~~Draft~~ EA.

After the 30-day review period of the Draft EA has concluded, public comments received will be considered and addressed to the extent feasible within the project scope and evaluation. A Final EA is ~~will be~~ prepared, highlighting key areas of the document that were revised, updated, or modified based upon information received during the public comment period.

Upon acceptance of the Final EA, a Finding of No Significant Impact (FONSI) is anticipated.

1.5 LISTING OF REQUIRED GOVERNMENT PERMITS AND APPROVALS

Table 1-1 identifies the major State and County land use permits and approvals that are anticipated to be required for the project, including site, building, construction, and infrastructure approvals.

Table 1-1 LISTING OF ANTICIPATED GOVERNMENT PERMITS & APPROVALS

Permit or Approval	Approving Authorities
Final EA Acceptance	City and County of Honolulu, Dept. of Planning and Permitting
SMA Use Permit, Major	City and County of Honolulu, City Council
WSD Permit, Minor	City and County of Honolulu, Director, Dept. of Planning and Permitting
National Pollutant Discharge Elimination System	State of Hawai'i Department of Health Clean Water Branch
Construction Noise Permit	State of Hawai'i Department of Health Indoor and Radiological Health Branch
Building Permits, Surface Encroachment Variance, Construction Dewatering, Sewer Connection, Drain Connection, Trenching Permit, Sidewalk Variance, Street Usage, Construction Plan Approval	City and County of Honolulu, Dept. of Planning and Permitting

1.6 AGENCIES, ORGANIZATIONS AND INDIVIDUALS CONTACTED DURING THE PRE-CONSULTATION PROCESS

A Pre-Consultation Memo and Participant Letter were sent on May 27, 2014 to initiate the environmental review process. These are included as *Appendix A.*

A list of agencies and other parties that were presented notice of the proposed project or were contacted during the pre-consultation period of the Draft EA is provided in *Section 8.0* of this document. Additionally, a listing of those agencies that will be provided an opportunity to review the Draft EA and Final EA is provided in *Section 8.0*.

Section 2.0

DESCRIPTION OF THE PROPOSED ACTION

2.0 DESCRIPTION OF THE PROPOSED ACTION

2.1 PROJECT LOCATION AND CHARACTERISTICS

Location
The 2424 Kalakaua project will reconfigure spaces at the Hyatt Regency Hotel. The hotel is located in the center of Waikīkī, on the island of Oʻahu in the State of Hawaiʻi (*Figure 1-1*). The site is within the traditional moku of Kona and the ahupuaʻa of Waikīkī (*Figure 2-1*). The project area is approximately 2.4 acres and encompasses TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80 (*Figure 1-2*). The Hyatt Regency Hotel is bounded by Koa Avenue to the north, Kaʻiulani Avenue to the west, Kalakaua Avenue to the south, and Ulunui Avenue to the east. The project site is located on lands classified by the State Land Use Commission (LUC) as State Land Use Urban District (*Figure 1-3*). The land is zoned Resort Mixed Use Precinct District by the City and County of Honolulu and is designated for Resort on the Primary Urban Center (PUC) Development Plan (*Figure 1-4 and 1-5*).

Ownership
The project site is owned by BEA Investments LLC and 2424 Kalakaua Associates. The project parcels are leased by BRE Waikiki Owner LLC.

Adjacent Land Uses
The project site is located in Waikīkī and surrounded by modern urban development including high-rise hotels and retail and restaurant establishments. Specifically, the site is surrounded by the Moana Surfrider and Honolulu Police Department's Waikīkī Sub-station to the south, the Sheraton Princess Kaʻiulani to the west, Kings Village Shopping Center and Stay Hotel to the north and Aston-Waikiki Beach Tower and Aston Waikiki Circle Hotel to the east. These areas are zoned Resort Mixed Use Precinct District by the City and County of Honolulu.

Existing On-Site Land Uses
The 2424 Kalakaua project is part of the existing Hyatt Regency Hotel. The project site consists of seven parcels on 2.4 acres of land. The hotel consists of 1,231 guestrooms within two 39-story twin towers that are approximately 350 feet high. The hotel amenities currently include retail space, meeting space, a swimming pool, fitness center, and food and beverage establishments. Parking for the hotel is provided in the basement and in an adjacent building with 431 stalls. Vehicular access to the site is via Uluniu Avenue where there is a covered port cohere. A plan showing the existing site is provided in *Figure 2-1.* Existing floor plans and elevations of the site are provided as *Figures 2-2 through 2-8*.

Figure 2-1
Aerial View of Existing Project Area

2.2 PURPOSE OF THE PROPOSED PROJECT

The 2424 Kalakaua project represents the applicant's commitment to revitalizing and enhancing the visitor and resident experience in Waikīkī. The proposed improvements will result in enhanced retail facilities, hotel amenities, and a street experience that fit with the existing setting of the hotel. The project will improve the character of this area of Waikīkī and provide a quality experience to visitors and guests. The proposed 2424 Kalakaua project will also contribute to the viability of Waikīkī as the State's most prominent economic asset and strengthen its position in the global tourism market.

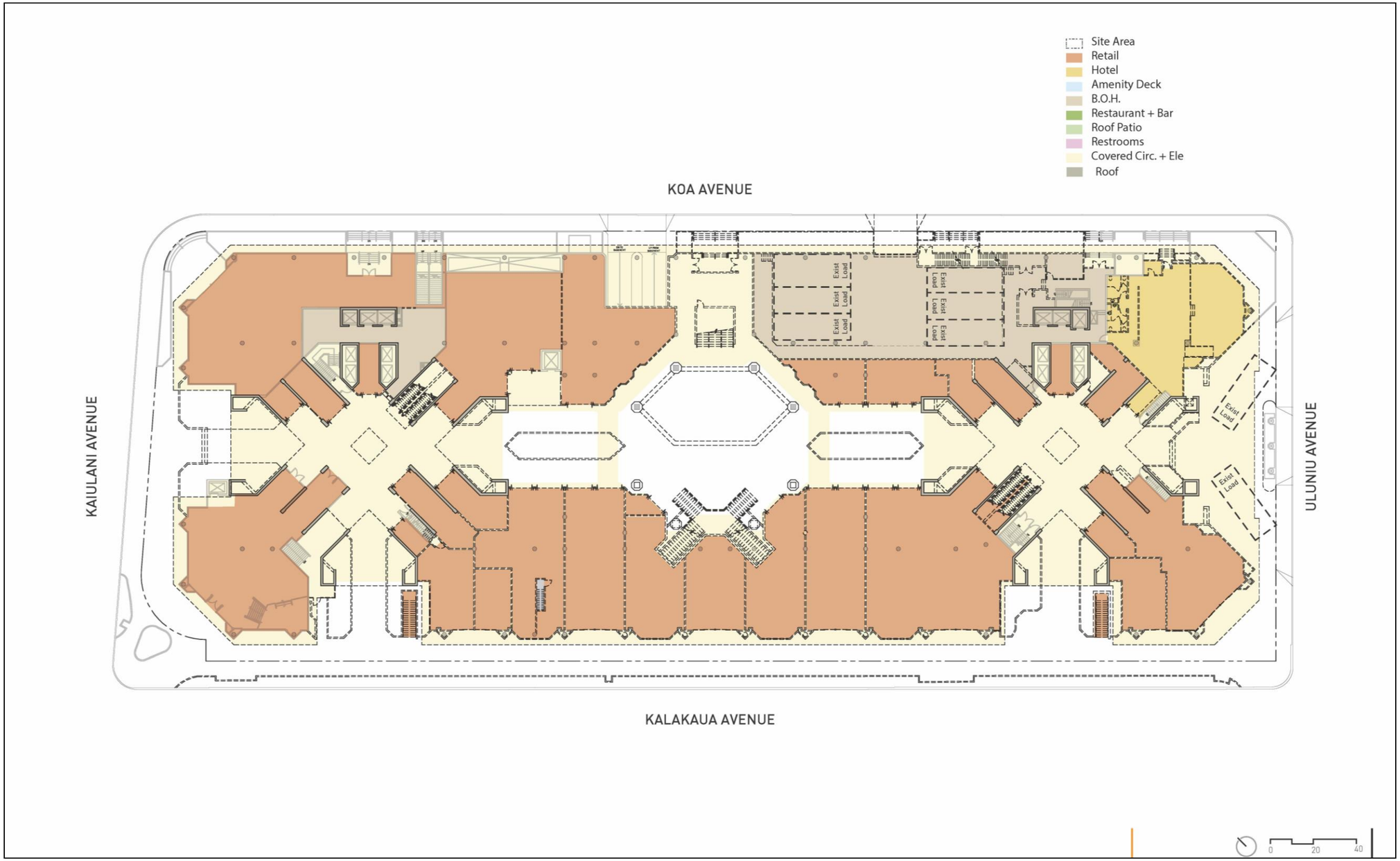


Figure 2-2
Existing First Floor Plan

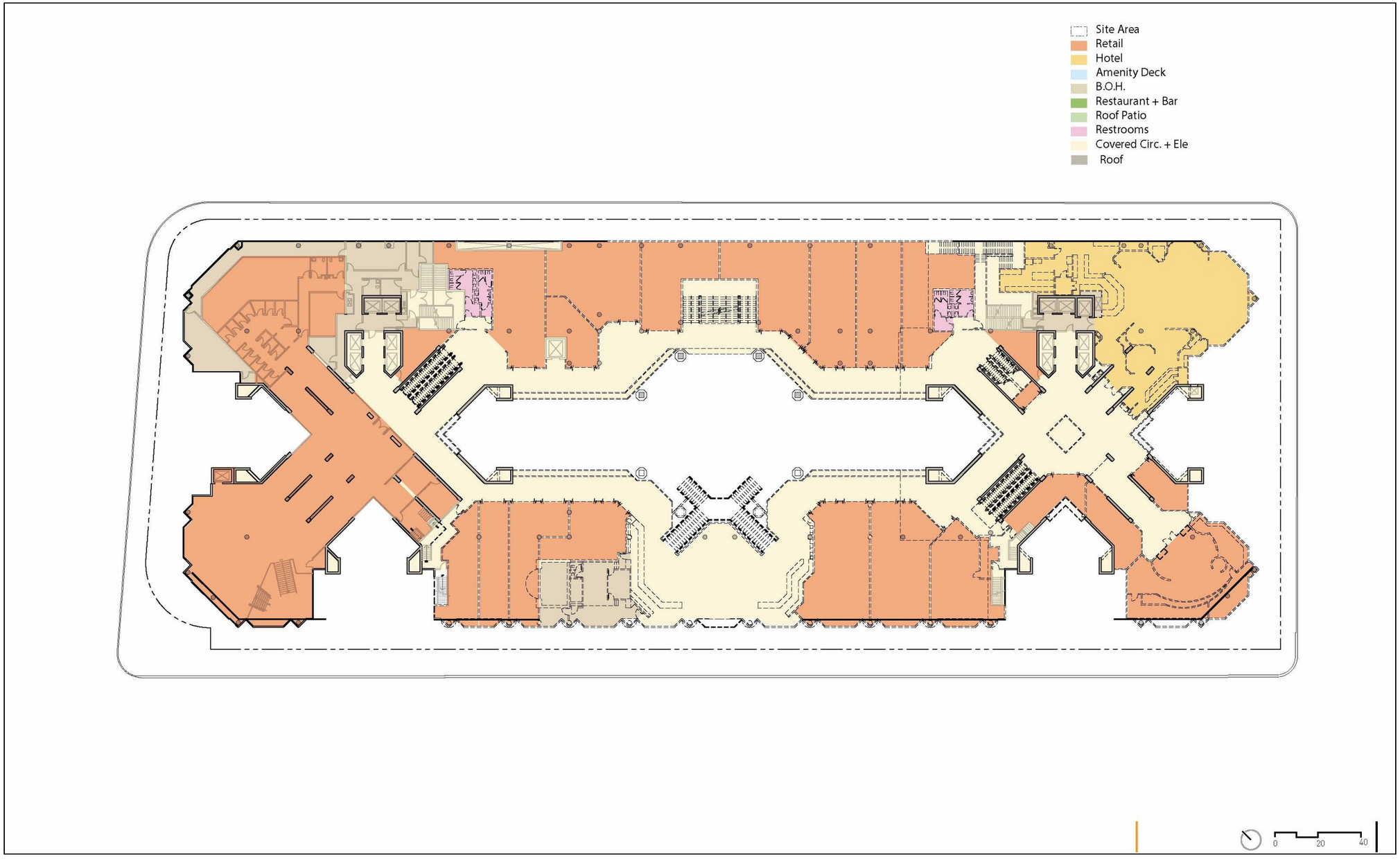


Figure 2-3
Existing Second Floor Plan

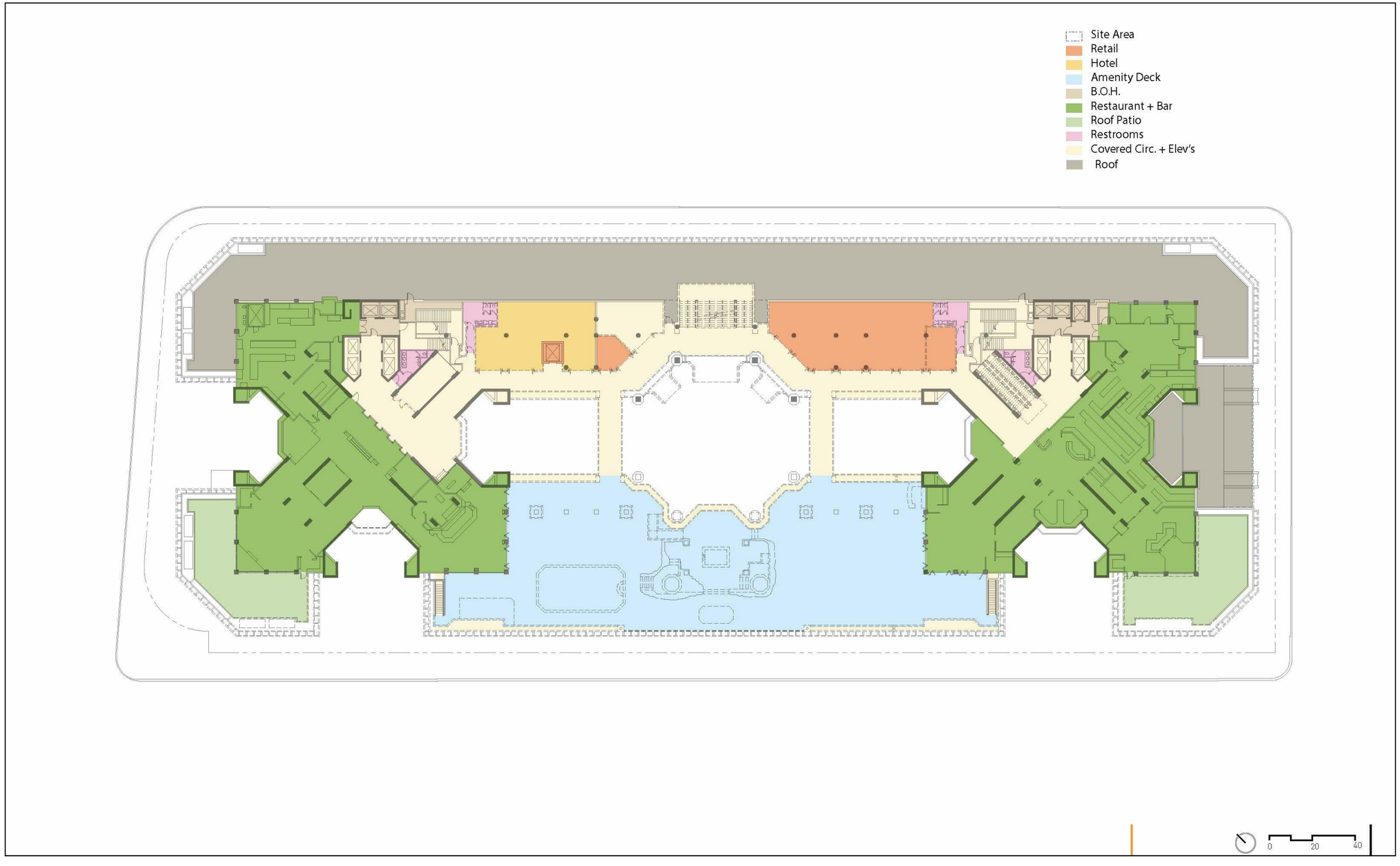


Figure 2-4
Existing Third Floor Plan

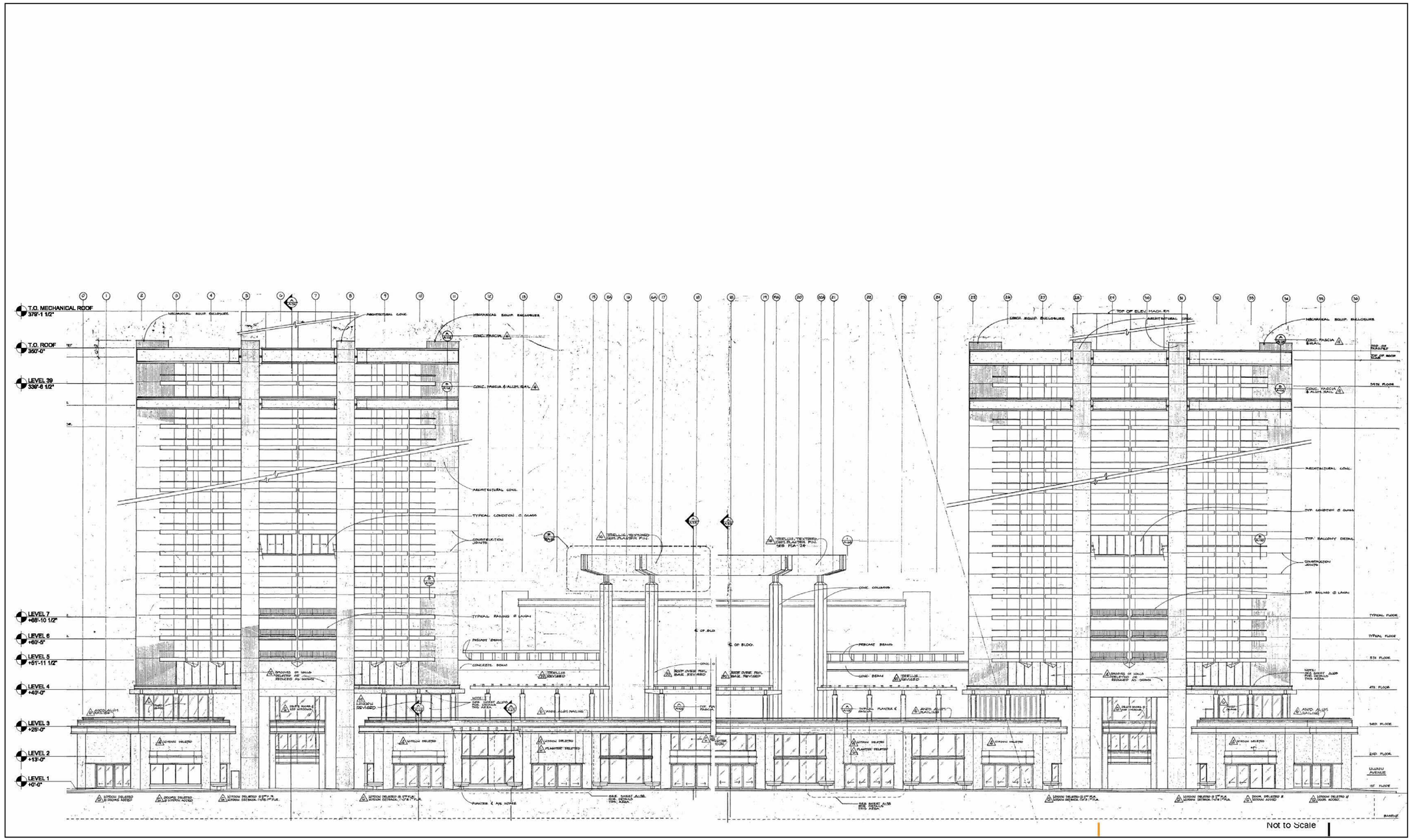
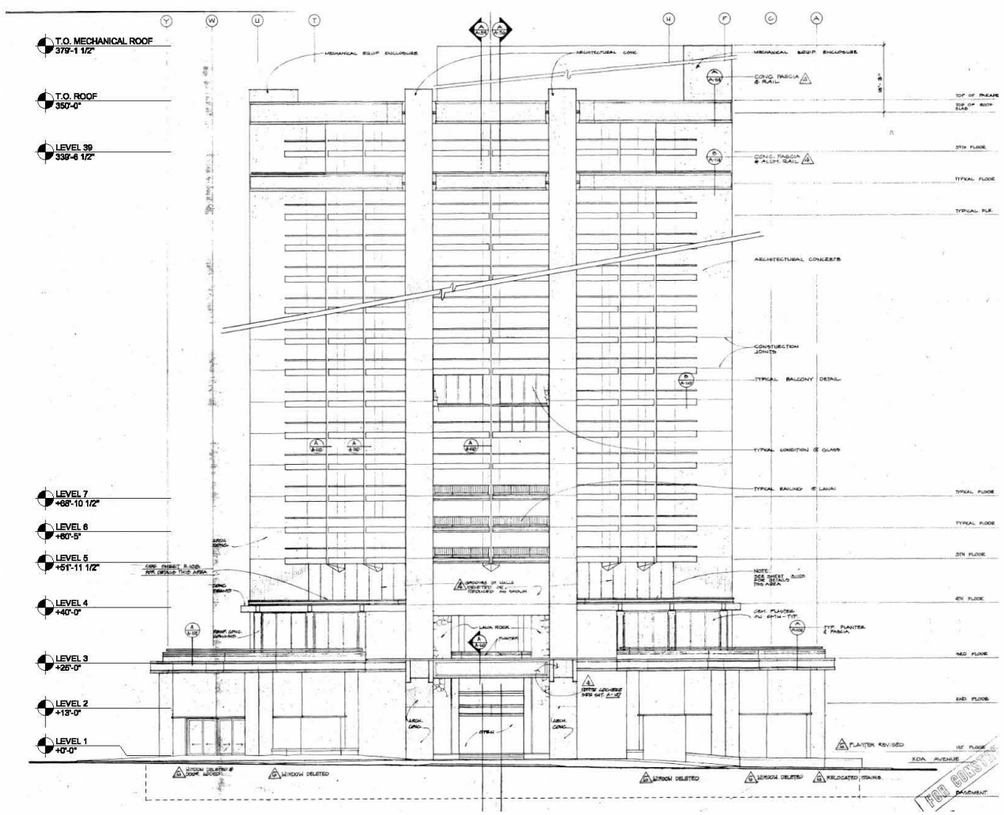


Figure 2-5
Existing South Elevation



Not to Scale

Figure 2-6
Existing West Elevation

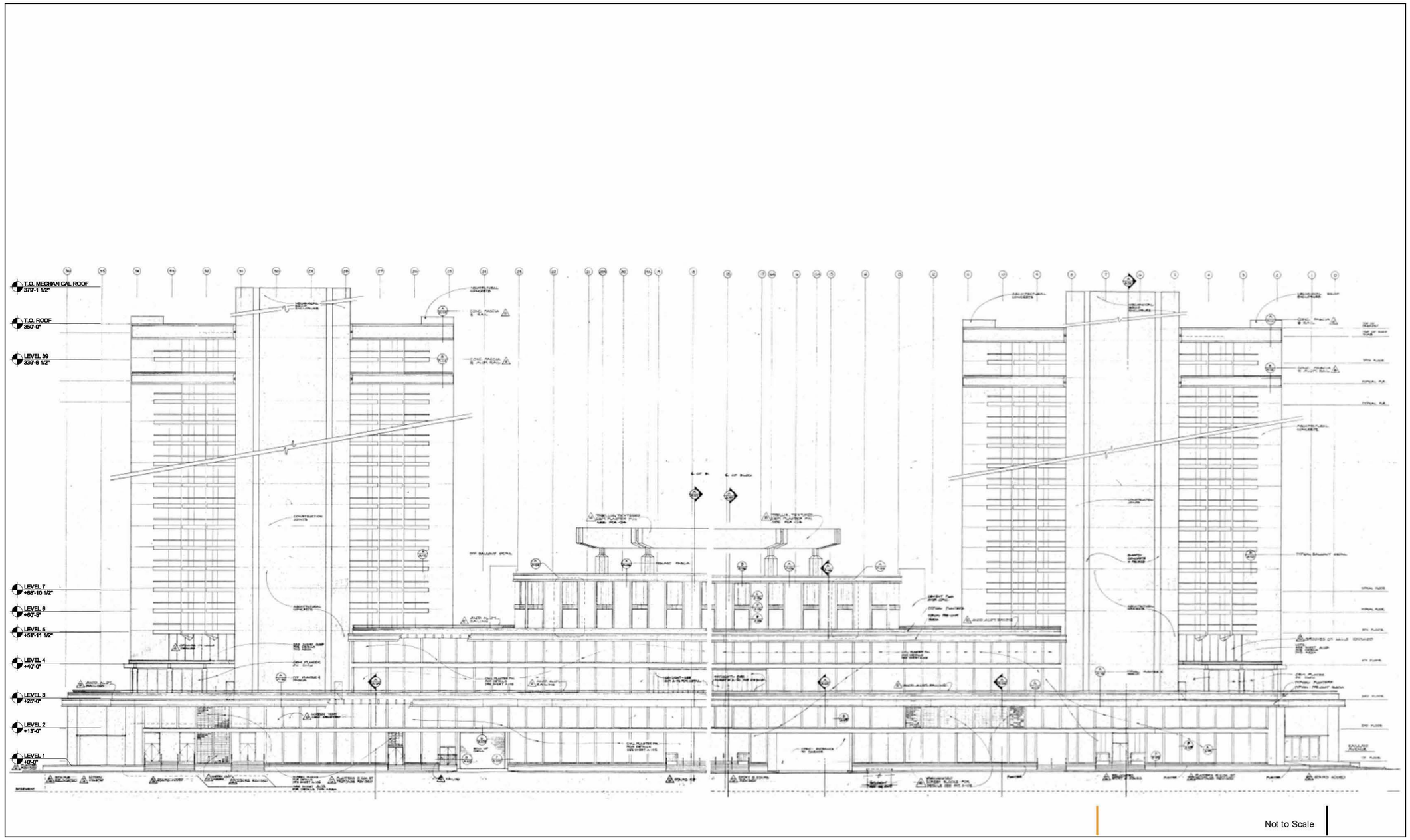
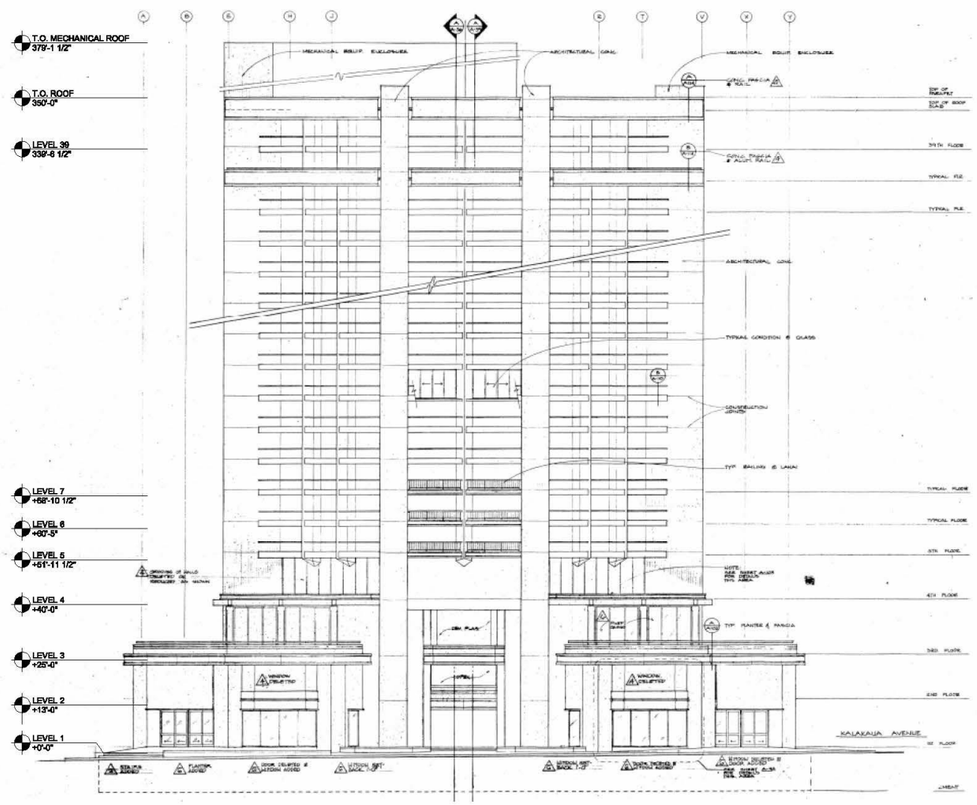


Figure 2-7
Existing North Elevation



Not to Scale

Figure 2-8
Existing East Elevation

2.3 DESCRIPTION OF PROPOSED PROJECT

The planned improvements of the 2424 Kalakaua project seek to transform the existing shopping center into an inviting, elegant, outdoor and pedestrian-oriented visitor experience. The existing retail area was built in the 1970s and is in need of revitalization. The existing interior-oriented space ignores views of Waikīkī Beach and is almost inaccessible from Kalākaua Avenue. The proposed project improvements will be located at the basement, first floor, second floor and third floor of the project area.

The proposed project will improve the hotel and visitor experience by opening up the existing retail space and enhancing visual connections to Waikīkī Beach. The project design will transform existing interior spaces into exterior-oriented spaces by reorienting the facility towards Kalākaua Avenue and Waikīkī Beach. The project will reconfigure the first and second floors of the hotel and retail podium, and third floor deck. The first floor of the retail shopping area will become an extension of the public sidewalk along Kalākaua Avenue. This first floor space will provide continuous pedestrian pathways that open up to a bright, modern, and active retail space. The space will be integrated with the existing urban streetscape and will attract visitors strolling along Kalākaua Avenue. The second floor will provide walkway lanais that provide magnificent views of Waikīkī Beach. This area will be visible from Kalākaua Avenue and will be a vertical extension of the first floor retail space. A new stairway and escalators along Kalākaua Avenue will provide access to the second floor lanai shopping arcade. The existing interior oriented public stairway and escalators will be eliminated. A site plan, floor plans, building elevations, and renderings for the proposed project are provided as *Figures 2-9 through 2-20*.

The façade of the shopping area will be reconfigured to a wave shape with an ellipse located in the middle. On the first floor, visitors walking along Kalākaua Avenue can enjoy the shops and their visit to Waikīkī Beach. From Kalākaua Avenue visitors are invited up to the second floor to gain views of the beach as they walk along a covered lanai to shop or enjoy the comforts of Waikīkī.

The transformation of the existing first and second floors that will increase visitors' connections to Waikīkī Beach continues on with the new arrival space for the hotel. A new porte cochere will be located along Koa Avenue for guest arrival and drop off. The porte cochere will open the arrival space of the hotel and offer views and access to the new pedestrian plaza. Visitors walking along Koa Avenue can move through the new pedestrian plaza directly to Kalākaua Avenue. A new elevator lobby will bring guests to the third floor lobby area and continue to provide views to Waikīkī Beach.

The third floor deck will provide two new swimming pools for use by hotel guests. This area will be an important hotel amenity, a place where guests can sit and enjoy views of the beach. The existing restaurant spaces on the third floor will continue to provide services to hotel guests and will remain unchanged.

The project will better organize and accommodate pedestrian and vehicle circulation along the exterior perimeter of the property, specifically along Kalākaua Avenue and Koa Avenue. The project design will add to Waikīkī's pedestrian level streetscape along Kalākaua Avenue by opening up the area and creating a welcoming experience. Primary access to the project site will be provided via existing driveways off of Uluniu Avenue with secondary access provided via new

driveway off of Koa Avenue. Both porte cocheres will be utilized for hotel guest arrival. This will help to alleviate congestion and create a comfortable arrival to the hotel site.

The construction of the retail redevelopment project will require additional on-site parking and loading. While the project will not result in an increase in total floor area, there will be an increase in floor area for retail use. The project design improved and consolidated the existing circulation area to accommodate the increase in retail square footage. Additional parking and loading will be provided in the hotel basement and first floor to accommodate the project. The existing basement parking area will be reconfigured to provide 24 additional parking stalls. A total of 455 parking stalls will be provided which will meet the parking requirements established by the Land Use Ordinance (LUO). Two additional loading stalls will also be provided for a total of 10 loading stalls, as required by the LUO. The hotel's existing loading dock will also be expanded as part of the project.

Figure 2-9
Rendering of Retail Redevelopment

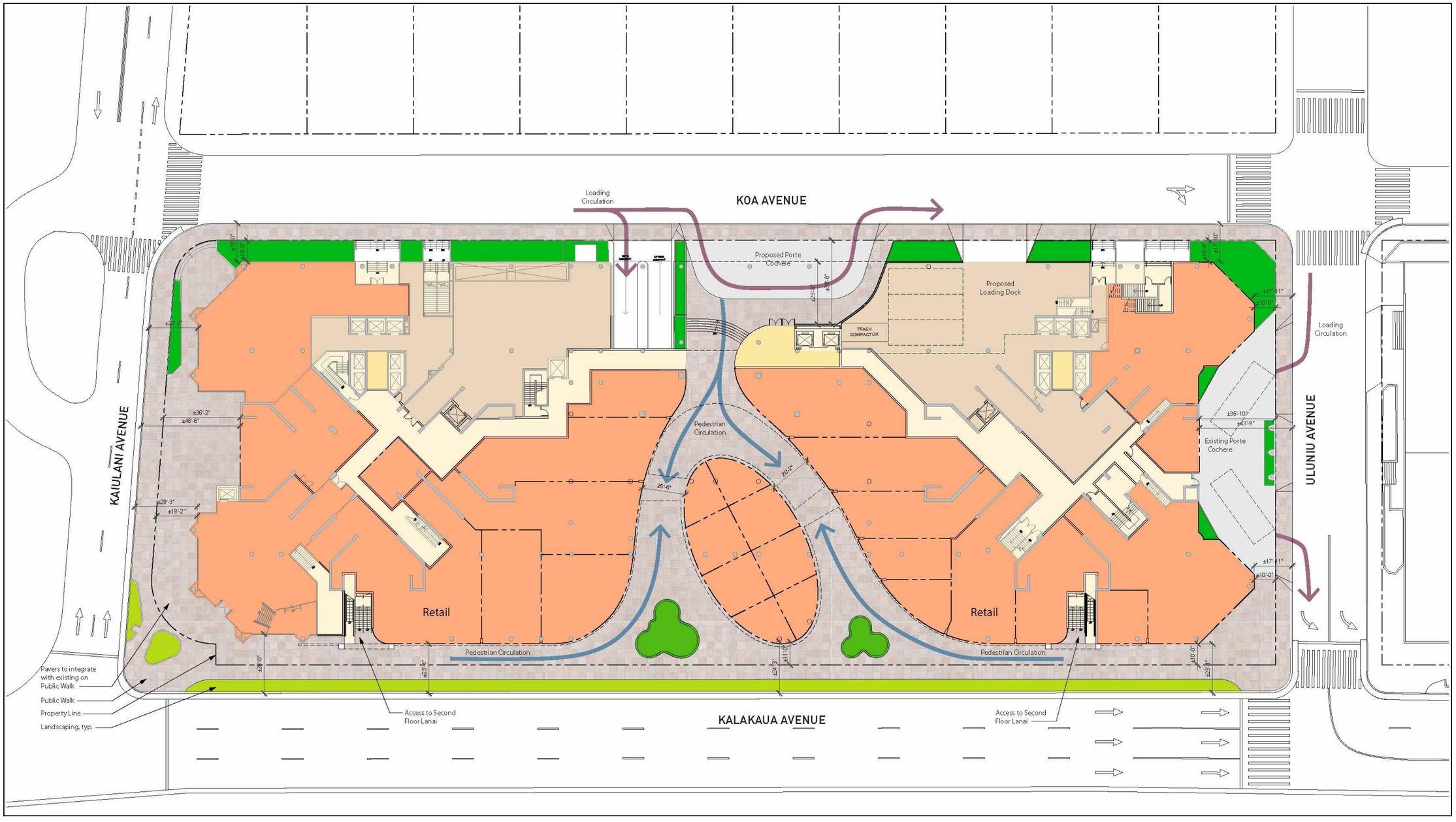


Figure 2-10
Proposed Site Plan

Figure 2-11
Proposed First Floor Plan

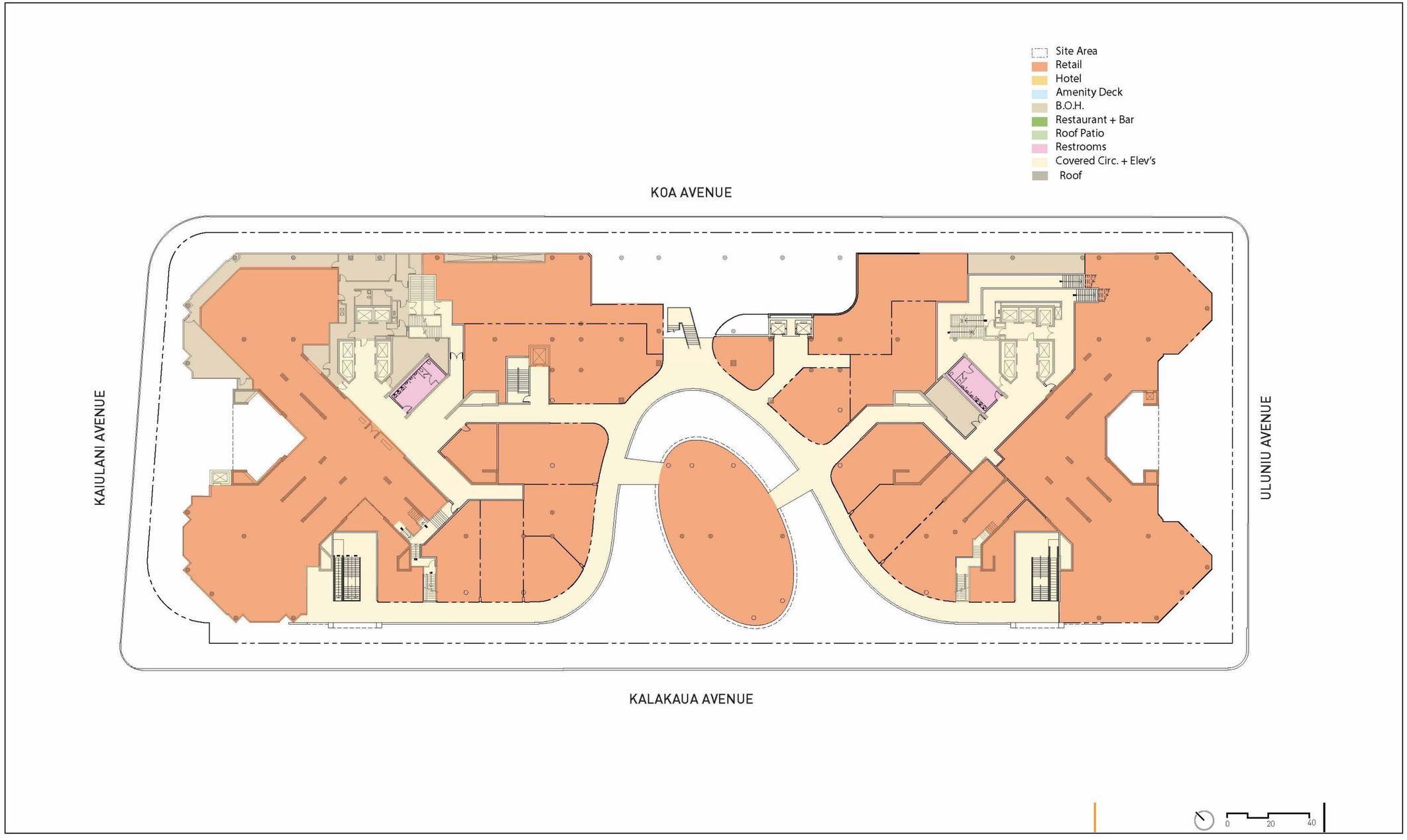


Figure 2-12
Proposed Second Floor Plan

Figure 2-13
Proposed Third Floor Plan

Figure 2-14
Proposed South Elevation

Figure 2-15
Proposed West Elevation

Figure 2-16
Proposed North Elevation

Figure 2-17
Proposed East Elevation

Figure 2-18
Rendering of Arrival Area and Porte Cochere

Figure 2-19
Rendering of Streetscape and Retail Frontage

Figure 2-20
Rendering of Second Level

2.3.1 Summary of Project Program

The project will not result in an increase in total floor area; however, there will be an increase in retail floor area. The project design improved and consolidated the existing circulation area to accommodate the increase in retail square footage.

Upon completion of all planned improvements, the project would result in a net increase of 22,953 square feet (SF) of retail space and decrease of 7,600 SF of hotel space. *Table 2-1* provides a summary of existing and proposed uses and details the overall net effect.

Table 2-1 EXISTING & PROPOSED USES

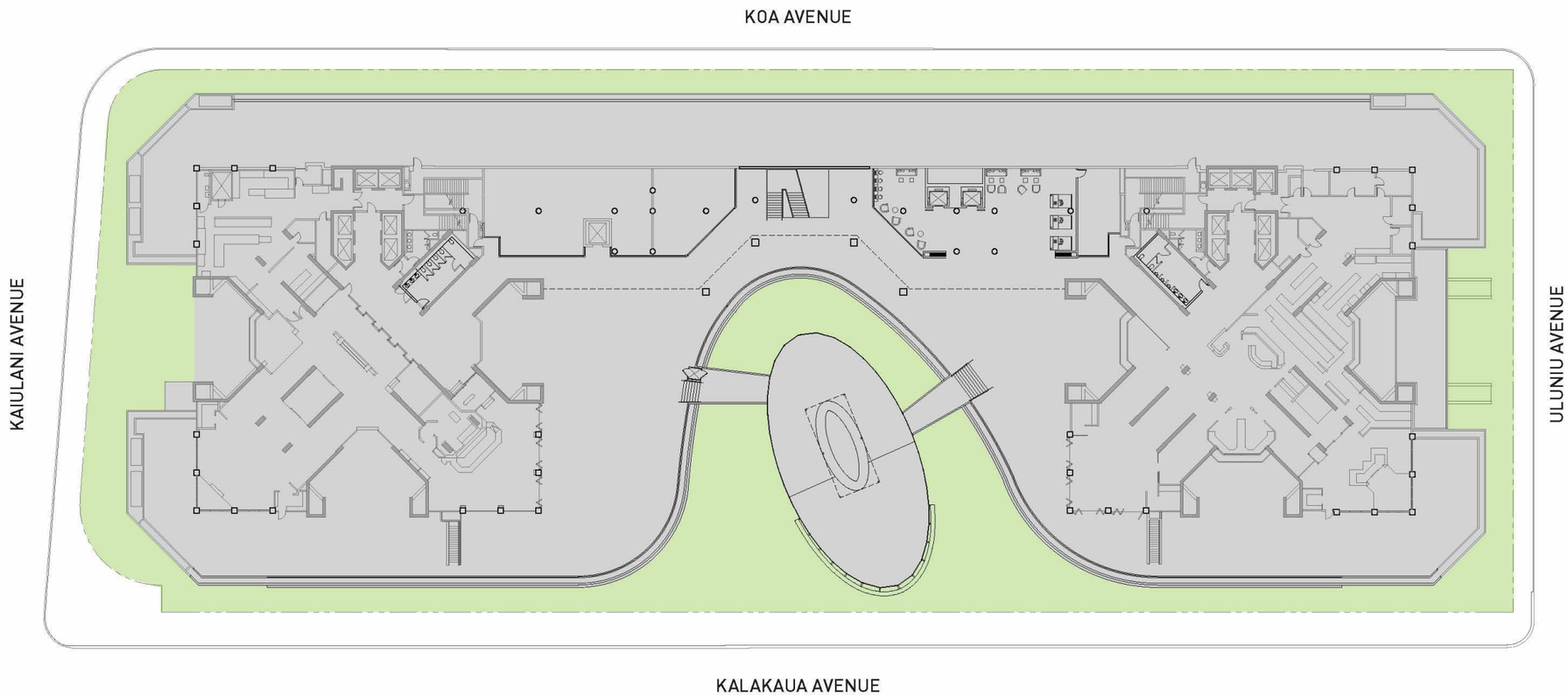
Uses	Existing Area (SF)	Proposed Improvements (SF)	Net Change (SF)
Retail			
Basement	7,875	0	-7,875
Level 1	32,115	46,412	14,297
Level 2	32,215	46,584	14,369
Level 3	20,364	22,526	2,162
Total	**92,569**	**115,522**	**22,953**
Hotel			
Basement	23,919	23,919	0
Level 1	3,800	0	-3,800
Level 2	3,800	0	-3,800
Level 3	0	0	0
Total	**31,519**	**23,919**	**-7,600**

2.3.2 Open Space

Approximately 22.75% of the existing project site is open space. *Table 2-2* provides an open space summary. After improvements within the project site are completed, the percentage of open space will slightly increase. Refer to *Figure 2-21*.

Table 2-2 OPEN SPACE SUMMARY

Summary	Existing Area (SF)	Proposed Area (SF)
Total Land Area	104,455	104,455
Lot Coverage	80,692	80,552
Open Space	23,765 (22.75%)	23,903 (22.88%)



Site Area:	104,455 SF
Proposed Open Space to Property Line:	23,903 SF (22.88%)
Existing Open Space to Property Line:	*23,765 SF (22.75%)*
Proposed Building Area:	80,552 SF
Existing Building Area:	80,692 SF

0 20 40

Figure 2-21
Proposed Open Space Plan

2.3.3 Circulation

The project will better organize and accommodate pedestrian and vehicle circulation along the exterior perimeter of the property, specifically along Kalākaua Avenue and Koa Avenue.

Vehicle and Bicycle Circulation
No major roadway construction or alterations are proposed with this project. Currently there is one vehicle entrance into the hotel porte cochere and one vehicle entrance to the parking garage (Convention Center) off of Uluniu Avenue. Uluniu Avenue is a two lane one-way roadway that runs mauka-makai. Existing access to the hotel's basement parking area is located off of Koa Avenue, a one-way roadway. The new porte cochere and arrival area will help to alleviate congestion and create a comfortable flow and feel for a guest arriving to the property. The existing porte cochere on Ulunui Avenue will continue to be utilized for valet and/or tour bus pick up and drop off. *Refer to Figure 2-22*.

The existing bicycle lane located along Kalakaua Avenue will not be impacted by the project. A large bike station is also being proposed by the City and County of Honolulu along Kalakaua Avenue near the 2424 Kalakaua project as noted in the June 2014 Honolulu Bikeshare Organizational Study Final Report. This proposed large bike station will provide 15 bikes and 29 docks. If implemented, development of the project will not impact the proposed bike station or existing bicycle circulation in the area.

Pedestrian Circulation
Probably the greatest improvement with the implementation of the 2424 Kalakaua redevelopment is the overall transformation of pedestrian circulation along and within the property. Most pedestrian foot traffic along Kalākaua Avenue emanates from various hotel, retail, dining, and recreational activities from adjacent hotels, parks, beaches, and commercial establishments. *Figure 2-22* and 2-23 provides diagrams showing the existing and proposed circulation. The proposed circulation plan would reconfigure the current sidewalk to become an accented landscaped causeway fronting Kalākaua Avenue.

The project design will add to Waikīkī's pedestrian level streetscape. Pedestrian access fronting the property along Kalākaua Avenue will be opened up, invoking a more appealing and welcoming experience. A newly defined pedestrian path will direct visitors and guests along the major walkway on the first and second levels. Retail storefronts will be oriented to the face Kalākaua Avenue and Waikīkī Beach providing magnificent views to visitors of the area. Circulation throughout the property will be improved, making it more pedestrian friendly.

2.4 PROJECT UTILITIES AND INFRASTRUCTURE

Existing conditions, impacts, and mitigation measures for utilities are discussed in *Section 3.0* of this document. The project site is served by existing water, electric, sewer connections, and solid waste collection services. The following section describes the physical characteristics of the site utilities with the development of the retail redevelopment project.

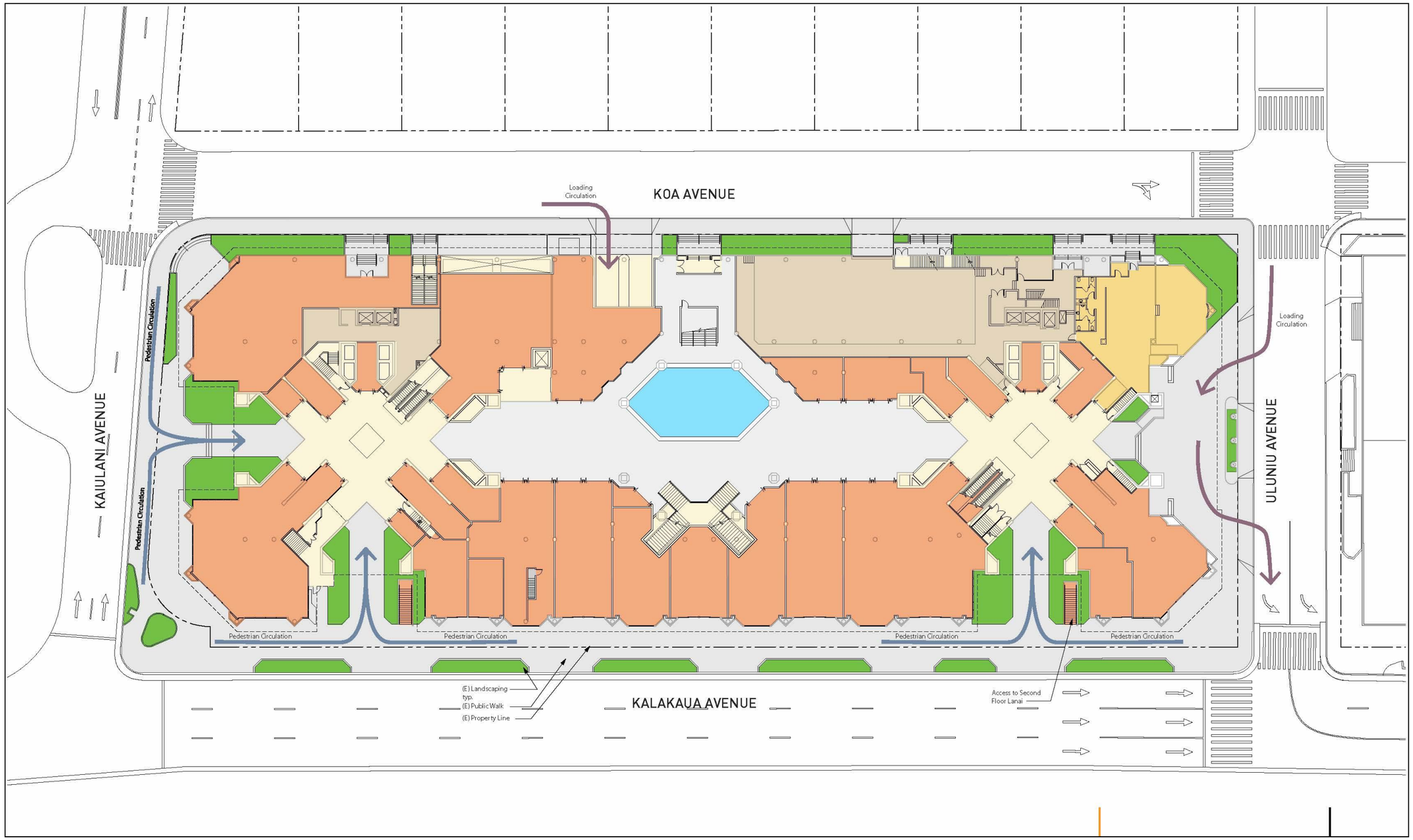


Figure 2-22
Existing Circulation Diagram

Figure 2-23
Proposed Circulation Diagram

2.4.1 Water

Potable water service for the project will be provided using existing water service connections. The property is serviced by a 6-inch compound meter that taps off the 12-inch line with Kaʻiulani Avenue. The 6-inch meter has a maximum capacity of 1,000 gallons per minute (gpm).

The building fire protection system is serviced by two 6-inch detector check meters. One meter is located next to the domestic meter on Kaʻiulani Avenue near Koa Street. The second detector check meter is located on Uluniu Street near Koa Street.

2.4.2 Wastewater

The existing property is serviced by two sewer laterals, one on Kaʻiulani Avenue and one on Uluniu Avenue. The sewer for the commercial spaces flows to the lateral on Kaʻiulani Avenue. The sewer line continues from Kaʻiulani Avenue to Kanekapolei Street and then to Ala Wai Boulevard and Lewers Street, before discharging into the Beach Walk Pump Station.

The sewer connection application for the project has come back denied. The 27-inch sewer line segments located on Kanekapolei Street and Ala Wai Boulevard are inadequate to support the increase in sewage. The applicant is coordinating with the City Department of Environmental Services (ENV) to evaluate the sewer lines using a hydraulic sewer model to verify their capacity.

2.4.3 Drainage System

Storm water runoff generated within the project site is collected by roof drains and floor drains with downspouts which daylight at the face of the curb on Koa Avenue and Kalakaua Avenue. Since the project is a redevelopment of the existing site, existing drainage patterns will not be impacted.

2.4.4 Solid Waste Disposal

Solid waste from the project site is currently disposed of by a private disposal service. This private disposal service will also serve the proposed retail redevelopment. The retail redevelopment project will generate solid waste with the general construction and operation of the project. Reuse and recycling will be implemented on site to the extent practicable. Since the project is a redevelopment of the existing site operations, solid waste will be similar to existing conditions.

2.4.5 Other Utilities

Existing electrical service to the site will be maintained for the project. Hawaiian Electric Company (HECO) presently serves this area.

2.4.6 Access, Roadways, and Parking

The project site is bounded by bounded by Koa Avenue to the north, Kaʻiulani Avenue to the west, Kalakaua Avenue to the south, and Ulunui Avenue to the east. Vehicular access to the site is via Ulunui Avenue where there is a covered port cohere.

The Hyatt Regency Hotel parking area is located in the basement of the hotel and in an adjacent building (Convention Center) to the east of the site. These parking areas provide a total of 431 spaces for visitors and guests of the hotel. While the project will not result in an increase in total floor area, there will be an increase in retail floor area. Therefore, the project will provide 24 additional parking stalls and two additional loading stalls. This increase will result in 455 parking stalls and 10 loading stalls for the project, which will meet the parking requirements per the LUO.

2.5 CONSTRUCTION CHARACTERISTICS

The proposed project will require the redevelopment of the existing retail facilities. The project site will require demolition, general construction, and landscaping.

2.5.1 Landscape Management

Existing landscaping throughout the project site includes planted and potted trees, shrubs, and flowers that are either native, Polynesian-introduced, or are characterized as tropical. The planned integration of lush, fragrant, and tropical vegetation interwoven along wide pathways and sidewalks will accentuate and define the quality of open space areas and the connectivity to the redeveloped built environment within the property. The selection and use of plants will include types such as the coconut palm (*Cocos nucifera*), sealing wax palm (*Cyrtostachys renda*), tiare gardenia (*Gardenia taitensis*), kokiʻo keʻokeʻo (*Hibiscus arnottianus*), ʻakia (*Wikstroemia uva-ursi*), agave (*Agave Americana*), syngonium (*Syngonium podophyllum*), and Variegated Dwarf Pineapple (*Ananas lucidus*). These plants will seek to express identified culturally appropriate themes and experiences throughout the property.

2.5.2 Excavations

The project site will not require grading and leveling of the land.

2.5.3 General Construction

The construction of the project will include electrical wiring and equipment, general carpentry work and many other trades and work associated with typical construction activities. Construction work will be performed in accordance with the Federal, State, and City approved design standards. Construction plans for the project will be submitted to appropriate agencies for review and approval.

If a permit is needed, the project will apply for a National Pollutant Discharge Elimination System (NPDES) permit for stormwater associated with construction activities during the design stage. The project will incorporate Best Management Practices (BMPs) into the Construction Drawings.

Construction activity hours will be from 7:00 am to 6:00 pm. Construction will adhere to applicable noise regulations as per Title 11, Chapter 46, of the HAR 11-46. Typical construction vehicles will be used on the jobsite for the development of the project. A permit from the State of Hawaiʻi Department of Transportation (DOT) Highways will be obtained for transport of oversize equipment and overweight loads.

2.6 EMPLOYMENT AND HOURS OF OPERATION

The 2424 Kalakaua project will employ 150 workers for construction and approximately 200 workers to support daily operations.

The project will operate from 9:00 am to 10:00 pm, seven days per week.

2.7 SUMMARY OF PROJECTED COSTS

Costs for the retail redevelopment project are estimated at $50 million.

Section 3.0

DESCRIPTION OF THE ENVIRONMENTAL SETTING, POTENTIAL IMPACTS AND MITIGATION MEASURES

3.0 DESCRIPTION OF THE ENVIRONMENTAL SETTING, POTENTIAL IMPACTS AND MITIGATION MEASURES

This section describes the existing environmental settings and identifies possible impacts of the proposed project. Strategies to mitigate those potential impacts are also identified.

3.1 TOPOGRAPHY

Existing Conditions
The project site is relatively flat with elevations ranging from 0 to 5 feet (ft) mean sea level (msl). There are no major topographical features in the immediate vicinity of the project except for the Pacific Ocean which lies across of Kalākaua Avenue from the hotel. The entirety of the immediate area is urban streetscape.

Anticipated Impacts and Mitigation Measures
No substantial changes to the site's topography will be made as a result of the project. No grading and excavation is planned for the project.

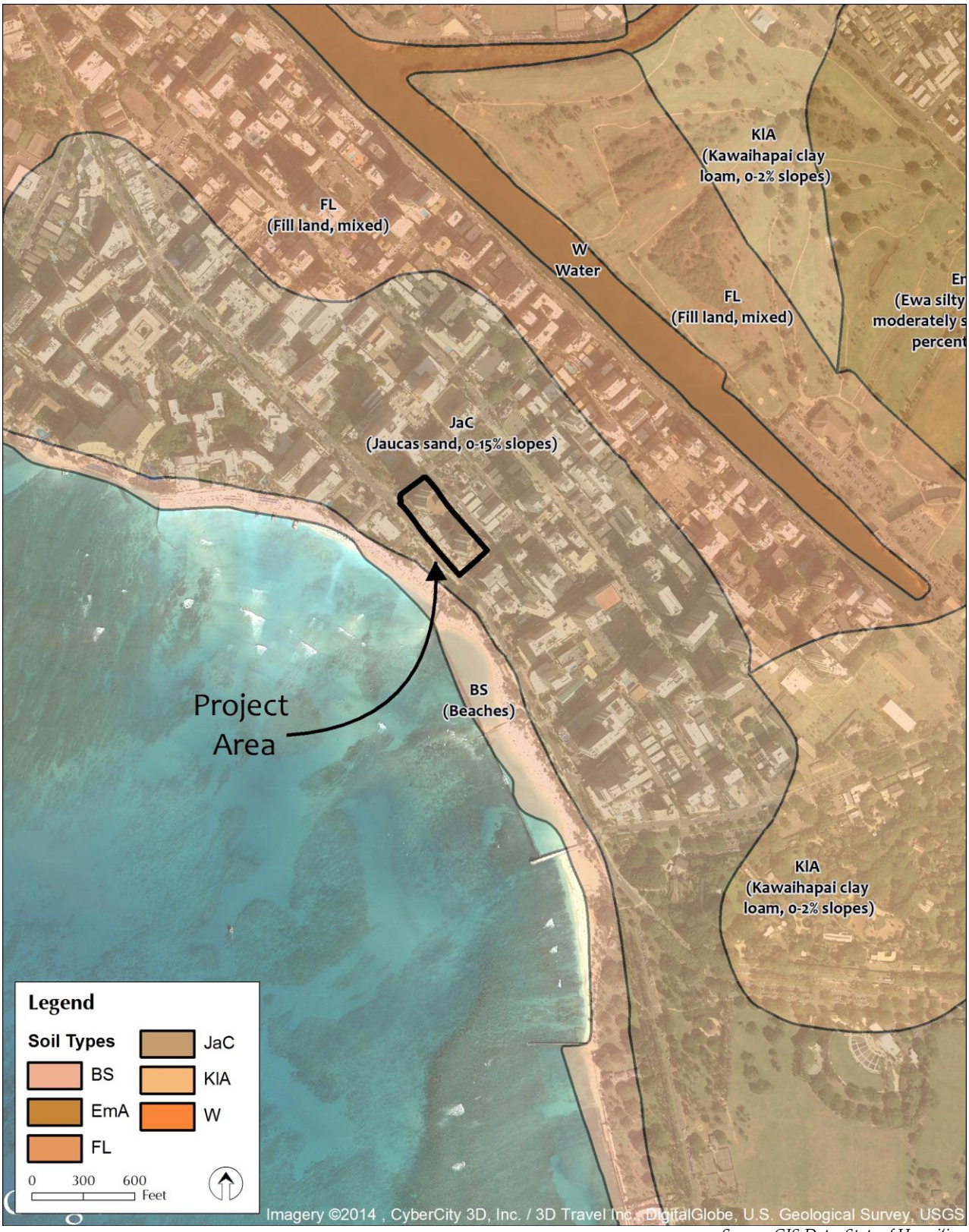
3.2 GEOLOGY AND SOILS

Existing Conditions
The geological formation of the Hawaiian archipelago is the result of volcanism. Each island protrusion from the ocean is the summit of a volcanic mountain rising from the ocean floor. The geologic creation of Oʻahu is a result of the Earth's crust, comprised of irregular rigid segments, known as plates, moving over a hot spot of upwelling lava, which has remained relatively stationary for many millions of years. The plate under which Oʻahu lies is known as the Pacific plate, which has slowly moved over this span of time towards the northwest. Oʻahu was created through several stages of activity emanating from two volcanic domes. Through various stages of eruptions, erosion and land movement, the volcanic forms became what are known today as the Waiʻanae and Koʻolau mountain ranges.

The project site is situated in Waikīkī. Waikīkī is situated upon a reef formation that extends from Kakaʻako to the base of Lēʻahi (Diamond Head) crater. Due to its location at the base of a once vast tributary system and in close proximity to Lēʻahi crater, an alluvial mantle on a coral foundation covered the area. As early as 1909, drilling data showed that there is a regular deposition of terrigeneous clay and limestone overlying a substrate layer of coral, coralline algae, and shells. Additionally, the soil contains volcanic ash, olivine, and other lava residue.

The project site sits on a thick coastal caprock formation comprised of marine (calcareous) sediments, some of which have been imported to fill marshes and other local depressions. The topography of the project area is flat with elevation changes ranging in 0 to 5 feet msl.

The soils on the project site consist of Jacas sand - 0 to 5 percent slopes (JaC). This soil type is of the Jaucas Series, which consists of excessively drained, calcareous soils that occur as narrow strips on coastal plains, adjacent to the ocean. They developed in wind- and water- deposited sand from coral and seashells. They are nearly level to strongly sloping. Elevations range from sea level to 100 feet. (*Figure 3-1*).



Source: GIS Data, State of Hawai'i

Figure 3-1
U.S. Department of Agriculture Soil Conservation Service, Soils Classification Map

- **Jaucas sand (JaC).** The slope range of this soil is 0 to 15 percent, but in most places the slope does not exceed 7 percent. In a representative profile the soil is single grain, pale brown to very pale brown, sandy, and more than 60 inches deep. In many places the surface layer is dark brown as a result of accumulation of organic matter and alluvium. The soil is neutral to moderately alkaline throughout the profile. Permeability is rapid and runoff is very slow to slow. The hazard of water erosion is slight, but wind erosion is severe hazard where vegetation has been removed. This soil is used for pasture, sugarcane, truck crops, and urban development.

Probable Impacts and Mitigation Measures
Impacts relating to soil erosions will not result occur as a result of the project. Construction of the project will not require grading and excavation activities. If a permit is needed, the project will apply for an NPDES permit for stormwater associated with construction activities during the design stage. The project will incorporate a BMPs Plan into the Construction Drawings.

3.3 CLIMATE

Existing Conditions
The climate of the Waikīkī area is very much affected by its leeward and coastal location. Winds are predominantly trade winds from the east-northeast. Occasional kona storms may generate strong winds from the south, and land breeze or sea breeze circulations may develop when the trade winds are weak. Wind speeds typically vary between about 5 and 15 miles per hour (mph) providing relatively good ventilation much of the time. Temperatures in leeward areas of O'ahu are generally moderate with average daily temperatures ranging from about 70°F to 84°F. The extreme minimum temperature recorded at Honolulu Airport is 54°F, while the extreme maximum temperature is 95°F. This area of O'ahu is one of the drier locations in the State, with rainfall often highly variable from one year to the next. Monthly rainfall has been measured to vary from as little as a trace to as much as ten inches. Average annual rainfall amounts to about 21 inches, with summer months being the driest.

Probable Impacts and Mitigation Measures
The retail redevelopment project will have no effect on climate conditions, and therefore, no mitigation measures are recommended.

3.4 NATURAL HAZARDS

3.4.1 Hurricanes and Tropical Storms

Hurricanes and tropical storms are giant whirlwinds in which air moves around a center of low pressure, reaching maximum velocity in a circular band. Tropical storms are categorized as an organized system of strong thunderstorms with defined circulation and maximum sustained winds of 39-73 mph. Hurricanes are intense tropical weather systems with well-defined circulation and maximum sustained winds of 74 mph.

Hurricanes are considered to be relatively rare events in the Hawaiian Islands. Records show that strong wind storms have struck all major Hawaiian Islands. The first officially recognized hurricane in Hawaiian waters was Hurricane Hiki in August 1950. Since that time, five hurricanes have caused serious damage in Hawai'i: Nina (1957), Dot (1959), Iwa (1982), Estelle (1986), and Iniki (1992).

Probable Impacts and Mitigation Measures
The effects of past storm events have caused minimal to no damage in the project area. The future threat of hurricanes in the project area cannot be estimated beyond the fact that hurricanes will probably hit Hawai'i as frequently as they have in the past.

When a hurricane is approaching a coastal location, early evacuation is usually standard mitigation to address the possibility of accompanying storm surge with high winds. The National Weather Service provides guidance and when necessary during an event, issues a hurricane watch when a storm is expected to make landfall within 36 hours. A hurricane warning is issued when landfall is likely within 12 to 24 hours.

3.4.2 Earthquake

The majority of earthquakes in Hawai'i are directly related to volcanic activity, particularly to the movement of magma beneath Kīlauea and Mauna Loa, on the island of Hawai'i. Other earthquakes are the result of exerted pressures released by magma that never reaches the surface.

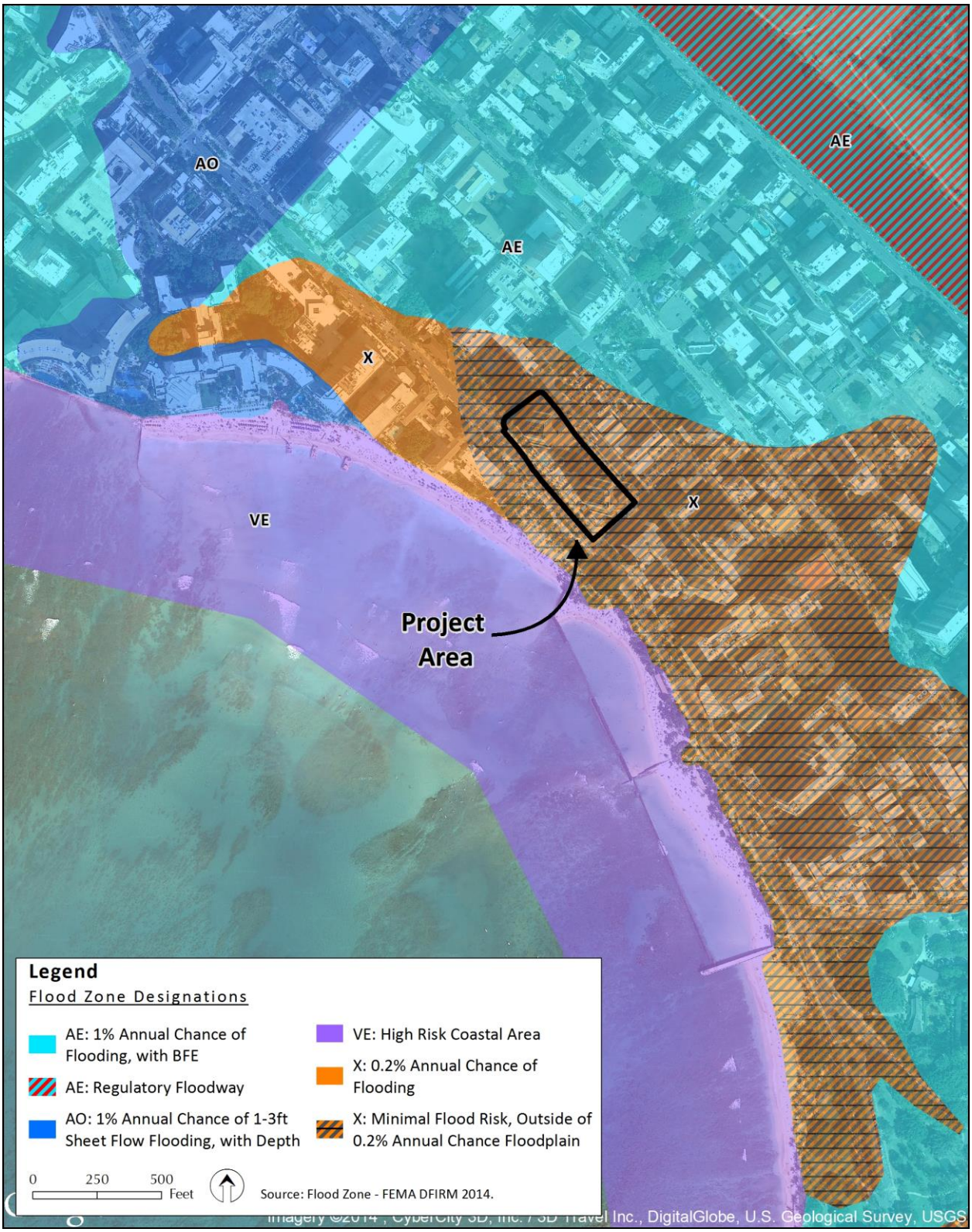
The entire City and County of Honolulu lies in a seismic zone designated as Zone 2A. Under the United Building Code (UBC) seismic provisions, a Zone 2A area could experience seismic activity between .075 and .10 of the earth's gravitational acceleration (g-force).

Probable Impacts and Mitigation Measures
Seismic hazards are usually associated with causing damage including landslides, ground cracks, rock falls, and tsunamis. With a rating of Zone 2A per the United States Geological Survey (USGS), an earthquake is expected to cause only minor damage in the project area. The project will be in compliance with the UBC and City and County of Honolulu standards, including earthquake design provisions.

3.4.3 Flooding

Based on the Federal Emergency Management Agency's Flood Insurance Rate Map (FIRM) Community Panel No. 15003C0368G, the project area is located in Zone X (*Figure 3-2*). The project site lies outside of the 500-year flood plain and has a less than 0.2 percent chance to flood annually.

Probable Impacts and Mitigation Measures
The ground elevation at the project area varies between 0 and 5 feet msl. The retail redevelopment will comply with flood hazard requirements in accordance with current Federal, State and City and County of Honolulu standards, including rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (CFR). In the event of an emergency situation resulting from flood inundation that requires evacuation from the project area, typically the County designates evacuation shelters to be selectively opened depending upon the severity of the damage. Shelter designations and schedules are broadcast on local radio and television stations.



Source: GIS Data, State of Hawai'i

Figure 3-2
Flood Insurance Rate Map & Current County Tsunami Evacuation Zone

3.4.4 Tsunami Inundation

Existing Conditions

Tsunamis are characterized by great speeds (up to 590 mph), long wave length (up to 120 miles), long periods between successive crests (ranging from minutes to a few hours), and low height in the open sea. Upon reaching a coastline, a tsunami can become a wall of water reaching heights of 30 feet or more and capable of moving inland several hundred feet. Historically, the south shore of Oʻahu, including Waikīkī, has been affected only minimally by tsunamis. Known major tsunami events in Hawaiʻi per the Pacific Disaster Center include the areas of Hilo (1946), North Shore Oʻahu (1952), Laie Point (1957), Hilo (1960), Halape Beach Park, Hawaiʻi Island (1975).

According to County tsunami evacuation maps, the project is located in the Tsunami Evacuation Zone (*Figure 3-2*).

Probable Impacts and Mitigation Measures

Similar to other natural hazard events, the County has an emergency operations plan for evacuating potentially affected areas. Inland shelters have been identified and vertical evacuation can also be carried out. Tsunami Warning signals from the State Civil Defense sirens will be audible during a tsunami alert event, which will serve to alert guests to safety instructions. Potential mitigative measures are include ensuring that staff continues to be properly trained in assisting employees and guests with appropriate response and evacuation procedures at the issuance of a tsunami warning or any other emergency event.

3.4.5 Climate Change and Sea Level Rise

Today, global warming and the climate change are established facts according to the U.S. National Academy of Sciences. It is predicted by University of Hawaiʻi (UH) climate researchers that rising sea levels mostly caused by man-made climate change will likely leave the edges of Waikīkī underwater by the year 2100. The UH School of Ocean and Earth Science and Technology (SOEST) provide a sea level rise scenario (at high tide) for Honolulu showing a three foot increase.

Sea level rise is a primary factor driving historical shoreline changes in Hawaiʻi. The global annual sea level rise average over the last century was roughly two millimeters, with previous studies indicating that this rate is now approaching three millimeters and may accelerate in coming decades. According to the UH ~~School of Ocean and Earth Science and Technology (~~SOEST~~)~~, while predicating future sea level rise is challenging because of unknown parameters, research shows that global mean sea level may reach approximately 1 ft by mid-century and 2.5 to 6.2 ft by the end of the century. An appropriate planning target would include a sea level benchmark of 1 ft by mid-century and into the lower end (about 3 ft) of 2.5 to 6.2 ft by the end of the century. Planners can consider the impact of a worst case scenario of 6.2 ft by end of the century and use this in the design of appropriate projects. In addition, it is practical to expect that a hurricane will make direct landfall in Hawaiʻi under conditions of higher sea level and that tsunami will continue to arrive at Hawaiian shores.

According to the 2014 "Climate Change Impacts in Hawaiʻi – A summary of climate change and its impacts to Hawaiʻi's ecosystem and communities" report prepared by UH Sea Grant College Program, Hawaiʻi is experiencing climate change impacts in unique ways. The rapid acceleration observed in globally averaged rates of sea-level rise has not been observed in local sea-level data

for Hawai'i, whereas O'ahu's daily temperature range is changing much more rapidly than the global mean. It is important to focus on the localized impacts of climate change to adequately understand and prepare for the changes to come. The SOEST report identifies the primary impacts by ecosystem to show the complex changes compounding in geographic areas, while recognizing that ecosystems are linked to one another and are impossible to separate entirely. The following list of items below is examined in the report:

Marine Ecosystems
• Open Ocean
- Ocean acidification
- Increasing sea surface and upper ocean temperature
- Changing ocean circulation and upwelling patterns
- Changing nutrient and species distributions
- Coral Reefs and Other Nearshore Habitats
- Ocean acidification
- Increasing temperature leading to thermal stress and coral bleaching
- Increasing sedimentation due to erosion
- Increasing threat of disease and invasives
- Changing nutrient supply from changing stormwater runoff patterns

Coasts and the Built Environment
- Sea-level rise leading to increased coastal erosion and inundation
- Increasing frequency and intensity of tropical cyclones

Terrestrial Ecosystems
- Increasing temperature leading to changing habitat ranges
- Changing rainfall frequency and intensity
- Increasing threat of diseases, pests, and invasive species

Freshwater Resources
- Changing rainfall frequency and intensity
- Saltwater intrusion

Human Health
- Increasing threat of heat-induced illnesses
- Increasing threat of pathogens and diseases
- Decreasing water quality and availability due to drought
- Changing frequency and intensity of tropical cyclones (hurricanes)

Some of these impacts have been observed in Hawai'i and some are expected to manifest in coming decades. The exact timing of when specific climate change thresholds will be met is important to understand as it relates to land use and future planning projects.

Probable Impacts and Mitigation Measures
The proposed project will not significantly contribute to adverse impacts relating to existing climate change and sea level rise. While the project may attract additional visitors to the area, most will be pedestrians who will be traveling to the vicinity on foot. Therefore, the project will not significantly contribute to existing greenhouse gas emissions and overall long-term climate changes.

Sea level rise is playing a significant factor in historical shoreline change in Hawai'i and will likely become increasingly more influential with time. Existing evidence on climate change highlights

the need for actions to reduce greenhouse gas emissions and begin adapting to impacts. It is critical for Hawai'i to reduce the impacts of sea level rise by incorporating adaptation guidelines into development, trade, agriculture, and conservation activities. Hawai'i's communities may be more resilient through progressive land-use policies that integrate sustainability, hazard resilience, and hazard mitigation. Coastal resource conservation and ecosystem-based planning initiatives can provide protection of a specific resource while significantly reducing vulnerability to coastal hazards. Proactive efforts to increase open space, restore and provide buffers for coastal wetlands, and relocate major improvements away from vulnerable areas will greatly improve Hawai'i's resilience to climate change impacts. Hawai'i must adapt to global warming if we want to avoid the most serious impacts.

3.5 BOTANICAL RESOURCES

3.5.1 Flora

Existing Conditions

Vegetation at the project site consists primarily of introduced species. Existing landscaping throughout the project site includes various planted and potted trees, shrubs, and flowers that are either native, Polynesian-introduced, or are characterized as tropical. The site has been urbanized for many years; therefore native endangered or threatened species are not expected to be present.

Probable Impacts and Mitigation Measures

The project will improve existing vegetation and landscaping on the site. A landscape design plan will be prepared to support the SMA Use Permit and WSD permit. The concept of the landscape plan will be to enhance the Hawaiian Sense of Place through the use of native plants and other plant species that fit within the Polynesian landscape of this urban built environment. The selection and use of plants will include types such as the coconut palm (*Cocos nucifera*), sealing wax palm (*Cyrtostachys renda*), tiare gardenia (*Gardenia taitensis*), koki'o ke'oke'o (*Hibiscus arnottianus*), 'akia (*Wikstroemia uva-ursi*), agave (*Agave Americana*), syngonium (*Syngonium podophyllum*), and Variegated Dwarf Pineapple (*Ananas lucidus*). These plants will seek to express identified culturally appropriate themes and experiences throughout the property.

Warm rays of sunlight, cool breezes, and the occasional patter of rain will accent the tropical conditions of the built landscaped environment as sources of natural lighting and ventilation through the meandering walkways. Soft and subtle transitions from the outside natural environment into the built interior forms will promote a sense of seamless continuity not present today.

3.5.2 Fauna

Existing Conditions

Native animals are not expected to be found at the project site or surrounding area. This area is considered unsuitable habitat to support these types of animals. In addition, a recent avifaunal and feral mammal survey conducted for a nearby site, the International Market Place; indicate that there are no threatened or endangered species on the property.

Probable Impacts and Mitigation Measures
The development and operations of the retail redevelopment project are not expected to result in adverse impacts to avifaunal or feral mammal species. The project will not impact the area's wildlife or habitat; therefore, no mitigation measures are required.

3.6 AIR QUALITY

Existing Conditions
As required by the Clean Air Act (last amended in 1990), the U.S. Environmental Protection Agency (EPA) established the National Ambient Air Quality Standards (NAAQS) to protect public health and welfare and prevent the significant deterioration of air quality. These standards cover seven major air pollutants: carbon monoxide (CO), nitrogen oxides (NO_X), ozone (O3), particulate matter smaller than 10 microns (PM_{10}), particulate matter smaller than 2.5 microns ($PM_{2.5}$), sulfur oxides (SO_X), and lead. The State Department of Health (DOH), Clean Air Branch (CAB) has also established State Ambient Air Quality Standards (SAAQS) for six of these air pollutants to regulate air quality statewide. The SAAQS for carbon monoxide and nitrogen dioxide are more stringent than NAAQS. Hawai'i also has a stringent standard for hydrogen sulfide, which is a common odorous pollutant associated with wastewater treatment facilities.

The DOH, CAB regularly samples ambient air quality at monitoring stations throughout the State and annually publishes this information. On O'ahu, there are nine monitoring stations. The DOH Air Monitoring Station nearest Waikīkī is located on the roof top of the DOH main building (Kīna'u Hale) at 1250 Punchbowl Street. This station was established to monitor SO_X, CO, PM_{10} and $PM_{2.5}$. Between 1996 and 1997, lead concentrations were monitored as well but have since discontinued. A monitoring station in Kapolei measures NO_X and a station on Sand Island measures O_3 concentrations.

Present air quality in the project area is mostly affected by air pollutants from motor vehicles due to the urban situation. Natural sources of air pollution emissions that could affect the project area at times but cannot be quantified very accurately include the ocean (sea spray), plants (aero-allergens), wind-blown dust, and perhaps distant volcanoes on the Hawai'i Island.

In summary, the SAAQS for SOX, NOX, PM10 and PM2.5, O3 and lead are currently being met in the project area. While CO measurements at the downtown Honolulu monitoring station suggest that concentrations are within the State and National standards, local "hot spots" may exist near traffic-congested intersections.

Probable Impacts and Mitigation Measures

Construction
There will be two types of short-term air quality impacts that will result from the proposed construction project at both sites: 1) fugitive dust generation dust from vehicle movement and soil excavation and 2) on-site/off-site emissions from moving construction equipment and commuting construction workers. Air quality monitoring will implemented to ensure compliance with NAAQS and SAAQS.

State of Hawai'i Air Pollution Control regulations prohibit visible emissions of fugitive dust from construction activities at the property line. A dust control program will be implemented to control dust from construction activities. Fugitive dust emission will be controlled through the mitigation

measures such as watering active work areas, using wind screens, keeping adjacent paved roads clean, covering open-bodied trucks and limiting the area to be disturbed at any given time.

Operations
While most visitors to project are expected to be pedestrians, the retail redevelopment may result in additional vehicular traffic to the area. The increased vehicular traffic could potentially cause long-term impacts on ambient air quality in the project area.

Federal air pollution control regulations require that new motor vehicles be equipped with emission control devices that reduce emissions significantly compared to a few years ago. Past and recent Federal legislation have added restrictions on emissions for new motor vehicles. Average emission rates are anticipated to decrease as older vehicles are replaced overtime on the roadways.

Long-term impacts on air quality in the project area due to emissions from project-related motor vehicle traffic should be negligible. Worst-case concentrations of CO should remain within both the NAAQS and SAAQS. Implementing air quality mitigation measures for long-term traffic-related impacts is seemingly unnecessary and unwarranted.

3.7 NOISE

Existing Conditions
Title 11, Chapter 46, of the HAR 11-46 defines maximum permissible sound levels which are intended to protect, control, and abate noise pollution from stationary sources and construction, industrial, and agricultural equipment. As detailed below, maximum permissible sound levels in various zoning districts are set for excessive noise sources during the day (7 am to 10 pm) and night (10 pm to 7 am) at the property line where the activity occurs.

- Class A - Residential, conservation, preservation, public space, open space, or similar type zones – 55 decibel (dBA) (day) and 45 dBA (night)

- Class B - Multi-family dwellings, apartment, business, commercial, hotel, resort, or similar type zones – 60 dBA (day) and 50 dBA (night)

- Class C - Agriculture, country, industrial, or similar type zones – 70 dBA (day) and 70 dBA (night)

Ambient noise levels near the project area are relatively high since it is located in the urban heart of Waikīkī. Noise from busy commercial establishments offering dining, entertainment and retail shopping are a part of Waikīkī's urban streetscape ambience. In addition, major contributors to the existing background ambient noise levels within the project area are largely attributed to motor vehicle traffic along streets bordering the project site. This includes Kalākaua Avenue, in particular, due to its larger traffic capacity and volume.

Anticipated Impacts and Mitigation Measures
Noise will likely be generated during the project's construction period. Construction activities will be monitored by the State DOH to comply with the provisions of the regulation for community noise control (Chapter 11-46 Community Noise Control, HAR). The dominant noise sources during the construction phase will occur from construction equipment. Noise levels associated

with construction equipment typically range from 80 to 95 dBA at 50 feet from the source. Mitigation measures will be implemented to minimize construction noise impacts. These measures include limiting work to daytime hours and reducing truck/equipment idling when not in use.

The operations of the retail redevelopment may result in additional vehicular traffic to the area. The increased vehicular traffic may contribute to existing noise levels; however, these impacts are expected not expected to be significant. Impacts to other noise sensitive areas are not expected to occur since the project site is located well away from schools, hospitals, and nursing homes.

3.8 UTILITIES AND INFRASTRUCTURE

3.8.1 Water System

Existing Conditions

Public water supplies are currently used at the project site. Domestic water is provided by the Honolulu Board of Water Supply (BWS). The property is service by a 6-inch compound meter that taps off the 12-inch line with Ka'iulani Avenue. The 6-inch meter has a maximum capacity of 1,000 gpm.

The building fire protection system is serviced by two 6-inch detector check meters. One meter is located next to the domestic meter on Ka'iulani Avenue near Koa Street. The second detector check meter is located on Uluniu Street near Koa Street.

Probable Impacts and Mitigation Measures

Potable water service for the project will be provided using existing water service connections. Existing water supplies are adequate to support the proposed project improvements. The total daily use estimated for the project is 4,000 gallons (gal) (*Table 3-1*). The total annual potable water use is estimated at 1,460,000 gal. Potable water requirements estimated in *Table 3-1* are only applicable to components of the 2424 Kalakaua project. The project will implement water conservation and efficiency measures to the extent possible. All toilets and urinals for the project will be low flow or waterless. The project will also explore opportunities for capturing and storing rain water for use in irrigation.

Table 3-1 POTABLE WATER REQUIREMENTS

Daily Visits	Gallons Per Visit	Total Gallons Per Day
Male – 500	2	1,000
Female – 1,000	3	3,000
	Total Daily Use	**4,000**
	Annual Potable Water Use	**1,460,000**

3.8.2 Wastewater

Existing Conditions

The property is serviced by two sewer laterals, one on Ka'iulani Avenue and one on Uluniu Avenue. The sewer for the commercial spaces flows to the lateral on Ka'iulani Avenue. The sewer line continues from Ka'iulani Avenue to Kanekapolei Street and then to Ala Wai Boulevard and Lewers Street, before discharging into the Beach Walk Pump Station. The average flow for the existing retail is 11,581 gallons per day (gpd).

Probable Impacts and Mitigation Measures
The applicant is currently coordinating with the City Department of Environmental Services (ENV) on sewer requirements for the project. The sewer connection application for the project has come back denied because the 27-inch sewer line segments on Kanekapolei Street and Ala Wai Boulevard are inadequate to support the increase in sewage. The applicant has sent a letter of appeal to the ENV requesting an evaluation of the inadequate sewer lines using a hydraulic sewer model to verify the capacity. On October 3, 2014, ENV sent a letter to the applicant noting an approval of the Sewer Application number 2014/SCA-0486. The proposed retail improvements will require approximately 15,391.5 gpd of sewer service capacity.

3.8.3 Storm Drainage

Existing Conditions
The project site is relatively flat with elevations ranging from 0 to 5 ft msl. Stormwater runoff generated within the site is collected by roof drains and floor drains with downspouts which daylight at the face of the curb on Koa Avenue and Kalakaua Avenue.

Probable Impacts and Mitigation Measures
The project will not impact existing drainage at the site. Since the project is a redevelopment of the existing site, existing drainage patterns will not be impacted.

The project will incorporate a BMPs Plan into the Construction Drawings. The plan will show BMP measures for all drain structures in the City right-of-way that may be affected during construction.

3.8.4 Electrical

Existing Conditions
The existing project site is serviced by Hawaiian Electric Company (HECO). The electrical supply lines run from underground transformers and electrical meters.

Anticipated Impacts and Mitigation Measures
Electrical service for the project will be provided using existing service connections. The electrical capacity is adequate to support the proposed improvements.

3.9 HAZARDOUS WASTE

Existing Conditions
Hazardous waste is defined as waste that poses substantial or potential threats to public health or the environment. Suspect ACM materials may be located in the project area. Suspect ACM materials may include: grout and cement, plaster, skim coat, paint, drywall and joint compound, ceiling panels, duct insulation and tape, cove base and mastic, vinyl floor tiles and mastic, carpet and mastic, wood flooring mastic, vinyl flooring and mastic, vinyl wainscot and mastic, mirror mastic, sink coating, spray-on fire-proofing, spray-on ceiling insulation, window sealant, toilet sealant, sink mastic/sealant, pool tile grout, pool caulking, gaskets, pipe insulation, roofing material and roofing patch.

Other hazardous materials that may be located in the project area include mercury, PCBs, and hazardous chemicals and petroleum products. Mercury can be found in fluorescent light tubes. All

fluorescent light tubes are considered to be mercury containing. PCBs are typically found in fluorescent light ballasts, electrical transformers, and hydraulic lift mechanisms.

Probable Impacts and Mitigation Measures
Hazardous materials of all types should be handled appropriately. Prior to disturbance of suspect ACM, materials will be sampled and analyzed. Any regulated asbestos containing building material (RACM) will be removed prior to demolition. Lamps containing mercury in fluorescent light tubes which are no longer used will be removed to a permitted facility prior to demolition. During removal, PCB ballasts will be identified and labeled. In the event that leaking ballasts are encountered, special handling and disposal will be implemented. Other hazardous chemicals and petroleum products used on site will be handled property and stored in appropriate locations within the site.

Adverse impacts relating to the hazardous waste and materials are not anticipated as a result of the proposed project. Treatment of hazardous waste and materials from construction and operations of the project will meet applicable environmental standards and regulations.

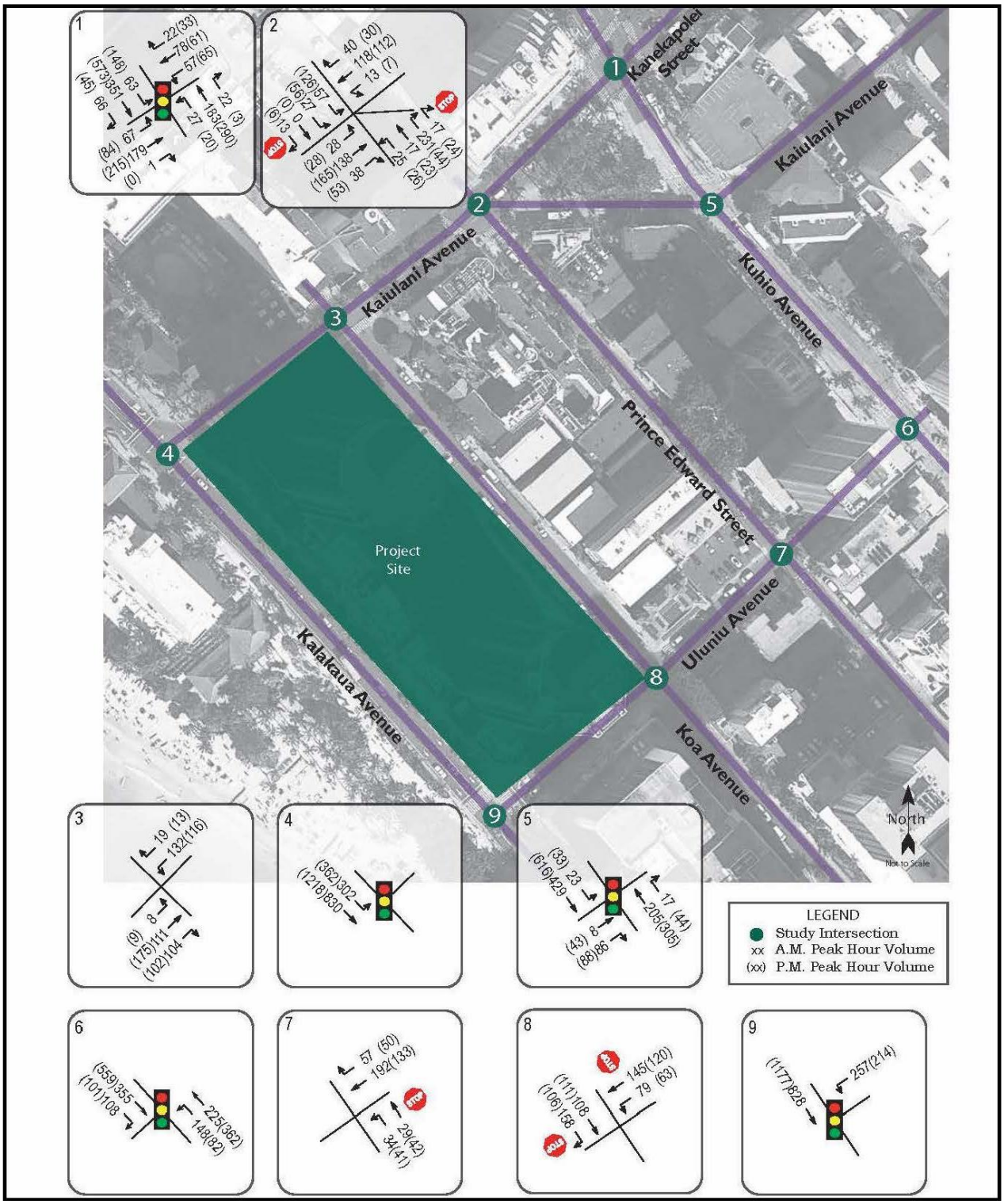
3.10 TRAFFIC AND ROADWAYS

A Traffic Impact Report (TIR) (June 2014) was prepared for project by Wilson Okamoto Corporation to identify and assess potential impacts of the project on existing roadways and traffic conditions. This report is included as *Appendix B.*

Existing Conditions
Morning and afternoon peak hour traffic counts were conducted in September and October 2013 at nine analyzed intersections.

1. Kanekapolei Street and Kuhio Avenue
2. Kaʻiulani Avenue , Kanekapolei Street, and Prince Edward Street
3. Kaʻiulani Avenue and Koa Avenue
4. Kaʻiulani Avenue and Kalakaua Avenue
5. Kaʻiulani Avenue and Kuhio Avenue
6. Uluniu Avenue and Kuhio Avenue
7. Uluniu Avenue and Prince Edward Street
8. Uluniu Avenue and Koa Avenue
9. Uluniu Avenue and Kalakaua Avenue

Figure 3-3 illustrates the existing AM and PM peak period traffic volumes. The AM peak hour of traffic generally occurs between the hours of 7:30 AM and 8:30 AM. During the afternoon, the PM peak hour of traffic generally occurs between the hours of 4:45 PM and 5:45 PM. This analysis is based on the absolute commuter peak hour time period for each intersection to identify the traffic impacts resulting from the proposed project.



Source: GIS Data, State of Hawai'i

Figure 3-3
Existing Peak Hours of Traffic

Level of service ("LOS") is a qualitative measure describing the condition of traffic flow, ranging from ideal or free-flow traffic operating conditions at LOS "A" to unacceptable or potentially congested traffic operating conditions at LOS "F". The City and County of Honolulu has established LOS "D", which is typically recognized as the minimum satisfactory level of service in most urban areas, as the minimum acceptable level of service for its intersections. *Table 3-2 ~~3-1~~* below summarizes the results of the level of service analysis for each of the nine study intersections.

Table 3-2 ~~3-1~~ EXISTING AND PROJECTED LOS TRAFFIC OPERATING CONDITIONS (Without and With Project in Year 2017)

Intersection	Approach	AM			PM		
		Existing	2017 w/o Project	2017 with Project	Existing	2017 w/o Project	2017 with Project
Kalākaua Avenue/ Kaʻiulani Avenue	Eastbound	A	A	A	A	A	A
Kaʻiulani Avenue/ Koa Avenue	Eastbound	-	B	B	-	B	B
	Northbound	A	A	A	A	A	A
	Southbound	A	A	A	A	A	A
Kaʻiulani Avenue/ Kanekapolei Street/ Prince Edward Street	Eastbound	C	C	C	C	C	C
	Westbound	B	B	B	B	B	B
	Northbound	A	A	A	A	A	A
Kanekapolei Street/ Kuhio Avenue	Eastbound	B	B	B	B	B	B
	Westbound	A	A	A	A	A	A
	Northbound	B	B	B	C	C	C
	Southbound	B	B	B	C	C	C
Kaʻiulani Avenue/ Kuhio Avenue	Eastbound	A	A	A	A	A	A
	Westbound	B	B	B	B	B	B
	Northbound	B	B	B	C	C	C
Uluniu Avenue/ Kuhio Avenue	Eastbound	B	B	B	B	B	B
	Westbound	B	B	B	A	A	A
Uluniu Avenue/ Prince Edward Street	Westbound	B	B	B	B	B	B
Uluniu Avenue/Koa Avenue	Eastbound	A	A	A	A	A	A
	Southbound	A	B	B	A	A	A
Uluniu Avenue/ Kalākaua Avenue	Eastbound	A	A	A	A	A	A
	Southbound	C	C	C	C	C	C

Probable Impacts and Mitigation Measures

Short-term construction related impacts will be addressed in the Traffic Management Plan (TMP) and Construction Management Plan (CMP) as part of the building permit process for the project. Plans to mitigate the construction period traffic impacts include off-peak movement of equipment and materials to minimize the disruption to traffic flow, and inconvenience to the motoring public, bicyclists and pedestrians. The TMP and CMP will be prepared to minimize conflicts with traffic

along surrounding roadways during construction activities. Long-term and future traffic related impacts are discussed below.

Trip Distribution

Since the project is located in a neighborhood with limited parking, high volumes of pedestrian traffic, and a high density of attractive destinations, guests and customers destined for the project site may elect to walk rather than drive. As such, for the purposes of this study, a portion of the existing and projected trips were assumed to be pedestrian rather than vehicular trips. *Table 3-3 ~~3-2~~* summarizes the project site trip generation characteristics of the proposed project.

Table 3-3 ~~3-2~~ PEAK HOUR TRIP GENERATION CHARACTERISTICS		
Commercial/Retail (Specialty Retail Center) Independent Variable: 1,000 square feet of development = 69.468		
		Projected Trip Ends
Existing Peak Hour Trip Generation (adjusted)		
AM Peak	Enter	0
	Exit	0
	Total	0
PM Peak	Enter	85
	Exit	109
	Total	194
Commercial/Retail (Specialty Retail Center) Independent Variable: 1,000 square feet of development = 89.574		
Projected Peak Hour Trip Generation (adjusted)		
AM Peak	Enter	0
	Exit	0
	Total	0
PM Peak	Enter	66
	Exit	84
	Total	150

Figure 3-4 shows the distribution of new site-generated traffic during the AM and PM peak periods. Primary access to the project site will be provided via existing driveways off of Uluniu Avenue with secondary access provided via new driveway off of Koa Avenue. For the purposes of this study, all new-site generated trips were conservatively assumed to use the driveways off Uluniu Avenue. Site generated trips were distributed based upon either assumed origin/destination, relative convenience of the available routes, and existing distribution of traffic at the study intersection.

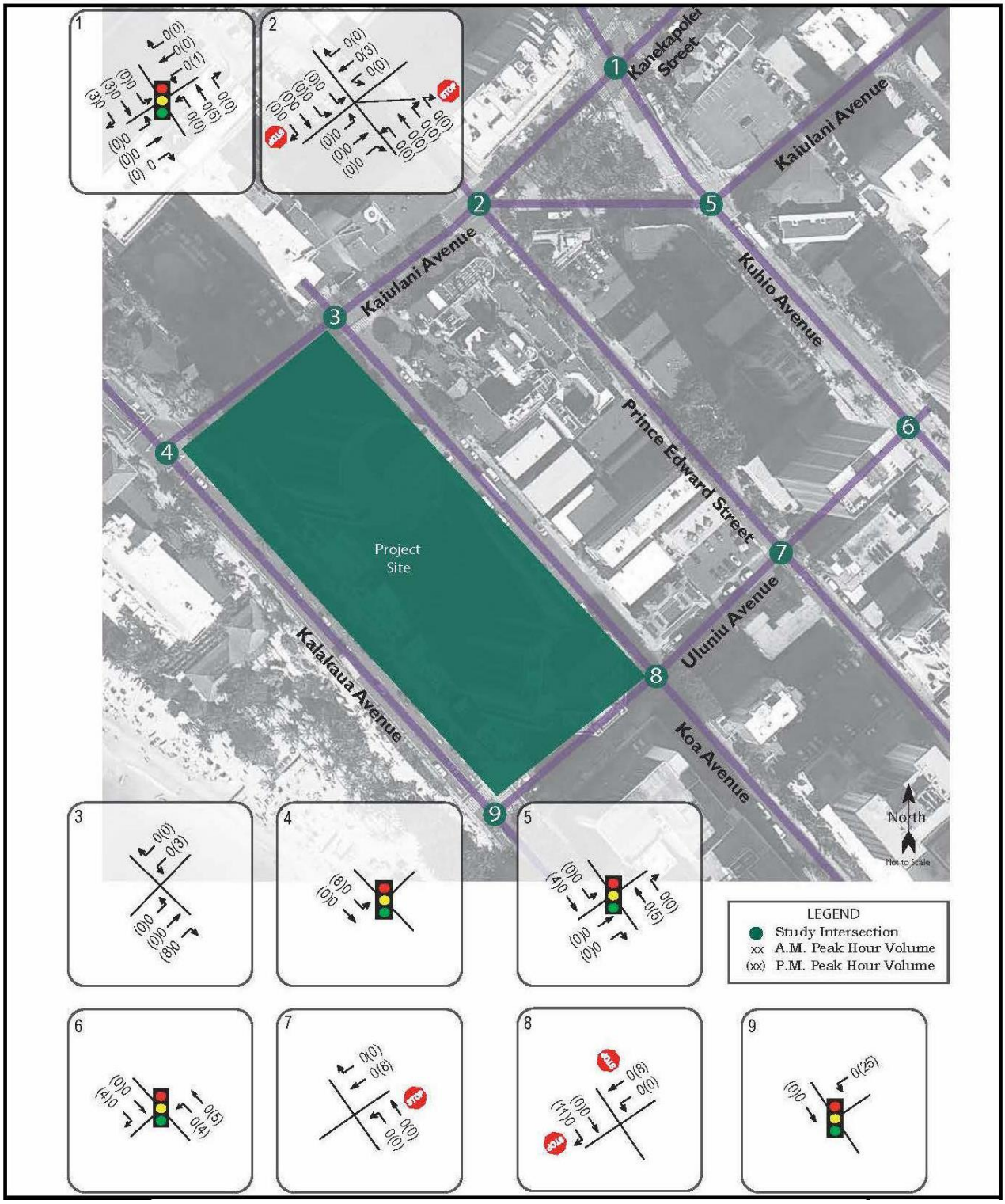


Figure 3-4
Distribution of Site Generated Vehicles

Developments in the Vicinity

There are three other planned developments in the vicinity of the project. The first project is the redevelopment of the existing Princess Kaʻiulani Hotel located across Kaʻiulani Avenue from the project site. The second project is the redevelopment of the International Market Place located less than a block west of Kaʻiulani Avenue. The third project is the replacement of the existing King's Village with the 133 Kaʻiulani condo/hotel development across Koa Avenue from the project site. All projects are expected to be completed by the Year 2017. As such, the trips associated with the proposed developments were incorporated into without project conditions based upon the TIRs prepared for the projects noted above.

Future Traffic Volumes without the Project

Projected traffic operations in year 2017 without the project are expected to remain similar to existing conditions (*Table 3-2 ~~3-1~~*) (*Figure 3-5*). With the exception of the southbound approach of Uluniu Avenue at Koa Avenue, the approaches of the study intersections along Kalākaua Avenue and Koa Avenue are expected to continue operating at levels of service similar to existing conditions despite the anticipated increase in traffic due to ambient growth and the competition of other developments in the project vicinity. At the intersection with Koa Avenue, the southbound approach of Uluniu Avenue deteriorates slightly from LOS "A" to LOS "B" during the AM peak period.

Future Traffic Volumes with the Project

The Year 2017 cumulative AM and PM peak hour traffic conditions with the project are summarized in *Table 3-2 ~~3-1~~* and shown in *Figure 3-6*. Traffic operations in the vicinity of the project are expected to remain similar to existing and Year 2017 without the project conditions despite the addition of new site-generated traffic to the surrounding roadways. Along Kaʻiulani Avenue and Kanekapolei Street, the approaches of the study intersections are expected to continue operating at LOS "B" or better during both peak periods with the exception of the intersection of Kaʻiulani Avenue with Kanelapolei Street and Prince Edward Street and the intersections of those roadways with Kuhio Avenue. The intersection of Kaʻiulani Avenue with Kanekapolei Street and Prince Edward Street is expected to continue operating at LOS "C" or better during both peak periods while the intersections of Kuhio Avenue with Kaʻiulani Avenue and Kanekapolei Street are expected to continue operating at LOS "B" or better during the AM peak period and LOS "C" or better during the PM peak period. Along Uluniu Avenue, the approaches of the study intersections are expected to continue operating at LOS "B" or better during both peak periods with the exception of the intersection with Kalākaua Avenue which is expected to continue operating at LOS "C" or better during both peak periods.

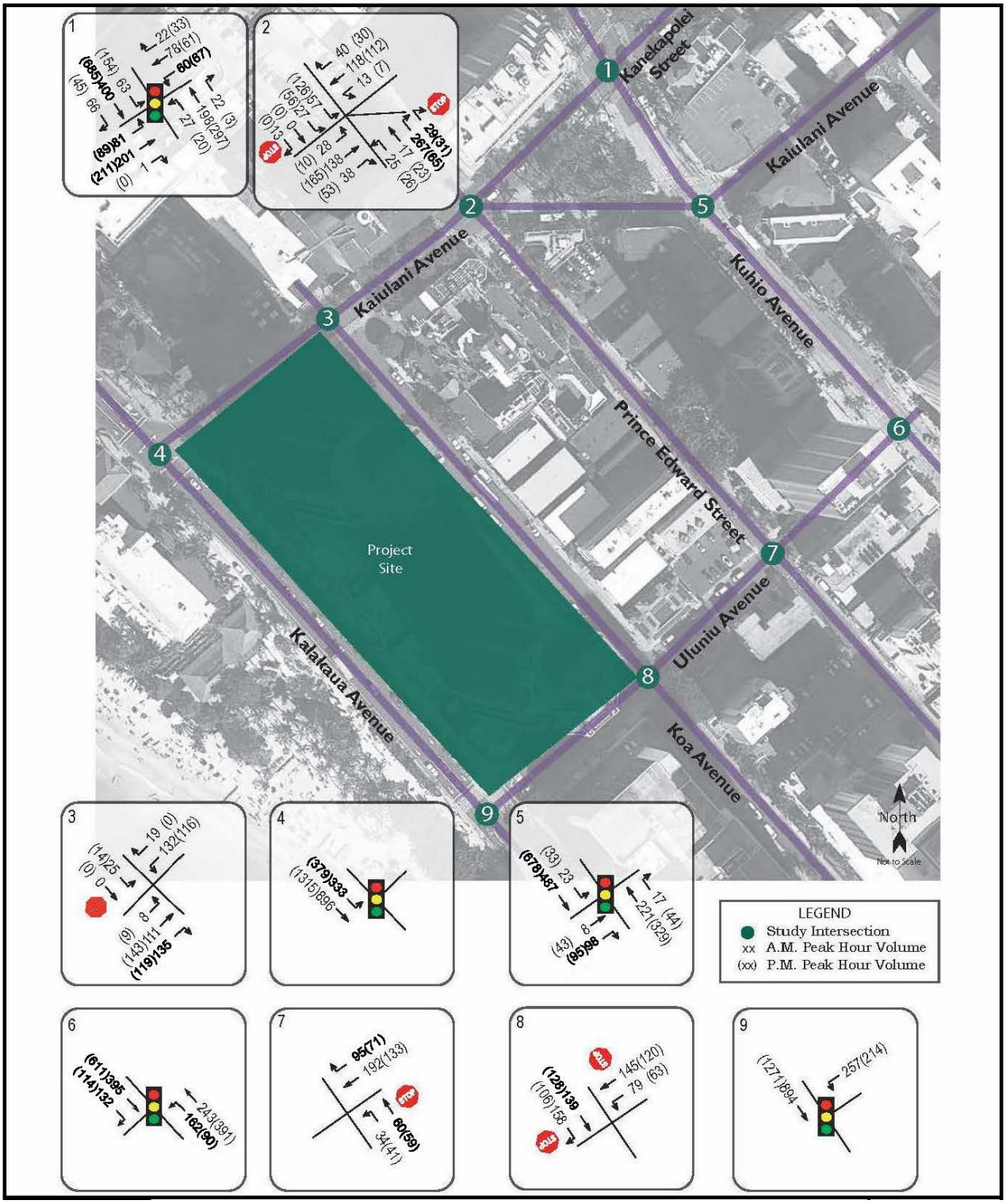


Figure 3-5
Year 2017 Peak Hour of Traffic Without Project

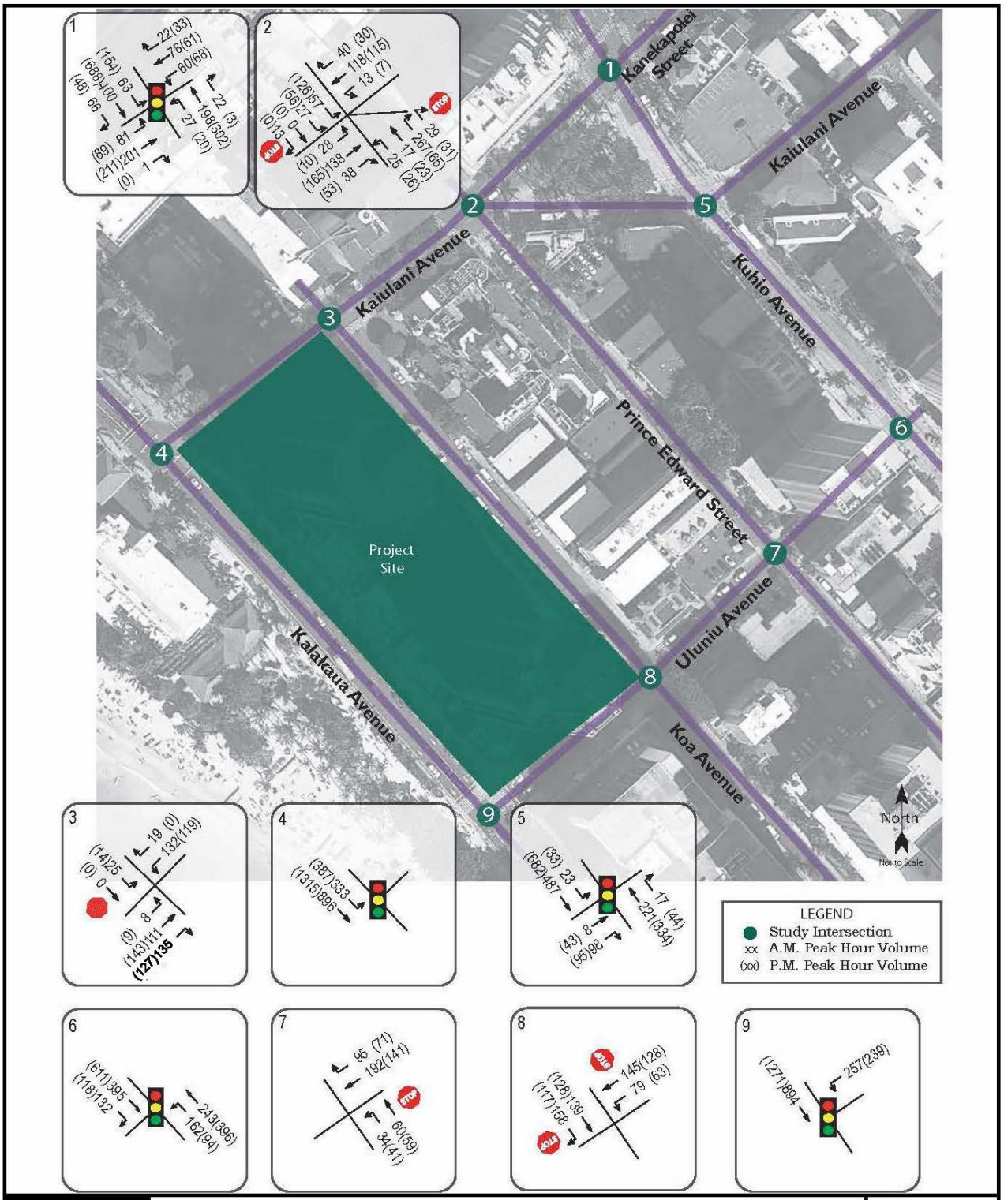


Figure 3-6
Year 2017 Peak Hour of Traffic With Project

Recommendations
Traffic operations in the vicinity of the proposed project are expected to remain similar to existing and without project conditions. As such, with the implementation of the mitigation measures listed below, the proposed redevelopment project is not expected to have a significant impact on traffic operations in the vicinity.

Mitigation measures considered for the project include:

- Maintain sufficient sight distances for motorists to safely enter and exit the driveways.
- Provide adequate on-site loading and off-loading services areas and prohibiting off-site loading operations.
- Provide adequate turn-around area for service, delivery, and refuse collection vehicles to maneuver on the project site to avoid vehicle-reversing maneuvers onto public roadways.
- Provide sufficient turning radii at all project driveways to avoid or minimize vehicle encroachments to oncoming traffic lanes.
- Prohibit parking and loading along the south side of Koa Avenue along the project frontage to facilitate ingress and egress for the new proposed porte cochere along that roadway.
- Consider modifying the intersection of Kalākaua Avenue and Uluniu Street to provide an all-way pedestrian crossing (Barnes-Dance) to facilitate safer pedestrian crossing across Kalākaua Avenue adjacent to the project site.
- Prepare a crosswalk warrant study for Uluniu Street at or near the intersection with Koa Avenue. Currently, the facilities at the Hyatt Regency Beach Resort are split into two sections with the hotel and commercial podium located west of Uluniu Street, and the parking garage and ballrooms located east of that roadway.

3.11 PARKING AND LOADING

Parking and loading calculations for the project are based only on the improvements to the basement, first floor, second floor and third floor of the project area.

3.11.1 Parking

Existing Conditions
LUO Table 21-6.3 establishes the following off-street parking requirements for developments in the WSD, Resort Mixed Use Precinct: 1) one space for every four hotel rooms; 2) one space per ten seats or 200 square feet for meeting facilities; and 3) one space per 800 square feet for retail. However, there is an exception that ground floor uses in the WSD, other than dwelling uses, are exempt from off-street parking requirements.

The existing number of parking stalls (431) and loading stalls (8) in the existing off-site parking structure (Convention Center) and basement of the hotel meets City and County of Honolulu LUO requirements for on-site operations. The off-site parking area provides 357 stalls and the existing

basement currently provides 74 parking stalls and eight loading stalls (*Figure 3-7 and Figure 3-8*). Of the existing parking stalls, 160 ~~177~~ are compact size and are considered non-conforming to the LUO. Twenty-five of the compact stalls are located in the hotel basement (*Figure 3-7*). Existing demand during normal operations is mostly managed at the hotels off-site lot (Convention Center). Existing self-parking is managed by parking attendant operations for guests and visitors. Valet service is also an option provided at the port cochere located along Uluniu Avenue.

There is no existing tour bus parking on or near the project site.

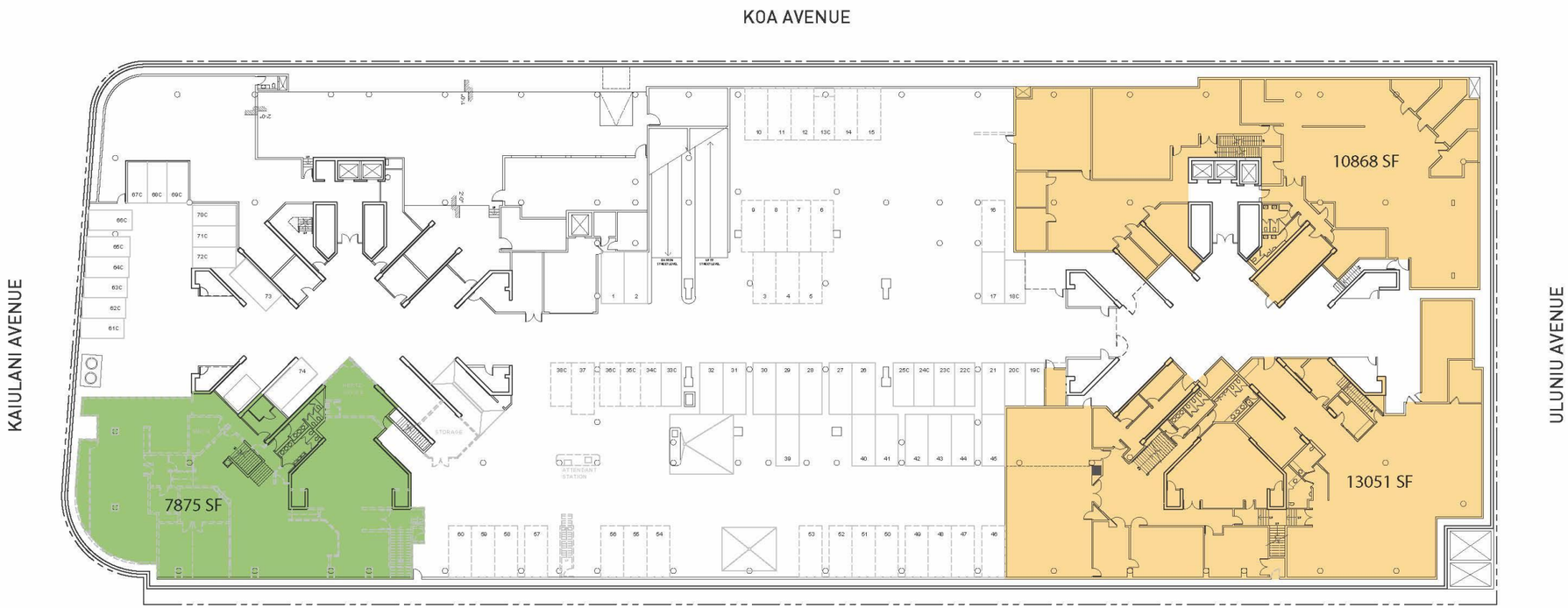
Probable Impacts and Mitigation Measures

The construction of the retail redevelopment project will require new on-site parking. While the project will not result in an increase in total floor area, there will be an increase in floor area for retail use. Therefore, the project will require a total of 455 parking stalls and 10 loading stalls per parking requirements established in the LUO. The project will provide 455 parking stalls and 10 loading stalls to meet these requirements.

In order to accommodate the increase in parking required at the site, the existing basement parking area will be reconfigured to provide 24 additional parking stalls (*Figure 3-9 ~~3-8~~*). The existing off-site parking at the main parking garage (Convention Center) will continue to provide 357 stalls and reconfigured parking at the basement of the hotel will provide 98 stalls, for a total of 455 stalls. Twenty of the existing non-conforming compact stalls located in the hotel basement will remain. In addition, the basement and first floor will provide 10 loading stalls. *Figure 3-10 ~~3-9~~* provides a detailed parking summary. Parking operations will continue to be efficiently managed as a mix of self-parking and valet operations.

During special events, banquets, and other major events, the use of valet service is fundamental to meet peak demands. Additionally, managing time duration of passenger drop-offs and staging in the existing and proposed porte cochere areas as well as the provision of adequate valet staff will help manage congestive periods of queuing and ensure adequate valet circulation. The new port cochere will have its own valet service. With self-parking, ensuring an adequate number of parking attendants are provided to minimize conflict between vehicles circulating in/out of the garage will be utilized.

No tour bus parking is proposed on or near the project site.



Site Area
Restaurant
Hotel Meeting

EXISTING BASEMENT FLOOR AREA	
RESTAURANT	7875 SF
HOTEL MEETING	23,919 SF

EXISTING PARKING	74
EXISTING STANRDARD STALLS	49
EXISTING COMPACT STALLS	25

Not to Scale

Figure 3-7
Existing Basement Parking Layout

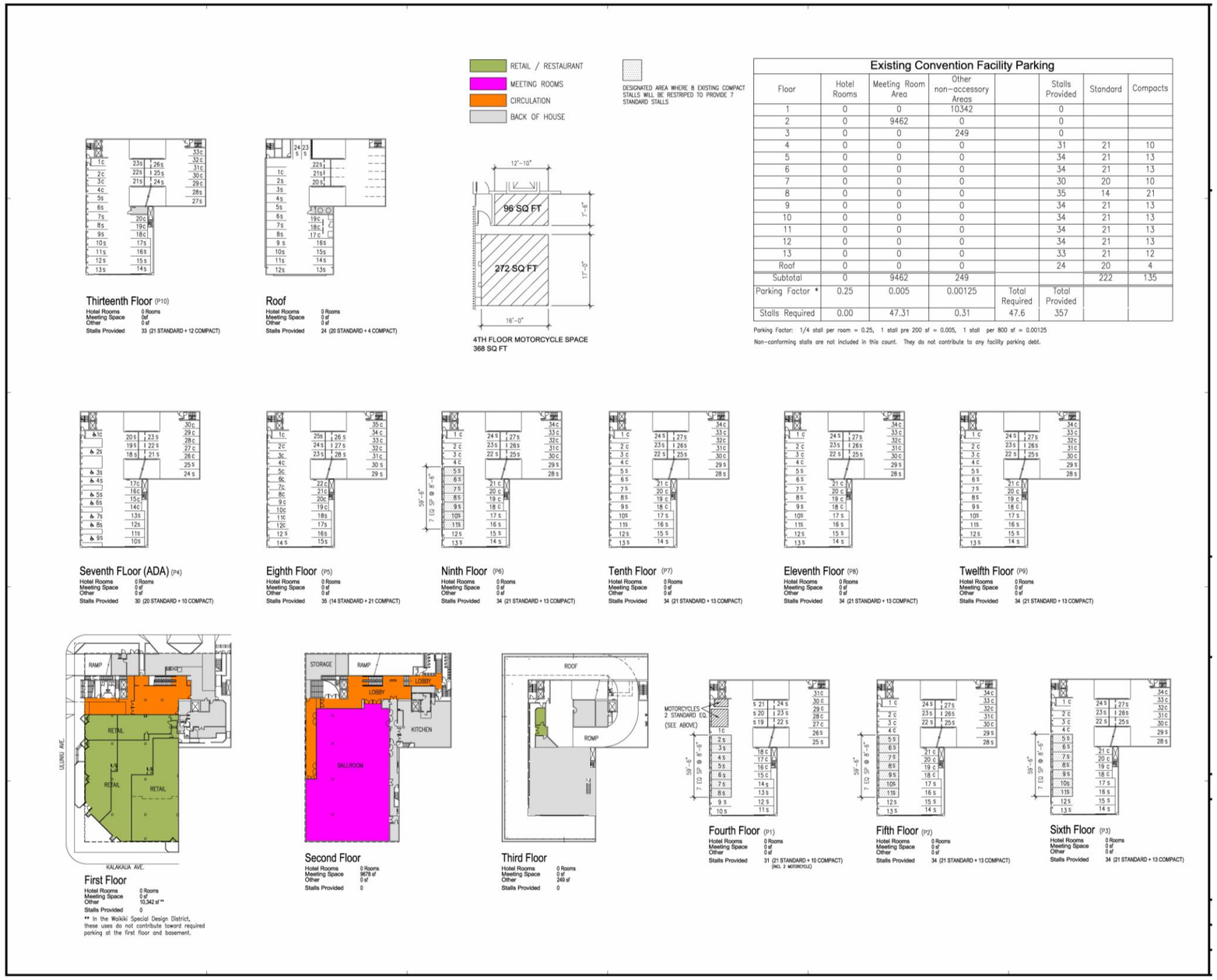


Figure 3-8
Existing Off-Site Parking

Site Area
Restaurant
Hotel Meeting
Existing Compact to remain

PROPOSED BASEMENT FLOOR AREA

RESTAURANT	0 SF
HOTEL MEETING	23,919 SF

PROPOSED PARKING	**98**
EXISTING STANRDARD STALLS TO REMAIN (8'-6" x 19'-0")	16
EXISTING COMPACT STALLS TO REMAIN (7'-6" x 16'-0")	20
NEW STANDARD STALLS (8'-3" x 18'-0")	62
NEW LOADING STALLS (8'-6" x 19'-0")	5

Not to Scale

Figure 3-9 ~~3-8~~
Proposed Basement Parking Layout

Loading Calculations

Use	Existing SF	Proposed SF	Change in Floor Area (SF)
Retail			
Basement	7,875	0	-7,875
Level 1	32,115	46,412	14,297
Level 2	32,215	46,584	14,369
Level 3	20,364	22,526	2,162
Retail Total	92,569	115,522	22,953
		Additional Loading Stalls Required	3
Hotel			
Basement	23,919	23,919	0
Level 1	3,800	0	-3,800
Level 2	3,800	0	-3,800
Level 3	0	0	0
Hotel Total	31,519	23,919	-7,600
		Additional Loading Stalls Required	-1
Total	124,088	139,441	15,353
		Total Additional Loading Stalls Required	2
		Existing Loading Stalls	8
		Total Loading Stalls Required:	**10**

Loading Stalls Provided

	Large 12' x 35' x 14' Vert. Clr.	Medium 19' x 8-1/2' x 10' Vert. Clr.
Basement	0	5
Ground Floor	5	0
		Total Loading Stalls Provided: **10**

Parking Calculations

Floor	Hotel Room Ewa	Hotel Room D.H.	Proposed Meeting Room Area	Proposed Other-Accessory Area (Retail)	Existing Other-Accessory Area (Retail)	Existing Standard Stalls to Remain	New Standard Stalls Provided	Existing Compact Stalls to Remain
B						16	62	20
1								
2				46,584				
3				22,526				
4					620			
5	18	18			4,912			
6	18	18			5,227			
7	18	18						
8	18	18						
9	18	18						
10	18	18						
11	18	18						
12	18	18						
13	18	18						
14	18	18						
15	18	18						
16	18	18						
17	18	18						
18	18	18						
19	18	18						
20	18	18						
21	18	18						
22	18	18						
23	18	18						
24	18	18						
25	18	18						
26	18	18						
27	18	18						
28	18	18						
29	18	18						
30	18	18						
31	18	18						
32	18	18						
33	18	18						
34	18	18						
35	18	18						
36	18	18						
37	18	18						
38	14	13						
39	8	8						
	616	615						
Subtotal	1,231		0	69,110	10,759	16	62	20
Parking Factor	0.25		0.005	0.00125	0.00125	Required in Main Building	Provided in Main Building	
Stalls Required	307.8		0.0	86.4	13.4	407.6	98	
Convention Center Requirements and Provided Stall counts per Group 70 Analysis and previous project submittals						Required in Convention Center 47.6	Provided in Convention Center 357	
Per Special Permit 74/SP-29 (June 28, 1974) the Main Hotel Building and Convention Center have been operated jointly.						**Total Required** **455.2**	**Total Provided**	
						455	**455**	

Note: First Floor and Basement excempt from Off Street Parking Requirements.
Note: Number of compact stalls "grandfathered" per building permits #25157 and #58594 = 177

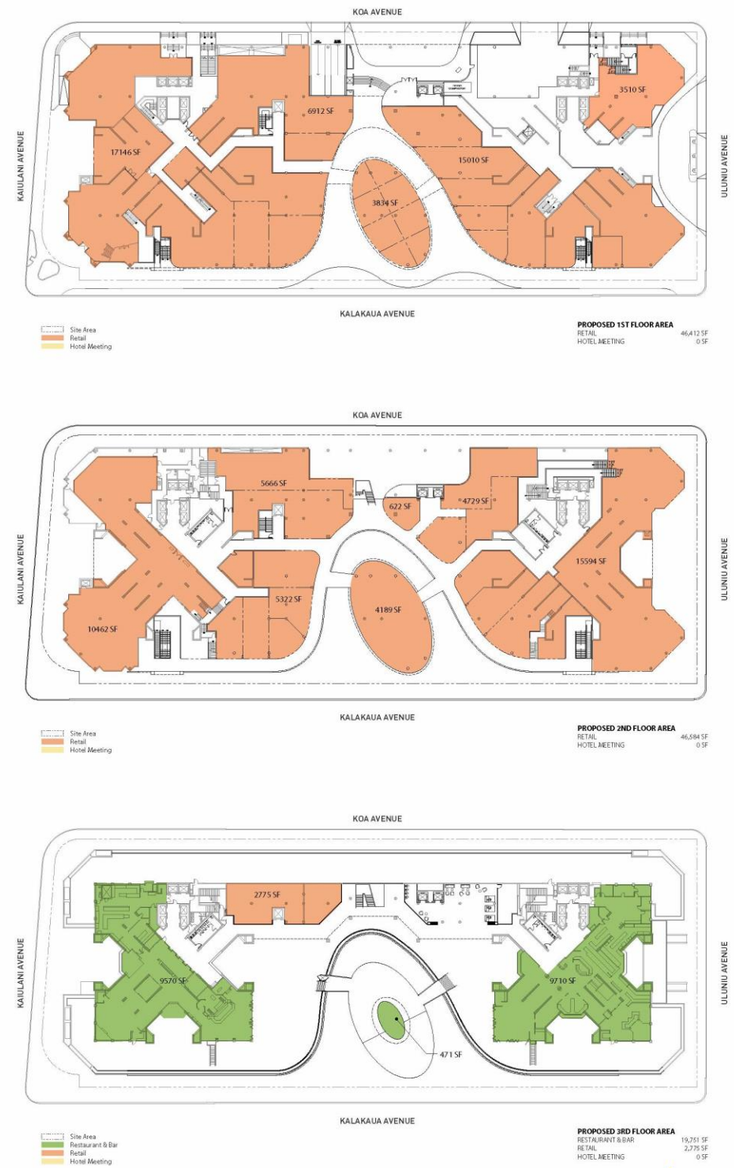


Figure 3-10 ~~3-9~~
Parking and Loading Calculations

3.11.2 Loading

Existing Conditions

LUO Section 21-6.100 establishes the off-street loading space requirements. When more than one loading area is required, there are specific dimension provisions that must be met. At least half of these spaces must be built to meet the dimension requirements of 12 feet × 35 feet, with a minimum vertical clearance of 14 feet. The other half may have horizontal dimensions of 8.5 feet × 19 feet and vertical clearance of at least ten feet.

Currently, there are a total of eight (8) off-street loading spaces provided for the hotel (*Figure 2-2*). Large delivery vehicles park and unload at these various points within the site.

Probable Impacts and Mitigation Measures

Under the LUO, the required number of off-street loading stalls for the project is 10. The project will reconfigure the existing basement and first floor to provide for new parking and loading requirements. Approximately five of these stalls will be larger 12 feet × 35 feet x 14 feet, and the remaining five will be 8.5 feet ×19 feet x 10 feet. The total loading spaces provided with the project will meet LUO requirements. Refer to *Figures 3-9 ~~3-8~~ and 3-11 ~~3-10~~*.

3.12 SOCIO-ECONOMIC CONDITIONS

Existing Conditions

The project site is located in the Waikīkī community of urban Honolulu. Waikīkī is a densely populated square mile of land on the south shore of the island of Oʻahu. The study area for the project resides in the Waikīkī Neighborhood Board No. 9 area and is comprised of six census tracts: 18.01, 18.02, 19.01, 19.02, 20.1, and 20.2. Waikīkī is considered to be both a residential and resort community where visitors and residents interact as they carry out their respective activities.

Population and Housing Characteristics

In 2010, Waikīkī had a residential population of approximately 20,095, which was approximately 2.1% of Oʻahu's total population (953,207). The population increased by 1.9 percent from the year 2000. The annual average visitor population of Waikīkī consists of approximately 96,950 visitors. Another 33,707 people work in Waikīkī. Waikīkī's population compared to the Oʻahu, is generally older; has a racial mix with proportionately more Caucasians and fewer Asians, Native Hawaiian or Pacific Islanders. Proportionately homeownership rates were lower and vacancy rates greater, with many of the vacant units held for occasional use as timeshares or second homes. Waikīkī residents are almost all apartment dwellers, half of which are single occupants. The median household income is $42,714.

Economic Characteristics

Waikīkī is a significant asset to the State, as it supports around 11% of all State civilian jobs, as well as 12% of Hawaiʻi's State and local taxes. Approximately $3.6 billion (or 46%) of tourism's statewide economic contribution comes from Waikīkī-based visitor activity. Tourism related activities in Waikīkī account for an estimated 8% or Hawaiʻi's Gross State Product (GSP). Waikīkī is the most important tourist destination in the State, with around 72,000 visitors per day, accounting for 45% of the State's total yearly visitors.

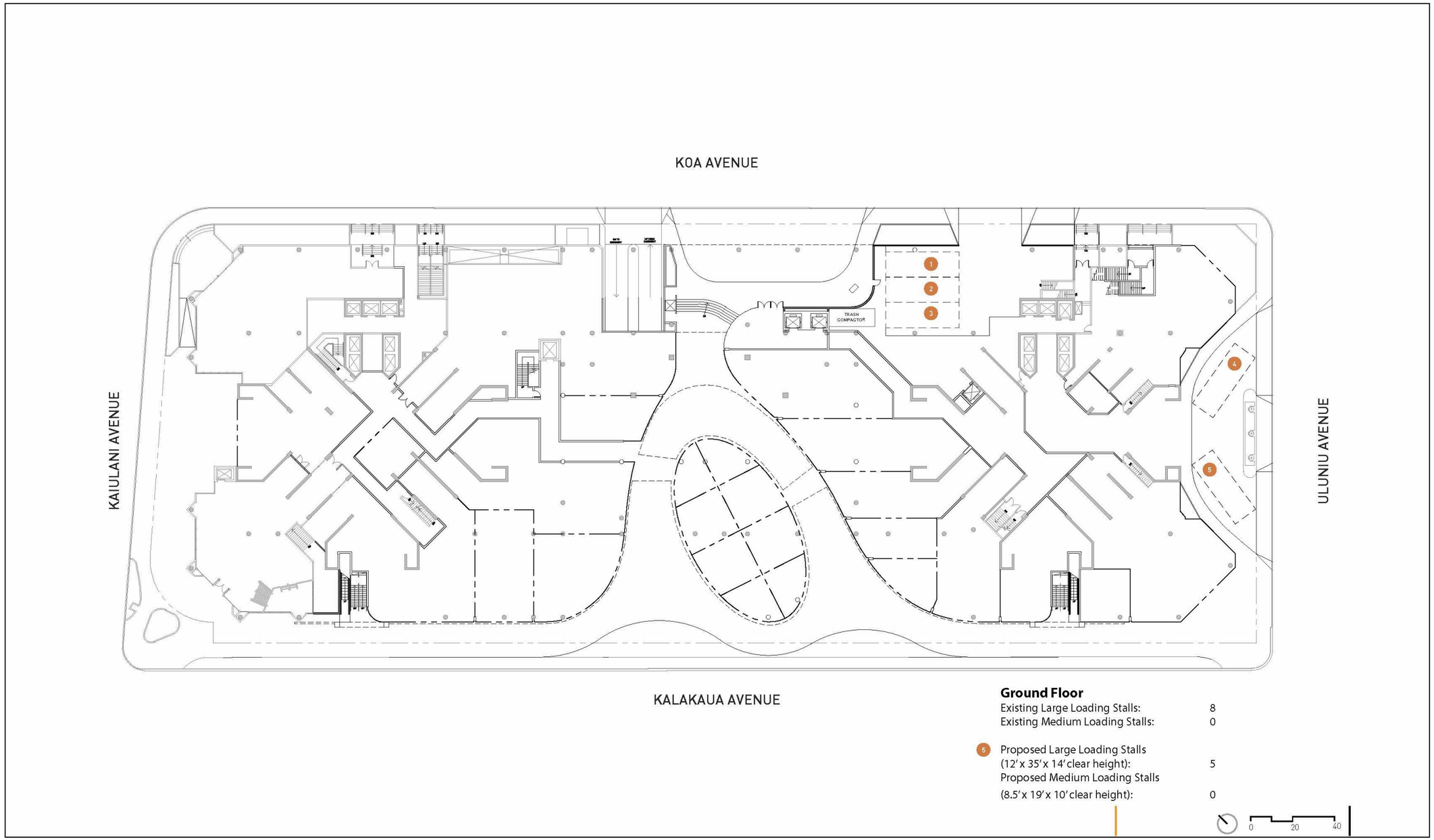


Figure 3-11 ~~3-10~~
Proposed First Floor Loading

Probable Impacts and Mitigation Measures

Population and Housing Characteristics
No impacts on the population and housing inventory in Waikīkī are anticipated to occur as a result of the proposed retail redevelopment project. The project does not involve any residential uses.

Economic Characteristics
The 2424 Kalakaua project will help to support Waikīkī as a significant asset to the State. The project will provide a revitalized retail area that will encourage visitor spending and support the visitor industry. Construction of facilities will generate employment and consequent income and taxes. Additionally, the project is expected to support long-term impacts, including additional consumer expenditures, employment opportunities, personal income, and government revenue enhancement.

The retail redevelopment will help contribute to the Waikīkī's impact on the GSP and will support Waikiki as the most important tourist destination in the State.

3.13 PUBLIC FACILITIES AND SERVICES

3.13.1 Police Protection

Existing Conditions
The Waikīkī region is under the protection of the City and County of Honolulu, Police Department (HPD). The area is part of HPD District 6, which extends across the Waikīkī peninsula from the Ala Wai Canal to Diamond Head.

The HPD Waikīkī substation is located on Kalākaua Avenue at Prince Kūhiō Beach. The District's Burglary-Theft Detail and Crime Reduction Unit occupy office space on the fourth floor of the Royal Hawaiian Center. In addition, the District's Bicycle All-Terrain Vehicle Detail is a detail that provides high visibility and mobility on beaches and in parks. The Beach Detail patrols the beach from the Duke Kahanamoku Lagoon to the Natatorium.

Probable Impacts and Mitigation Measures
This project should not impact police department's operations or ability to provide adequate protection services to the surrounding community. District 6 police protection should be adequate for the proposed project operations. No adverse impacts or mitigation is proposed.

3.13.2 Fire Protection

Existing Conditions
The Waikīkī region is in the 2nd Battalion area designated by the Honolulu Fire Department (HFD). The region is served by three fire stations, which include:

- Station 2: The Pāwa'a Fire Station is located at Makaloa Street near Don Quijote. It has a ladder company, an engine company, and a rescue company.

- Station 7: The Waikīkī Fire Station is located at the corner of Kapahulu Avenue and Paki Street. It has a ladder and engine company.

- Station 29: The Mōʻiliʻili Fire Station is located on Date Street, between University Avenue and Kapiʻolani Boulevard. It has a ladder and engine company.

HFD works with the City and County of Honolulu Emergency Medical Services (EMS) and the City and County of Honolulu Emergency Medical Dispatch in providing first response to emergencies.

Probable Impacts and Mitigation Measures
This project is not expected impact HFD's operations or ability to provide fire protection services to the project areas and surrounding areas. The planned improvements will be designed to meet fire and building code requirements.

3.13.3 Emergency Medical Services and Hospital Services

Existing Conditions
Emergency Medical Services (EMS) provides pre-hospital emergency medical care and emergency ambulance service on Oʻahu. EMS has 19 Advanced Life Support Ambulance units and two Rapid Response Paramedic units on the island, which are assigned to two districts. Waikīkī is under District 2 and is covered by an EMS unit at the Waikīkī Fire Station.

Kapiʻolani Medical Center for Women and Children (KMC), and the Queen's Medical Center (QMC) are the two primary main healthcare and emergency facilities that would service guests or visitors. KMC is located on Punahou Street approximately 1.2 miles away from the project site and QMC is located on Punchbowl Avenue approximately 3 miles from the project site.

Probable Impacts and Mitigation Measures
The proposed project will not impact the handling of EMS or medical emergencies. No mitigation is proposed.

3.13.4 Schools

Existing Conditions
The Waikīkī community is part of the State Department of Education's Honolulu school district. The Honolulu School District is comprised of fifty-five elementary, middle, and high schools; two special schools and the Hawaiʻi Center for Deaf and Blind. The public schools closest to the project include: Ala Wai Elementary; Jefferson Elementary; Washington Middle School; Kaimuki High School; and McKinley High School.

Probable Impacts and Mitigation Measures
The retail redevelopment project is not expected to affect existing educational facilities near the project site. No mitigation is proposed.

3.13.5 Libraries

Existing Conditions
The state public libraries closest to the project site include the Main State Library; the McCully-Mōʻiliʻili Library; and the Waikīkī-Kapahulu Library.

Probable Impacts and Mitigation Measures
The retail redevelopment project is not expected to affect existing library facilities near the project site. No mitigation is proposed.

3.13.6 Public Parks

Existing Conditions
Public parks provide open space and a natural outdoor environment for both residents of Hawai'i and tourists to enjoy. The following State and City and County of Honolulu public parks are within Waikīkī and walking distance to the project area: King Kalākaua Park, Princess Ka'iulani Triangle, Fort DeRussy Beach Park, San Souci State Recreational Park, Kapiolani Regional Park, and Ala Wai Park, and Ala Moana State Regional Park.

Probable Impacts and Mitigation Measures
The proposed project will not affect existing public park facilities, therefore, no mitigation is recommended.

3.13.7 Solid Waste

Existing Conditions
Solid waste from the project site is currently disposed by a private disposal service. The waste is then hauled to the City and County of Honolulu's H-Power waste-to-energy plant and its Waimanalo Gulch landfill, as well as the privately owned PVT Landfill in Nānākuli and various recycling facilities.

Probable Impacts and Mitigation Measures
The retail redevelopment project will generate solid waste with the general construction and operation of the project. During construction, solid waste will be hauled away by a private contractor. During operations, solid waste generated from the project will continue to be disposed of by a private disposal service. Solid waste generation is not anticipated to increase from existing conditions as a result of the retail redevelopment project. Reuse and recycling will be implemented on site to the extent practicable.

3.13.8 Public Transit Service: TheBus

Existing Conditions
The project site is serviced by one direct transit line operated by the City and County of Honolulu, Department of Transportation Services (DTS). Route 22 extends from Sea Life Park to Waikīkī. TheBus has an average weekday ridership of 236,000 persons.

Probable Impacts and Mitigation Measures
During construction of the retail redevelopment, there will be no impacts to existing bus stops. If necessary, coordination with DTS will be carried out prior to construction. For operations, the project will not significantly impact the overall Waikīkī and island-wide weekday and weekend ridership.

3.14 HISTORICAL AND ARCHAEOLOGICAL RESOURCES

Existing Conditions

In August 2014, an Archaeological Literature Review and Field Inspection (ALRFI) was completed for the proposed project site by Cultural Surveys Hawaii (CSH) (*Appendix C*). The proposed project is subject to Hawaiʻi State environmental and historic preservation review legislation (Hawaiʻi Revised Statutes [HRS] §343 and HRS §6E-8/Hawaiʻi Administrative Rules [HAR] §13-275, respectively). While this investigation does not fulfill the requirements of an archaeological inventory survey investigation (per HAR §13-276), it serves to facilitate the proposed project's planning and supports historic preservation review compliance by assessing if there are major archaeological concerns within the project area and developing data on the general nature, density, and distribution of archaeological resources. For the purpose of this ALRFI, the area of potential effect (APE) is considered to be the entire approximately 2.4-acre project area.

Background Summary

During pre-Contact times the ahupuaʻa of Waikīkī was an intensely utilized area with abundant natural and cultivated resources that supported a large population. Multiple heiau were built throughout the area and traditional accounts refer to the practice of traditional activities, such as surfing and wrestling. Waikīkī also supported a vast network of irrigated taro fields and fishponds, and was an area utilized by the aliʻi as a place of residence.

In the nineteenth and early twentieth centuries, after a period of depopulation, Waikīkī was reanimated by Hawaiians and foreigners residing there and by farmers continuing to work the irrigated field system which had been converted from taro to rice. Farming continued up to the first decades of twentieth century until construction of the Ala Wai Canal drained the remaining ponds and irrigated fields, making way for urban development.

Early maps, historical accounts, and other archival information indicates the area where the Hyatt Regency Waikiki is now located once belonged to the area of coastal Waikīkī devoted to irrigated taro fields, fishponds, and residences (often chiefly). Land Commission Award records from the mid-1800s document the project area as belonging to a land parcel containing a house site, a coconut grove, multiple loʻi and fishponds, and a stream (muliwai). Records for LCAs awarded within 50 m of the current project area list more loʻi, house lots, fishponds, an irrigation ditch, and some kula (dry cultivation land). By 1893, with the rise of rice cultivation in Waikīkī, main loʻi were abandoned or converted to rice fields. Most rice cultivation clustered mauka of present day Ala Wai Boulevard, although archaeological studies show rice cultivation within 400 m of the current project area. An 1893 map shows the project area as uncultivated land surrounded by swampland (likely still used to cultivate taro), with rice fields located mauka.

The project area was located southwest of the westernmost corner of Archibald Cleghorn's ʻĀinahau estate, established in 1872. Historic maps show no structures in this region of the estate; the project area was likely near the access drive to the estate from what is now called Kalākaua Avenue. The Cleghorn estate burned down in 1921, after which the project area was drawn into the rapid post-war commercial development of Waikīkī as a busy resort sector. By the mid-1950s, much of Kalākaua Avenue was lined with shops and other small commercial buildings, and much of Waikīkī in general contained hotels, apartment buildings, and single dwellings.

Archaeological studies and finds within 400 m of the current project area document a culture-rich area, including numerous encountered traditional Hawaiian and historic human burials (both in

situ and disturbed), buried sediment remnants of lo'i and 'auwai, and evidence of rice fields mauka of the project area. The concentration of human burial finds encountered within 400 m of the project area during various development projects is noteworthy.

Predictive Model

The original construction of the Hyatt Regency Waikiki resort and spa complex necessarily involved significant ground disturbance in and immediately around the project area. This and prior history of agricultural and other activities within the project area suggests a heavy footprint of structural intrusion into the underlying potentially culture-bearing soils. Subsequent multiple renovations to the Hyatt Regency property likely entailed further disturbance. However, based on historic background research and previous archaeological investigations in the area, there is a high probability that archaeological cultural resources, including human burials, will be encountered should proposed construction for the project involve further ground disturbance below or outside of the extant resort and spa foundation.

Results of Fieldwork

The field inspection fieldwork was carried out July 23, 2014 by CSH archaeologist Lisa Humphrey, Ph.D under general supervision of Hallett H. Hammatt, Ph.D. (principal investigator) and under State Archaeological Fieldwork Permit number 14-06 issued to CSH by the State Historic Preservation Division (SHPD), per HAR §13-282. The survey of the interior and exterior grounds of the Hyatt Regency Waikiki covered a complex of buildings encompassing an approximately 2.4-acre area spanning almost a full square city block.

The Hyatt Regency Waikiki complex at 2424 Kalākaua Avenue is comprised of multiple structural components, including two 39-story towers (hotel guest rooms) anchoring the property on the 'Ewa and Diamond Head sides, joined together by a three-storied retail podium structure—with a ground floor, second floor, and third floor—containing shops, restaurants, and other commercial facilities, as well as a convention center, pool, and pool deck on the third floor.

The main entrance to the hotel portion of the complex is on Uluniu Avenue via a large drive-up porte cochere. Another direct (pedestrian-only) entrance to the complex is on Kalākaua Avenue. A third entrance, also pedestrian-only, is located on Koa Avenue next to dual ramps leading into and out of the basement for use by Hertz and Budget rental car customers. The archaeologist was informed that the basement footprint extends at least as far in all four directions as the main superstructure. The basement at 2424 Kalākaua contains a receiving area for the hotel immediately below the hotel's ground floor loading dock; various hotel utility infrastructural elements; and on the makai/ Kalākaua Avenue side, event rooms.

The proposed project is in its planning stages and no construction diagrams were provided to CSH. Currently envisioned redevelopment includes a new drive-up porte cochere on Koa Avenue to replace the current partially covered pedestrian entrance; new elevators at the new porte cochere, designed to take visitors and guests directly to the second floor hotel lobby and floors above; more generally described "improvements" to existing retail facilities and pedestrian circulation; a new second floor lanai shopping arcade; and a new third floor pool deck.

The field inspection focused on potentially sensitive areas that might require further investigation or monitoring should construction proceed. These were areas where subsurface disturbance may be more likely to occur, including a) the exterior ground-level location of the proposed porte cochere on Koa Avenue, and b) the portion of the Hyatt Waikiki basement over which the new porte cochere will be built and through which the new elevator(s) shaft(s) for the new porte cochere will extend. Other areas of more general interest for inspection included c) the overall layout and nature of the ground, second and third floors (where retail spaces and pedestrian circulation will be improved); d) the third floor site of the new pool deck; and e) the general interior and exterior layout and nature of the resort and spa complex as a whole.

In the course of the field inspection, effort was taken to ascertain whether there were any visible surface archaeological features likely to be disturbed during redevelopment activities, to verify or confirm existing sites (none have been recorded for the property), and to identify any areas that might be vulnerable to subsurface disturbance during redevelopment construction.

Anticipated Impacts and Mitigation Measures

The Hyatt Regency Waikiki was constructed in 1976, making it less than 50 years old, and does not possess criteria recommending it as a historic property to be assigned a State Inventory of Historic Properties (SIHP) designation. The approximately 2.4-acre resort and spa complex encompasses a square city block; its structural footprint is heavy, supporting two 39-story towers, a three-storied mixed-use (retail, dining, other commercial uses) retail podium and building connecting the two towers; and a basement at least as large in footprint as the complex's ground floor.

Ground disturbance within the project area and its close vicinity has been significant due to previous construction and renovation efforts in the area, beginning before the construction of the Hyatt Regency Waikiki in 1976. Historical and archaeological research for the current project area and immediate vicinity indicates an elevated likelihood of encountering significant cultural resources, including human burials during subsurface excavation. However, there is no subsurface excavation planned for the current project beneath the existing grade of the building and sidewalk.

No subsurface excavation is planned for the current project. No further archaeological work for the demolition of exclusively surface structures is recommended. If, in the event that the finalized project plans involve subsurface ground disturbance, it is highly likely the SHPD will require additional cultural resource management, which may include the completion of an archaeological inventory survey and/or an archaeological monitoring program.

3.15 CULTURAL RESOURCES

Existing Conditions

A Cultural Impact Assessment (CIA) was completed for the project by CSH. The study was prepared in August 2014, and is included in *Appendix D*. The following section provides a description of the CIA and findings for the project area.

The project requires compliance with Act 50 Session Laws of Hawai'i 2000 and the State of Hawai'i environmental review process under Chapter 343, HRS, which requires consideration of a proposed project's effect on traditional cultural practices. Through document research and cultural consultation efforts, the report provided information that was applicable to the assessment of the project and its potential impacts to cultural practices. Hawaiian organizations, agencies, and

community members have been contacted for the CIA study in order to identify potentially knowledgeable individuals with cultural expertise and/or knowledge of the project areas and their vicinities.

The APE is defined as the approximately 2.4 acres in total. While this investigation focuses on the project APE, this study considered the whole ahupuaʻa (land division) of Waikīkī.

Background Research

The project area is located within the ʻili (land section within an ahupuaʻa) of Kapuni and Uluniu in the modern day ahupuaʻa (land division extending from the mountain to the sea) of Waikīkī in the area known as Waikīkī Kai. The name Waikīkī translates as "water spurting from many sources," and reveals the character of the intact watershed system of Waikīkī prior to Western Contact, where water from the valleys of Mānoa and Pālolo gushed forth from underground.

A vast system of irrigated taro fields was constructed across the littoral plain from Waikīkī Kai to the lower valleys of Mānoa and Pālolo in approximately AD 1400. This, in combination with coconut groves and fishponds along the shoreline, enabled the growth of a sizeable population, including the coastal village of Waikīkī, which most likely centered around the mouth of ʻĀpuakēhau Stream in the vicinity of the project area.

Numerous wahi pana (storied place), ʻōlelo noʻeau (proverb), ʻoli (chant), and moʻolelo (story) are associated with Waikīkī, which attests to the historical significance of the ahupuaʻa, abundance of natural resources, and the presence of a viable Native Hawaiian population. These include moʻolelo such as Ka-lua-ʻŌlohe, the heiau of Papaʻenaʻena and ʻĀpuakēhau, the high priest of Kaʻopulupulu, the warrior Kawelo, and the life-giving stones of Kapaemahu and Kapuni.

At least seven other religious sites were located in Waikīkī Kai, including Helumoa Heiau (also called ʻĀpuakēhau Heiau) and Nā Pōhaku ʻOla Kapaemahu a Kupuni (commonly known as the Wizard Stones) in the vicinity of the project area. These sites are connected through moʻolelo to ʻĀpuakēhau Stream, which once flowed to the north of the project area. Four of these heiau (pre-Christian place of worship) were associated with human sacrifice, including Helumoa Heiau. Sacrificial drowning of kauwā (outcast) also took place in Waikīkī.

Waikīkī Kai was a place of royal residence, starting with Māʻilikūkahi in approximately AD 1490 and extending through Kamehameha (ʻĪʻī 1959:17). The ʻili of Kaluaokau and of Helumoa, adjacent to the ʻili of the project area, were places of previous royal residence.

During the Māhele, there were 437 land claims in Waikīkī Ahupuaʻa, of which only 243 were awarded. Within the project area, only two LCAs were awarded: LCA 1506, Wahine Waikīkī; and LCA 2082, John Neddles Kuene. LCA 1506 consisted of two ʻāpana (parcel) which included a partially fenced house lot and two rows of kalo (taro; Colocasia esculenta) in a community patch. LCA 2082 consisted of three ʻāpana, which included three loʻi (irrigated terrace), a portion of an ʻauwai (ditch), a fishpond in Kalokoeli, a loko (pond) in Kamookahi, a house lot, and kula (plain) in Ulukou.

Oral histories indicate early twentieth century gathering practices of several varieties of limu (seaweed) and wana (sea urchin; *Diadema paucispinium* and *Echinothrix diadema*) along the Waikīkī coast, and the catching of manini (convict tang; *Acanthurus triostegus*) in the near shore waters. Moi (threadfish; *Polydactylus sexfilis*), shrimp, ʻoama (young goat fish; *Mullidae*), mullet,

ʻaʻawa (wrasse; *Bodianus bilunulatus*), āholehole (Hawaiian flagtail; *Kuhlia sandvicensis*), papio (young crevalle; Caranx hippos), and ʻoʻopu (general name for fishes in the families Eleotridae, Gobiidae, and Blennidae) in ʻĀpuakēhau.

Oral histories indicate the Waikīkī School, the Kawaihaʻo Church Waikīkī Branch, and its associated cemetery were located in the vicinity of the project area directly across Kalākaua Avenue from the Moana Hotel. The Waikīkī Theater was also in close proximity. The theater opened in 1936.

Community Consultation

CSH contacted Hawaiian organizations, agencies, and community members as well as cultural descendants of Waikīkī to identify individuals with cultural expertise and/or knowledge of the project area and vicinity. Community outreach letters were sent to 55 individuals or groups. CSH received two responses, and one of these kamaʻāina (native born) and/or kūpuna (elder) met with CSH for a more in-depth interview. This community consultation indicates the following:

Ms. Paulette Kaʻanohi Kaleikini, State of Hawaiʻi recognized lineal descendant, shared memories of her mother sitting and watching the demolition of the Biltmore Hotel, the hotel constructed prior to the Hyatt Regency Waikīkī Hotel. Workers allowed Ms. Kaleikini's mother on the property to gather iwi or burials that were found during the demolition of the hotel. Ms. Kaleikini's mother would consult with her brother who would then take the iwi and reinter the burials at an undisclosed location.

Ms. Kaleikini shared a moʻolelo of Kahekilinuiahumanu. Kaheikili's mother was from a Hawaiʻi lineage of chiefs while his father came from a Maui lineage of chiefs. When Kahekili died on Oʻahu, both sides of his family wanted his iwi. When the Hawaiʻi chiefs came to Oʻahu to retrieve Kahekili's iwi, unbeknownst to them, they were given the remains of someone else. Ms. Kaleikini shared that her ʻohana (family) was pilikoko, close blood relatives, to Kahekili. Kahekili's remains were already buried in the ʻili of Ulukou where he resided in Waikīkī until his death. Ms. Kaleikini and her mother both believe Kahekili's remains are still in Ulukou ʻIli.

Ms. Dwynn Kamai, treasurer for the Waikīkī Hawaiian Civic Club, shared her memories of Waikīkī and the vicinity of the project area. King's Alley, the former name for King's Village, was once a place of employment for Ms. Kamai. She recalled cultural demonstrations such as lei (garland) making, coconut frond weaving, and hula performances by kumu hula (hula teacher) Aloha Dalire and her hālau (group).

In 1972, Bishop Museum opened the Heritage Theater at King's Alley. According to Ms. Kamai, an exhibit pertaining to the Hawaiian Monarchy in Waikīkī was on display. Double decker buses provided transportation between Bishop Museum in Kalihi, the Falls of Clyde ship at Aloha Tower, and the Heritage Theater in Waikīkī. The theater was open for many years before downsizing to a bookstore and gift shop. Unsure of the exact location, Ms. Kamai recalled the ʻĀinahau Estate to be in the vicinity of the project area. ʻĀinahau was the estate of Archibald Cleghorn and his wife Princess Miriam Likelike. Their daughter Princess Kaʻiulani played as a child at the estate with her beloved pet peacocks.

Ms. Kamai added that famed waterman, Duke Kahanamoku, surfed and swam in the ocean fronting the Moana Surfrider Hotel, which is also in the vicinity of the project area.

The land of Waikīkī Kai was comprised of a vast agricultural system including loʻi and fishponds. The great-great-great grandfather of Mr. Clarence Medeiros Jr. was conveyed LCA 1268 via Nakai. The 1.60-acre parcel consisted of loʻi. Mr. Medeiros' maternal great-great grandfather, Zen Man Sing, arrived in Hawaiʻi from China in 1888. Shortly after his arrival he worked in Waikīkī with relatives planting rice and taro.

Anticipated Impacts and Mitigation Measures

The proposed project will be a redevelopment of the existing retail area. There will not be any grading or excavations during construction; construction will not exceed the depth of the existing parking garage floor. For this reason no undisturbed sediments will be impacted.

However, should any unforeseen circumstances arise where previously undisturbed sediments are encountered it should be anticipated that there is a possibility iwi kūpuna (ancestral bones) may be encountered within those sediments. Personnel involved in the construction activities should exercise caution. The area surrounding the project contains Jaucas sand deposits, a common sediment for interment of the dead. In addition, a community participant indicated her family found burials within the project area, and they were reinterred at that location. However, the precise location of the reinterment(s) has not been disclosed in accord with custom.

Personnel involved in the construction activities of the project should be informed of the possibility of inadvertent cultural finds, including human remains. Should burials (or other cultural finds) be encountered during any unanticipated ground disturbance, the construction contractor should immediately cease all work and the appropriate agencies should be notified pursuant to applicable law.

If any iwi kūpuna or other inadvertent cultural finds are found, BRE Waikiki Owner LLC should consult with lineal and cultural descendants of Waikīkī to develop a reinterment plan and cultural preservation plan in the event that any human remains or cultural sites or artifacts are uncovered during construction or long-term maintenance for the project.

3.16 VIEW PLANES, CORRIDORS AND RESOURCES

Existing Conditions

Within the objectives of the City and County of Honolulu's LUO, there is an emphasis placed upon maintaining and improving the mauka views from public viewing areas in Waikīkī, especially from public streets. Additional emphasis is placed upon preserving a visual relationship with the ocean from Kalākaua Avenue, Kālia Road, and Ala Moana Boulevard. Further, views of Diamond Head are to also be protected and maintained from the Punchbowl Lookout. The LUO also identifies significant public views of Waikīkī landmarks, the ocean, and the mountains from public vantage points. The following list of streets and locations identify these prominent view corridors:

- Intermittent ocean views from Kālia Road across Fort DeRussy Park from the Ala Wai Bridge on Ala Moana Boulevard.
- Continuous ocean views along Kalākaua Avenue, from Kūhiō Beach to Kapahulu Avenue.
- Ocean views from Ala Wai Yacht Harbor.
- Ocean views from Kūhiō Beach Park.

- Views of the Ala Wai Yacht Harbor from Ala Moana Park (Magic Island Park).

- Mauka views from the portions of the following streets ma uka of Kūhiō Avenue: Nohonani Street, Nāhua Street, Kānekapōlei Street, Kai'olu Street, Lewers Street, Walina Street, and Seaside Avenue.

- View of Diamond Head from Ala Wai Boulevard between McCully Street and Kapahulu Avenue.

The existing project is located on the mauka side of Kalākaua Avenue. The visual landscape is defined a built environment that is complemented by open makai views. Views toward the ocean along Kalākaua Avenue from the project site are relatively unobstructed. The Honolulu Police Station Waikiki Branch is located next to Waikiki beach.

Probable Impacts and Mitigation Measures
With the proposed project, the existing retail area will be redeveloped and revitalized. The design will provide a more open concept that allows for better and more integrated pedestrian circulation throughout the site. This will create an overall improvement to the visual quality at a pedestrian scale. The site will also be integrated with new landscaping components to complement the built environment.

A visual impact analysis was performed for the project. The project site is located in Waikīkī, and is bounded by Kamananui Road to the east and Kaukonahua Road south. *Figure 3-12* ~~*3-11*~~ provides an aerial perspective of the general area. Built environments surround the site directly to the east, north, and west, and Waikīkī Beach is located to the south. *Figure 3-13* ~~*3-12*~~ through *Figure 3-17* ~~*3-16*~~ provide the following view analysis:

A. View from Kalākaua Avenue looking east towards the project site.

B. View from Kalākaua Avenue looking north toward the project site.

C. View from western portion of the site south towards Waikīkī Beach.

D. View from the southern portion of the site looking south towards Waikīkī Beach.

E. View from southwest portion of the project site looking south toward Waikīkī Beach.

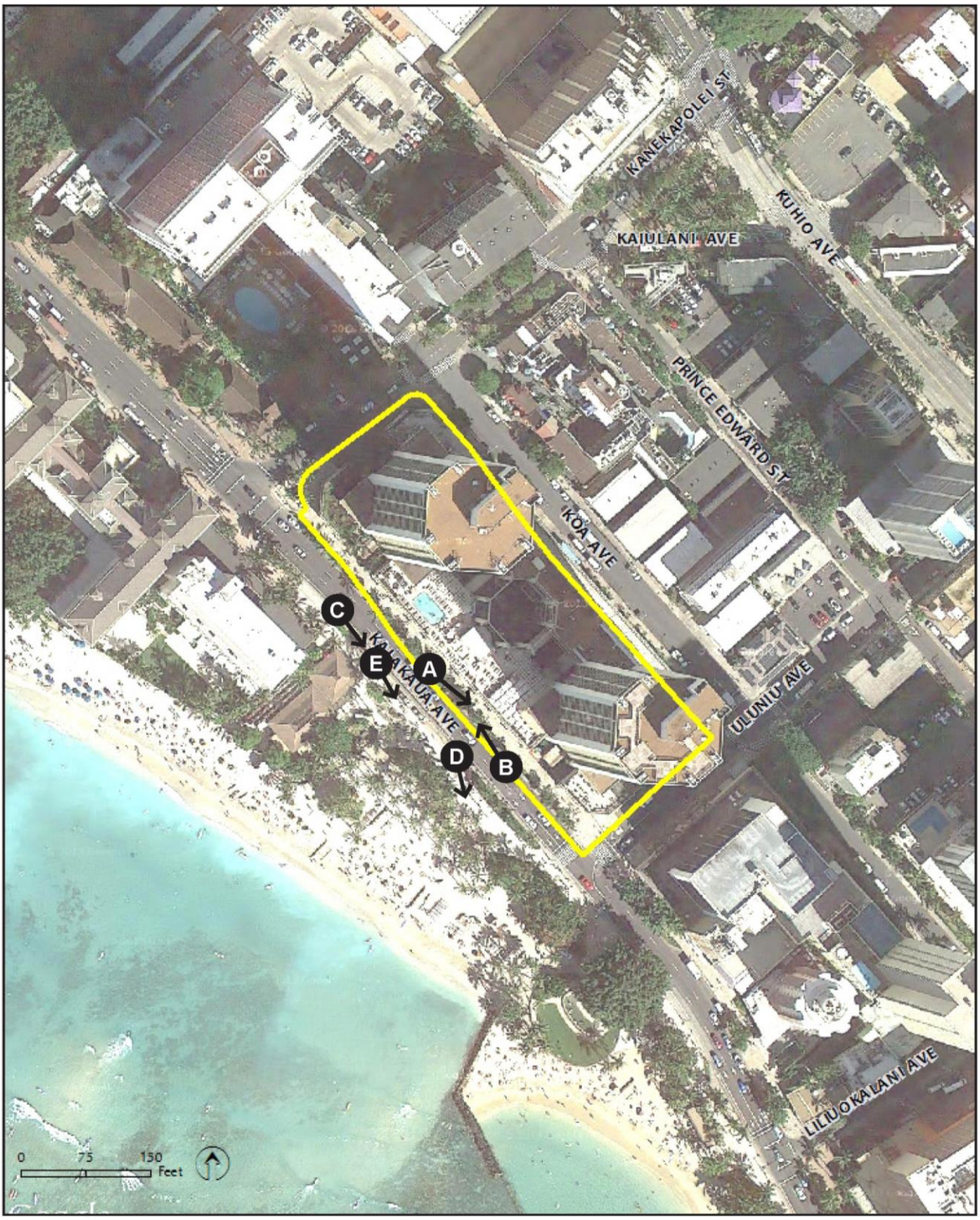


Figure 3-12 ~~3-11~~
Site Photo Key

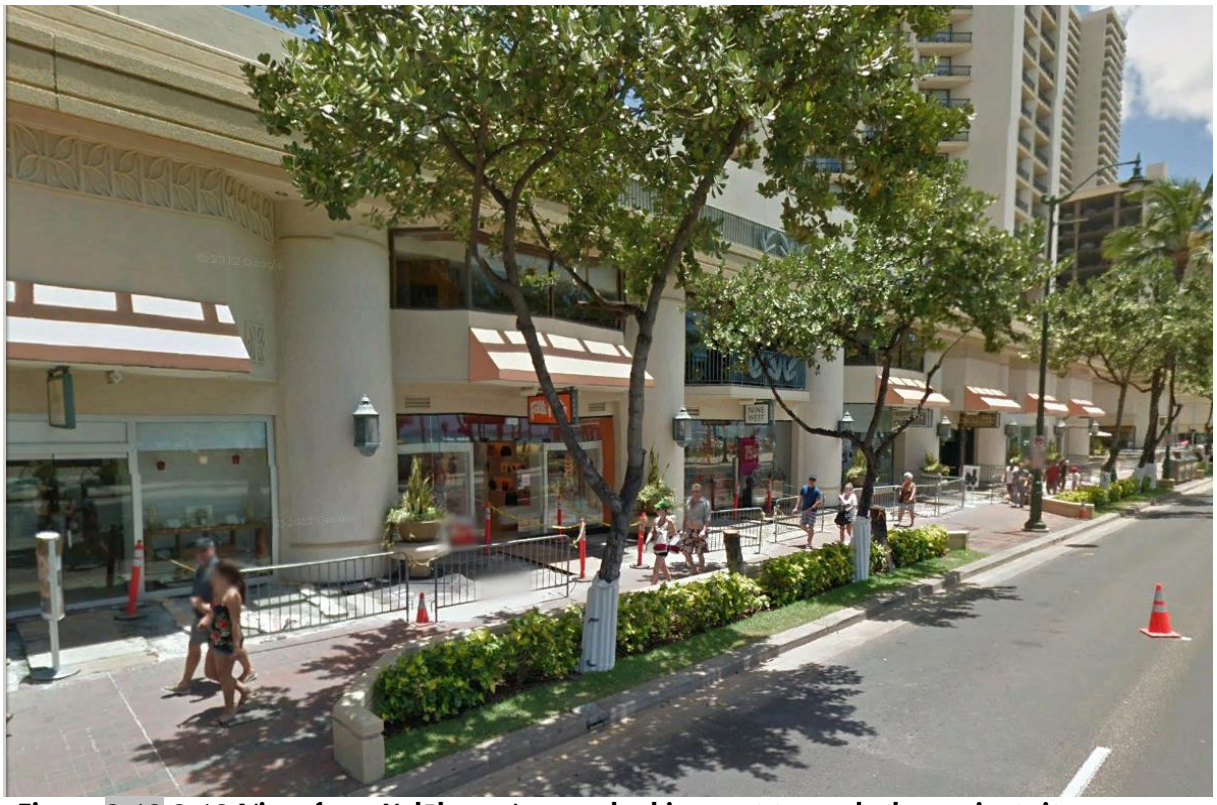


Figure 3-13 ~~3-12~~ View from Kalākaua Avenue looking east towards the project site.

Figure 3-14 ~~3-13~~ View from Kalākaua Avenue looking north toward the project site.

Figure 3-15 ~~3-14~~ View from western portion of the site south towards Waikīkī Beach.

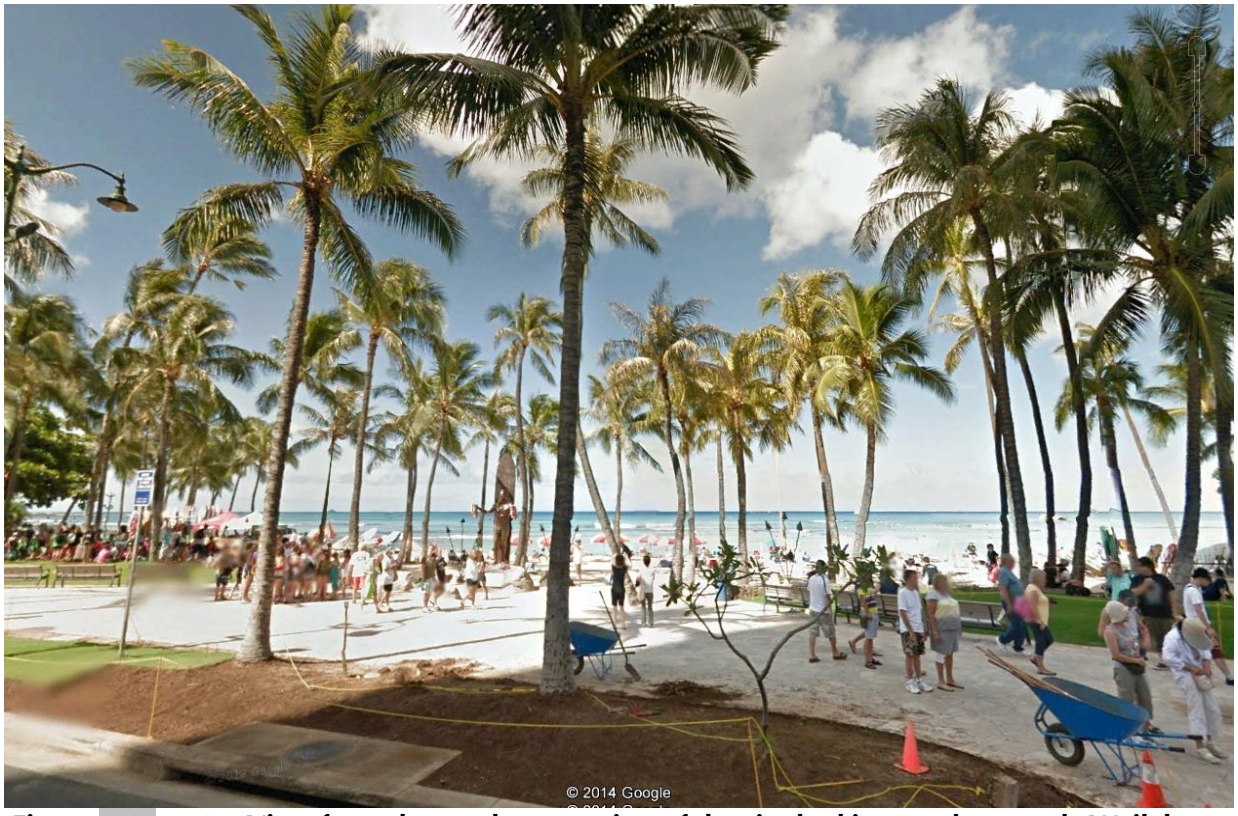


Figure 3-16 ~~3-15~~ View from the southern portion of the site looking south towards Waikīkī Beach.

Figure 3-17 ~~3-16~~ View from southwest portion of the project site looking south toward Waikīkī Beach.

Public views will not be affected by the project. Changes to the urban landscape will be a redevelopment of the existing retail area. This revitalized retail area will be primarily discernable from Kalākaua Avenue and Waikīkī Beach. The project will not impact existing coastal views or list prominent view corridors noted above. The project will blend with the surrounding urban-scape and be designed appropriately in their orientation, scale, height, form, and design.

3.17 SHORT TERM IMPACTS

Development of the proposed project improvements will create local short-term construction-related impacts on the environment. Potential short-term impacts evaluated as part of this EA include hazardous waste disposal, dust and air quality impacts, traffic in the project's vicinity due to construction equipment and trucks, and increased noise due to the construction-related operations. Potential drainage and runoff issues related to construction are also evaluated.

The impact of construction activity on air quality will be mitigated by conforming to dust control measure specified in the DOH Ambient Air Quality Standards, Chapter 11-59, HAR. Temporary noise impacts may occur during construction activities within the area. The incorporation of State DOH construction noise limits and curfew times, including limiting work to daytime hours and reducing truck/equipment idling when not in use, will be implemented.

Short-term construction related impacts to existing traffic will be addressed in the TMP and CMP as part of the building permit process. The TMP and CMP will be prepared to minimize conflicts with traffic along surrounding roadways during construction activities. Plans to mitigate the construction period traffic impacts include off-peak movement of equipment and materials to

minimize the disruption to traffic flow, and inconvenience to the motoring public, bicyclists and pedestrians.

Hazardous materials will be handled appropriately during construction. Prior to disturbance of suspect ACM, materials will be sampled and analyzed. Lamps containing mercury in fluorescent light tubes will be removed to a permitted facility prior to demolition. Other hazardous chemicals and petroleum products used on site will be handled property and stored in appropriate locations within the site. Treatment of hazardous waste and materials from construction and operations of the project will meet applicable environmental standards and regulations.

Since the project is a redevelopment of the existing site, existing drainage patterns will not be impacted. Construction of the project will not require grading and excavation activities. If a permit is needed, the project will apply for an NPDES permit for stormwater associated with construction activities during the design stage. The project will incorporate a BMPs Plan into the Construction Drawings. The plan will show BMP measures for all drain structures in the City right-of-way that may be affected during construction.

Short-term negative economic impacts relating to construction may include reduced revenue to shop vendors in existing areas scheduled for renovation. These impacts may be somewhat offset by increased sales at other Waikīkī retail shops.

3.18 POTENTIAL CUMULATIVE AND SECONDARY IMPACTS

Cumulative effects are impacts, which result from the incremental effects of an activity when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertake such other actions.

The proposed project is occurring at a time when multiple public and private entities are investing in the improvement of Waikīkī. As public and private amenities continue to revitalize Waikīkī, visitors and local residents will rediscover the destination. Increase in vehicular and pedestrian traffic that may result ought to be managed through individual management plans as well as area-wide policies. Individual owners and operators, organizations such as the Waikīkī Business Improvement District Association and government agencies, will all play a role in shaping a Waikīkī that is unique, attractive and safe.

Improvement of this area of Waikīkī will help improve the image of Waikīkī as a whole for visitors and residents. The 2424 Kalakaua project will help to rejuvenate and revitalize this portion of Waikīkī. The project will not only bring added value to the immediate property, but will be a significant achievement in Waikīkī's ongoing transformation. The retail redevelopment will also help to ensure the viability of Waikīkī as the State's most prominent economic asset and strengthen its position in the global tourism market.

Construction activity during the proposed project will generate direct employment as well as indirect and induced employment in construction-related industries. In the long-term, the operations of the project will support approximately 200 jobs. The project expected to cost approximately $50 million.

Section 4.0

ALTERNATIVES TO THE PROPOSED PROJECT

4.0 ALTERNATIVES TO THE PROPOSED PROJECT

This ~~Draft~~ EA evaluates alternatives to the proposed project described in *Section 2.0*. The following provides discussion of alternatives to the proposed project.

4.1 ALTERNATIVE A – NO-ACTION

The No-Action Alternative is the baseline against which other alternatives are measured. "No Action" refers to the future site and program conditions that would likely result should the proposed project not proceed.

The No-Action Alternative will result in the continued use of the existing retail conditions with no interior or exterior renovation improvements. In this alternative, construction of the redeveloped retail space will not be built. In addition, the new port cochere, pool deck and elevators will not be built. The existing retail area will continue to operate and be in need of improvements and revitalization. In the long-term, the property will continue to deteriorate and over time will become a less desirable section of Waikīkī for visitors to enjoy.

The No-Action Alternative will also prevent the 2424 Kalakaua project from becoming a part of the revitalization effort in Waikīkī. The positive benefits associated with the design elements of the project will not be made available. The No-Action Alternative will also forego the opportunity to create an improved area for pedestrian activity along Kalākaua Avenue.

4.2 ALTERNATIVE B – ALTERNATIVE LOCATION

It is the desire of the applicant to revitalize its property. The proposed action is a long-term purposeful redevelopment of the existing retail area. Given this objective, redevelopment of alternative sites was not considered for the project.

4.3 ALTERNATIVE C – ALTERNATIVE DESIGNS AND MATERIALS FOR THE PROPOSED PROJECT

Several alternative designs and materials were proposed for the proposed renovations. Factors considered in the evaluation and selection of preferred designs and materials were based on compliancy with building code and design guidelines, cultural sustainability, design objectives of the WSD, construction and maintenance costs, safety and feasibility. The two design alternatives explored are described below:

Alternative 1
Alternative 1 was explored to eliminate the internal open air courtyard with two pass through shopping arcades from Koa Avenue to Kalākaua Avenue between the two hotel towers, providing a central section of retail area. The new porte cochere was conceived to arrive on Koa Avenue and provide new arrivals a view of Waikīkī Beach. For those arriving from Waikīkī Beach or along Kalākaua Avenue the experience was two openings along the length of the full block of shops to bring the pedestrian into an outdoor shopping experience. The decks of the second floor and third floor levels bridged the central retail section to the two towers.

The positive aspects of this alternative in connecting Koa Avenue to Kalākaua Avenue were retained in the chosen design. However, the second and third floor decks were considered inadequate in providing openness to light and air. The proposed project design provides open lanai areas and was selected as a more appropriate solution for the design objectives of the WSD. The positive aspect of increasing the pedestrian experience along Kalākaua Avenue was retained, however the sharp angles of the openings in the building for the shopping arcade was transformed to an undulating curve to allow views from the shops and the walkways while also providing a gentle flow for the pedestrian experience.

Alternative 2

Alternative 2 explored taking the two level shopping courtyard of the original building, shifting it towards Kalākaua Avenue and providing a central cut through that would connect Kalākaua Avenue to Koa Avenue. A long walkway on the second level along Kalākaua Avenue would have been the main feature of this alternative bringing the stores once only accessed from inside the original courtyard to Kalākaua Avenue, and providing access to views of Waikīkī Beach. The layouts of the stores were deepened due to a mostly single access from Kalākaua Avenue.

The positive aspects of the second floor walkway that would provide public views to Waikīkī Beach were retained in the proposed design. However, rather than a single bowed second floor walkway used in Alternative 2, the proposed project design has a long undulating walkway on the second floor. The undulating walkway provides more views from varying angles rather than only from one direction (parallel to Kālakaua Avenue). Additionally, the undulating form allows the retail shopping layout to have several shapes and sizes, which will help to draw a variety of retailers to the area.

Section 5.0

APPLICABLE LAND USE PLANS AND POLICIES

5.0 APPLICABLE LAND USE PLANS AND POLICIES

In this chapter, the project's consistency with applicable land use policies set forth in the Hawai'i State Plan, State Land Use Law, State Coastal Zone Management (CZM) Program, State 2050 Sustainable Plan, City and County of Honolulu General Plan, Primary Urban Center (PUC) Development Plan, LUO and WSD, and SMA are discussed.

5.1 HAWAI'I STATE PLAN

The Hawai'i State Plan establishes a statewide planning system that provides goals, objectives, and policies that detail priority directions and concerns of the State of Hawai'i; these will be discussed as they relate to the proposed project.

It is the goal of the State, under the Hawai'i State Planning Act (Chapter 226, HRS), to achieve the following:

- A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawai'i present and future generations.
- A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people.
- Physical, social, and economic well-being, for individuals and families in Hawai'i, that nourishes a sense of community responsibility, of caring, and of participation in community life (Chapter 226-4, HRS).

Specific objectives and policies of the State Plan that pertain to the project are as follows:

Section 226-6 Objective and policies for the economy--in general.

(A) Planning for the State's economy in general shall be directed towards achievement of the following objectives:
  (1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawai'i's people.

<u>Discussion</u>
Project operations will support approximately 150 jobs for construction of the project and approximately 200 jobs for operations. The 2424 Kalakaua project will help to support Waikīkī as a significant asset to the State. The project will provide a revitalized retail area that will encourage visitor spending and support the visitor industry. The retail redevelopment will help contribute to the Waikīkī's impact on the GSP and will support Waikīkī as the most important tourist destination in the State.

Section 226-8 Objective and policies for the economy—visitor industry.

(A) Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawai'i's economy.
(B) To achieve the visitor industry objective, it shall be the policy of this State to:
  (2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawai'i's people.
  (3) Improve the quality of existing visitor destination areas.
  (5) Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawai'i's people.
  (7) Foster a recognition of the contribution of the visitor industry to Hawai'i's economy and the need to perpetuate the aloha spirit.
  (8) Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawai'i's cultures and values.

Discussion
The project will support and promote the ongoing improvement and transformation of Waikīkī for a global audience seeking a variety of vacation experiences. Project improvements will attract visitors to the area and benefit the Hyatt Regency hotel, neighboring hotels, and nearby shops, markets, and restaurants with increased spending. The vision and objectives of the project underscores the applicant's dedication, investment, and long-time commitment to Hawai'i.

Section 226-11 Objectives and Policies for the Physical Environment - Land-based, Shoreline, and Marine Resources.

(A) Planning for the State's physical environment with regard to land-based, shoreline and marine resources shall be directed towards achievement of the following objectives:
  (1) Prudent use of Hawai'i's land-based, shoreline, and marine resources.
  (2) Effective protection of Hawai'i's unique and fragile environmental resources.
(B) To achieve the land-based, shoreline, and marine resources objectives, it shall be the policy of this State to:
  (1) Exercise an overall conservation ethic in the use of Hawai'i's natural resources.
  (2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.
  (3) Take into account the physical attributes of areas when planning and designing activities and facilities.
  (6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawai'i.
  (8) Pursue compatible relationships among activities, facilities and natural resources.

Discussion:
The project is a balanced redevelopment proposal that is compatible to existing uses and relationships between the urban and nearby shoreline environment. The proposed improvements are inland from Waikīkī Beach. Ongoing best management practices will ensure that marine and nearshore habitats will be protected during project construction and operations.

Section 226-12 Objective and Policies for the Physical Environment - Scenic, Natural Beauty, and Historic Resources.

(A) Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawai'i's scenic assets, natural beauty, and multi-cultural/historical resources.
(B) To achieve the scenic, natural beauty, and historic resources objective, it shall be the policy of this State to:
  (1) Promote the preservation and restoration of significant natural and historic resources.
  (3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.
  (5) Encourage the design of developments and activities that complement the natural beauty of the islands.

Discussion:
Planned improvements are designed to complement the natural beauty of Hawai'i. Existing views will not be adversely impacted as a result of the project. The redevelopment of the retail podium will enhance existing views from the project towards Waikīkī Beach. Historic resources have been documented in and Archaeological Literature Review and CIA conducted for the project. Refer to *Section 3.14 and 3.15* of the EA.

Section 226-13 Objective and Policies for the Physical Environment – Land, Air and Water Quality.

(A) Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives:
  (1) Maintenance and pursuit of improved quality in Hawai'i's land, air, and water resources.
(B) To achieve the land, air, and water quality objectives, it shall be the policy of this State to:
  (2) Promote the proper management of Hawai'i's land and water resources.
  (3) Promote effective measures to achieve desired quality in Hawai'i's surface, ground and coastal waters.
  (4) Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawai'i's people.
  (5) Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.
  (6) Encourage design and construction practices that enhance the physical qualities of Hawai'i's communities.
  (7) Encourage urban developments in close proximity to existing services and facilities.
  (8) Foster recognition of the importance and value of the land, air, and water resources to Hawai'i's people, their cultures and visitors.

Discussion:
This urban development project is in close proximity to many available services and facilities within Waikīkī's core. The project will encourage a design that enhances the pedestrian experience through the neighboring community. Although the acoustic environment and

surrounding air quality may be experience small impacts during construction, best management practices and regulatory controls will ensure aural and air quality levels are within acceptable regulatory limits on-site and within the immediate area. Most of Waikīkī is within the tsunami evacuation zone and the project is within a defined flood zoned area. Design controls will ensure the planned development meets regulatory requirements.

Section 226-15 Objectives and Policies for Facility Systems - Solid and Liquid Wastes.

(A) Planning for the State's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives:
  (1) Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes.
  (2) Provision of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas.

(B) To achieve solid and liquid waste objectives, it shall be the policy of this State to:
  (2) Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic.

Discussion:
Solid waste and wastewater disposal systems will be efficiently designed to minimize impacts on existing solid and liquid waste facilities. The project will have a materials recycling program to minimize solid waste.

Section 226-16 Objective and Policies for Facility Systems - Water.

(A) Planning for the State's facility systems with regard to water shall be directed towards achievement of the objective of the provision of water to adequately accommodate domestic, agricultural, commercial, industrial, recreational, and other needs within resource capacities.

(B) To achieve the facility systems water objective, it shall be the policy of this State to:
  (1) Coordinate development of land use activities with existing and potential water supply.

Discussion:
The City has determined that its existing water system is adequate to accommodate and supply project demand.

Section 226-103 Economic Priority Guidelines.

(A) Priority guidelines to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawai‘i's people and achieve a stable and diversified economy:
  (1) Seek a variety of means to increase the availability of investment capital for new and expanding enterprises.
    (a) Encourage investments which:
      (i) Reflect long term commitments to the State;
      (ii) Rely on economic linkages within the local economy;
      (v) Are sensitive to community needs and priorities;

(8) Provide public incentives and encourage private initiative to develop and attract industries which promise long-term growth potentials and which have the following characteristics:
  (a) An industry that can take advantage of Hawai'i's unique location and available physical and human resources.
  (b) A clean industry that would have minimal adverse effects on Hawai'i's environment.
  (c) An industry that is willing to hire and train Hawai'i's people to meet the industry's labor needs at all levels of employment.
  (d) An industry that would provide reasonable income and steady employment.

(B) Priority guidelines to promote the economic health and quality of the visitor industry:
  (1) Promote visitor satisfaction by fostering an environment which enhances the Aloha Spirit and minimizes inconveniences to Hawai'i's residents and visitors.
  (2) Encourage the development and maintenance of well- designed, adequately serviced hotels and resort destination areas which are sensitive to neighboring communities and activities and which provide for adequate shoreline setbacks and beach access.
  (3) Support appropriate capital improvements to enhance the quality of existing resort destination areas and provide incentives to encourage investment in upgrading, repair, and maintenance of visitor facilities.
  (5) Develop and maintain career opportunities in the visitor industry for Hawai'i's people, with emphasis on managerial positions.

Discussion:
Project improvements and reconfiguration of the hotel will enhance the quality of the visitor experience and will have a positive effect on the State's economy. Economic benefits will result from increased employment and increased spending by visitors in Hawai'i.

Section 226-108 Sustainability Guidelines.

(A) Encouraging balanced economic, social, community, and environmental priorities;
(B) Encouraging planning that respects and promotes living within the natural resources and limits of the State;
(C) Promoting a diversified and dynamic economy;
(D) Encouraging respect for the host culture.

Discussion:
The project will provide a balance of economic, social, community and environmental priorities. During the planning phase of the project all of these aspects are considered and evaluated as part of the project design and environmental review process. Refer to *Section 3.0* of the ~~Draft~~ EA. The redevelopment project will fit with the existing urban streetscape of the area and will transform the existing shopping center into an inviting, elegant, outdoor and pedestrian-oriented visitor experience. This improved retail area help promote a dynamic economy and contribute to the viability of Waikīkī as the State's most prominent economic asset.

The project design and ambiance will exhibit a respect for the host culture and incorporate themes having a Hawaiian Sense of Place. Observant and respectful of the area's history, special features and past inhabitants, the project will look to celebrate and reinterpret many important and iconic elements throughout its design.

5.2 HAWAI'I STATE LAND USE DISTRICT BOUNDARIES

Under the Chapter 205, HRS, all lands of the State are to be classified in one of four categories: urban, rural, agricultural, and conservation lands. The State Land Use Commission (LUC), an agency of the State Department of Business, Economic Development and Tourism (DBEDT), is responsible for each district's standards and for determining the boundaries of each district (Chapter 205-2(a), HRS). The LUC is also responsible for administering all requests for district reclassifications and/or amendments to district boundaries, pursuant to Chapter 205-4, HRS, and the HAR, Title 15, Chapter 15 as amended. Under this Chapter, all lands in Hawai'i are classified into four land use districts: (1) Conservation, (2) Agricultural; (3) Urban, and (4) Rural.

The Urban District generally includes lands characterized by "city-like" concentrations of people, structures and services. This District also includes vacant areas for future development. Jurisdiction of this district lies primarily with the respective counties. Generally, lot sizes and uses permitted in the district area are established by the respective County through ordinances or rules.

Discussion
As classified by the State of Hawai'i LUC, the project site is situated within the State Urban District (*Figure 1-3*). The proposed use within this property is consistent with permitted uses for the Urban District, and will not require district reclassification or boundary amendment.

5.3 HAWAI'I COASTAL ZONE MANAGEMENT

The CZM Act of 1972 (16 United States Code (USC), Section 1451), as amended through Public Law 104-150, created the coastal management program and the National Estuarine Research Reserve system. The coastal states are authorized to develop and implement a State coastal zone management program. The Hawai'i CZM Program received Federal approval in the late 1970's. The objectives of the CZM Program, as defined in Section 205A-2, HRS, are to protect valuable and vulnerable coastal resources such as coastal ecosystems, special scenic and cultural values and recreational opportunities. The objectives of the program are also to reduce coastal hazards and to improve the review process for activities proposed within the coastal zone. Each County is responsible for designating a SMA that extends inland from the shoreline. Development within the SMA is subject to County approval to ensure the proposal is consistent with the policies and objectives of the Hawai'i CZM Program.

The project area is located within the SMA as delineated by the City and County of Honolulu, therefore the relationship of the proposed project to applicable State CZM objectives and policies is discussed below. State CZM objectives and policies address the following 10 subject areas: (1) recreational resources, (2) historic resources, (3) scenic and open space resources, (4) coastal ecosystems, (5) economic uses, (6) coastal hazards, (7) managing development, (8) public participation, (9) beach protection, and (10) marine resources. Virtually all relate to potential development impacts on the shoreline, near shore, and ocean area environments.

(1) Recreational Resources

Objective: Provide coastal recreational opportunities accessible to the public.

Policy (A) Improve coordination and funding of coastal recreational planning and management; and

Policy (B) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:

(i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;
(ii) Requiring replacement of coastal resources having significant recreational value including, but not limited to, surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;
(iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;
(iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;
(v) Ensuring public recreational uses of county, state and federally-owned or controlled shoreline lands having recreational value consistent with public safety standards and conservation of natural resources.
(vi) Adopting water quality standards and regulating point and non-point sources of pollution to protect
(vii) Developing new shoreline recreational opportunities
(viii) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of Section 46-6.

Discussion
The project would have no impact on coordination and funding of coastal recreation planning and management.

The project site is not located directly adjacent to coastal and shoreline areas, therefore the project does not directly provide for or directly affect coastal recreation and access to the public. No coastal resources of significant value, such as surf sites or sandy beaches will be impacted by this project. Also, no shoreline improvements are proposed, such as artificial reefs or beaches.

The project will be constructed and operated in accordance with State and federal water quality regulations. Storm water and sewer management systems will be maintained and new infrastructure will be constructed to meet applicable standards. There will be no discharge points into coastal waters.

(2) Historic Resources
Objective: Protect, preserve and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

Policy (A) Identify and analyze significant archaeological resources;
Policy (B) Maximize information retention through preservation of remains and artifacts or salvage operations; and
Policy (C) Support state goals for protection, restoration, interpretation, and display of historic resources.

Discussion
The project supports the CZM historic resources objective and policies to protect, preserve, and where desirable, restore those natural and manmade historic and prehistoric resources in the CZM area that are significant in Hawaiian and American history and culture. An ALRFI and CIA were performed for the project site (*Appendix C and Appendix D*). The project does not involve any known loss or destruction of existing natural, cultural, archeological or historical resources.

(3) Scenic and Open Space Resources
Objective: Protect, preserve, and where desirable, restore or improve the quality of coastal scenic and open space resources.

Policy (A) Identify valued scenic resources in the coastal zone management area;
Policy (B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;
Policy (C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and
Policy (D) Encourage those developments that are not coastal dependent to locate in inland areas.

Discussion
As described in *Section 3.16,* the project will not affect vistas and scenic resources. The project is not located directly adjacent to any coastal areas. While coastal scenic view sheds are accessible from this area, no impacts on existing ocean views and scenic resources are anticipated.

The project is consistent with the County General Plan, PUC Development Plan, and Zoning regulations. While the facilities may be visible from the roadways, the property is located in a heavily developed urban area. Changes to the urban landscape will be a redevelopment of the existing retail area. This revitalized retail area will be primarily discernable from Kalākaua Avenue and Waikīkī Beach. The project will blend with the surrounding urban-scape and be designed appropriately in their orientation, scale, height, form, and design. The project will meet appropriate development standards noted in the LUO.

(4) Coastal Ecosystems
Objective: Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

Policy (A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;
Policy (B) Improve the technical basis for natural resource management;
Policy (C) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;
Policy (D) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and
Policy (E) Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and non-point source water pollution control measures.

Discussion
The project will not affect coastal ecosystems or natural resource management. Planned improvements do not involve modification of structures or redevelopment near the shoreline. During construction and operation, storm water will be retained onsite. Operations will comply with State and Federal water quality standards.

(5) Economic Uses
Objective: Provide public or private facilities and improvements important to the State's economy in suitable locations.

Policy (A) Concentrate coastal dependent development in appropriate areas;

Policy (B) Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and

Policy (C) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:

(i) Use of presently designated locations is not feasible;
(ii) Adverse environmental effects are minimized; and
(iii) The development is important to the State's economy.

Discussion
The project is consistent with State and County plans and land regulations. The proposed project site is located away from the coastal area and is not considered a coastal dependent development. Therefore, the project will not result in any adverse social, visual, and environmental impacts in the CZM area. Therefore, the project will not result in any adverse social, visual, and environmental impacts in the CZM area.

(6) Coastal Hazards
Objectives: Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence and pollution.

Policy (A) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and non-point source pollution hazards;

Policy (B) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and non-point source pollution hazards;

Policy (C) Ensure that developments comply with requirements of the Federal Flood Insurance Program; and

Policy (D) Prevent coastal flooding from inland projects.

Discussion
Most of Waikīkī, including the project site, is located within the State's tsunami evacuation zone. The project area is contained within the Federal Emergency Management Agency (FEMA) Zone X. The project site lies outside of the 500-year flood plain and has a less than 0.2 percent chance to flood annually. Coordination with both State and City & County of Honolulu Civil Defense will be ongoing to ensure the project will be designed in accordance to standards for tsunami preparedness and flood proofing of permitted uses. To prevent ponding or localized flooding resulting from storm run-off, existing drainage infrastructure will be maintained and new infrastructure will be constructed to meet applicable standards.

(7) Managing Development
Objective: Improve the development review process, communication and public participation in the management of coastal resource and hazards.

Policy (A) Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;

Policy (B) Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and

Policy (C) Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.

Discussion
This EA communicates the potential short and long-term impacts of the project on the environment. Procedurally, this EA conforms to HRS Chapter 343. The OEQC publishes notice of the EA availability for public review. The public is allowed 30-days to submit comments on the EA. During pre-scoping, agencies, organizations and persons were consulted and will continue to be informed throughout the planning process.

There are numerous County approvals and permits required and processing will be conducted to facilitate timely processing.

(8) Public Participation
Objective: Stimulate public awareness, education, and participation in coastal management.

Policy (A) Promote public involvement in coastal zone management processes;

Policy (B) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and

Policy (C) Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

Discussion
While the project does not stimulate public awareness, education, and participation in coastal management specifically, it does promote public awareness and education through the environmental review process (HRS Chapter 343) as described above.

(9) Beach Protection
Objective: Protect beaches for public use and recreation.

Policy (A) Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;

Policy (B) Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and

Policy (C) Minimize the construction of public erosion-protection structures seaward of the shoreline.

Discussion
The project site is not located adjacent to any public beaches. No structures will be located near the shoreline areas and no construction of public erosion-protection structures seaward of the shoreline will occur. The project will not impact public use and recreation of beaches nearest the sites.

(10) Marine Resources
Objective: Implement the State's ocean resources management plan.

Policy (A) Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;

Policy (B) Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;

Policy (C) Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;

Policy (D) Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and

Policy (E) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

Discussion
The redevelopment project will not adversely impact marine and coastal resources. None of the planned improvements involve the modification of structures or redevelopment near the shoreline. The project does not promote research and understanding particular to ocean development activities and impacts upon ocean and coastal resources.

5.4 2050 SUSTAINABILITY PLAN

The Hawai'i 2050 Sustainability Plan as a long-term strategy has as its main goals and objectives respect for culture, character, beauty, and history of the state's island communities; balance among economic, community, and environmental priorities; and an effort to meet the needs of the present without compromising the ability of future generations to meet their own needs.

The 2050 Plan delineates five goals toward a sustainable Hawai'i accompanied by strategic actions for implementation and indicators to measure success or failure. The goals and strategic actions that are pertinent to the project are as follows.

Goal Two: Our diversified and globally competitive economy enables us to meaningfully live, work, and play in Hawai'i.

Strategic Actions:

- Support the building blocks for economic stability and sustainability.

Goal Three: Our natural resource are responsibly used, replenished and preserved for future generations.

Strategic Actions:

- Increase recycling, reuse and waste reduction strategies.
- Provide greater protection for air, and land-, fresh water- and ocean-based habitats.

Discussion
The Hyatt Regency Hotel is an important piece of Waikīkī's economy. Implementation of proposed redevelopment improvements will enhance the quality of the visitor experience and will have a positive effect on the State's economy. Economic benefits will result increased employment and increased spending by visitors in Hawai'i, thereby supporting the visitor industry.

The project will have a materials recycling program to minimize solid waste. The project will encourage a design that promotes protection of air and land, fresh water and ocean based habitats. Although the acoustic environment and surrounding air quality may be experience small impacts during construction, best management practices and regulatory controls will ensure aural and air quality levels are within acceptable regulatory limits on-site and within the immediate area.

5.5 CITY AND COUNTY OF HONOLULU GENERAL PLAN

The General Plan of the City and County of Honolulu is a statement of long-range socio-economic, environmental, and design objectives and policies to be achieved for the general prosperity and welfare for the people of the city. It is intended to serve as a guide for all levels of government, private enterprise, neighborhood and citizen groups, organizations, and individual citizens (City and County of Honolulu Revised Charter 2000, Sec. 6-1508). The General Plan consists of eleven subject areas and provides the framework for the City's expression of public policy concerning the needs of the people and the functions of government. The subject areas address all aspects of health, safety, and welfare for O'ahu's communities, and include: population trends and growth, economic activity, the natural environment, housing, transportation and utilities, energy, physical development and urban design, public safety, health and education, culture and recreation, and government operations and fiscal management.

The project is consistent with the applicable objectives and policies of the City and County of Honolulu General Plan described below.

Economic Activity
Objective A: To promote employment opportunities that will enable all the people of O'ahu decent standard of living.
- *Policy 1: Encourage the growth and diversification of O'ahu's economic base.*
- *Policy 2: Encourage the development of small businesses and larger industries which will contribute to the economic and social well-being of O'ahu residents.*

Objective B: To maintain the viability of O'ahu's visitor industry.
- *Policy 2: Provide for a high quality and safe environment for visitors and residents in Waikīkī.*
- *Policy 3: Encourage private participation in improvements to facilities in Waikīkī.*
- *Policy 4: Prohibit major increases in permitted development densities in Waikīkī.*
- *Policy 8: Preserve the well-known and widely publicized beauty of O'ahu for visitors as well as residents.*
- *Policy 9: Encourage the visitor industry to provide a high level of service to visitors.*

Objective E: To prevent the occurrence of large-scale unemployment.
- *Policy 1: Encourage the training and employment of present residents for currently available and future jobs.*

Discussion
The proposed improvements of are part of the applicant's commitment to ensuring the economic viability of Waikīkī as the State's most prominent economic asset, and strengthen its competitive position in the global tourism market. The project promotes the ongoing improvement and transformation of Waikīkī for a global audience seeking quality vacation experiences.

The project will provide a revitalized retail area that will encourage visitor spending and support the visitor industry. The project will not increase total floor area of the hotel. Ongoing operations will support approximately 200 jobs and provide employment opportunities for residents. The project will also generate approximately 150 jobs during the construction period. The retail redevelopment will help contribute to the Waikīkī's impact on the GSP and will support Waikīkī as the most important tourist destination in the State.

Natural Environment
Objective A: To protect and preserve the natural environment.

- *Policy 1: Protect Oʻahu's natural environment, especially the shoreline, valleys, and ridges, from incompatible development.*
- *Policy 7: Protect the natural environment from damaging levels of air, water, and noise pollution.*
- *Policy 8: Protect plans, birds, and other animals that are unique to the State of Hawaiʻi and the Island of Oʻahu.*

Objective B: To preserve and enhance the natural monuments and scenic views of Oʻahu for the benefit of both residents and visitors.

- *Policy 2: Protect Oʻahu's scenic views, especially those seen from highly developed and heavily traveled areas.*
- *Policy 7: Protect and enhance Hawaiʻi's shoreline, open spaces, and scenic resources.*

Discussion
The applicant supports the protection and preservation of the natural environment including plants, trees, open spaces and shoreline resources. Short-term air quality, noise quality, and drainage issues related to construction activities will be mitigated. None of the planned improvements involve the modification of structures or redevelopment near the shoreline, and therefore will not have a long-term effect on coastal resources. Existing views will not be adversely impacted as a result of the project. The redevelopment of the retail podium will actually enhance existing views towards Waikīkī Beach.

Physical Development and Urban Design
Objective A: To coordinate changes in the physical environment of Oʻahu to ensure that all new developments are timely, well-designed, and appropriate for the areas in which they will be located.

- *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 7: Locate new industries and new commercial areas so that they will be well related to their markets and suppliers, and to residential areas and transportation facilities.*

Objective B: To develop Honolulu (Waiʻalae-Kāhala to Halawā), ʻAiea, and Pearl City as the Island's primary urban center.

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

Objective E: To create and maintain attractive, meaningful, and stimulating environments throughout Oʻahu.

- *Policy 2: Integrate the City and County's urban-design plan into all levels of physical planning and developmental controls.*
- *Policy 3: Encourage distinctive community identities for both new and existing districts and neighborhoods.*
- *Policy 4: Require the consideration of urban-design principles in all development projects.*
- *Policy 6: Provide special design standards and controls that will allow more compact development and intensive use of lands in the primary urban center.*
- *Policy 8: Preserve and maintain beneficial open space in urbanized areas.*

Discussion

The project will promote development in a previously developed property located in the PUC and WSD. The development is compatible with neighboring properties and community of high-rise resort and residential towers. The characteristics of design associated with project renovations will complement and align with the existing physical and social setting. The project supports compact development by utilizing available space while staying in alignment with building codes and standards.

Public Safety

Objective A: To prevent and control crime and maintain public order.

- *Policy 1: Provide a safe environment for residents and visitors on Oʻahu.*

Objective B: To protect the people of Oʻahu and their property against natural disasters and other emergencies, traffic and fire hazards, and unsafe conditions.

- *Policy 2: Require all developments in areas subject to floods and tsunamis to be located and constructed in a manner that will not create any health or safety hazard.*
- *Policy 9: Design safe and secure public buildings.*

Discussion:

The project is consistent with existing land uses and is not anticipated to affect public health. The project will be conducted following all building codes and standards to ensure the security of public health and safety are protected during construction and through day-to-day operations.

Culture and Recreation

Objective A: To foster the multiethnic culture of Hawai'i.

- *Policy 1: Encourage the preservation and enhancement of Hawaiʻi's diverse cultures.*

Objective B: To protect Oʻahu's cultural, historic, architectural, and archaeological resources.

- *Policy 1: Encourage the restoration and preservation of early Hawaiian structures, artifacts, and landmarks.*

- *Policy 3: Cooperate with the State and Federal governments in developing and implementing a comprehensive preservation program for social, cultural, historic, architectural, and archaeological resources.*

Discussion:
The applicant respects the multi-ethnic cultures found throughout the community and supports the protection of Hawai'i's cultural, archeological and historic resources. Historic resources have been documented in and ALRFI and CIA conducted for the project. Refer to *Section 3.14 and 3.15* of the EA. The project will also incorporate the history and culture of Hawai'i into the architecture, landscaping, and artwork and will continue to perpetuate a Hawaiian sense of place.

5.6 CITY AND COUNTY OF HONOLULU PUC DEVELOPMENT PLAN

The City and County of Honolulu PUC stretches from Kāhala to Pearl City. It is the capital of the State of Hawai'i, the state's commercial and financial center, and the home of its premier educational and cultural institutions. It is the heart of Hawai'i's economic, political and cultural life. The value created in the PUC nourishes the entire state. It is the intent of the PUC Development Plan to provide a guide for orderly and coordinated public and private sector development that is consistent with applicable general plan provisions, including the designation of the PUC as the principal region for future growth in residential population and jobs. The proposed project is located within the Resort Area on the PUC Development Plan Land Use Map *(Figure 1-4)*

The project is consistent with the applicable objectives and policies of the City and County of Honolulu PUC Development Plan as described below.

The **Key Elements** of the vision for the PUC reflect the size and importance of Honolulu and its lead role in the state's business:

- Honolulu's natural, cultural and scenic resources are protected and enhanced.
- Livable neighborhoods have business districts, parks and plazas, and walk-able streets.
- Honolulu is the Pacific's leading city and travel destination.

Discussion
Development of the project will not impact existing natural, cultural or scenic resources. The project will feature a redeveloped retail landscape, improved guest arrival experience at the new porte cochere, and improved pedestrian circulation around the site. The improvements will enhance the beauty of the overall hotel site and surrounding area. The project will add new vibrancy to Waikīkī, and assist in strengthening Waikīkī's long standing reputation as one of the world's most sought after travel destinations in the Pacific.

PROTECTING AND ENHANCING NATURAL, CULTURAL AND SCENIC RESOURCES

Policies

- **Preserve historic and cultural sites:** Special emphasis should be placed on sites and associated settings that are unique, of special significance, or are in good condition.
- **Preserve and protect natural resource and constraint areas:** Establish an urban community boundary to define urban development and protect areas outside the boundary for their open space, scenic, and resource values.

- **Preserve panoramic views of natural landmarks and the urban skyline:** This includes important vistas and focused views of significant natural and urban features and skyline profiles that make up or frame the PUC from publicly accessible places.
- **Improve access to shoreline and mountain areas:** This includes continuous public access along O'ahu's southern shoreline as well as access to its mauka natural environments and features.

Guidelines

Historic and Cultural Sites

- Preserve the architectural character, landscape setting and visual context of historic landmarks through appropriate zoning standards and development controls, as necessary, and public outreach programs such as design guidelines for the maintenance, renovation or expansion of older dwellings.

Urban Skyline and Mauka-Makai Views

- Preserve and enhance significant mauka or makai view corridors along major collector streets indicated in *Figure 3.1* through a combination of zoning controls and streetscape improvements.

Discussion

The applicant supports the preservation of historic and cultural sites and agrees that special emphasis should be placed on sites and associated settings that are unique, of special significance, or are in good condition, and ensures access for traditional and customary practices and gathering rights, consistent with the provisions of the Constitution of the State of Hawai'i. Historic resources have been documented in and ALRFI and CIA conducted for the project. Refer to *Section 3.14 and 3.15* of the EA.

Planned improvements are designed to complement the natural beauty of Hawai'i. Existing views will not be adversely impacted as a result of the project. The redevelopment project will enhance the street frontage and pedestrian experience along Kalākaua Avenue. The project will blend with the surrounding urban-scape and be designed appropriately in their orientation, scale, height, form, and design.

The project is not located along the shoreline or adjacent to coastal areas, therefore the proposed improvements will not impact existing access to Waikīkī Beach. All existing accesses will be maintained.

NEIGHBORHOOD PLANNING AND IMPROVEMENT

Policies

- **Cultivate existing and new "neighborhood centers":** Develop neighborhood centers as the principal places for people in a neighborhood to gather, shop, dine or play, and to provide a source of community identity.
- **Promote mixed land uses:** Encourage compatible mixtures of land uses for in town PUC neighborhoods and districts to support a variety of urban lifestyle choices and to create vibrant and convenient neighborhoods.
- **Make streets "pedestrian-friendly":** Create inviting and attractive streetside environments that support and enhance convenient and safe pedestrian use.
- **Resort:** Intended as a mixed-use designation, Resort districts consist primarily of resort hotels, timeshares and other apartments used as transient visitor units (TVUs); and

supporting commercial uses, such as shops, restaurants and entertainment. This designation only applies to the Waikīkī, Marina, Hobron and Fort DeRussy neighborhoods that are colored pink on the Land Use Maps.

Discussion
The project will help to transform the built landscape to a more focused, unified, and cohesive pedestrian experience for visitors and the neighborhood of Waikīkī. The redeveloped retail area will serve the existing neighborhood and encourage people to gather, shop, dine and play. The use of the site encourages compatible mixture of land uses.

THE PACIFIC'S LEADING CITY

Policies

- **Adopt and implement a plan for a vibrant and livable Waikīkī:** This plan needs to address the quality of the resident experience as well as the quality of the visitor experience. Based on development parameters set by the Waikīkī Special District, the plan should encompass mobility, the quality of the street environment for pedestrians, public spaces, the scale and design of new buildings, and Waikīkī's relationship to the Convention Center and neighboring districts.
- **Encourage street-front retail:** Office buildings should have retail stores, entrances, and windows fronting the principal street.

Discussion
The project supports the PUC Development Plan policy regarding Honolulu being the Pacific's leading city. The project will provide redeveloped retail along Kalākaua Avenue and enhanced hotel amenities and street experience that will lend to the vibrancy and livability of Waikīkī. This project seeks to achieve significant physical and subsequent operational improvements that will improve the quality and character of the visitor experience by both island guests and local residents. Upon completion, the redevelopment will transform the site by the enhancement of retail alternatives, an improved guest arrival experience at the porte cochere, and upgrades to its hotel amenities. The implementation of these improvements will serve to strengthen Waikīkī as a destination and major economic driver for O'ahu and the State of Hawai'i.

The project supports the development parameters set by the WSD. The revitalized retail facilities will provide an enhanced pedestrian experience and flow of mobility. In addition, the design of improvement areas will incorporate architectural and landscaped elements that enhance the aesthetics of Waikīkī and a greater sense of Hawaiiana in the built environment.

INFRASTRUCTURE AND PUBLIC FACILITIES
WATER ALLOCATION AND SYSTEM DEVELOPMENT

Policies

- Adapt water conservation practices in the design of new developments and modification of existing uses, including landscaped areas.

Conserve the use of potable water by implementing the following measures, as feasible and appropriate:

- Install low-flush toilets, flow restrictors rain catchment barrels, plumbing fixture meters, and other water conserving devices in commercial and residential developments.

Discussion:
The applicant supports the policies to conserve water resources. Where feasible, the project will utilize sustainable design practices to reduce the amount of potable water utilized on the project site.

SOLID WASTE

Policies
- Reduce the solid waste stream by encouraging recycling and reuse.

Discussion:
Once the project is completed, hotel and retail tenants will continue the existing recycling program to minimize solid waste. During construction, re-use or recycling of demolished construction materials such as asphalt, concrete, and steel, will take place.

STORM WATER SYSTEMS

Policies
- Manage storm water flows through best management practices to minimize storm water runoff and peak discharge rates.

Discussion:
Storm water runoff generated within the site is collected by roof drains and floor drains with downspouts which daylight at the face of the curb on Koa Avenue and Kalakaua Avenue. The project will not impact existing drainage at the site. Since the project is a redevelopment of the existing site, existing drainage patterns will not be impacted.

5.7 CITY AND COUNTY OF HONOLULU LUO AND WSD

The purpose of the LUO is to regulate land use in a manner that will encourage orderly development in accordance with adopted land use policies, including the City and County of Honolulu General Plan and the PUC Development Plans. The LUO also promotes and protects public health, safety, and welfare by:
- Minimizing adverse effects resulting from the inappropriate location, use or design of sites and structures;
- Conserving the city's natural, historic and scenic resources and encouraging design which enhances the physical form of the city; and
- Assisting the public in identifying and understanding regulations affecting the development and use of land.

The LUO also provides reasonable development and design standards that are applicable to the location, height, bulk and size of structures, yard areas, off-street parking facilities, and open spaces, and the use of structures and land for agriculture, industry, business, residences or other purposes (Revised Ordinance for the City and County of Honolulu, Chapter 21).

As a recognized resort destination, Waikīkī continues to attract visitors from all parts of the world, serving as the foundation for the state's tourist industry, identified as a major and vital employment sector, and home for thousands of full-time residents. As such, in the City's commitment to maintain the socio-economic vitality of Waikīkī, the area is designated as a Special District, with

specific design standards and guidelines established to direct its future growth (LUO, Sec. 21-9.80). The project is located in the WSD, Resort Mixed Use Precinct (*Figure 1-5*).

The establishment of the WSD was largely a response to the rapid development of the 1960s and 1970s, and the physical and social changes attributed to that development. As a sophisticated urban resort, diversity and contrast characterize Waikīkī. The LUO's WSD Guidelines are a planning tool aimed at restoring the basic appeal of Waikīkī as a pedestrian-friendly environment. To complement the strong urban image that Waikīkī possesses, emphasis is placed on developing creative and functional uses of the ground-level open space. The focus of open space helps to define a "Hawaiian sense of place" as stated in the objectives of the WSD Guidelines that are enumerated in Section 7.80-1 of the LUO. The applicable objectives of the WSD addressed by the project are discussed below.

Sec. 21-9.80 Waikīkī Special District--Findings.

(A) To the world, Waikīkī is a recognized symbol of Hawai'i; and the allure of Waikīkī continues, serving as the anchor for the state's tourist industry. In addition to its function as a major world tourist destination, Waikīkī serves as a vital employment center and as a home for thousands of full-time residents.

(B) The creation of the Waikīkī Special District was largely a response to the rapid development of the 1960s and 1970s, and the changes produced by that development. Now, Waikīkī can be described as a mature resort plant and residential locale. Waikīkī needs to maintain its place as one of the world's premier resorts in an international market; yet, the sense of place that makes Waikīkī unique needs to be retained and enhanced.

(C) Because of the city's commitment to the economic, social and physical well-being of Waikīkī, it is necessary to guide carefully Waikīkī's future and protect its unique Hawaiian identity. (Added by Ord. 99-12)

The objectives of the Waikīkī Special District are to:

- Promote a Hawaiian sense of place at every opportunity.
- Guide development and redevelopment in Waikīkī with due consideration to optimum community benefits. These shall include the preservation, restoration, maintenance, enhancement and creation of natural, recreational, educational, historic, cultural, community and scenic resources.
- Support the retention of a residential sector in order to provide stability to the neighborhoods of Waikīkī.
- Provide for a variety of compatible land uses which promote the unique character of Waikīkī, emphasizing mixed uses.
- Support efficient use of multimodal transportation in Waikīkī, reflecting the needs of Waikīkī workers, businesses, residents, and tourists. Encourage the use of public transit rather than the private automobile, and assist in the efficient flow of traffic.
- Provide for the ability to renovate and redevelop existing structures which otherwise might experience deterioration. Waikīkī is a mature, concentrated urban area with a large number of nonconforming uses and structures. The zoning requirements of this special district should not, therefore, function as barriers to desirable restoration and redevelopment lest the physical decline of structures in Waikīkī jeopardize the desire to have a healthy, vibrant, attractive and well-designed visitor destination.

- Enable the city to address concerns that development maintain Waikīkī's capacity to support adequately, accommodate comfortably, and enhance the variety of worker, resident and visitor needs.
- Provide opportunities for creative development capable of substantially contributing to rejuvenation and revitalization in the special district, and able to facilitate the desired character of Waikīkī for areas susceptible to change.
- Encourage architectural features in building design which complement Hawaiʻi's tropical climate and ambience, while respecting Waikīkī's urbanized setting. The provision of building elements such as open lobbies, lanais, and sunshade devices is encouraged.
- Maintain, and improve where possible: mauka views from public viewing areas in Waikīkī, especially from public streets; and a visual relationship with the ocean, as experienced from Kalākaua Avenue, Kālia Road and Ala Moana Boulevard. In addition, improve pedestrian access, both perpendicular and lateral, to the beach and the Ala Wai Canal.
- Emphasize a pedestrian-orientation in Waikīkī. Acknowledge, enhance and promote the pedestrian experience to benefit both commercial establishments and the community as a whole. Walkway systems shall be complemented by adjacent landscaping, open spaces, entryways, inviting uses at the ground level, street furniture, and human-scaled architectural details. Where appropriate, open spaces should be actively utilized to promote the pedestrian experience.
- Provide people-oriented, interactive, landscaped open spaces to offset the high-density urban ambience. Open spaces are intended to serve a variety of objectives including visual relief, pedestrian orientation, social interaction, and fundamentally to promote a sense of "Hawaiianness" within the district. Open spaces, pedestrian pathways and other ground level features should be generously supplemented with landscaping and water features to enhance their value, contribute to a lush, tropical setting and promote a Hawaiian sense of place.
- Support a complementary relationship between Waikīkī and the convention center.

Discussion

The 2424 Kalauaka project will guide the redevelopment with due consideration given to the existing ambiance and character of Waikīkī. The project promotes a variety of compatible uses, and provides opportunity for creative development that will significantly revitalize this existing hotel property in Waikīkī. The plan encourages a design theme that is complementary to the tropical climate and is oriented in a fashion to preserve existing viewsheds and will not have an impact of significant public views, like those along Kalākaua Avenue. The street frontage along Kalākaua will promote a positive pedestrian experience and transform the building to a light, airy and inviting space while enhancing landscaped areas. Areas currently blocked or limited for public access will be opened up, becoming inviting new spaces of retail and leisure at the ground and second floor levels.

Sec. 21-9.80-3 Prominent view corridors and historic properties.

The following streets and locations identify significant public views of Waikīkī landmarks, the ocean, and the mountains from public vantage points:

(1) Intermittent ocean views from Kālia Road across Fort DeRussy Park and from the Ala Wai Bridge on Ala Moana Boulevard;
(2) Continuous ocean views along Kalākaua Avenue, from Kūhiō Beach to Kapahulu Avenue;

(3) Ocean views from Ala Wai Yacht Harbor;
(4) Ocean views from Kūhiō Beach Park;
(5) Views of Ala Wai Yacht Harbor from Ala Moana Park (Magic Island Park);
(6) Mauka views from the portions of the following streets mauka of Kūhiō Avenue:
  (a) Nohonani Street;
  (b) Nāhua Street;
  (c) Kānekapōlei Street;
  (d) Kaiʻolu Street;
  (e) Lewers Street;
  (f) Walina Street; and
  (g) Seaside Avenue
(7) View of Diamond Head from Ala Wai Boulevard between McCully Street and Kapahulu Avenue.

Development should preserve, maintain and enhance these views whenever possible. Additional yard area and spacing between buildings may be required by the director, in connection with the issuance of special district permits, and the council and/or the director, in connection with planned development-resort and planned development-commercial approvals pursuant to Section 21-2.110-2, to protect these significant views.

Development should preserve, maintain and enhance historic properties whenever possible. Special district permit applications involving buildings over 50 years old shall be submitted to the state department of land and natural resources for review and comments. (Added by Ord. 99-12)

Discussion
The project will not impact existing coastal views or list prominent view corridors noted above, and particularly continuous ocean views along Kalākaua Avenue. The project will blend with the surrounding urban-scape and be designed appropriately in their orientation, scale, height, form, and design.

With the proposed project, the existing retail area will be redeveloped and revitalized. The design will provide a more open concept that allows for better and more integrated pedestrian circulation throughout the site. This will create an overall improvement to the visual quality at a pedestrian scale. The site will also be integrated with new landscaping components to complement the built environment.

Sec. 21-9.80-4 General requirements and design controls.
The design of buildings and structures in the WSD should always reflect a Hawaiian sense of place, as outlined in the design controls of this section. These design controls shall be supplemented by a design guidebook prepared and made available to the public by the director. The design guidebook shall be used as a principal tool by the director to express those various planning and architectural design elements which demonstrate consistency with the intent, objectives, guidelines, and standards of the WSD. The director shall submit the design guidebook and any revisions thereof to the council for review and comment prior to making the guidebook and any revisions available to the public. The following requirements shall be applied in all precincts within the district. Where the following requirements are silent, the applicable provisions of this chapter shall apply.

(A) Uses and Structures Allowed in Required Yards and Setbacks. The provisions of Section 21-4.30 shall apply except as provided by this subsection. No business activity of any kind, including advertising, promotion, solicitation, merchandising or distribution of commercial handbills, or structures or any other use or activity, except as provided by this subsection, shall be located or carried out within any required yard, street or building setback area, except those areas occupied by enclosed nonconforming buildings.

(B) Curb Cuts. Curb cuts for driveway openings and sight distances at all intersections shall comply with the design standards of the department of transportation services unless modified by the city council. The number of curb cuts should be kept to a minimum in order to enhance pedestrian movement along sidewalks.

(C) Design Guidelines.

(1) General Guidelines. All structures, open spaces, landscape elements and other improvements within the district shall conform to the guidelines specified on the urban design controls marked Exhibit 21-9.15, set out at the end of this article, the design standards contained in this section and other design guidelines promulgated by the director to further define and implement these standards.

(2) Yards. Yard requirements shall be as enumerated under development standards for the appropriate zoning precinct under Table 21-9.6(B).

(3) Automobile Service Stations and Car Rental Establishments.

(4) Utility Installations. Utility installations shall be designed and installed in an aesthetic manner so as to hide or screen wires and equipment completely from view, including views from above (except for antennas).

(5) Building Materials. Selection and use of building materials should contribute to a Hawaiian sense of place through the use of subdued and natural materials, such as plaster finishes, textured concrete, stone, wood and limited use of color-coated metal. Freestanding walls and fences should be composed of moss rock, stucco-finished masonry or architectural concrete whenever possible. Colors and finishes shall be characterized as being absorptive rather than reflective. The use of shiny metal or reflective surfaces, including paints and smooth or plastic-like surfaces should be avoided.

(6) Building Scale, Features and Articulation. Project designs should provide a human scale at ground level. Buildings composed of stepped forms are preferred. Articulated facades are encouraged to break up building bulk. Use of the following building features is encouraged: sunshades; canopies; eaves; lanais; hip-form roofs for low-rise, freestanding buildings; recessed windows; projecting eyebrows; and architectural elements that promote a Hawaiian sense of place.

(7) Exterior Building Colors. Project colors should contribute to a tropical resort destination. They should complement or blend with surrounding colors, rather than call attention to the structure. Principal colors, particularly for high-rise towers, should be of neutral tones with more vibrant colors relegated to accent work. Highly reflective colors shall not be permitted.

(8) Ground Level Features.

(A) Within a development, attention should be given to pedestrian-oriented ground level features. A close indoor-outdoor relationship should be promoted. Design priority should include the visual links through a development connecting the sidewalk and other public areas with on-site open spaces, mountains and the ocean.

(B) Building facades at the ground level along open spaces and major streets (including Kalākaua Avenue, Kūhiō Avenue, Kapahulu Avenue, Ala Wai

Boulevard and Ala Moana Boulevard) shall be devoted to open lobbies, arcade entrances, and display windows, and to outdoor dining where it is permitted.

(C) Where commercial uses are located at ground level, other than as required by paragraph (B), at least one-half of the total length of the building facade along streets shall be devoted to open lobbies, arcade entrances, display windows and outdoor dining where permitted.

(D) The street facades of ground level hotel lobbies should include wide, open entryways. Ventilation in these lobbies should primarily depend on natural air circulation.

(E) Where buildings are situated between a street and the shoreline or between a street and open spaces, ground level lobbies, arcades and pedestrian ways should be provided to create visual links between the street and the shoreline or open space.

(F) Where blank walls must front a street or open space, they shall be screened with heavy landscaping or appropriately articulated exterior surfaces.

(G) Ground level parking facilities should not be located along any street, park, beachfront, public sidewalk or pedestrian way. Where the site plan precludes any other location, the garage may front these areas provided landscaping is provided for screening. Principal landscaping shall include trees, and secondary landscape elements may include tall hedges and earth berms.

(H) For purposes of the Waikīkī Special District, an "open lobby" shall mean a ground-floor lobby which shall not be enclosed along the entire length of at least two of its sides or 50 percent of its perimeter, whichever is greater, and which shall provide adequate breezeways and views to interior and/or prominent open spaces, intersecting streets, gateways or significant pedestrian ways.

(9) Outdoor Lighting. Outdoor lighting shall be subdued or shielded so as to prevent glare and light spillage onto surrounding properties and public rights-of-way. It shall not be used to attract attention to structures, uses or activities; provided, however, that indirect illumination which shall be integrated with the architectural design of a building may be allowed when it is utilized to highlight and accentuate exterior building facades, and architectural and/or ground level features. Rotating, revolving, moving, flashing and flickering lights shall not be visible to the public, except lighting installed by a public agency for traffic safety purposes or temporary lighting related to holiday displays.

Discussion

The redevelopment will significantly enhance the "Hawaiian Sense of Place" of the existing retail, hotel and surrounding area. Observant and respectful of the area's history, special features and past inhabitants, the project will look to celebrate and reinterpret many important and iconic elements throughout its design. The new improvements will integrate with the existing hotel setting which emulates the Hawaiian sense of place as a welcoming, gathering place. Decorative and natural materials and finishes, patterns, and landscaping will be integrated throughout the redevelopment areas to enhance the streetscape, and provide a tropical Hawaiian sense of place throughout the property. The architectural character of new building elements will incorporate natural, cultural and historical references through abstract contemporary expressions. Clear glass will be incorporated to bring access to light and views of Waikīkī Beach. Light neutral colors and tones will also be incorporated to accentuate the surrounding natural environment.

The retail redevelopment will fit with the existing building design of the hotel. Together, they will provide a height transitions and forms that will provide light and air with a pedestrian scale. The project will enhance the placement of open space throughout the site by incorporating it into the undulating walkways and pedestrian experience. The building façade of the redevelopment will be varied to create visual interest and reduce building bulk. The project will incorporate long lanais on the second and third floor levels. At the ground level, the project will achieve a human scale and incorporate display windows throughout the buildings frontage. The ground level commercial entrances will be oriented to Kalākaua Avenue. Visual links to Waikīkī Beach will be provided throughout the retail redevelopment.

Outdoor lighting will be subdued to prevent glare and light spillage onto surrounding properties and public rights-of-way. Indirect illumination will be integrated with the architectural design to accentuate the exterior building facades and ground level features.

Landscaping.

(1) Any tree six inches or greater in trunk diameter shall not be removed or destroyed except as follows:
   - (A) The tree is not visible from any street, park or other public viewing area.
   - (B) Appropriate development of the site cannot be achieved without removal of the tree.
   - (C) The tree is a hazard to the public safety or welfare.
   - (D) The tree is dead, diseased or otherwise irretrievably damaged.
   - (E) The applicant can demonstrate the tree is unnecessary due to overcrowding of vegetation.

(2) Any tree removed which is visible from any street, park or other public viewing area shall be replaced by an approved tree of a minimum two-inch caliper, except palms which shall have a minimum trunk height of 15 feet, or by alternative approved landscaping material, unless the replacement results in overcrowded vegetation. Larger replacement trees may be required depending on the size of the trees removed.

(3) Where possible, trees proposed for removal shall be relocated to another area of the project site.

(4) Parking structures shall be landscaped. Rooftop parking areas shall also be landscaped wherever they are visible to the public.

(5) Landscaped screening shall be required to prevent undesirable vistas and sight lines, and to reduce the visual impact of blank walls and parked vehicles. Spacing and other design elements shall be determined by species, plant size and mix of plant material.

(6) Whenever landscaping is required, the use of fragrant, lush, tropical vegetation and native plant species is encouraged.

(7) All fences and walls exceeding 36 inches in height, except for moss rock walls, shall be landscaped with vine or hedge planting, or other approved vegetation on the street side.

(8) All landscaped areas shall include an adequate irrigation system.

<u>Discussion</u>

A palette of small, medium, and large native, Polynesian-introduced, and tropical plants and shrubs that provide screening will be selected for the landscape design to be accented by understory foliage and groundcover that are consistent with the WSD guidelines. As appropriate, the selection and use of native plants will be encouraged with specificity to express identified culturally appropriate themes and experiences throughout the project site.

Height Regulations.
Rooftop Height Exemption: The director may exempt necessary mechanical appurtenances, and utilitarian and architectural features from the height regulations of the special district, provided they are erected only to such height as is necessary to accomplish the purpose they serve, but in no case exceeding 18 feet above the maximum height limit for roof forms and 12 feet above the maximum height limit for all other appurtenances and features. These building elements may be exempted only if the director finds they do not obstruct any significant views which are to be preserved, protected and enhanced and are consistent with the intent and objectives of the Waikīkī Special District. The design of roof treatment shall be attractive, contextual and an integral part of the building's design scheme. Except for flagpoles and smokestacks, all items listed in Section 21-4.60(c) shall also be exempt from the height provision of this subsection.

Coastal Height Setbacks: In addition to the above limits, there is a need to step back tall buildings from the shoreline to maximize public safety and the sense of open space and public enjoyment associated with coastal resources. Accordingly, the following minimum setbacks shall apply to all zoning lots along the shoreline:

There shall be a building height setback of 100 feet in which no structure shall be permitted. This setback shall be measured from the certified shoreline; and beyond the 100-foot line there shall be a building height setback of 1:1 (45 degrees) measured from the certified shoreline.

Discussion
The proposed project is not located within the shoreline setback area. The project is situated within the existing developed area.

The existing buildings within the project area do not comply with the WSD height standard. The maximum height allowed is 240 ft and the building is approximately 350 ft with 29 ft of mechanical structures. The proposed elliptical shaped structure will be approximately 33 ft tall (*Figure 2-14*). Although the existing hotel towers on the project site are considered non-conforming, the project will not alter this portion of the site or increase the existing non-conformity. The proposed improvements for the 2424 Kalakaua project will be located at the basement, first floor, second floor and third floor of the project area.

Parking.
Off-street parking shall be provided in accordance with Article 6 and Table 21-6.3. Notwithstanding the foregoing, ground floor and basement uses, other than dwelling uses, in the Waikīkī Special District shall be exempt from off-street parking requirements.

Discussion
The Hyatt Regency Hotel parking area is located in the basement and an adjacent building (Convention Center) to the east of the site. These parking areas provide a total of 431 spaces for visitors and guests of the hotel. While the project will not result in an increase in total floor area, there will be an increase in retail floor area, resulting in total requirements of 455 parking stalls and 10 loading stalls per the Land Use Ordinance (LUO).

In order to accommodate the increase in parking required at the site, the existing basement parking area will be reconfigured to provide additional parking stalls (*Figure 3-9* ~~*3-8*~~). A total of 455 parking stalls and 10 loading stalls will be provided. *Figure 3-10* ~~*3-9*~~ provides a detailed

parking summary. Parking operations will continue to be efficiently managed as a mix of self-parking and valet operations.

Sec. 21-9.80-9 Tables for Development Standards

This section presents the projects conformance with development standards for the Waikīkī Special District Precinct detailed Table 21-9.6(B) of the LUO. Refer to *Table 5-1*.

Table 5-1: LUO Article 9: Development Standards for Waikīkī Special District Precinct

LUO CRITERIA	REQUIRED/ALLOWED	PROPOSED
Minimum Lot Area	10,000 sf	104,455 sf
Minimum Lot Width/Depth	50 ft	W: 200′ D: 528′ approx. (along Kalakaua Ave.), 517.5′ approx. (along Koa Ave)
Yards: Front Side and Rear	15-20 ft[1] 0-10 ft[2]	Front: 10′ (Kalakaua Ave.), 10′ (Kaiulani, Koa, and Uluniu Avenues) Existing setbacks on the project site are non-conforming and encroach into the 20 ft minimum setback. The project will not increase the existing non-conformity. Refer to the Yard Averaging Diagram (*Figure 5-1*).
Minimum Density (FAR)	1.0[3]	Existing: 7.12, Proposed: 7.12
Minimum Open Space (percent of zoning lot)	0.00	Not Applicable
Open Space Bonus: Available Max FAR	 See Section 21-9.80(c)(1) of LUO[4] 3.5[3]	Not Applicable
Maximum Height	240 ft	350 ft plus 29 ft for mechanical. Existing building heights are non-conforming. The project will not impact existing non-conformity.
Transitional Height Setbacks	See Section 21-9.80-6(c)(2)[5]	Existing hotel towers are non-conforming and encroach into the transitional height setback. The project will not increase the existing non-conformity (*Figure 5-2*).

1. An average of 20 feet for zoning lots fronting Kuhio Avenue, Kalakaua Avenue, Ala Moana And Ala Wai Boulevard within the Resort Mixed Use and Resort Commercial Precincts, and an average of 15 feet for all other zoning lots, provided: (1) The average yard may vary between the front property line and twice the minimum front yard so long as the yard area street-side of the required yard is equal to the yard area behind the required yard, (2) The yard configuration shall be integrated to the extent feasible with yards and open spaces provided by adjoining lots, and (3) The undulation of the setback line shall result in a design acceptable by the director (See Figure 21-9.1 of the LUO).
2. Except for zoning lots adjoining an apartment precinct, side and rear yards shall not be required. Ten feet where a zoning lot adjoins an apartment precinct, unless there is a parking structure or lot on the adjacent apartment precinct zoning lot located within 10 feet of the common property line for more than 75 percent of the length of the common property line. In this case, there shall not be a required yard.
3. In computing the permissible floor area, the FAR may be applied to the zoning lot area, plus one-half the abutting right-of-way area of any public street or alley. Portions of buildings devoted to lanais and balconies shall not count as floor area.
4. Minimum Open Space Requirements. A minimum percentage of the zoning lot shall be devoted to open space for all developments in the resort mixed use precinct. Minimum open space for a zoning lot shall be as provided below, except that when required yards exceed this standard, the minimum standard for required yards shall be considered the minimum open space requirement for the zoning lot.

FAR	Percent of zoning lot
Less than 1.0	10
1.0 - 1.25	25
1.26 - 1.5	35
Greater than 1.5	50

5. Transitional Height Setbacks. For any portion of a structure above 40 feet in height, additional front, side and rear height setbacks equal to one foot for each 10 feet in height, or fraction thereof, shall be provided. Within the height setback, buildings with graduated, stepped forms shall be encouraged (see Figure 21-9.2 of the LUO).

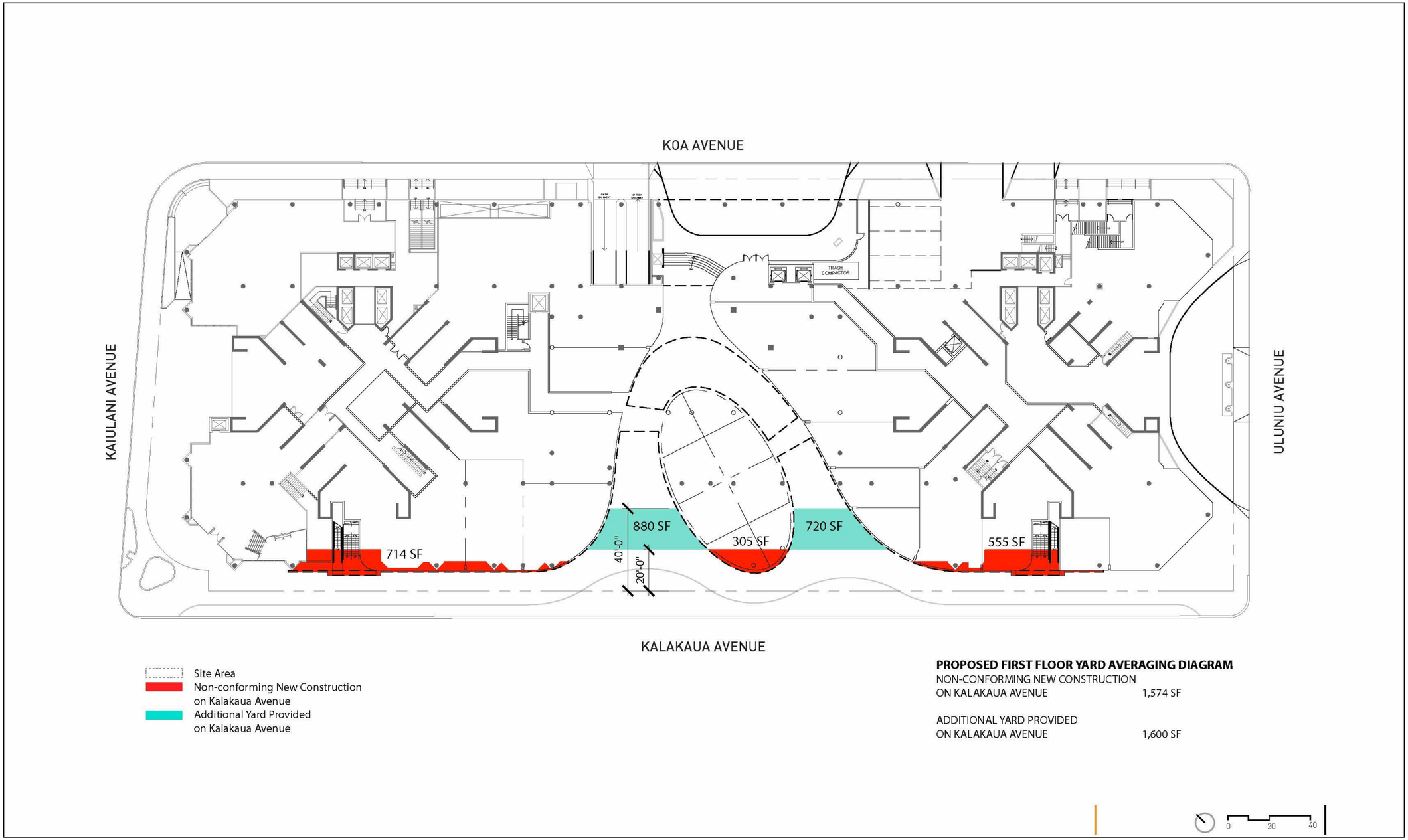


Figure 5-1
Yard Averaging Diagram

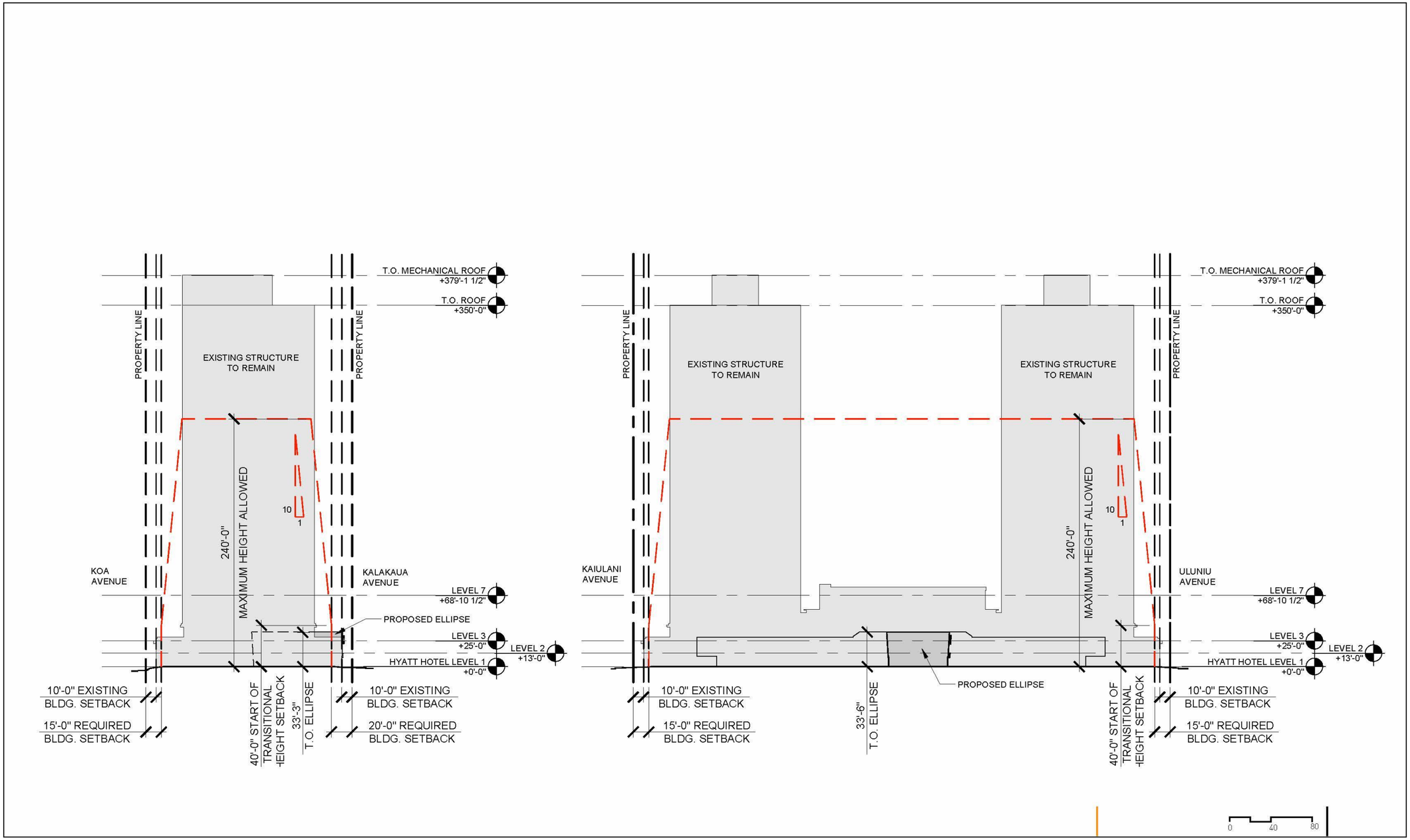


Figure 5-2
Transitional Height Setback

5.8 CITY AND COUNTY OF HONOLULU SMA

Within the City and County of Honolulu, the SMA Use Permit application review is administered by the DPP, and the decision on its issuance is rendered by the City Council, pursuant to Ordinance No. 84-4. It is the policy of the City and County of Honolulu to preserve, protect, and to restore the natural resources of the coastal zone of Hawai'i. The SMA designation places special controls on development within an area along the shoreline. These controls are necessary to avoid permanent loss of valuable resources and to insure that adequate public access is provided to public owned or used beaches, recreation areas, and natural reserves. Further, the project is a development that is "valued at over $500,000" and is included in the SMA Boundary area for Waikīkī; thus a SMA Use Permit is required (Revised Ordinances of Hawai'i, Sec. 25-1.2; HRS Chapter 205A-21).

Issuance of the SMA Use Permit is based on the consistency of the proposed development project with the policies and review guidelines specified in the CZM Law. The applicable objectives, policies and guidelines to the project are discussed below.

(1) All development in the special management area are subject to reasonable terms and conditions set by the authority in order to ensure:

- Adequate access, by dedication or other means, to publicly owned or used beaches, recreation areas, and natural reserves is provided to the extent consistent with sound conservation principles;
- Adequate and properly located public recreation areas and wildlife preserves are reserved.
- Provisions are made for solid and liquid waste treatment, disposition, and management that will minimize adverse effects upon special management area resources.
- Alterations to existing land forms and vegetation; except crops, and construction of structures shall cause minimum adverse effect to water resources and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation or failure in the event of earthquake.

Discussion

The project is not located along the shoreline or adjacent to coastal areas, therefore the proposed improvements will not impact existing access to Waikīkī Beach. All existing accesses will be maintained.

The project is not located near recreation areas. Public recreation areas will continue to be reserved for use by the public.

Solid waste and wastewater disposal systems will be efficiently designed to minimize impacts on existing solid and liquid waste facilities. Solid and liquid waste water will connect to the existing City and County of Honolulu wastewater system.

The project will redevelop an already urbanized segment of Waikīkī. The project will not have an adverse effect on water, scenic, or recreational resources. All design controls will be in compliance with maintaining safety standards to minimize the any potential danger of natural hazards.

(2) No development shall be approved unless the authority has first found:

- That the development will not have any substantial adverse environmental or ecological effect, except as such adverse effect is minimized to the extent practicable and clearly outweighed by public health, safety, or compelling public interests. Such adverse effects shall include, but not be limited to, the potential cumulative impact of individual developments, each one of which taken in itself might not have a substantial adverse effect, and the elimination of planning options;
- That the development is consistent with the objectives, policies, and special management area guidelines of this chapter and any guidelines enacted by the legislature;
- That the development is consistent with the county general plan and zoning. Such a finding of consistency does not preclude concurrent processing where a general plan or zoning amendment may also be required.

Discussion

The project will not create substantial adverse environmental or ecological effects. Identified potential long-term impacts and recommended mitigation measures are discussed in *Section 3.0*.

The project remains consistent with the policies and objectives of the HRS Chapter 205A CZM and its review guidelines, as well as the Revised Ordinances of Hawai'i, Chapter 25 SMA guidelines. Consistency with CZM is discussed earlier in this chapter.

The project is consistent with the City and County of Honolulu's General Plan PUC Development Plan, and WSD Guidelines. Consistency is discussed earlier in this chapter.

(3) The authority shall seek to minimize, where reasonable:

- Dredging, filling or otherwise altering any bay, estuary, salt marsh, river mouth, slough or lagoon;
- Any development which would reduce the size of any beach or other area usable for public recreation;
- Any development which would reduce or impose restrictions upon public access to tidal and submerged lands, beaches, portions of rivers and streams within the special management areas and the mean high tide line where there is no beach;
- Any development which would substantially interfere with or detract from the line of sight toward the sea from the state highway nearest the coast;
- Any development which would adversely affect water quality, existing areas of open water free of visible structures, existing and potential fisheries and fishing grounds, wildlife habitats, or potential or existing agricultural uses of land.

Discussion

The project involves no dredging, filling, or altering to any bay, estuary, salt marsh, river mouth, slough or lagoon.

The project will not reduce the size of the beach or any other public recreational area.

The project does not reduce or impose restrictions upon public access to tidal and submerged lands, beach areas, or to the mean high tide line.

The proposed redevelopment does not interfere with or detract from the line of sight toward the sea from the H-1 freeway. The WSD identifies the continuous ocean views along Kalākaua Avenue, from Kūhiō Beach to Kapahulu Avenue as a significant public view of Waikīkī. This significant view corridor will not be affected by the project.

The proposed redevelopment project is located in an existing urban space. None of the planned improvements involve modification of structures or redevelopment near the shoreline. The project will not affect water quality, existing areas of open water free of visible structures, fisheries or fishing grounds, or diminish potential land bases for preserving pristine wildlife habitats or agricultural development.

5.9 WAIKĪKĪ LIVABLE COMMUNITY PROJECT

The Waikīkī Livable Community Project (WLCP) is a federally-funded planning study that was conducted under a grant obtained from Federal Highway Administration's Transportation and Community and System Preservation Pilot Program (TCSP) and federal funding from the O'ahu Metropolitan Planning Organization. The TCSP is a nationwide program providing cities and communities with grants to investigate the relationship between transportation and community. The transportation system in Waikīkī consists of a street network and sidewalk network. The WLCP examines how Waikīkī's system of public streets, sidewalks, and rights-of-way are used and how the system might improve. The WLCP was designed, with assistance from the Waikīkī community and stakeholders, to improve transportation, circulation and pedestrian activity to assist in the improvement and support of the revitalization of Waikīkī as a pedestrian first community.

WLCP Mission Statement: Waikīkī is a distinct, premier resort, residential and urban district. It must maintain its Hawaiian sense of place and economic vitality. Seeking solutions and compromises in physical planning, landscaping, and various modes of transportation, shall meet the needs of visitors, residents, and team members alike in the spirit of Aloha.

"Pedestrian First" Policy

- In Waikīkī the pedestrian, visitor and resident alike, will come first. Waikīkī will be a pedestrian-oriented resort and a pedestrian-oriented residential area. Walking will be the primary mode of getting around within Waikīkī and it will be a pleasurable way to enjoy Waikīkī.
- The pedestrian walking experience on public sidewalks in Waikīkī needs to be improved and enhanced.

Discussion

The project design will add to Waikīkī's livability and pedestrian level streetscape. Through the project, improvements will be made to retail and streetscape experience along Kalākaua Avenue. Pedestrian access fronting the property along Kalākaua Avenue will be opened up, invoking a more appealing welcoming experience. A newly defined pedestrian path will direct visitors and guests along the major walkway on the first and second levels. Retail storefronts will be oriented to the face Kalākaua Avenue and Waikīkī Beach providing magnificent views to visitors of the area. Circulation throughout the property will be improved, making it more pedestrian friendly.

Transportation in Waikīkī – Vision Statements

- Kūhiō Avenue Vision Statement: Celebrating Living in Waikīkī
- Ala Wai Boulevard Vision Statement: A Stage for Recreation and Culture
- Kalākaua Avenue Vision Statement: One of the World's Greatest Streets
- Ala Moana Boulevard Vision Statement: A Green Gateway
- Mauka - Makai Streets: Creating Neighborhoods with Unique Character

Discussion
The applicant supports the vision statements of Kūhiō Avenue, Ala Wai Boulevard, Ala Moana Boulevard and the Mauka - Makai Streets; however, the most applicable vision statement to the project is that of the Kalākaua Avenue Vision Statement, as Kalākaua Avenue borders the project to the south and connects to Ka'iulani Avenue and Ulunui Avenue which borders the property to the west and east.

Kalākaua Avenue Vision Statement: "One of the World's Greatest Streets"

- Kalakaua Avenue will continue to be Waikīkī's main boulevard, providing convenient access to the beach and Kapiolani Park's recreational attractions.
- Major hotels, shopping centers, stores and restaurants line most of the length of Kalakaua Avenue. Providing valuable visual contrast are sections of the avenue fronting the lush open space at Fort DeRussy and the world renown Kuhio Beach.
- As a transportation corridor, Kalakaua Avenue serves automobiles, commercial (tour) buses, private transit shuttles, taxis, freight delivery vehicles and bicycles. The planned BRT route will follow Kalakaua Avenue from Saratoga Road to Kapahulu Avenue.
- The vision for Kalakaua Avenue continues to be accomplished through the partnering of the City and private sector to improve the public sidewalk space for pedestrians.
- The continuing transformation will join the sidewalks with adjacent spaces using the save paving materials, landscaping and décor. Pedestrian attractions will include sidewalk dining and shopping.
- Improvements to Kalakaua Avenue will continue to extend pedestrian enhancements along the sidewalks. More landscaping, including shade trees, pavement improvements, street furnishings and resort character signage will make a walk down the avenue an inviting experience.

Discussion
The project is located along Kalākaua Avenue in Waikīkī. The project will contribute to Waikīkī's main boulevard and continue to provide access to the beach and Kapiolani Park's recreational attractions. The 2424 Kalakaua project will redevelop and revitalize the existing retail space fronting Kūhiō Beach. The project will not impact Kalākaua Avenue as a transportation corridor that serves automobiles, commercial (tour) buses, private transit shuttles, taxis, freight delivery vehicles and bicycles.

The project will improve the existing sidewalk space and overall pedestrian experience of the area. Pedestrian access fronting the property along Kalākaua Avenue will be opened up, providing a more welcoming experience and views out to Kūhiō Beach. The project will fit with sidewalks and adjacent spaces using materials, landscaping and décor which are similar in character. This improved pedestrian attraction will provide supreme shopping and leisurely activities to visitors of

the area. The walk down the avenue will provide an inviting experience that will avail visitors and guests to a strolling experience along Kalākaua Avenue.

Traffic Circulation
For fifty years or more since the modern grid street pattern system went into effect, addressing the diverse transportation needs of residents, businesses and visitors is an essential part of making Waikīkī livable. Ala Moana Boulevard will continue to be a primary entry and exit route for Waikīkī, accommodating all types of vehicles. It will also become the entry and exit route for the planned high capacity BRT line serving Waikīkī via Kālia Road.

Discussion
The project supports the WLCP goals for improvements to traffic circulation. The project will not impact existing primary entry and exit routes for Waikīkī. The redevelopment project will provide a new arrival area at the port cochere located on Koa Avenue. The existing porte cochere on Ulunui Avenue will be utilized for valet and/or tour bus pick up and drop off. These improvements will improve existing traffic circulation at existing roadways near the site.

Section 6.0

FINDINGS SUPPORTING ANTICIPATED DETERMINATION

6.0 FINDINGS SUPPORTING ANTICIPATED DETERMINATION

6.1 ANTICIPATED DETERMINATION

After reviewing the significance criteria outlined in Chapter 343, HRS, and Section 11-200-12, State Administrative Rules, Contents of EA, the proposed action has been determined to not result in significant adverse effects on the natural or human environment. A FONSI is anticipated.

6.2 REASONS SUPPORTING THE ANTICIPATED DETERMINATION

The potential impacts of the project have been fully examined and discussed in this ~~Draft~~ EA. As stated earlier, there are no significant environmental impacts expected to result from the proposed action. This determination is based on the assessments as presented below for criterion (1) to (13).

(1) Involve an irrevocable loss or destruction of any natural or cultural resources.

The archaeological and cultural landscapes have been documented in studies conducted specifically for the project area. As detailed in *Section 3.14 and 3.15* of this report, the project does not involve any known loss or destruction of existing natural, cultural, archeological or historical resources. An ALRFI and CIA were conducted for the project area (*Appendix C and Appendix D).*

The only specific area of concern is the unknown potential for the inadvertent discovery of subsurface historical or cultural resources, including the unknown possibility of iwi kūpuna (ancestral remains). Since the project will not be conducting any grading or excavations, there is a low potential for an inadvertent find. However, if cultural or archaeological resources or ancestral remains are inadvertently discovered, the DLNR, SHPD, the Oʻahu Island Burial Council representative and participating interests from lineal descendants and individuals will be notified. The treatment of these resources will be conducted in strict compliance with the applicable historic preservation and burial laws.

(2) Curtail the range of beneficial uses of the environment.

The project improves an existing developed area. The range of beneficial uses of the environment is not significantly curtailed by proposed improvements. The project is consistent with existing zoning and current land uses. The redevelopment will include improvements to the existing retail area and substantially improve the character and setting of this section of Waikīkī in general.

(3) Conflict 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.

The proposed project does not conflict 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.

(4) Substantially affects the economic or social welfare of the community or State.

The proposed improvements will positively affect the State's economic welfare by providing a redeveloped retail area and improved circulation which will enhance the overall visitor experience. Economic and social benefits will result from increased employment and tax revenues. The improvements will continue to provide access to existing retail areas. This project reflects the applicant's dedication to maintaining Waikīkī as one of the world's leading travel destinations.

(5) Substantially affects public health.

The project is consistent with existing land uses and is not expected to affect public health. However, there will be temporary short-term impacts to air quality from possible dust emissions and temporary noise in the immediate vicinity of both project sites resulting from construction equipment. Construction and operation-related impacts of noise, dust, and emissions will be mitigated by compliance with the State DOH Administrative Rules and compliance with applicable permits for the project.

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

The redeveloped retail area will create only a very small potential increase of visitors to the area. Public facilities near the project site will not be adversely impacted by the project. Additional uses of public facilities are not anticipated to occur as a result of the project.

(7) Involves a substantial degradation of environmental quality.

The proposed project will not involve a substantial degradation of environmental quality. To the contrary, improvements to the project area serve to maintain and enhance the beauty and character experienced by hotel guests and visitors to Waikīkī. The project will be a visual feature that will fit within the existing urbanized setting.

(8) Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions.

The project's development will not have a considerable effect on the environment or involve a commitment for larger actions. The proposed improvements are intended to offer positive benefits to the economic tourism market in Waikīkī. The retail redevelopment will add benefit to the surrounding community and reinvigorate the visitor experience and local economy.

(9) Substantially affects a rare, threatened or endangered species, or its habitat.

The project site consists primarily of introduced flora species. The site has been urbanized for many years; therefore native endangered or threatened species are not expected to be present. In addition, native birds are not expected to be found at the project site or surrounding area. A recent avifaunal and feral mammal survey conducted for a nearby site, the International Market Place; indicate that there are no threatened or endangered species on the property. No affects to rare, threatened or endangered species or its habitat are anticipated.

(10) Detrimentally affects air or water quality or ambient noise levels.

General temporary effects associated with construction and operation of the project has been identified in this EA (*Section 3.0*). Mitigation measures which are outlined in this EA will be applied during the on-going construction and operation activities. No detrimental long-term impacts to air, water, or acoustic quality are anticipated with the project. The project will not detrimentally affect air or water quality or ambient noise levels.

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

The project site is located within Zone X and within the designated tsunami zone (*Figure 3-2*). The project site lies outside of the 500-year flood plain and has a less than 0.2 percent chance to flood annually. The proposed renovations will comply with necessary design requirements. Construction work will be performed in accordance with the State and County-approved design standards. No significant adverse impacts are anticipated.

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

The proposed project will not substantially affect scenic vistas and view-planes identified in County or State plans or studies. As discussed in *Section 3.16*, visual access to the mountains and sea from roadways or from identified visual corridors will not be significantly affected by the project.

(13) Require substantial energy consumption.

The proposed project will not increase the overall floor area; however the retail square footage will be increased slightly. This increase in floor area for retail uses will generate a minimal increase in electrical energy consumption. However, older and less efficient systems will be replaced by improved systems focused on efficiency of energy consumption.

6.3 SUMMARY

Based on the above findings, the proposed project is not expected to generate significant adverse socio-economic or environmental impacts. The EA recommends mitigation measures to alleviate potential impacts when such impacts are identified.

The project is consistent with the Hawai‘i State Land Use District Boundaries; the 2050 Sustainable Plan, the Hawai‘i CAM Plan, the City’s General Plan and Development Plan; the City’s Zoning Ordinance, and SMA.

The 2424 Kalakaua project represents the applicant’s continued commitment to enhancing the visitor and resident experience in Waikīkī. The existing retail is dated and in need of revitalization. The redevelopment will help to rejuvenate and revitalize this portion of Waikīkī. The project will not only bring added value to the immediate property, but will be an achievement in Waikīkī’s ongoing transformation. Further, the retail redevelopment will help to ensure the viability of Waikīkī as the State’s most prominent economic asset and strengthen its position in the global tourism market.

Section 7.0

LIST OF REFERENCES

7.0 LIST OF REFERENCES

Baker, H.L. et al. L.S. Land Study Bureau, University of Hawai'i. 1965. Detailed Land Classification, Island of Hawai'i.

City and County of Honolulu, Department of Planning and Permitting. 1992. General Plan for City and County of Honolulu.

City and County of Honolulu, Department of Planning and Permitting. 2014. Honolulu Bikeshare Organizational Study. Posted at: http://www.oahumpo.org/wp-content/uploads/2013/02/HonoluluBikeshareOrgStudyJune2014.pdf

City and County of Honolulu, Department of Planning and Permitting. 2004. Primary Urban Center Development Plan.

City and County of Honolulu. 2014. Revised Ordinances of Honolulu, Chapter 21, Land Use Ordinance.

City and County of Honolulu. 2014. Revised Ordinances of Honolulu, Chapter 25, Special Management Area. Posted at: http://www.honolulu.gov/rep/site/ocs/roh/ROH_Chapter_25_completeWApp__.pdf.pdf

City-Data. April 2014. Waikiki Neighborhood in Honolulu, Hawaii (HI_ 96814, 96815 detailed profile. Posted at: http://www.city-data.com/neighborhood/Waikiki-Honolulu-HI.html.

Group 70 International, Inc. 2011. Hilton Hawaiian Village Master Plan Final Environmental Impact Statement.

Federal Emergency Management Agency. September 4, 1987. Flood Insurance Rate Map, City and County of Honolulu.

Nature World News. Sea Level Rise Driving Shoreline Changes in Hawaii. Posted at: http://www.natureworldnews.com/articles/3761/20130831/sea-level-rise-driving-shoreline-changes-hawaii.htm

Point2Homes. April 2014. Waikiki Demographics & Statistics. Posted at: http://www.point2homes.com/US/Neighborhood/HI/Honolulu/Waikiki-Demographics.html.

State of Hawai'i, Department of Business, Economic Development, and Tourism, OSP, Coastal Zone Management Program. 1996. Hawai'i's Coastal Nonpoint Pollution Control Program Management Plan, Volume I.

State of Hawai'i, Department of Business, Economic Development and Tourism. 2012. Hawai'i State Data Book. Posted at: http://hawaii.gov/dbedt/info/economic/databook/.

State of Hawai'i, Department of Business, Economic Development and Tourism. 2003. The Economic Contribution of Waikiki. Posted at: http://files.hawaii.gov/dbedt/economic/data_reports/e-reports/econ_waikiki.pdf

State of Hawai'i, Land Use Commission. 2014. State Land Use Districts. Posted at: http://luc.hawaii.gov/about/state-land-use-districts/

Stearns, Harold T. 1985. Geology of the State of Hawaii, Second Edition.

University of Hawai'i at Manoa Sea Grant College Program. 2014. Climate Change Impacts in Hawai'i – A summary of climate change and its impacts to Hawai'i's ecosystems and communities. Posted at: http://seagrant.soest.hawaii.edu/sites/seagrant/soest.hawaii.edu/files/publications/smfinal-hawaiiclimatechange.pdf.

University of Hawai'i, School of Ocean and Earth Science and Technology. Sea Level Rise Hawaii, Hawaii's Changing Climate. Posted at: http://www.soest.hawaii.edu/coasts/sealevel/index.html

U.S. Department of Agriculture, Natural Resource Conservation Service. 1972. Soil Conservation Service, in cooperation with the University of Hawaii Agricultural Experiment Station. Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii.

Wilson Okamoto Corporation. 2003. Waikīkī Livable Community Project. Prepared for the City and County of Honolulu.

Section 8.0

LIST OF AGENCIES, ORGANIZATIONS AND INDIVIDUALS RECEIVING COPIES OF THE EA

8.0 LIST OF AGENCIES, ORGANIZATIONS AND INDIVIDUALS RECEIVING COPIES OF THE EA

Respondents and Distribution	Pre-Consultation	Pre-Consultation Comments Received	Receiving Draft EA	Comments Received	Receiving Final EA/ FONSI
Federal Agencies					
U.S. DOI, Fish and Wildlife	X		X		X
State of Hawai'i Agencies					
Department of Accounting and General Services	X	X	X	X	X
Department of Agriculture	X		X		X
Department of Business, Economic Development & Tourism (DBEDT)	X		X		X
DBEDT, Hawaii State Energy Office	X		X		X
DBEDT, Office of Planning	X	X	X	X	X
Department of Defense	X		X		X
Department of Education	X		X		X
Department of Hawaiian Home Lands	X	X	X		X
Department of Health (DOH)	X		X		X
DOH, Clean Air Branch			X	X	X
DOH, Clean Water Branch		X	X	X	X
DOH, Environmental Planning Office		X	X	X	
DOH, Solid & Hazardous Waste Branch			X		X
Department of Human Services	X	X	X	X	X
Department of Labor and Industrial Relations	X	X	X		X
Department of Land and Natural Resources (DLNR)	X	X	X	X	X
DLNR, Aquatic Resources Division			X		X
DLNR, Commission on Water Resource Management				X	X
DLNR, Engineering Branch		X	X	X	X
DLNR, Division of Forestry and Wildlife				X	X
DLNR, Land Division Oahu District		X	X	X	X
DLNR, State Historic Preservation Division	X		X		X
Department of Transportation	X	X	X	X	X

Respondents and Distribution	Pre-Consultation	Pre-Consultation Comments Received	Receiving Draft EA	Comments Received	Receiving Final EA/ FONSI
Land Use Commission			X		X
Office of Environmental Quality Control	X		X		X
Office of Hawaiian Affairs	X		X	X	X
City and County of Honolulu					
Board of Water Supply	X	X	X	X	X
Budget & Fiscal Services	X		X		X
Department of Community Services	X	X	X	X	X
Department of Design and Construction	X	X	X	X	X
Department of Enterprise Services			X		X
Department of Environmental Services	X	X	X		X
Department of Facility Maintenance	X	X	X	X	X
Department of Planning and Permitting	X	X	X	X	X
Department of Parks and Recreation	X	X	X	X	
Department of Transportation Services	X	X	X	X	X
Fire Department	X	X	X	X	X
Police Department	X	X	X	X	X
Elected Officials					
State Senator Brickwood Galuteria	X		X		X
State House Representative Tom Brower	X		X		X
Councilmember Stanley Chang	X		X		X
Councilmember Kymberly Marcos Pine			X		X
Councilmember Ernest Y. Martin			X		X
Councilmember Ikaika Anderson			X		X
Councilmember Ann Kobayashi			X		X
Councilmember Carol Fukunaga			X		X
Councilmember Joey Manahan			X		X
Councilmember Breene Harimoto			X		X
Councilmember Ron Menor			X		X
Libraries					
Waikiki-Kapahulu Public Library	X		X		X

Respondents and Distribution	Pre-Consultation	Pre-Consultation Comments Received	Receiving Draft EA	Comments Received	Receiving Final EA/ FONSI
Public Utilities					
Hawaiian Electric Company	X		X	X	X
Citizen Groups, Individuals & Consulted Parties					
Waikiki Neighborhood Board No. 9	X		X		X
Kyo-ya Hotels & Resorts LP	X		X		X
Hyatt Regency Waikiki	X		X		X
Queen Emma Land Co.	X		X		X
Outrigger East Hotel	X		X		X
BEA Investments LLC	X		X		X
CSH LLC, c/o F-L Management, Inc	X		X		X
Kings Village Shopping Center	X		X		X
Waikiki Paradise LLC	X		X		X
Taisei Bulldozer Kensetsu Kabushiki	X		X		X
AOAO of Bamboo	X		X		X
Prince Edward Apartments	X		X		X
Laurence Il Carrilho	X		X		X
Diane R. Janot	X		X		X
Thelma I. Akua	X		X		X
Donald W. Ferreira Trust	X		X		X
2424 Kalakaua Associates	X		X		X
Eric X. V. Nguyen	X		X		X
William G. Giola	X		X		X
Capri Apartments	X		X		X
BSC KVSC LLC	X		X		X

Appendix A

COMMENT LETTERS AND RESPONSES

PRE-CONSULTATION COMMENT LETTERS AND RESPONSES

NEIL ABERCROMBIE
GOVERNOR

Dean H. Seki
Comptroller

Maria E. Zielinski
Deputy Comptroller

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

MAY 29 2014

RECEIVED

(P)1183.4

MAY 30 2014

GROUP 70 INTL

Ms. Christine Mendes Ruotola, AICP, LEED AP
Group 70 International, Inc.
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4398

Dear Ms. Ruotola:

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua, Waikiki, Oahu, Hawaii
TMK: (1) 2-6-23:9, 10, 11, 12, 77, 78 and 80

Thank you for the opportunity to provide comments for the subject project. The proposed location does not impact any of the Department of Accounting and General Services' existing facilities in the area and we have no comments to offer at this time.

If you have any questions, your staff may call Mr. Alva Nakamura of the Planning Branch at 586-0488.

Sincerely,

Ralph Morita

for JAMES K. KURATA
Public Works Administrator

AN:lnn

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Mr. James K. Kurata
Public Works Administrator
State of Hawaii
Department of Accounting and General Services
P.O. Box 119
Honolulu, HI 96810-0119

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Kurata:

Thank you for your comment letter dated May 29, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project.

We acknowledge that the Department of Accounting and General Services (DAGS) has no comments since the project does not impact any of the DAGS' existing facilities.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

OFFICE OF PLANNING
STATE OF HAWAII

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

NEIL ABERCROMBIE
GOVERNOR

LEO R. ASUNCION
ACTING DIRECTOR
OFFICE OF PLANNING

Telephone: (808) 587-2846
Fax: (808) 587-2824
Web: http://planning.hawaii.gov/

Ref. No. P-14424

RECEIVED

JUN 25 2014

GROUP 70 INTL

June 23, 2014

Ms. Christine Mendes Ruotola
Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4398

Dear Ms. Ruotola:

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment 2424 Kalakaua; TMK: (1) 2-6-23:009, 011, 012, 077, 078, and 080, Waikiki, Oahu, Hawaii

Thank you for the opportunity to provide comments on the hotel renovations for the Hyatt Regency Waikiki Beach Resort and Spa. We have reviewed the documents received by us dated May 27, 2014, and have the following comments to offer:

1. The Office of Planning (OP) provides technical assistance to state and county agencies in administering the statewide planning system in Hawaii Revised Statutes (HRS) Chapter 226, the Hawaii State Plan. The Hawaii State Plan provides goals, objectives, priorities, and priority guidelines for growth, development, and the allocation of state resources. In particular, the Draft Environmental Assessment (Draft EA) should address how this project meets the Hawaii State Plan's principles to promote sustainability, see HRS § 226-108. The Sustainability Guidelines can be viewed or downloaded from the Office of Planning website at http://files.hawaii.gov/dbedt/op/docs/OP_TAM_2013-12-03.pdf.

2. OP is the lead agency for the Hawaii Coastal Zone Management (CZM) Program. The CZM area is defined as "all lands of the State and the area extending seaward from the shoreline to the limit of the State's police power and management authority, including the U.S. territorial sea" see HRS § 205A-1 (definition of "coastal zone management area"). The Draft EA should include a discussion of the proposed project's ability to meet all of the objectives and policies set forth in HRS § 205A-2. These objectives and policies include: recreational resources, historic resources, scenic and open space resources, coastal ecosystems, economic uses, coastal hazards, managing development, public participation, and marine resources. The Draft EA should include the Coastal Zone Management Act, HRS Chapter 205A, in a list of "relationships to land use plans, policies, and controls."

3. The Draft EA should include a list of any Federal, State, or county permits required for this project. A listing of required permits will allow OP to better evaluate this project and determine such things as whether a Coastal Zone Management Federal Consistency evaluation is necessary.

4. The proposed project lies within the Special Management Area (SMA) delineated by City and County of Honolulu. Please confirm with the City and County of Honolulu's Department of Planning and Permitting on where your project lies in relation to the SMA boundaries and if a SMA permit or Shoreline Setback variance is required.

5. Please consider utilizing the Office of Planning's *Stormwater Impact Assessment* to identify and evaluate information on hydrology (i.e. proximity to drainage ways, stream channels, and sensitive ecosystems in receiving waters), stressors (i.e. water quality and pollutants), sensitivity of resources (i.e. aquatic resources and riparian resources), and management considerations. This guidance document will assist in integrating stormwater impact assessment within your review process.

   The purpose of this document is to provide guidance on assessing stormwater impacts in the planning phase of project development. The goal is to provide a suggested framework and various tools for integrating stormwater impacts assessment. The Appendices include a list of Data Resources, Best Management Practice Techniques and a Reviewers Checklist. The *Stormwater Impact Assessment* guidance document can be found at http://files.hawaii.gov/dbedt/op/czm/initiative/stomwater_imapct/final_stormwater_impact_assessments_guidance.pdf.

If you have any questions regarding this comment letter, please contact Josh Hekekia of our Hawaii CZM Program at 587-2845.

Sincerely,

Leo R. Asuncion
Acting Director

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Hitoshi Hida AIA
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Mr. Leo R. Asuncion
Acting Director
State of Hawaii
Office of Planning
P.O. Box 2359
Honolulu, HI 96804

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Asuncion:

Thank you for your comment letter dated June 23, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project. The following responses are offered to your comments:

1. Section 5.1 of the Draft EA provides a discussion of the how the project supports specific objectives and policies of the State Plan, including principles to promote sustainability.
2. Section 5.3 of the Draft EA provides a discussion of how the project meets the objectives and policies set forth in Chapter 205A-2, HRS.
3. Table 1-1 of the Draft EA provides a list of the Federal, State and County permits required for the project.
4. The proposed project lies within the Special Management Area (SMA) delineated by the City and County of Honolulu. A SMA Use Permit will be submitted to the City and County of Honolulu, Department of Planning and Permitting at the appropriate time.
5. We appreciate you providing the Office of Planning's Stormwater Impact Assessment reference to provide guidance on assessing stormwater impacts. We will share this document with the project's Civil Engineer.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

NEIL ABERCROMBIE
GOVERNOR
STATE OF HAWAII

JOBIE M. K. MASAGATANI
CHAIRMAN
HAWAIIAN HOMES COMMISSION

DARRELL T. YOUNG
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS

P. O. BOX 1879
HONOLULU, HAWAII 96805

RECEIVED
JUN - 9 2014
GROUP 70 INTL

June 6, 2014

Group 70 International
Ms. Christine Mendes Ruotola,
AICP, LEED AP Principal
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96781-4307

Dear Ms. Mendes Ruotola:

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9, 10, 11, 12, 77, 78, and 80
(Waikiki, O'ahu, Hawai'i)

Thank you for consulting with the Department of Hawaiian Home Lands in the preparation of a Draft Environmental Assessment for your proposed project.

The Department of Hawaiian Home Lands has comment to offer at this time. If you have any questions, please contact out Planning Office at 620-9480.

Aloha,

Marvin Kaleo Manuel
Acting Planning Program Manager

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Mr. Marvin Kaleo Manuel
Acting Planning Program Manager
State of Hawaii
Department of Hawaiian Homelands
P.O. Box 1879
Honolulu, HI 96805

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Manuel:

Thank you for your comment letter dated June 6, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project.

We acknowledge that the Department of Hawaiian Homelands has no to offer at this time.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

LINDA ROSEN, M.D., M.P.H.
DIRECTOR OF HEALTH

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

In reply, please refer to:
EMD/CWB

07005PJF.14

July 3, 2014

RECEIVED

JUL - 8 2014

GROUP 70 INTL

Ms. Christine Mendes Ruotola
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813

Dear Ms. Ruotola:

SUBJECT: Pre- Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
Waikiki, Island of Oahu, Hawaii

The Department of Health (DOH), Clean Water Branch (CWB), acknowledges receipt of your letter, dated June 19, 2014, requesting comments on your project. The DOH-CWB has reviewed the subject document and offers these comments. Please note that our review is based solely on the information provided in the subject document and its compliance with the Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at: http://health.hawaii.gov/epo/files/2013/10/CWB_Oct22.pdf.

1. Any project and its potential impacts to State waters must meet the following criteria:

   a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.

   b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.

   c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

2. National Pollutant Discharge Elimination System (NPDES) permit coverage is required for pollutant discharges into State surface waters and for certain situations involving storm water (HAR, Chapter 11-55).

   a. Discharges into Class 2 or Class A State waters can be covered under an NPDES general permit only if all of the NPDES general permit requirements are met. Please see the DOH-CWB website (http://health.hawaii.gov/cwb/) for the NPDES general permits and instructions to request coverage.

b. All other discharges into State surface waters and discharges into Class 1 or Class AA State waters require an NPDES individual permit. To request NPDES individual permit coverage, please see the DOH-CWB forms website located at: http://health.hawaii.gov/cwb/site-map/clean-water-branch-home-page/forms/.

c. NPDES permit coverage for storm water associated with construction activities is required if your project will result in the disturbance of one (1) acre or more of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. NPDES permit coverage is required before the start of the construction activities.

   Land disturbance includes, but is not limited to clearing, grading, grubbing, uprooting of vegetation, demolition (even if leaving foundation slab), staging, stockpiling, excavation into pavement areas which go down to the base course, and storage areas (including areas on the roadway to park equipment if these areas are blocked off from public usage, grassed areas, or bare ground).

3. If your project involves work in, over, or under waters of the United States, it is highly recommend that you contact the Army Corp of Engineers, Regulatory Branch (Tel: 438-9258) regarding their permitting requirements.

   Pursuant to Federal Water Pollution Control Act [commonly known as the "Clean Water Act" (CWA)], Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may **result** in any discharge into the navigable waters..." (Emphasis added). The term "discharge" is defined in CWA, Subsections 502(16), 502(12), and 502(6); Title 40 of the Code of Federal Regulations, Section 122.2; and HAR, Chapter 11-54.

4. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of $25,000 per day per violation.

If you have any questions, please visit our website at: http://health.hawaii.gov/cwb, or contact the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

ALEC WONG, P.E., CHIEF
Clean Water Branch

JF:tg

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Mr. Alec Wong, P.E.
Chief
State of Hawaii
Department of Health
Clean Water Branch
P.O. Box 3378
Honolulu, HI 96801-3378

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, Oʻahu, Hawaiʻi)

Dear Mr. Wong:

Thank you for your comment letter dated July 3, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project. The following responses are offered to your comments.

1. The project will not result in any adverse impacts to State waters.

2. If needed, the project will apply for a National Pollutant Discharge Elimination System (NPDES) permit for stormwater associated with construction activities during the design stage.

3. The project will not involve work in, over, or under waters of the United States.

4. We acknowledge that all discharges related to that project construction or operation activities must comply with the State's Water Quality Standards and noncompliance with the water quality requirements contained in HAR, Chapter 11-54 and the permitting requirements contained in HAR, Chapter 11-55, may be subject to penalties.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

LINDA ROSEN, M.D., M.P.H.
DIRECTOR OF HEALTH

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

In reply, please refer to:
File:

EPO 14-111

June 27, 2014

RECEIVED
JUL - 7 2014
GROUP 70 INTL

Ms. Christine Mendes Ruotola
Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4398

Dear Ms. Ruotola:

SUBJECT: Pre-Consultation for Chapter 343, HRS Environmental Assessment 2424 Kalakaua, TMK: (1) 2-6-23: 9, 10, 11, 12, 77, 78, and 80 Waikiki, Oahu, Hawaii

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your letter dated May 27, 2014. Thank you for allowing us to review and comment on the subject document. The document was routed to the relevant Environmental Health divisions, branches, and offices. They will provide specific comments to you if necessary. EPO recommends that you review the standard comments at: http://health.hawaii.gov/epo/home/landuse-planning-review-program/. You are required to adhere to all applicable standard comments.

You may also wish to review the recently revised Water Quality Standards Maps that have been updated for all islands. The new Water Quality Standards Maps (2013) can be found at: http://health.hawaii.gov/cwb/site-map/clean-water-branch-home-page/water-quality-standards/.

The EPO suggests that you examine the many sources available on strategies to support the sustainable and healthy design of communities and buildings, including the:
State of Hawaii, Office of Planning: www.planning.hawaii.gov and the 2013 ORMP;
U.H., School of Ocean and Earth Science and Technology: www.soest.hawaii.edu;
2014 National Climate Change Report – Highlights for Hawaii:
http://ipcc-wg2.gov/AR5/images/uploads/WGIIAR5-Chap29_FGDall.pdf;
U.S. Health and Human Services: www.hhs.gov/about/sustainability;
U.S. Environmental Protection Agency's sustainability programs: www.epa.gov/sustainability;
U.S. Green Building Council's LEED program: www.usgbc.org/leed;
Smart Growth America: www.smartgrowthamerica.org;
International Well Building Standard: http://delosliving.com; and
Intergovernmental Panel on Climate Change (IPCC):
http://ipcc-wg2.gov/AR5/images/uploads/WGIIAR5-Chap29_FGDall.pdf

The DOH encourages everyone to apply these sustainability strategies and principles early in the planning and review of projects. We also request that for future projects you consider conducting a

Health Impact Assessment (HIA). More information is available at: www.cdc.gov/healthyplaces/hia.htm and www.epa.gov/research/healthscience/health-impact-assessment.htm.

We request you share all of this information with others to increase community awareness on sustainable, innovative, inspirational, and healthy community design.

Mahalo,

Laura Leialoha Phillips McIntyre, AICP
Program Manager, Environmental Planning Office

c. Nolan Hirai, Clean Air Branch
Alec Wong, Clean Water Branch
Jeffrey Eckerd, Indoor & Radiological Health Branch

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Ms. Laura Leialoha Phillips McIntyre, AICP
Program Manager
State of Hawaii
Department of Health
Environmental Planning Office
P.O. Box 3378
Honolulu, HI 96801-3378

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, Oʻahu, Hawaiʻi)

Dear Ms. McIntyre:

Thank you for your comment letter dated June 27, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project. The following responses are offered to your comments.

We appreciate the resources you have provided relating to Standard Comments, Water Quality Standards Maps, Health Impact Assessment, and various sources on strategies to support the sustainable and healthy design of communities and buildings. The project will apply sustainability strategies and principles to the extent possible.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

NEIL ABERCROMBIE
GOVERNOR

PATRICIA McMANAMAN
DIRECTOR

BARBARA A. YAMASHITA
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF HUMAN SERVICES
Benefit, Employment & Support Services Division
820 Mililani Street, Suite 606
Honolulu, Hawaii 96813

June 13, 2014

Refer to 14-0339

RECEIVED

JUN 16 2014

GROUP 70 INTL

Ms. Christine Mendes Rutola
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813-4307

Dear Ms. Ruotola:

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua; TMK: (1) 2-6-23: 9, 10, 11, 12, 77, 78, and 80
Waikiki, Oahu, Hawaii

Thank you for your letter dated May 27, 2014 that requests the Department of Human Services (DHS) review and comment on the environmental review process for the proposed 2424 Kalakaua project.

The DHS has reviewed the summary of the project information and has no comment at this time.

If you have any questions or need further information, please contact Ms. Jill Arizumi, Child Care Program Specialist, at (808) 586-5240.

Sincerely,

Scott Nakasone
Assistant Division Administrator

c: Patricia McManaman, Director

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Hitoshi Hida AIA
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Mr. Scott Nakasone
Assistant Division Administrator
State of Hawaii
Department of Human Services
820 Mililani Street, Suite 606
Honolulu, HI 96813

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Nakasone:

Thank you for your comment letter dated June 13, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project.

We acknowledge that the Department of Human Services has no comment at this time.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

NEIL ABERCROMBIE
GOVERNOR

DWIGHT TAKAMINE
DIRECTOR

JADE T. BUTAY
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS
830 PUNCHBOWL STREET, ROOM 321
HONOLULU, HAWAII 96813
www.hawaii.gov/labor
Phone: (808) 586-8844/Fax: (808) 586-9099

RECEIVED
JUN 19 2014
GROUP 70 INTL

June 16, 2014

Ms. Christine Mendes Ruotoloa
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, HI 96813-4307

Dear Ms. Christine Mendes Ruotoloa:

This is in response to your request for comments dated May 27, 2014 on the Environmental Assessment report for the proposed 2424 Kalakaua project in Waikiki on the island of Oahu.

The Department of Labor and Industrial Relations has no comments, and we foresee no impact on our existing or proposed programs. Should you have any questions, please call me at (808) 586-8844.

Sincerely,

JADE T. BUTAY
Deputy Director

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Ms. Jade T. Butay
Deputy Director
State of Hawaii
Department of Labor and Industrial Relations
830 Punchbowl Street, Room 321
Honolulu, HI 96805

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Ms. Butay:

Thank you for your comment letter dated June 16, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project.

We acknowledge that the Department of Labor and Industrial Relations (DLIR) has no comments since the project will not impact DLIR's existing or proposed program.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 26, 2014

Group 70 International, Inc.
Attention: Ms. Christine Ruotola
925 Bethel Street, 5th Floor
Honolulu, HI 96813-4307

via email: cruotola@group70int.com

Dear Ms. Ruotola:

SUBJECT: Pre-Consultation for Chapter 343, HRS Environmental Assessment, 2424 Kalakaua; TMK (1) 2-6-23: 9, 10, 11, 12, 77, 78, and 80

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from (1) Engineering Division; and (2) Land Division – Oahu District on the subject matter. Should you have any questions, please feel free to call Darlene Nakamura at 587-0417. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosures

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

2014 JUN 19 PM 2:40

2014 JUN 09 AM 10:34 ENGINEERING

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 6, 2014

MEMORANDUM

~~TO:~~ FR:

DLNR Agencies:
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
__Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

TO:

~~FROM:~~ Russell Y. Tsuji, Land Administrator

SUBJECT: Pre-Assessment Consultation for Chapter 343, HRS Environmental Assessment, 2424 Kalakaua

LOCATION: 2424 Kalakaua, Waikiki, Oahu, Hawai`i; TMK: (1) 2-6-23: 9, 10, 11, 12, 77, 78, and 80

APPLICANT: BRE Waikiki Owner II LLC by its consultation, Group 70 International, Inc.

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document.

Please submit any comments by June 25, 2014. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(✓) Comments are attached.

Signed: _____
Print Name: Carty S. Chang, Chief Engineer
Date: 6/18/14

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/ Russell Y. Tsuji
REF: Pre-Consultation for Chapter 343 HRS EA 2424 Kalakaua
Oahu.035

COMMENTS

( ) We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone ___.

(X) Please take note that the project site according to the Flood Insurance Rate Map (FIRM), is located in Zone X. The National Flood Insurance Program (NFIP) does not regulate developments within Zone X.

( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ___.

( ) Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

( ) Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.
( ) Mr. Frank DeMarco at (808) 961-8042 of the County of Hawaii, Department of Public Works.
( ) Mr. Carolyn Cortez at (808) 270-7253 of the County of Maui, Department of Planning.
( ) Mr. Stanford Iwamoto at (808) 241-4896 of the County of Kauai, Department of Public Works.

( ) The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.

( ) The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

( ) Additional Comments: _____

( ) Other: _____

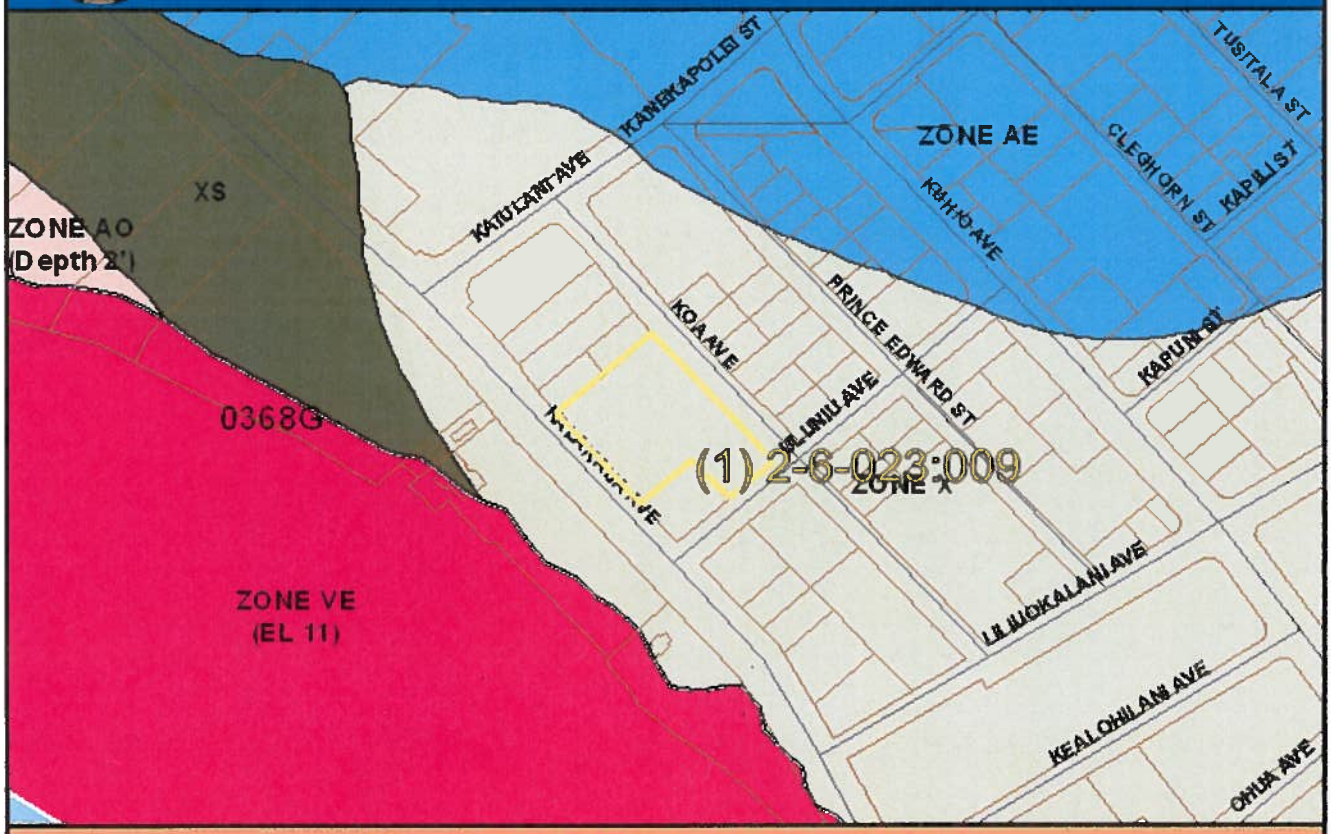
Should you have any questions, please call Mr. Dennis Imada of the Planning Branch at 587-0257.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: 6/12/14

State of Hawaii

FLOOD HAZARD ASSESSMENT REPORT



NATIONAL FLOOD INSURANCE PROGRAM

FLOOD ZONE DEFINITIONS

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD – The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zone A, AE, AH, AO, V, and VE. The Base Flood Elevation (BFE) is the water-surface elevation of the 1% annual chance flood. Mandatory flood insurance purchase applies in these zones:

- **Zone A:** No BFE determined.
- **Zone AE:** BFE determined.
- **Zone AH:** Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined.
- **Zone AO:** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined.
- **Zone V:** Coastal flood zone with velocity hazard (wave action); no BFE determined.
- **Zone VE:** Coastal flood zone with velocity hazard (wave action); BFE determined.
- **Zone AEF:** Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.

NON-SPECIAL FLOOD HAZARD AREA – An area in a low-to-moderate risk flood zone. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

- **Zone XS (X shaded):** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- **Zone X:** Areas determined to be outside the 0.2% annual chance floodplain.

OTHER FLOOD AREAS

- **Zone D:** Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

PROPERTY INFORMATION

COUNTY:	HONOLULU
TMK NO:	(1) 2-6-023-009
PARCEL ADDRESS:	2424 KALAKAUA AVE HONOLULU, HI 96815
FIRM INDEX DATE:	JANUARY 19, 2011
LETTER OF MAP CHANGE(S):	NONE
FEMA FIRM PANEL(S):	15003C0368G
PANEL EFFECTIVE DATE:	JANUARY 19, 2011

PARCEL DATA FROM:	APRIL 2014
IMAGERY DATA FROM:	MAY 2006

IMPORTANT PHONE NUMBERS

County NFIP Coordinator	
City and County of Honolulu	
Mario Siu-Li, CFM	(808) 768-8098
State NFIP Coordinator	
Carol Tyau-Beam, P.E., CFM	(808) 587-0267

Disclaimer: The Department of Land and Natural Resources (DLNR) assumes no responsibility arising from the use of the information contained in this report. Viewers/Users are responsible for verifying the accuracy of the information and agree to indemnify the DLNR from any liability, which may arise from its use.

If this map has been identified as 'PRELIMINARY' or 'UNOFFICIAL', please note that it is being provided for informational purposes and is not to be used for official/legal decisions, regulatory compliance, or flood insurance rating. Contact your county NFIP coordinator for flood zone determinations to be used for compliance with local floodplain management regulations.

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 6, 2014

MEMORANDUM

TO: **DLNR Agencies:**
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
_X_Engineering Division
__Div. of Forestry & Wildlife
__Div. of State Parks
_X_Commission on Water Resource Management
_X_Office of Conservation & Coastal Lands
_X_Land Division – Oahu District
_X_Historic Preservation

FROM: for Russell Y. Tsuji, Land Administrator
SUBJECT: Pre-Assessment Consultation for Chapter 343, HRS Environmental Assessment, 2424 Kalakaua
LOCATION: 2424 Kalakaua, Waikiki, Oahu, Hawai`i; TMK: (1) 2-6-23: 9, 10, 11, 12, 77, 78, and 80
APPLICANT: BRE Waikiki Owner II LLC by its consultation, Group 70 International, Inc.

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document.

Please submit any comments by June 25, 2014. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
(✓) We have no comments.
( ) Comments are attached.

Signed: _____
Print Name: _____
Date: 6/9/2014

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Mr. Russell Y. Tsuji
Land Administrator
State of Hawaii
Department of Land and Natural Resources
Land Division – Oahu District
P.O. Box 621
Honolulu, HI 96809

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, Oʻahu, Hawaiʻi)

Dear Mr. Tsuji:

Thank you for your comment letter dated June 26, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project.

We acknowledge that the Department of Land and Natural Resources, Land Division, has no comments other than comments from the Engineering Branch and Land Division – Oahu District. We will respond to the comments of each division in separate correspondences.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Mr. Carty S. Chang
Chief Engineer
State of Hawaii
Department of Land and Natural Resources
Engineering Division
P.O. Box 621
Honolulu, HI 96809

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, Oʻahu, Hawaiʻi)

Dear Mr. Chang:

Thank you for your comment letter dated June 6, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project.

We acknowledge that the project is located in the Flood Insurance Rate Map (FIRM) Zone X and the National Flood Insurance Program (NFIP) does not regulate developments within Zone X.

The retail redevelopment will comply with flood hazard requirements in accordance with current Federal, State and City and County of Honolulu standards, including rules and regulations of the NFIP presented in Title 44 of the Code of Federal Regulations (44CFR).

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Mr. Timothy Chee
Chief Engineer
State of Hawaii
Department of Land and Natural Resources
Land Division – Oahu District
P.O. Box 621
Honolulu, HI 96809

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, Oʻahu, Hawaiʻi)

Dear Mr. Chee:

Thank you for your comment letter dated June 6, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project.

We acknowledge that Department of Land and Natural Resources, Land Division – Oahu District has no comments on the proposed project.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

NEIL ABERCROMBIE
GOVERNOR

FORD N. FUCHIGAMI
INTERIM DIRECTOR

Deputy Directors
RANDY GRUNE
AUDREY HIDANO
ROSS M. HIGASHI
JADINE URASAKI

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

IN REPLY REFER TO:

STP 8.1607

June 18, 2014

RECEIVED

JUN 23 2014

GROUP 70 INTL

Ms. Christine Mendes Ruotola, AICP, LEED AP
Principal
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813-4307

Dear Ms. Ruotola:

Subject: 2424 Kalakaua
Pre-Consultation for Chapter 343, HRS Environmental Assessment
TMK: (1) 2-6-023:009-012, 077, 078 and 080

The subject project is not expected to significantly impact the State highway facility. However, the developer is required to obtain a permit from our Department of Transportation (DOT) Highways Division, for the transport of oversized and/or overweight materials and equipment on State highway facilities.

If there are any questions, please contact Mr. Norren Kato of the DOT Statewide Transportation Planning Office at telephone number (808) 831-7976.

Very truly yours,

FORD N. FUCHIGAMI
Interim Director of Transportation

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Hitoshi Hida AIA
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Mr. Ford N. Fuchigami
Interim Director of Transportation
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813-5097

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Nakasone:

Thank you for your comment letter dated June 18, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project.

We acknowledge that the project is not expected to significantly impact the State Highway facility.

At the appropriate time, a permit from the Department of Transportation Highway's Division will be obtained for the transport of oversized and/or overweight materials and equipment on State Highway facilities.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

KIRK CALDWELL, MAYOR

DUANE R. MIYASHIRO, Chair
MAHEALANI CYPHER, Vice Chair
THERESIA C. McMURDO
ADAM C. WONG
DAVID C. HULIHEE

ROSS S. SASAMURA, Ex-Officio
FORD N. FUCHIGAMI, Ex-Officio

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

ELLEN E. KITAMURA, P.E.
Deputy Manager and Chief Engineer

June 13, 2014

RECEIVED

JUN 17 2014

GROUP 70 INTL

Ms. Christine Mendes Ruotola, AICP, LEED AP
Principal
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813-4307

Dear Ms. Ruotola:

Subject: Your Letter Dated May 27, 2014 on the Environmental Assessment Pre-Consultation for the Hyatt Regency Hotel on Kalakaua Avenue - Tax Map Key: 2-6-023: 009, 010, 011, 012, 077, 078, 080

Thank you for the opportunity to comment on the proposed improvements at the Hyatt Regency Hotel.

The existing water system is adequate to accommodate the proposed hotel improvements. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply (BWS) reserves the right to change any position or information stated herein up until the final approval of the 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 BWS 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, Project Review Branch of our Water Resources Division at 748-5443.

Very truly yours,

for ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Hitoshi Hida AIA
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Mr. Ernest Y. W. Lau, P.E.
Manager and Chief Engineer
Board of Water Supply
630 South Beretania Street
Honolulu, HI 96843

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, Oʻahu, Hawaiʻi)

Dear Mr. Lau:

Thank you for your comment letter dated June 13, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project.

We acknowledge that the existing water system is adequate to accommodate the proposed hotel improvements. We understand that the final decision on the availability of water will be confirmed when the project's building permit application is submitted for approval.

The applicant will pay the Water System Facilities Charges for resource development, transmission and daily storage when water is made available for the project.

On-site fire protection requirements will be coordinated directly with the Honolulu Fire Department's Fire Prevention Bureau.

We acknowledge that the project is subject to BWS Cross-Connection Control and Backflow Prevention requirements prior to the issuance of Building Permit Applications.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

DEPARTMENT OF COMMUNITY SERVICES
CITY AND COUNTY OF HONOLULU
715 SOUTH KING STREET, SUITE 311 • HONOLULU, HAWAII 96813 • AREA CODE 808 • PHONE: 768-7762 • FAX: 768-7792

KIRK CALDWELL
MAYOR

PAMELA A. WITTY-OAKLAND
DIRECTOR

GARY K. NAKATA
DEPUTY DIRECTOR

June 24, 2014

RECEIVED

JUN 30 2014

GROUP 70 INTL

Ms. Christine Mendes Ruotola
Principal
Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813

Dear Ms. Ruotola:

SUBJECT: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua – TMK: (1) 206-23: 9,10,11,12,77, and 80
Waikiki, Oahu, Hawaii

We have reviewed your letter dated May 27, 2014, and the attached information regarding the subject project.

Our review of the information provided indicates that the proposed project will have no adverse impacts on any Department of Community Services' activities or projects at this time. Thank you for providing us with the opportunity to comment on this matter.

Sincerely,

Pamela A. Witty-Oakland
Director

PAW:sgk

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Ms. Pamela A. Witty-Oakland
Director
City and County of Honolulu
Department of Community Services
715 South King Street, Suite 311
Honolulu, HI 96813

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Ms. Witty-Oakland:

Thank you for your comment letter dated June 24, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project.

We acknowledge that the project will have no adverse impacts on any Department of Community Services' activities or projects at this time.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8480 • Fax: (808) 768-4567
Web site: www.honolulu.gov

KIRK CALDWELL
MAYOR

MARK YONAMINE, P.E.
ACTING DIRECTOR

GERALD HAMADA, P.E.
ACTING DEPUTY DIRECTOR

June 19, 2014

RECEIVED

JUN 20 2014

GROUP 70 INTL

Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813

Attn: Christine Mendes Ruotola

Dear Ms. Ruotola:

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua, TMK: (1) 2-6-23: 9, 10, 11, 12, 77, 78, and 80

The Department of Design and Construction does not have comments to offer on the environmental assessment early consultation.

Thank you for the opportunity to review and comment. Should there be any questions, please contact me at 768-8480.

Sincerely,

Mark Yonamine, P.E.
Acting Director

MY: cf (564505)

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Mr. Mark Yonamine, P.E.
Acting Director
City and County of Honolulu
Department of Design and Construction
650 South King Street, 11th Floor
Honolulu, HI 96813

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Yonamine:

Thank you for your comment letter dated June 19, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project.

We acknowledge that the Department of Design and Construction has no comments to offer on the project.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

DEPARTMENT OF ENVIRONMENTAL SERVICES
CITY AND COUNTY OF HONOLULU
1000 ULUOHIA STREET, SUITE 308, KAPOLEI, HAWAII 96707
TELEPHONE: (808) 768-3486 • FAX: (808) 768-3487 • WEBSITE: http://envhonolulu.org

KIRK CALDWELL
MAYOR

LORI M.K. KAHIKINA, P.E.
DIRECTOR

TIMOTHY A. HOUGHTON
DEPUTY DIRECTOR

ROSS S. TANIMOTO, P.E.
DEPUTY DIRECTOR

IN REPLY REFER TO
PRO 14-077

June 20, 2014

RECEIVED
JUN 23 2014
GROUP 70 INTL

Ms. Christine Mendes Ruotola, AICP, LEED AP
Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4398

Dear Ms. Ruotola:

SUBJECT: Pre-Consultation for Chapter 343, HRS Environmental Assessment, 2424 Kalakaua, TMK: 2-6-023:009, 010, 011, 012, 077, 078, and 080, Waikīkī, O'ahu, Hawai'i

We have reviewed the subject document as transmitted to us by your letter dated May 27, 2014. We have the following comments:

1. The Department of Planning and Permitting (DPP), Wastewater Branch has the lead role in issuing sewer connection permits.

2. The sewer laterals from the project connect to sewer lines that convey the wastewater to Kanekapolei Street, Koa Avenue, and Uluniu Avenue.

3. If the proposed project includes renovations that increase the wastewater flow to the sewer mains in Koa Avenue and Uluniu Avenue, the 8-inch and 12-inch sewer lines in Uluniu Avenue may not be able to accommodate the proposed additional wastewater flow. We have plans to upgrade these sewer lines through a City Capital Improvement Project, but the construction may not be done until 2020.

Should you have any questions, please call Lisa Kimura, Civil Engineer, at 768-3455.

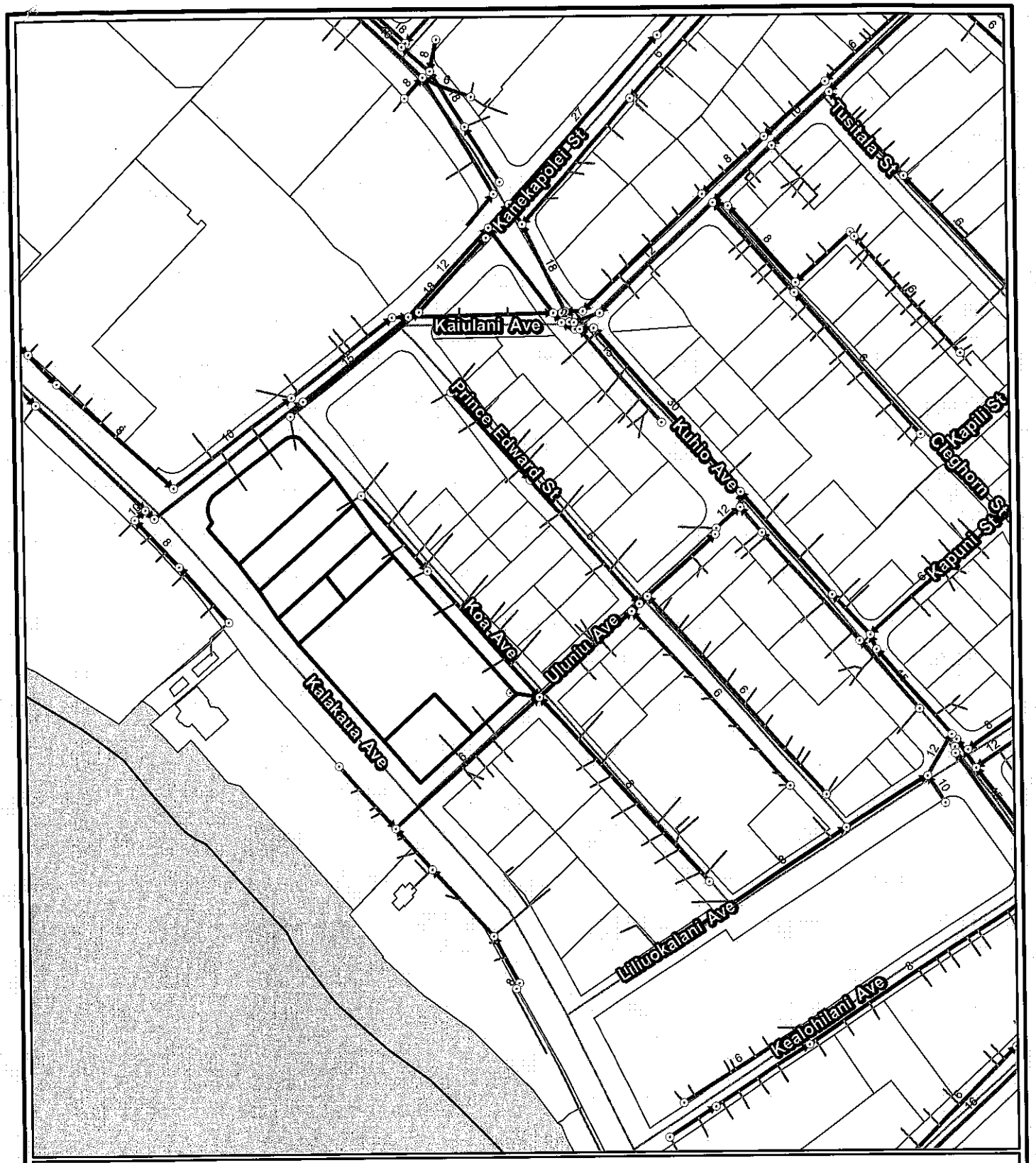
Sincerely,

Ross S. Tanimura

for Lori M.K. Kahikina, P.E.
Director

Attachment

cc: Department of Planning and Permitting, SDD, WWB
Department of Design and Construction, WWD, CSEB



2424 Kalakaua Avenue
Sewer Location Map

Prepared by: Dept. of Environmental Services
City & County of Honolulu
1000 Uluohia Street
Kapolei, Hawaii 96707

Copyright: City & County of Honolulu
All Rights Reserved 2011

0 65 130 260 390 520
Feet

N

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Hitoshi Hida AIA
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Ms. Lori M.K. Kahikina, P.E.
Director
City and County of Honolulu
Department of Environmental Services
1000 Uluohia Street, Suite 308
Kapolei, HI 96707

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Ms. Kahikina:

Thank you for your comment letter dated June 20, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project. The following responses are offered to your comments:

1. We understand that the Department of Planning and Permitting, Wastewater Branch has the lead role in issuing sewer connection permits.
2. We understand that sewer laterals from the project connect to sewer lines that convey the wastewater to Kanekapolei Street, Koa Avenue, and Uluniu Avenue.
3. The applicant has met with the City regarding existing sewer mains and capacity to support the proposed project.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

DEPARTMENT OF FACILITY MAINTENANCE

CITY AND COUNTY OF HONOLULU

1000 Ulu'ohia Street, Suite 215, Kapolei, Hawaii 96707
Phone: (808) 768-3343 • Fax: (808) 768-3381
Website: www.honolulu.gov

KIRK CALDWELL
MAYOR

ROSS S. SASAMURA, P.E.
DIRECTOR AND CHIEF ENGINEER

EDUARDO P. MANGLALLAN
DEPUTY DIRECTOR

RECEIVED
JUN 19 2014
GROUP 70 INTL

IN REPLY REFER TO:
DRM 14-465

June 16, 2014

Ms. Christine Mendes Ruotola, AICP, LEED AP, Principal
Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4398

Dear Ms. Mendes Ruotola:

SUBJECT: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua, TMK: (1) 2-6-23:9,10,11,12,77,78 and 80
(Waikiki, Hawaii)

Thank you for the opportunity to review and to give our input regarding the subject project. Our comments are as follows:

- Provide necessary Best Management Practices (BMP) for the project site including the catch basin located at the intersections on Kalakaua/Kaiulani, Kaiulani/Koa and Kalakaua/Uluniu of the subject property.
- Provide necessary BMP for existing drainage inlet at the intersection of Koa/Uluniu and across 2412 Koa Avenue.
- All work to be performed within the City's Kalakaua Avenue, Kaiulani Avenue, Koa Avenue and Uluniu Avenue right of ways shall require the proper City permits (street usage permit and grading/trenching permit).
- All work within the City road's right of ways shall be to City standards.
- All damages to existing sidewalk shall be repaired or replaced in kind using the same material and accepted by the City when work is completed.

If you have any questions, please call Mr. Kyle Oyasato of the Division of Road Maintenance at 768-3697.

Sincerely,

Ross S. Sasamura, P.E.
Director and Chief Engineer

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Hitoshi Hida AIA
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Mr. Ross S. Sasamura, P.E.
Director and Chief Engineer
City and County of Honolulu
Department of Facility Maintenance
1000 Uluohia Street, Suite 215
Kapolei, HI 96707

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Sasamura:

Thank you for your comment letter dated June 16, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project. The following responses are offered to your comments:

1. Best Management Practices (BMP) for the project site will include catch basins located at the intersections of Kalakaua/Kaiulani, Kaiulani/Koa and Kalakaua/Uluniu.
2. BMPs for the existing drainage inlets at the intersection of Koa and Uluniu and across 2412 Koa Avenue will be provided as part of the proposed project.
3. Appropriate permits will be obtained for all work within the City's Kalakaua Avenue, Kaiulani Avenue, Koa Avenue and Uluniu Avenue right of ways.
4. All project related work performed within the City roads right of ways will be to City standards.
5. Any damages to existing sidewalks will be repaired or replaced using the same type of materials. Work will be reviewed and accepted by the City upon completion.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honoluludpp.org • CITY WEB SITE: www.honolulu.gov

KIRK CALDWELL
MAYOR

GEORGE I. ATTA, FAICP
DIRECTOR

ARTHUR D. CHALLACOMBE
DEPUTY DIRECTOR

2014//ELOG-961(SB)

June 13, 2014

RECEIVED
JUN 16 2014
GROUP 70 INTL

Ms. Christine Mendes Ruotola
Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813

Dear Ms. Ruotola:

SUBJECT: Pre-Assessment Consultation
Draft Environmental Assessment
2424 Kalakaua
2424 Kalakaua – Waikiki
Tax Map Key 2-6-23: 9, 10, 11, 12, 77, 78, and 80

This is in response to your letter (received May 28, 2014) requesting comments regarding the preparation of an Environmental Assessment for the Hyatt Regency Waikiki Beach Resort and Spa (Project). BRE Waikiki Owner II LLC (Lessee) is proposing reconfiguration of the hotel and retail spaces of the Project. The work will entail improving retail facilities, hotel amenities, and pedestrian circulation; adding new porte cochere along Koa Avenue, new elevators at the porte cochere, and a new pool deck on the third floor; and inclusion of a second floor lanai shopping arcade.

Based on the summary information and location map and without any detailed plans, we have the following preliminary review comments:

1. The Project is located in the Resort Mixed Use Precinct of the Waikiki Special District, and is subject to the design standards and objectives of the district and will require a Special District Permit (Minor).

2. The Project site is located within the Special Management Area and is subject to the provisions of Chapter 25, Revised Ordinances of Honolulu. Special Management Area Use Permit (Major) will be required if development within the Special Management Area exceeds $500,000.

3. Consult with the State Department of Land and Natural Resources Historic Preservation Division.

4. Your Draft Environmental Assessment should include:

   a. A site plan showing the Special Management Area and flood hazard districts.

   b. Existing plans and elevations; and proposed plans and elevations of the improvements indicating the respective program areas. All drawings should indicate property lines and include a graphic scale.

   c. View study analysis and potential view impacts to adjoining properties. Especially relating to prominent view corridors, significant public view of Waikiki landmarks, the ocean and the mountain from public vantage points. Provide photo montages that clearly indicate where the views were captured from.

   d. Proposed façade improvements (if applicable) and porte cochere design.

   e. Existing and proposed floor areas, building areas and open space calculations.

   f. Plan indicating existing number of parking stalls.

   g. A good circulation plan indicating all access to the Project site, inclusive of bicyclists and pedestrians.

   h. A traffic impact analysis and current and future traffic management plan. The discussion should outline traffic impacts related to the new proposed porte cochere along Koa Avenue. Our discussion with the Department of Planning and Permitting, Traffic Review Branch (TRB) revealed that you have considered about the possible placement of a pedestrian bridge on Uluniu Ave to connect the parking with the Project. Such a proposal will have some major visual impacts along Uluniu Avenue. It is recommended that the traffic and circulation plan be reviewed by the TRB and the Department of Transportation Services.

   i. A discussion on how the proposal supports general Waikiki Special District Design objectives and how it promotes a "Hawaiian Sense of Place".

   j. A Discussion on how the proposed improvements would relate to the objectives of the Waikiki Livable Communities project. In particular, the project should discuss how it contributes to a "Pedestrian First" orientation and if attractive walkways and interactive landscaped open spaces will be provided.

Project compliance with the development standards of the Land Use Ordinance will be reviewed when actual plans of the proposed improvements become available. We may have some additional comments when we review the Draft Environmental Assessment.

Should you have any questions, please contact Sery Berhanu of our Urban Design Branch at 768-8033 or via email at sberhanu@honolulu.gov.

Very truly yours,

Anthony X Cheng

FOR George I. Atta, FAICP
Director

Doc 1151917

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Hitoshi Hida AIA
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Mr. George I. Atta, FAICP
Director
City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, HI 96813

Attn: Mr. Tony Ching

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, Oʻahu, Hawaiʻi)

Dear Mr. Atta:

Thank you for your comment letter dated June 13, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project.

The following responses are offered to your comments:

1. We understand that the project is located in the Resort Mixed Use Precinct of the Waikīkī Special District (WSD). The project will meet design standards and objectives of the WSD. At the appropriate time, a Special District Permit (Minor) will be submitted to DPP for review and approval.

2. We understand that the project is located in the Special Management Area (SMA) and is subject to requirements under Chapter 25, Revised Ordinances of Honolulu. At the appropriate time, a SMA Use Permit (Major) will be submitted to DPP for review and approval.

3. The project will consult with the State Historic Preservation Division as part of the Chapter 343, Hawaii Revised Statutes Environmental Assessment (EA) process.

4. The Draft EA will include the following items:
   a. A plan showing the SMA and flood hazard district is provided as Figure 1-6 and Figure 3-2 in the Draft EA.

   b. Existing and proposed plans and elevations of the improvements indicating program areas are provided as Figures 2-2 through 2-20 of the Draft EA.

   c. A view study analysis and potential view impacts to adjoining properties is provided in Section 3.16 of the Draft EA.

d. The proposed façade improvements to the retail area and porte cochere design can be seen in Figures 2-9 and Figures 2-18 through 2-20 of the Draft EA.

e. The existing and proposed floor area, building area and open space is provided in Table 1 below:

Table 1 – Project Summary		
	Existing (SF)	**Proposed (SF)**
Floor Area	104,457	104,457
Building Area	80,962	80,552
Open Space (%)	23,765 (22.75%)	23,905 (22.89%)

f. Figure 3-7 of the Draft EA shows the existing parking for the basement area of the hotel property. There are a total of 431 existing parking stalls.

g. The circulation plan is provided as Figure 2-21 of the Draft EA.

h. A Traffic Impact Report is provided as Appendix A of the Draft EA.

We would like to clarify that the project design will not include the placement of a pedestrian bridge on Uluniu Avenue to connect the parking with the project.

i. Section 5.7 of the Draft EA provides a discussion on the how the project supports the WSD Design objectives and promotes a "Hawaiian Sense of Place".

j. Section 5.9 of the Draft EA provides a discussion on how the project will relate to the objectives of the Waikīkī Livable Communities project.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

d. The proposed façade improvements to the retail area and porte cochere design can be seen in Figures 2-9 and Figures 2-18 through 2-20 of the Draft EA.

e. The existing and proposed floor area, building area and open space is provided in Table 1 below:

Table 1 – Project Summary		
	Existing (SF)	**Proposed (SF)**
Floor Area	104,457	104,457
Building Area	80,962	80,552
Open Space (%)	23,765 (22.75%)	23,905 (22.89%)

f. Figure 3-7 of the Draft EA shows the existing parking for the basement area of the hotel property. There are a total of 431 existing parking stalls.

g. The circulation plan is provided as Figure 2-21 of the Draft EA.

h. A Traffic Impact Report is provided as Appendix A of the Draft EA.

We would like to clarify that the project design will not include the placement of a pedestrian bridge on Uluniu Avenue to connect the parking with the project.

i. Section 5.7 of the Draft EA provides a discussion on the how the project supports the WSD Design objectives and promotes a "Hawaiian Sense of Place".

j. Section 5.9 of the Draft EA provides a discussion on how the project will relate to the objectives of the Waikīkī Livable Communities project.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

DEPARTMENT OF PARKS & RECREATION

CITY AND COUNTY OF HONOLULU

1000 Uluohia Street, Suite 309, Kapolei, Hawaii 96707
Phone: (808) 768-3003 • Fax: (808) 768-3053
Website: www.honolulu.gov

KIRK CALDWELL
MAYOR

MICHELE K. NEKOTA
DIRECTOR

JEANNE C. ISHIKAWA
DEPUTY DIRECTOR

RECEIVED

JUN 19 2014

GROUP 70 INTL

June 16, 2014

Ms. Christine Mendes Ruotola, AICP, LEED AP
Group 70 International, Inc.
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96819

Dear Ms. Ruotola:

SUBJECT: Pre-Consultation for Chapter 343, HRS Environmental Assessment, 2424 Kalakaua

Thank you for the opportunity to review and comment at the Pre-Consultation Stage of the Environmental Assessment for reconfiguration of spaces in the hotel and retail podium at the Hyatt Regency Waikiki Beach Resort and Spa (Hyatt Regency Hotel).

The Department of Parks and Recreation has no comment. As the proposed project will have no impact on any program or facility of the Department, you may remove us as a consulted party to the balance of the EIS process.

Should you have any questions, please contact Mr. John Reid, Planner at 768-3017.

Sincerely,

Michele K. Nekota
Director

MKN:jr
(565236)

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Hitoshi Hida AIA
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Ms. Michele K. Nekota
Director
City and County of Honolulu
Department of Parks and Recreation
1000 Uluohia Street, Suite 309
Kapolei, HI 96707

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Ms. Nekota:

Thank you for your comment letter dated June 16, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project.

We acknowledge that the Department of Parks and Recreation has no comments since the project will not impact DPR's program or facilities.

We will remove you as a consulted party for the remainder of the EA process.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

KIRK CALDWELL
MAYOR

MICHAEL D. FORMBY
DIRECTOR

MARK N. GARRITY, AICP
DEPUTY DIRECTOR

TP5/14-564568R

June 25, 2014

RECEIVED
JUN 26 2014
GROUP 70 INTL

Ms. Christine Mendes Ruotola, AICP, LEED AP
Principal
Group 70 International
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813-4398

Dear Ms. Mendes Ruotola:

SUBJECT: Pre-Consultation for Draft Environmental Assessment (DEA) and Anticipated Finding of No Significant Impact (FONSI), 2424 Kalakaua Avenue; Tax Map Key: (1) 2-6-23: 9, 10, 11, 12, 77, 78, and 80; Waikiki, Oahu, Hawaii

In response to your letter dated May 27, 2014, we have the following comments:

1. The DEA should include a multimodal Traffic Impact Assessment Report (TIAR). The TIAR should discuss impacts on the surrounding City streets as a result of the project, including the short-term impacts during construction. The TIAR should also develop short- and long-term proposed transportation mitigating measures based on the City's complete streets ordinance and principles.

2. The Waikiki Neighborhood Board No. 9, as well as the area residents, businesses, etc., should be kept apprised of the details of the proposed project and the impacts, particularly during construction, the project may have on the adjoining local street area network.

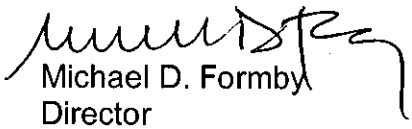
3. A street usage permit from the City's Department of Transportation Services should be obtained for any construction-related work that may require the temporary closure of any traffic lane on a City street.

4. Any construction materials and equipment should be transferred to and from the project site during off-peak traffic hours (8:30 a.m. to 3:30 p.m.) to minimize any possible disruption to traffic on the local streets.

We reserve further comment pending submission of the DEA.

Thank you for the opportunity to review this matter. Should you have any further questions, please contact Michael Murphy of my staff at 768-8359.

Very truly yours,



Michael D. Formby
Director

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Hitoshi Hida AIA
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Ms. Michael D. Formby
Director
City and County of Honolulu
Department of Transportation Services
650 South King Street, 3rd Floor
Honolulu, HI 96813

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Formby:

Thank you for your comment letter dated June 25, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project. The following responses are offered to your comments:

1. A Draft Traffic Impact Report is included as *Appendix A* of the Draft EA. *Section 3.10* of the Draft EA provides a description of potential impacts on surrounding City streets as a result of the project. This section also provides mitigating measures to address potential impacts. Short-term construction related impacts will be addressed in the Traffic Management Plan and Construction Management Plan as part of the building permit process for the project.
2. The Waikiki Neighborhood Board No. 9, area residents, and businesses have been contacted and are welcomed to participate in the environmental review process.
3. The project will obtain a street usage permit from the City Department of Transportation Services if necessary at the appropriate time.
4. Construction material and equipment will be transferred to and from the project site during off-peak traffic hours to minimize disruption to traffic on the local streets.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

HONOLULU FIRE DEPARTMENT

CITY AND COUNTY OF HONOLULU

636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd

KIRK CALDWELL
MAYOR

MANUEL P. NEVES
FIRE CHIEF

LIONEL CAMARA JR.
DEPUTY FIRE CHIEF

RECEIVED

JUN 16 2014

GROUP 70 INTL

June 12, 2014

Ms. Christine Mendes Ruotola, AICP, LEED AP
Principal
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813-4398

Dear Ms. Mendes Ruotola:

Subject: Environmental Assessment
2424 Kalakaua Redevelopment
2424 Kalakaua Avenue - Waikiki
Tax Map Keys: 2-6-023: 009, 010, 011, 012, 077, 078, and 080

In response to your letter of May 27, 2014, regarding the above-mentioned subject, the Honolulu Fire Department determined that there will be no significant impact to fire department services, provided the required fire department access roads and water supplies are maintained as approved.

Should you have questions, please contact Acting Battalion Chief Sheldon Yasso of our Fire Prevention Bureau at 723-7151 or syasso@honolulu.gov.

Sincerely,

SOCRATES D. BRATAKOS
Assistant Chief

SDB/DO:bh

cc: Department of Planning and Permitting
Zoning Regulations and Permits Branch

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Hitoshi Hida AIA
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Mr. Socrates. D. Bratakos
Assistant Chief
City and County of Honolulu
Honolulu Fire Department
636 South Street
Honolulu, HI 96813-5007

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, Oʻahu, Hawaiʻi)

Dear Chief Bratakos:

Thank you for your comment letter dated June 12, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project.

We acknowledge that the Honolulu Fire Department has determined that there will be no significant impact to fire department services. The project will maintain the approved fire department access roads and water supplies will be maintained.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET · HONOLULU, HAWAII 96813
TELEPHONE: (808) 529-3111 · INTERNET: www.honolulupd.org

KIRK CALDWELL
MAYOR

LOUIS M. KEALOHA
CHIEF

DAVE M. KAJIHIRO
MARIE A. McCAULEY
DEPUTY CHIEFS

OUR REFERENCE EO-WS

RECEIVED

JUN 18 2014

GROUP 70 INTL

June 17, 2014

Ms. Christine Mendes Ruotola, AICP, LEED AP
Principal
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813-4398

Dear Ms. Ruotola:

This is in response to your letter dated May 27, 2014, requesting comments on the Pre-Assessment Consultation, Environmental Assessment, for the proposed 2424 Kalakaua project located in Waikiki.

The Honolulu Police Department currently has no concerns regarding this project.

If there are any questions, please contact Acting Major Lisa Mann of District 6 (Waikiki) at 723-3345 or via e-mail at lmann@honolulu.gov.

Sincerely,

LOUIS M. KEALOHA
Chief of Police

By Randal K. Macadangdang
RANDAL K. MACADANGDANG
Assistant Chief
Support Services Bureau

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

OF COUNSEL

Ralph E. Portmore FAICP

October 6, 2014

Mr. Louis M. Kealoha
Chief of Police
City and County of Honolulu
Honolulu Police Department
801 South Beretania Street
Honolulu, HI 96813

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Chief Kealoha:

Thank you for your comment letter dated June 17, 2014 concerning the Pre-Consultation for Chapter 343, HRS Environmental Assessment (EA) for the 2424 Kalakaua project.

We acknowledge that the Honolulu Police Department has no concerns regarding this project.

We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

DRAFT EA COMMENT LETTERS AND RESPONSES

NEIL ABERCROMBIE
GOVERNOR

Dean H. Seki
Comptroller

Maria E. Zielinski
Deputy Comptroller

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

(P)1349.4

NOV 1 4 2014

RECEIVED
NOV 1 7 2014
GROUP 70 INTL

Ms Christine Ruotola, AICP
Group 70 International, Inc.
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4307

Dear Ms. Ruotola:

Subject: Chapter 343, HRS Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12,77,78 and 80
Waikiki, Oahu, Hawaii

Thank you for the opportunity to provide comments for the subject project. This project does not impact any of the Department of Accounting and General Services' projects or existing facilities in this area, and we have no comments to offer at this time.

If you have any questions, your staff may call Mr. Alva Nakamura of the Planning Branch, at 586-0488.

Sincerely,

JAMES K. KURATA
Public Works Administrator

AN:mo
c: Mr. George I. Atta, C&C DPP

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Mr. James Kurata
Public Works Administrator
State of Hawai'i
Department of Accounting and General Services
P.O. Box 119
Honolulu, HI 96810-0119

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Kurata:

Thank you for your comment letter dated November 14, 2014 concerning the Chapter 343, Hawai'i Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalākaua Project.

We acknowledge that the Department of Accounting and General Services' (DAGS) has no comments to offer at this time since the project does not impact any of DAGS existing facilities in this area.

We will provide your office with a copy of the Final EA. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

NEIL ABERCROMBIE
GOVERNOR

PATRICIA McMANAMAN
DIRECTOR

BARBARA A. YAMASHITA
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF HUMAN SERVICES
Benefit, Employment & Support Services Division
820 Mililani Street, Suite 606
Honolulu, Hawaii 96813

November 21, 2014

Refer to 14-0739

Ms. Christine Mendes Ruotola
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813-4307

RECEIVED
NOV 2 - 2014
GROUP 70 INTL

Dear Ms. Mendes Ruotola:

Subject: Chapter 343, HRS Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9, 10, 11, 12, 77, 78, and 80
Waikiki, Oahu, Hawaii

Thank you for your letter dated November 6, 2014 that requests the Department of Human Services (DHS) review and comment on the draft environmental review process for the proposed 2424 Kalakaua project.

The DHS has reviewed the summary of the project information provided and as stated in our previous letter dated June 13, 2014 has no comment at this time.

If you have any questions or need further information, please contact Ms. Jill Arizumi, Child Care Program Specialist, at (808) 586-5240.

Sincerely,

Scott Nakasone
Assistant Division Administrator

c: Patricia McManaman, Director

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Mr. Scott Nakasone
Assistant Division Administrator
Department of Human Services
State of Hawai'i
820 Mililani Street, Suite 606
Honolulu, HI 96813

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Nakasone:

Thank you for your comment letter dated November 21, 2014 concerning the Chapter 343, Hawai'i Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalakaua Project.

We acknowledge that the Department of Human Services has no comments to offer at this time.

We will provide your office with a copy of the Final EA. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

December 4, 2014

Group 70 International, Inc.
Attention: Ms. Tracy Furuya
925 Bethel Street, 5th Floor
Honolulu, HI 96813-4307

via email: tfuruya@group70int.com

Dear Ms. Furuya:

SUBJECT: Chapter 343, Hawaii Revised Statutes, Draft Environmental Assessment (EA), 2424 Kalakaua Avenue - Waikiki; Tax Map Key: 2-6-23: 9, 10, 11, 12, 77, 78, and 80

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from (1) Engineering Division; (2) Land Division – Oahu District; (3) Division of Forestry & Wildlife; and (4) Commission on Water Resource Management on the subject matter. Should you have any questions, please feel free to call Darlene Nakamura at 587-0417. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosures

C: Department of Planning and Permitting (DPP)
Urban Design Branch
Attn: Sery Berhanu via email at sberhanu@honolulu.gov

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

'14 OCT 29 PM02:38 ENGINEERING

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 28, 2014

RECEIVED
LAND DIVISION
2014 NOV 26 PM 2:51
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

MEMORANDUM

TO: FR:

DLNR Agencies:
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

TO:

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Chapter 343, Hawaii Revised Statutes, Draft Environmental Assessment (EA), 2424 Kalakaua
LOCATION: 2424 Kalakaua Avenue – Waikiki; Tax Map Key: 2-6-23: 9, 10, 11, 12, 77, 78 and 80
APPLICANT: BRE Waikiki Owner LLC by its agent, Group 70 International, Inc. (Tracy Furuyama)

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document which can be found here:

1. Go to: https://sp01.ld.dlnr.hawaii.gov/LD
2. Login: Username: LD\Visitor Password: 0pa$$word0 (first and last characters are zeros)
3. Click on: Requests for Comments. Click on the subject file "Chapter 343, Hawaii Revised Statutes, Draft Environmental Assessment (EA), 2424 Kalakaua", then click on "Files" and "Download a copy". (Any issues accessing the document should be directed to Jonathan Real, Applications/Systems Analyst at 587-0427 or Jonathan.C.Real@hawaii.gov)

Please submit any comments by December 4, 2014. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
(✓) We have no additional comments.
( ) Comments are attached.

Signed: [signature]
Print Name: Corty S. Chong/Chief Engineer
Date: 11/20/14

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 28, 2014

MEMORANDUM

TO: **DLNR Agencies:**
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Chapter 343, Hawaii Revised Statutes, Draft Environmental Assessment (EA), 2424 Kalakaua
LOCATION: 2424 Kalakaua Avenue – Waikiki; Tax Map Key: 2-6-23: 9, 10, 11, 12, 77, 78 and 80
APPLICANT: BRE Waikiki Owner LLC by its agent, Group 70 International, Inc. (Tracy Furuyama)

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document which can be found here:

1. Go to: https://sp01.ld.dlnr.hawaii.gov/LD
2. Login: Username: LD\Visitor Password: 0pa$$word0 (first and last characters are zeros)
3. Click on: Requests for Comments. Click on the subject file "Chapter 343, Hawaii Revised Statutes, Draft Environmental Assessment (EA), 2424 Kalakaua", then click on "Files" and "Download a copy". (Any issues accessing the document should be directed to Jonathan Real, Applications/Systems Analyst at 587-0427 or Jonathan.C.Real@hawaii.gov)

Please submit any comments by December 4, 2014. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
(✓) We have no comments.
( ) Comments are attached.

Signed: T Chee
Print Name: Tom Chee
Date: 10/30/14

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 28, 2014

MEMORANDUM

TO: **DLNR Agencies:**
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

RECEIVED
LAND DIVISION
2014 NOV -6 AM 10: 10
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Chapter 343, Hawaii Revised Statutes, Draft Environmental Assessment (EA), 2424 Kalakaua
LOCATION: 2424 Kalakaua Avenue – Waikiki; Tax Map Key: 2-6-23: 9, 10, 11, 12, 77, 78 and 80
APPLICANT: BRE Waikiki Owner LLC by its agent, Group 70 International, Inc. (Tracy Furuyama)

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document which can be found here:

1. Go to: https://sp01.ld.dlnr.hawaii.gov/LD
2. Login: Username: LD\Visitor Password: 0pa$$word0 (first and last characters are zeros)
3. Click on: Requests for Comments. Click on the subject file "Chapter 343, Hawaii Revised Statutes, Draft Environmental Assessment (EA), 2424 Kalakaua", then click on "Files" and "Download a copy". (Any issues accessing the document should be directed to Jonathan Real, Applications/Systems Analyst at 587-0427 or Jonathan.C.Real@hawaii.gov)

Please submit any comments by December 4, 2014. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
(✓) We have no comments.
( ) Comments are attached.

Signed: _____
Print Name: LISA HADWAY
Date: 11/5/14

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

RECEIVED
LAND DIVISION
2014 NOV 25 PM 3:43
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

October 28, 2014

MEMORANDUM

TO: **DLNR Agencies:**
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Chapter 343, Hawaii Revised Statutes, Draft Environmental Assessment (EA), 2424 Kalakaua
LOCATION: 2424 Kalakaua Avenue – Waikiki; Tax Map Key: 2-6-23: 9, 10, 11, 12, 77, 78 and 80
APPLICANT: BRE Waikiki Owner LLC by its agent, Group 70 International, Inc. (Tracy Furuyama)

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document which can be found here:

1. Go to: https://sp01.ld.dlnr.hawaii.gov/LD
2. Login: Username: LD\Visitor Password: 0pa$$word0 (first and last characters are zeros)
3. Click on: Requests for Comments. Click on the subject file "Chapter 343, Hawaii Revised Statutes, Draft Environmental Assessment (EA), 2424 Kalakaua", then click on "Files" and "Download a copy". (Any issues accessing the document should be directed to Jonathan Real, Applications/Systems Analyst at 587-0427 or Jonathan.C.Real@hawaii.gov)

Please submit any comments by December 4, 2014. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(X) Comments are attached.

Signed: William M. Tam
Print Name: WILLIAM M. TAM, Deputy Director
Date: November 19, 2014

RFD 39943
118611

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON

DENISE ANTOLINI
KAMANA BEAMER
MICHAEL G. BUCK
MILTON D. PAVAO
LINDA ROSEN, M.D., M.P.H.
JONATHAN STARR

WILLIAM M. TAM
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

November 19, 2014

REF: RFD.3994.3

TO: Russell Tsuji, Administrator
Land Division

FROM: William M. Tam, Deputy Director
Commission on Water Resource Management

SUBJECT: Pre-Assessment Consultation for Chapter 343, HRS Environmental Assessment 2424 Kalakaua

FILE NO.:
TMK NO.: 3-6-23:9, 10, 11, 12, 77, 78 and 80

Thank you for the opportunity to review the subject document. The Commission on Water Resource Management (CWRM) is the agency responsible for administering the State Water Code (Code). Under the Code, all waters of the State are held in trust for the benefit of the citizens of the State, therefore, all water use is subject to legally protected water rights. CWRM strongly promotes the efficient use of Hawaii's water resources through conservation measures and appropriate resource management. For more information, please refer to the State Water Code, Chapter 174C, Hawaii Revised Statutes, and Hawaii Administrative Rules, Chapters 13-167 to 13-171. These documents are available via the Internet at http://www.hawaii.gov/dlnr/cwrm.

Our comments related to water resources are checked off below.

☐ 1. We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.

☐ 2. We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.

☐ 3. We recommend coordination with the Hawaii Department of Agriculture (HDOA) to incorporate the reclassification of agricultural zoned land and the redistribution of agricultural resources into the State's Agricultural Water Use and Development Plan (AWUDP). Please contact the HDOA for more information.

☒ 4. We recommend that water efficient fixtures be installed and water efficient practices implemented throughout the development to reduce the increased demand on the area's freshwater resources. Reducing the water usage of a home or building may earn credit towards Leadership in Energy and Environmental Design (LEED) certification. More information on LEED certification is available at http://www.usgbc.org/leed. A listing of fixtures certified by the EPA as having high water efficiency can be found at http://www.epa.gov/watersense/.

☒ 5. We recommend the use of best management practices (BMP) for stormwater management to minimize the impact of the project to the existing area's hydrology while maintaining on-site infiltration and preventing polluted runoff from storm events. Stormwater management BMPs may earn credit toward LEED certification. More information on stormwater BMPs can be found at http://hawaii.gov/dbedt/czm/initiative/lid.php.

☒ 6. We recommend the use of alternative water sources, wherever practicable.

☒ 7. We recommend participating in the Hawaii Green Business Program, that assists and recognizes businesses that strive to operate in an environmentally and socially responsible manner. The program description can be found online at http://energy.hawaii.gov/green-business-program

☒ 8. We recommend adopting landscape irrigation conservation best management practices endorsed by the Landscape Industry Council of Hawaii. These practices can be found online at http://www.hawaiiscape.com/wp-content/uploads/2013/04/LICH_Irrigation_Conservation_BMPs.pdf

☐ 9. There may be the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.

Permits required by CWRM:
Additional information and forms are available at http://hawaii.gov/dlnr/cwrm/info_permits.htm.

☐ 10. The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit is required prior to use of water. The Water Use Permit may be conditioned on the requirement to use dual line water supply systems for new industrial and commercial developments.

☐ 11. A Well Construction Permit(s) is (are) required before any well construction work begins.

☐ 12. A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.

☐ 13. There is (are) well(s) located on or adjacent to this project. If wells are not planned to be used and will be affected by any new construction, they must be properly abandoned and sealed. A permit for well abandonment must be obtained.

☐ 14. Ground water withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.

☐ 15. A Stream Channel Alteration Permit(s) is (are) required before any alteration(s) can be made to the bed and/or banks of a stream channel.

☐ 16. A Stream Diversion Works Permit(s) is (are) required before any stream diversion works is (are) constructed or altered.

☐ 17. A Petition to Amend the Interim Instream Flow Standard is required for any new or expanded diversion(s) of surface water.

☐ 18. The planned source of water for this project has not been identified in this report. Therefore, we cannot determine what permits or petitions are required from our office, or whether there are potential impacts to water resources.

☒ OTHER:
The DEA should include a discussion of the water requirements for the project, both potable and non-potable, and the calculations used to derive the projected water needs; water conservation and efficiency measures that will be implemented; and any alternative sources of water that may be available to meet nonpotable needs.

If there are any questions, please contact Lenore Ohye at 587-0216.

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Mr. Russell Y. Tsuji
Land Administrator
State of Hawai'i
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, HI 96809

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Tsuji:

Thank you for your comment letter dated December 4, 2014 concerning the Chapter 343, Hawai'i Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalākaua Project.

We acknowledge that the Department of Land and Natural Resources, Engineering Division, Land Division – Oahu District, and Division of Forestry and Wildlife has no comments at this time. Comments received from the Commission on Water Resource Management will be responded to in a separate correspondence.

We will provide your office with a copy of the Final EA. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Hitoshi Hida AIA
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Mr. William Tam
Deputy Director
State of Hawai'i
Department of Land and Natural Resources
Commission on Water Resource Management
P.O. Box 621
Honolulu, HI 96809

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Tam:

Thank you for your comment letter dated December 4, 2014 concerning the Chapter 343, Hawai'i Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalakaua Project.

We appreciate the resources and recommendations you have provided relating to LEED certification and the Hawai'i Green Business Program. The project will apply sustainability strategies, including water efficient fixtures and practices to the extent possible.

We appreciate the resources you have provided relating to alternative water sourcing and Best Management Practices (BMP) for stormwater management and landscape irrigation conservation. The project will follow the Commission on Water Resource Management recommended BMPs for stormwater management as regulated by the State Department of Health Clean Water Branch. Wherever practicable, the project will utilize alternative water sources for landscape irrigation.

The project is a redevelopment of the existing retail area. Therefore, the potable water service for the project will be provided using existing water service connections. Existing water supplies are adequate to support the proposed project improvements. Please refer to Section 3.8 of the Final EA for a discussion on potable water.

The project will implement water conservation and efficiency measures to the extent possible. All toilets and urinals for the project will be low flow or waterless. The project will also explore opportunities for capturing and storing rain water for use in irrigation.

We will provide your office with a copy of the Final EA. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

COPY

DAVID Y. IGE
GOVERNOR OF HAWAII

RECEIVED

'14 DEC 22 P2:22

DEPT OF PLANNING
AND PERMITTING
CITY & COUNTY OF HONOLULU

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

KEITH YAMAMOTO
ACTING DIRECTOR OF HEALTH

In reply, please refer to:
File:

14-935A CAB

December 16, 2014

Ms. Tracy Furuya
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813

Dear Ms. Furuya:

SUBJECT: **Draft Environmental Assessment**
2424 Kalakaua - Waikiki
Ref: 2014/ED-8(SB)

A significant potential for fugitive dust emissions exists during all phases of construction. The activities must comply with the provisions of Hawaii Administrative Rules, §11-60.1-33 on Fugitive Dust. We encourage the contractor to implement a dust control plan, which does not require approval by the Department of Health, to comply with the fugitive dust regulations.

The dust control program should include those actions listed in your draft EA. Additional measures may include, but are not limited to, the following:

a) Planning the different phases of construction, focusing on minimizing the amount of dust-generating materials and activities, centralizing on-site vehicular traffic routes, and locating potential dust-generating equipment in areas of the least impact;
b) Providing an adequate water source at the site prior to start-up of construction activities;
c) Landscaping and providing rapid covering of bare areas, including slopes, starting from the initial grading phase;
d) Minimizing dust from shoulders and access roads;
e) Providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and
f) Controlling dust from debris being hauled away from the project site. Also, controlling dust from daily operations of material being processed, stockpiled, and hauled to and from the facility.

If you have any questions, please contact Mr. Barry Ching of the Clean Air Branch at 586-4200.

Sincerely,

Nolan S. Hirai

NOLAN S. HIRAI, P.E.
Manager, Clean Air Branch

BC:rg

c: Sery Berhanu, Urban Design Branch, Department of Planning and Permitting, City and County of Honolulu

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Mr. Nolan S. Hirai, P.E.
Manager
State of Hawai'i
Department of Health
Clean Air Branch
P.O. Box 3378
Honolulu, HI 96801

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Hirai:

Thank you for your comment letter dated December 16, 2014 concerning the Chapter 343, Hawai'i Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalākaua Project.

We understand that there may be a significant potential for fugitive dust emissions during the construction phase of the project. The project will comply with provisions of Hawaii Administrative Rules Section 11-60.1-33 on Fugitive Dust. A dust control plan will likely be implemented by the contractor to comply with fugitive dust regulations.

We will provide your office with a copy of the Final EA. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

LINDA ROSEN, M.D., M.P.H.
DIRECTOR OF HEALTH

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

In reply, please refer to:
DOH/CWB

11003PCTM.14

November 6, 2014

RECEIVED
NOV 10 2014
GROUP 70 INTL

Ms. Tracy Furuyama
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813

Dear Ms. Furuyama:

SUBJECT: Comments on the Draft Environmental Assessment (DEA) for the 2424 Kalakaua Project Waikiki, Island of Oahu, Hawaii

The Department of Health (DOH), Clean Water Branch (CWB), has reviewed the subject document and has no comments at this time. The DOH-CWB provided comments on the proposed 2424 Kalakaua project (Letter No. 07005PJF.14, dated July 3, 2014).

Please note that our review is based solely on the information provided in the subject document and its compliance with Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at: http://health.hawaii.gov/epo/files/2013/10/CWB_Oct22.pdf

If you have any questions, please visit our website at: http://health.hawaii.gov/cwb, or contact the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

ALEC WONG, P.E., CHIEF
Clean Water Branch

CTM:tg

c: Mr. Servy Berhanu, DPP, Urban Design Branch
[via e-mail sberhanu@honolulu.gov only]

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Mr. Alec Wong, P.E.
Chief
State of Hawai'i
Department of Health
Clean Water Branch
P.O. Box 3378
Honolulu, HI 96801

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Wong:

Thank you for your comment letter dated November 6, 2014 concerning the Chapter 343, Hawai'i Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalākaua Project.

We acknowledge that the Department of Health, Clean Water Branch has no comments to offer at this time. We have reviewed the standard comments on your website and understand that if applicable, the project may be responsible for fulfilling additional requirements related to your program.

We will provide your office with a copy of the Final EA. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

LINDA ROSEN, M.D., M.P.H.
DIRECTOR OF HEALTH

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

In reply, please refer to:
File:

EPO 14-236

November 18, 2014

Mr George I. Atta, Director, FAICP
Sery Berhanu
City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, HI 96813
Via email: gatta@honolulu.gov and sberhanu@honolulu.gov

Christine Mendes Ruotola, AICP, LEED-AP
Tracy Furuya
Group 70 International, Inc.
925 Bethel Street, 5th Floor
Honolulu, HI, 96813
Via email: cruotola@group70int.com and tfuruya@group70int.com

Dear Approving Agency and Consultants:

SUBJECT: DEA 2424 Kalakaua, Waikiki

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your project through the Office of Environmental Quality Control's October 23rd, 2014 "Environmental Notice" and we appreciate Group 70 International distributing a letter to us in regards to the proposed project. Thank you for allowing us to review and comment on the subject document.

For your information, the OEQC notice Publication Form and the Group 70 International letter that the Director received on November 7, 2014 (along with 3 CD's of the project) are inconsistent in terms of who to send comments to. Thus, I have decided to email everyone that was mentioned and ensured I had the correct last name for Tracy since the Publication Form was incorrect in this regard and had the consultant contact as Tracy and not Principal Christine Mendes Ruotola, AICP, LEED-AP.

I encourage you all to ensure consistency and accuracy in the future so as to not confuse participants in the environmental review process.

I note that in the OEQC Publication Form summary permits include a National Pollutant Discharge Elimination Permit (NPDES). However, in Table 1-1 (page 1-9) of the Environmental Assessment this permit is not listed. I believe Table 1-1 of the EA should include mention of the NPDES permit.

I believe that in Section 2.3.3 of the EA, under circulation, mention should be made in regards to the Honolulu Bikeshare Organizational Study, Final Report of June 2014
http://www.honoluludpp.org/Portals/0/pdfs/NewsRelease/HonoluluBikeshareOrgStudyJune2014.pdf

The map on page 3-6 of the Bikeshare Study (Figure 8 Initial Phase System Plan {Optimal Density Scenario} has a large station (defined in the Figure as 15 bikes and 29 docks) in close proximity to 2424 Kalakaua as well as an existing bike lane.

In regards to Sea Level Rise and Climate Change (Section 3.4.5) I feel it would be informative to participants to note the recent UH SOEST Sea Grant Document 'Climate Change Impacts in Hawaii – A summary of climate change and its impacts to Hawaii's ecosystems and communities 2014
http://seagrant.soest.hawaii.edu/sites/seagrant.soest.hawaii.edu/files/publications/smfinal-hawaiiclimatechange.pdf
and the SOEST sea level rise scenario (at high tide) for Honolulu with a 3 foot increase (projected by 2100)
http://www.soest.hawaii.edu/coasts/sealevel/3ftHonoluluTour.html

The DEA will be routed electronically to the appropriate Divisions, Offices and Branches with the Department. They will provide specific comments to you if necessary. EPO recommends that you review the standard comments at: http://health.hawaii.gov/epo/home/landuse-planning-review-program/. You are required to adhere to all applicable standard comments.

We encourage you to examine and utilize the Hawaii Environmental Health Portal. The portal provides links to our e-Permitting Portal, Environmental Health Warehouse, Groundwater Contamination Viewer, Hawaii Emergency Response Exchange, Hawaii State and Local Emission Inventory System, Water Pollution Control Viewer, Water Quality Data, Warnings, Advisories and Postings. The Portal is continually updated. Please visit it regularly at: https://eha-cloud.doh.hawaii.gov

You may also wish to review the recently revised Water Quality Standards Maps that have been updated for all islands. The new Water Quality Standards Maps can be found at:
http://health.hawaii.gov/cwb/site-map/clean-water-branch-home-page/water-quality-standards/.

The EPO suggests that you examine the many sources available on strategies to support the sustainable and healthy design of communities and buildings, including the:

- 2014 National Climate Change Report – Highlights for Hawaii: http://ipcc-wg2.gov/AR5/images/uploads/WGIIAR5-Chap29_FGDall.pdf;
- U.S. Environmental Protection Agency's sustainability programs: www.epa.gov/sustainability;
- U.S. Green Building Council's LEED program: www.usgbc.org/leed;
- Smart Growth America: www.smartgrowthamerica.org;
- International Well Building Standard: http://delosliving.com; and
- Intergovernmental Panel on Climate Change (IPCC): http://ipcc-wg2.gov/AR5/images/uploads/WGIIAR5-Chap29_FGDall.pdf

We request you share all of this information with others to increase community awareness on sustainable, innovative, inspirational, and healthy community design.

Mahalo nui loa,

Laura Leialoha Phillips McIntyre, AICP
Program Manager, Environmental Planning Office

C: OEQC, CWB, IRHB, TSP

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Ms. Laura Leialoha Phillips McIntyre, AICP
Program Manager
State of Hawai'i
Department of Health
Environmental Planning Office
P.O. Box 3378
Honolulu, HI 96801

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Ms. McIntyre:

Thank you for your comment letter dated November 18, 2014 concerning the Chapter 343, Hawai'i Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalakaua Project. The following responses are offered to your comments:

1. We appreciate your clarification relating to the OEQC Public Notice and apologize for the confusion. Group 70 and the Department of Planning and Permitting will ensure the publication for the Final EA is clear and accurate.
2. Your comment regarding Table 1-1 of the EA has been noted. The National Pollutant Discharge Elimination Permit has been included.
3. We appreciate the resources you have provided regarding the Honolulu Bikeshare project. Reference to the Bikeshare project and its proximity to the proposed project at 2424 Kalakaua will be made in Section 2.3.3 of the Final EA.
4. The Final EA will include additional information in Section 3.4.5 pertaining to Sea Level Rise and Climate Change, in reference to the UH SOEST Sea Grant Document titled "Climate Change Impacts in Hawaii – A summary of climate change and its impacts to Hawaii's ecosystems and communities 2014" and the SOEST sea level rise scenario (at high tide) for Honolulu.
5. We appreciate the online resources you have provided relating to Standard Comments, the Environmental Health Portal, Water Quality Standards Maps, and various sources on strategies to support the sustainable and healthy design of communities and buildings. The project will apply sustainability strategies and principles to the extent possible.

We will provide your office with a copy of the Final EA. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

NEIL ABERCROMBIE
GOVERNOR

ROSS M. HIGASHI
INTERIM DIRECTOR

Deputy Directors
JEFFREY CHANG
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

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

IN REPLY REFER TO:
STP 8.1713

November 13, 2014

RECEIVED
NOV 19 2014
GROUP 70 INTL

Ms. Tracy Furuyama
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813-4307

Dear Ms. Furuyama:

Subject: 2424 Kalakaua
Draft Environmental Assessment
TMK: (1) 2-6-023:009-012, 077, 078 and 080

The subject project is not expected to significantly impact the State highway facility. However, the developer is required to obtain a permit from our Department of Transportation (DOT) Highways Division, for the transport of oversized and/or overweight materials and equipment on State highway facilities.

If there are any questions, please contact Mr. Norren Kato of the DOT Statewide Transportation Planning Office at telephone number (808) 831-7976.

Sincerely,

ROSS M. HIGASHI
Interim Director of Transportation

c: City and County of Honolulu, Department of Planning and Permitting, Urban Design Branch

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Mr. Ross M. Higashi
Interim Director
State of Hawai'i
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Higashi:

Thank you for your comment letter dated November 13, 2014 concerning the Chapter 343, Hawai'i Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalākaua Project.

We acknowledge that the project is not expected to significantly impact the State highway facility. The project will obtain a permit from the Department of Transportation Highways Division for the transport of oversized and/or overweight materials and equipment on State highway facilities.

We will provide your office with a copy of the Final EA. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

PHONE (808) 594-1888

FAX (808) 594-1865

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
560 N. NIMITZ HWY., SUITE 200
HONOLULU, HAWAI'I 96817

HRD14/7205C

December 16, 2014

RECEIVED

DEC 22 2014

GROUP 70 INTL

Tracy Furuyama
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, HI 96813

Re: Comments on a Draft Environmental Assessment
2424 Kalākaua Avenue
Waikīkī Ahupua'a, Kona Moku
Tax Map Key: (1) 2-6-023-009, 010, 011, 012, 077, 078, and 080

Aloha e Tracy Furuyama:

The Office of Hawaiian Affairs (OHA) is in receipt of your October 7, 2014 letter, seeking comments on a draft environmental assessment (DEA) for the proposed improvement project to the three-story retail podium at the Hyatt Regency Waikīkī Beach Resort and Spa. The project will improve the character of this area and provide quality experiences to visitors and guests.

The Hyatt's project improvements include pedestrian circulation and improvements to the existing retail facilities, new porte cochere on Koa Avenue, and the inclusion of a second floor lānai shopping arcade. New elevators at the porte cochere will take visitors and guests directly to the hotel lobby and upper floors. According to your letter, in the previous 1976 construction of the Hyatt Regency Waikīkī, ground disturbance within the project area had been significant, encountering significant cultural, historical and burial sites. In this current project, the area will not require any grading or leveling of the land, therefore no subsurface excavation is planned.

OHA acknowledges your statement, in the event that this project plan is modified to involve subsurface ground disturbance, the State Historic Preservation Division will be contacted for cultural resource management, which may include the completion of an archaeological inventory survey or an archaeological monitoring program.

Thank you for the opportunity to provide comments on the DEA for the project. Should you have any questions, please contact Kathryn Keala at 594-0272 or kathyk@oha.org.

'O wau iho nō me ka 'oia'i'o,

Kamana'opono M. Crabbe, Ph.D.
Ka Pouhana, Chief Executive Officer

KMC:kk

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Kamanaʻopono M. Crabbe, Ph.D.
Ka Pouhana, Chief Executive Officer
State of Hawaiʻi
Office of Hawaiian Affairs
560 N. Nimitz Hwy, Suite 200
Honolulu, HI 96817

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, Oʻahu, Hawaiʻi)

Dear Dr. Crabbe:

Thank you for your comment letter dated December 16, 2014 concerning the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalākaua Project.

As you have noted in your letter, the proposed project improvements will not include subsurface excavation beneath the existing grade of the building and sidewalk. If, in the event that the finalized project plans involve subsurface ground disturbance, the State Historic Preservation Division will be contacted for cultural resource management, which may include the completion of an archaeological inventory survey and/or an archaeological monitoring program.

We will provide your office with a copy of the Final EA. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

OFFICE OF PLANNING
STATE OF HAWAII

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

NEIL ABERCROMBIE
GOVERNOR

LEO R. ASUNCION
ACTING DIRECTOR
OFFICE OF PLANNING

Telephone: (808) 587-2846
Fax: (808) 587-2824
Web: http://planning.hawaii.gov/

Ref. No. P-14587

November 28, 2014

RECEIVED

DEC - 1 2014

GROUP 70 INTL

Ms. Christine Mendes Ruotola, AICP, LEED AP
Principal
Group 70 International, Inc.
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4398

Dear Ms. Ruotola:

Subject: Chapter 343, HRS Draft Environmental Assessment, 2424 Kalakaua, TMK: (1) 2-6-023:009, 010, 011, 012, 077, 078, and 080

Thank you for the opportunity to provide comments on the Draft Environmental Assessment (Draft EA) for the 2424 Kalakaua project.

We have reviewed the Draft EA sent to our office by letter dated November 6, 2014. The Draft EA addresses our comments made in a previous letter dated June 23, 2014 (reference number P-14424) in regards to Coastal Zone Management Act objectives, the Hawaii State Plan, Special Management Area boundary determination by the City and County of Honolulu, and our comments regarding stormwater impact. We have no further comments at this time.

If you have any questions regarding this comment letter, please contact Josh Hekekia of our Hawaii CZM Program at 587-2845.

Sincerely,

Leo R. Asuncion
Acting Director

c: Mr. George I. Atta, Director

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Mr. Leo R. Asuncion
Acting Director
Office of Planning
State of Hawai'i
P.O. Box 2359
Honolulu, HI 96804

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Asuncion:

Thank you for your comment letter dated November 28, 2014 concerning the Chapter 343, Hawai'i Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalākaua Project.

We acknowledge that the Office of Planning has no further comments to offer at this time since the Draft EA has addressed previous comments made in your letter dated June 23, 2014 (reference number P-14424).

We will provide your office with a copy of the Final EA. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

KIRK CALDWELL, MAYOR

DUANE R. MIYASHIRO, Chair
ADAM C. WONG, Vice Chair
MAHEALANI CYPHER
THERESIA C. McMURDO
DAVID C. HULIHEE

ROSS S. SASAMURA, Ex-Officio
ROSS M. HIGASHI, Ex-Officio

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

ELLEN E. KITAMURA, P.E.
Deputy Manager and Chief Engineer

November 19, 2014

RECEIVED

NOV 26 2014

GROUP 70 INTL

Mr. Tracy Furuyama
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813

Dear Mr. Furuyama:

Subject: The Memorandum Dated October 27, 2014 on the Draft Environmental Assessment for the Hyatt Regency Hotel on Kalakaua Avenue, Tax Map Key: 2-6-023: 009, 010, 011, 012, 077, 078, 080

Thank you for the opportunity to comment on the proposed hotel improvements.

The comments in our letter dated June 13, 2014, which is included in the document, are still applicable.

If you have any questions, please contact Robert Chun, Project Review Branch of our Water Resources Division at 748-5443.

Very truly yours,

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

cc: Department of Planning and Permitting, Urban Design Branch

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Mr. Ernet Y.W. Lau, P.E.
Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu
650 South Beretania Street
Honolulu, HI 96843

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, Oʻahu, Hawaiʻi)

Dear Mr. Lau:

Thank you for your comment letter dated November 19, 2014 concerning the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalākaua Project.

We acknowledge that your comments offered on June 13, 2014 are still applicable to the project. To reiterate, we understand that the final decision on the availability of water will be confirmed when the project's building permit application is submitted for approval.

The applicant will pay the Water System Facilities Charges for resource development, transmission and daily storage when water is made available for the project.

On-site fire protection requirements will be coordinated directly with the Honolulu Fire Department's Fire Prevention Bureau.

We will provide your office with a copy of the Final EA. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

DEPARTMENT OF COMMUNITY SERVICES
CITY AND COUNTY OF HONOLULU
715 SOUTH KING STREET, SUITE 311 ● HONOLULU, HAWAII 96813 ● AREA CODE 808 ● PHONE: 768-7762 ● FAX: 768-7792

KIRK CALDWELL
MAYOR

GARY K. NAKATA
ACTING DIRECTOR

November 24, 2014

RECEIVED
DEC - 5 2014
GROUP 70 INTL

Ms. Christine Mendes Ruotola
Principal
Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4307

Dear Ms. Ruotola:

Subject: Chapter 343, HRS Draft Environmental Assessment
2424 Kalakaua, TMK: (1) 2-6-23: 9, 10, 11, 12, 77, 78, and 80
Waikiki, Oahu, Hawaii

We have reviewed your letter dated November 06, 2014, and the enclosed Draft Environmental Assessment for the 2424 Kalakaua (Hyatt Regency Waikiki Redevelopment) Project.

Our review of the documents indicate that the proposed project will have no adverse impacts on any Department of Community Services' activities or projects at this time.

Thank you for providing us with the opportunity to comment on this matter.

Sincerely,

Gary K. Nakata
Acting Director

GKN:sgk

cc: Mr. George I. Atta, Director
Department of Planning and Permitting
City and County of Honolulu

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Mr. Gary K. Nakata
Director
Department of Community Services
City and County of Honolulu
715 South King Street, Suite 311
Honolulu, HI 96813

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, Oʻahu, Hawaiʻi)

Dear Mr. Nakata:

Thank you for your comment letter dated November 24, 2014 concerning the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalākaua Project.

We acknowledge that the Department of Community Services has no comments to offer at this time.

We will provide your office with a copy of the Final EA. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8480 • Fax: (808) 768-4567
Web site: www.honolulu.gov

KIRK CALDWELL
MAYOR

ROBERT J. KRONING, P.E.
DIRECTOR

MARK YONAMINE, P.E.
DEPUTY DIRECTOR

November 18, 2014

RECEIVED
NOV 20 2014
GROUP 70 INTL

Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813

Attn: Tracy Furuyama

Dear Ms. Furuyama:

Subject: Draft Environmental Assessment (EA)
2424 Kalakaua Avenue - Waikiki
Tax Map Key: 2-6-23: 9, 10, 11, 12, 77, 78, and 80

The Department of Design and Construction does not have comments to offer on the draft environmental assessment.

Thank you for the opportunity to review and comment. Should there be any questions, please contact me at 768-8480.

Sincerely,

for M. Yonamine

Robert J. Kroning, P.E.
Director

RJK: cf (585988)

cc: City and County of Honolulu, Department of Planning and Permitting
Urban Design Branch

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Mr. Robert J. Kroning, P.E.
Director
City and County of Honolulu
Department of Design and Construction
650 South King Street, 11th Floor
Honolulu, HI 96813

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, Oʻahu, Hawaiʻi)

Dear Mr. Kroning:

Thank you for your comment letter dated November 18, 2014 concerning the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalākaua Project.

We acknowledge that Department of Design and Construction has no comments to offer on the Draft EA.

We will provide your office with a copy of the Final EA. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

DEPARTMENT OF FACILITY MAINTENANCE

CITY AND COUNTY OF HONOLULU

1000 Ulu'ohia Street, Suite 215, Kapolei, Hawaii 96707
Phone: (808) 768-3343 • Fax: (808) 768-3381
Website: www.honolulu.gov

KIRK CALDWELL
MAYOR

ROSS S. SASAMURA, P.E.
DIRECTOR AND CHIEF ENGINEER

EDUARDO P. MANGLALLAN
DEPUTY DIRECTOR

IN REPLY REFER TO:
DRM 14-1074

December 17, 2014

RECEIVED

DEC 19 2014

GROUP 70 INT'L

Ms. Tracy Furuyama
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813

Dear Ms. Furuyama:

SUBJECT: Chapter 343, Hawaii Revised Statutes
Draft Environmental Assessment (EA) for 2424 Kalakaua Avenue
TMK: 2-6-23: 9, 10, 11, 12, 77, 78, and 80

Thank you for the opportunity to review and comment on your letter dated October 27, 2014, on the above subject project.

Our comments are as follows:

1. Provide necessary Best Management Practices (BMPs) for the project site, including the catch basin located at the intersections on Kalakaua/Kaiulani, Kaiulani/Koa, and Kalakaua/Uluniu Avenues, of the subject property.

2. Provide necessary BMPs for the existing drainage inlet at the intersection of Koa/Uluniu Avenues and across 2412 Koa Avenue.

3. All work to be performed within the City's Kalakaua, Kaiulani, Koa, and Uluniu Avenues right-of-way, shall require the proper City permits (Street Usage Permit and Grading/Trenching Permit).

4. All work within the City roads right-of-way shall be constructed to City Standards.

5. All damages to the existing sidewalk shall be repaired or replaced in-kind, using the same material and accepted by the City at the owner's expense.

If you have any questions, please call Mr. Kyle Oyasato of the Division of Road Maintenance at 768-3697.

Sincerely,

Ross S. Sasamura, P.E.
Director and Chief Engineer

cc: Urban Design Branch
Department of Planning and Permitting

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Mr. Ross S. Sasamura, P.E.
Director and Chief Engineer
City and County of Honolulu
Department of Facility Maintenance
1000 Uluohia Street, Suite 215
Kapolei, HI 96707

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, Oʻahu, Hawaiʻi)

Dear Mr. Sasamura:

Thank you for your comment letter dated December 17, 2014 concerning the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalākaua Project. The following responses are offered to your comments.

1. Necessary Best Management Practices (BMPs) will be provided for the project, including catch basins located at the intersections on Kalākaua /Kaʻiulani, Kaʻiulani/Koa, and Kalākaua /Uluniu Avenues.
2. Necessary BMPs will be provided for the existing drainage inlet at the intersection of Koa/Uluniu Avenues and across Koa Avenue.
3. Appropriate permits, such as Street Usage Permit and Grading/Trenching Permit, will be obtained for any work performed within the City's right-of-way.
4. The project will ensure that all work performed within the City roads right-of-way will be constructed to City Standards.
5. Any damages to the existing sidewalk as a result of the project will be repaired or replaced in-kind using the same material and accepted by the City at the owner's expense.

We will provide your office with a copy of the Final EA. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honoluludpp.org • CITY WEB SITE: www.honolulu.gov

KIRK CALDWELL
MAYOR

GEORGE I. ATTA, FAICP
DIRECTOR

ARTHUR D. CHALLACOMBE
DEPUTY DIRECTOR

2014/ED-8(SB)

December 5, 2014

RECEIVED
DEC 8 2014
GROUP 70 INTL

Ms. Christine Mendes Ruotola
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813

Dear Ms. Ruotola:

SUBJECT: Chapter 343, Hawaii Revised Statutes
Draft Environmental Assessment
2424 Kalakaua – Redevelopment of Existing Retail Facilities
Hyatt Regency Waikiki Beach Resort and Spa
2424 Kalakaua Avenue – Waikiki
Tax Map Key 2-6-23: 9, 10, 11, 12, 77, 78 and 80

We have reviewed the above Draft Environmental Assessment (DEA) (received October 27, 2014) for the above mentioned project, and offer the following comments:

A. Site Development Division:

1. Civil Engineering Branch:

a. Section 1.5 – Listing of Required Government Permits and Approvals: Revised the required permits or approvals list to include a Trenching Permit and a Sidewalk Variance for the nonstandard finish. Similarly, a pedestrian easement will be required along Kalakaua Avenue (refer to Figure 2-11).

b. Section 3.8.3 – Storm Drainage: If the redevelopment disturbs at least one acre of land and does not require a separate National Pollutant Discharge Elimination System Permit (from the Department of Health) for long term storm water discharges, then the Environmental Assessment (EA) shall include a narrative explaining the project's water quality management strategy pursuant to the Rules Relating to Storm Drainage Standards.

2. Wastewater Branch:

   a. As noted per sewer connection application 2014/SCA-0480, which has been denied, the downstream 27 inch sewer line segments between sewer manhole 688844 on Kanekapolei Street and sewer manhole 687490 on Ala Wai Boulevard are inadequate to support the increase in sewage. We understand that the Applicant has appealed the denial with the Department of Environmental Services.

B. Urban Design Branch (UDB):

1. Include the comments received from the UDB for the Preliminary DEA and the Applicant's responses.

2. Section 3.11 Parking and Loading: Provide plans showing the parking and loading stalls at the off-site parking structure.

3. Figure 3-9 - Parking and Loading Calculations:

   a. The table for the parking requirement shows the proposed floor areas for Floors 4-6; however, throughout the document it has been noted that the renovation will be limited to the basement up to the Third Floor.

   b. Revise the plan for the proposed Third Floor to indicate the correct floor area for the restaurant and bar area. In the bottom right corner, you note the restaurant and bar area as having a floor area of 10,751 square feet; however, based on the floor plan, the total floor area is 19,751 square feet (9,570 square feet + 9,710 square feet + 471 square feet).

Should you have any questions, please contact Sery Berhanu of our Urban Design Branch at 768-8033 or via email at sberhanu@honolulu.gov.

Very truly yours,

FOR George I. Atta, FAICP
Director

Doc 1199762

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Hitoshi Hida AIA
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Mr. George Atta, FAICP, LEED AP
Director
City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, HI 96813

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, Oʻahu, Hawaiʻi)

Dear Mr. Atta:

Thank you for your comment letter dated December 5, 2014 concerning the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalākaua Project. The following responses are offered to your comments:

1. Table 1-1 in Section 1.5 has been updated to include a Trenching Permit and a Sidewalk Variance. If required, the project will obtain a pedestrian easement along Kalakaua Avenue.
2. Since the project is a redevelopment of the existing site, existing drainage patterns will not be impacted. Construction of the project will not require grading and excavation activities. If a permit is needed, the project will apply for an NPDES permit for stormwater associated with construction activities during the design stage. The project will incorporate a Best Management Practices (BMPs) Plan into the Construction Drawings. The plan will show BMP measures for all drain structures in the City right-of-way that may be affected during construction.
3. The sewer connection application for the project was denied because the 27-inch sewer line segments on Kanekapolei Street and Ala Wai Boulevard are inadequate to support the increase in sewage. The applicant sent a letter of appeal to the ENV on July 17, 2014 requesting an evaluation of the inadequate sewer lines using a hydraulic sewer model to verify the capacity. On October 3, 2014, ENV sent a letter to the applicant noting an approval of the Sewer Application number 2014/SCA-0486.
4. The comments received from the Urban Design Branch for the Draft EA and the applicant's response will be included in the Final EA.
5. Figure 3-8 of the Final EA provides plans showing the parking stalls at the off-site parking structure. There are no loading stalls located in the off-site parking structure. Please note that the figures in Section 3.0 have been renumbered.
6. The parking table shown in Figure 3-9 of the Draft EA (referenced as Figure 3-10 in the Final EA) has been updated to provide a new column of "Existing Other – Accessory Area (Retail)" to accommodate the square footage of Floors 4-6. While Floors 4-6 are not part of the project

renovations, they were taken into account for the purposes of parking requirements. The proposed renovation will be limited to the basement up to the Third Floor.

7. The Third Floor shown in Figure 3-9 of the Draft EA (referenced as Figure 3-10 in the Final EA) states that the floor area is 19,751 sf. The plan may have been unclear due to a low resolution file and print. We will ensure the plan is clear in the Final EA.

We will provide your office with a copy of the Final EA. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honoluludpp.org • CITY WEB SITE: www.honolulu.gov

KIRK CALDWELL
MAYOR

GEORGE I. ATTA, FAICP
DIRECTOR

ARTHUR D. CHALLACOMBE
DEPUTY DIRECTOR

RECEIVED
DEC 12 2014
GROUP 70 INTL

2014/ED-8(SB)

December 11, 2014

Ms. Christine Mendes Ruotola
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813

Dear Ms. Ruotola:

SUBJECT: Chapter 343, Hawaii Revised Statutes
Draft Environmental Assessment
2424 Kalakaua – Redevelopment of Existing Retail Facilities
Hyatt Regency Waikiki Beach Resort and Spa
2424 Kalakaua Avenue – Waikiki
Tax Map Key 2-6-23: 9, 10, 11, 12, 77, 78 and 80

The comments provided in the Department of Planning and Permitting (DPP) letter (dated December 5, 2014) regarding the Draft Environmental Assessment for the above mentioned project did not include the comments received from the Traffic Review Branch (TRB). The comments from the TRB are as follows:

A. Site Development Division:

1. Traffic Review Branch:

a. A time line or phasing plan of the anticipated dates to obtain major building permit (s) for demolition/construction work, including the projected date of occupancy, shall be prepared by the applicant in a format acceptable to the department. The time line should identify when the construction management plan (CMP), the traffic management plan (TMP), updates and/or validation to the findings of the initial traffic impact analysis report (TIAR) dated June 2014 and off-site roadway work will be submitted for review and approval in relation to when approvals for construction plans, building and occupancy permits will be necessary. Typically, the CMP should be submitted for review and approval prior to the issuance of demolition/building permits for major construction work. The TMP or subsequent updates should be submitted and approved prior to the issuance of the (temporary) certificate of occupancy. The TIAR, including supplemental studies or subsequent updates, should be submitted and approved prior to the commencement of each major phase

of work, as required. A new TIAR may be required if there is a significant change to the scope or timing of the major work items contained in the initial report.

b. The CMP shall identify the type, frequency and routing of heavy trucks and construction related vehicles. Every effort shall be made to minimize impacts from these vehicles and related construction activities. The CMP should identify and limit vehicular activity related to construction to periods outside of the peak periods of traffic, utilizing alternate routes for heavy trucks, provisions for either on-site or off-site staging areas for construction related workers and vehicles to limit the use of on-street parking around the project site and other mitigation measures related to traffic and potential neighborhood impacts. Preliminary or conceptual traffic control plans should also be included in the CMP. The Applicant shall document the condition of roadways prior to the start of construction activities and provide remedial measures, as necessary, such as restriping, road resurfacing and/or reconstruction if the condition of the roadways has deteriorated as a result of the related construction activities.

c. A TMP shall include traffic demand management (TDM) strategies to minimize the amount of vehicular trips for daily activities and large events, such as weddings and conferences. TDM strategies could include carpooling and ride sharing programs, transit, bicycle and pedestrian incentives and other similar TDM measures. A pedestrian circulation plan should also be included to provide accessibility and connectivity to and along the surrounding public sidewalks and at street intersections. A determination of the effective sidewalk widths, taking into account Complete Streets initiatives, should be provided. A post TMP will be required approximately one year after the issuance of the certificate of occupancy to validate the relative effectiveness of the various TDM strategies identified in the initial report.

d. An updated TIAR shall be prepared and submitted in conjunction with studies not incorporated in the initial report for review and approval prior to the submittal of off-site construction plans and includes an analysis of warrants for traffic signals on Koa Avenue at Uluniu Avenue. Pedestrians from the parking garage should be directed to cross at this intersection in an effort to minimize jaywalking to and from the hotel structure. The relative benefits from any of the roadway related improvements to the development with regard to improved traffic operations should be conducted and implemented by the Applicant, if it is determined to be warranted by an approved TIAR. A grade separated pedestrian crossing connecting the parking garage to the hotel should be considered as a viable alternative to either minimize mid-block pedestrian crossing or other provisions, such as bulb outs, could be installed, based on further discussions with DPP and Department of Transportation Services.

e. A post TIAR will be required approximately one year after the issuance of the certificate of occupancy to validate the traffic projections, distribution and assignment contained in the initial TIAR. The use and operation of the new porte-cochere on Koa Avenue and the existing porte cochere on Uluniu Avenue should be assessed to assure vehicles are not queuing onto public sidewalks and travelways. If additional traffic mitigation measures or modifications are necessary to support related traffic impacts directly attributable to this development, the applicant will be required to implement these measures. If the findings of the post TIAR is inconclusive, a follow up study may be required within a year of this prior study, as necessary.

f. Construction plans for all work within or affecting public streets should be submitted for review and approval. Traffic control plans during construction should also be submitted for review and approval, as required. Vehicular access points shall be constructed as standard City dropped driveways. Adequate vehicular sight distance shall be provided and maintained at all driveways to pedestrians and other vehicles. Driveway grades shall not exceed five percent (5%) for a minimum distance of 25-feet from the back of the designated pedestrian walkway. Entry gates and ticket dispensers should be recessed as far into the driveway as necessary to avoid any queuing onto public streets. All loading and parking areas shall be designed such that vehicles enter and exit front first.

We sincerely apologize for any inconvenience this may have caused. Should you have any questions, please contact Sery Berhanu of our Urban Design Branch at 768-8033 or via email at sberhanu@honolulu.gov.

Very truly yours,

Anthony X. Cheng

For George I. Atta, FAICP
Director

Doc 1201597

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Hitoshi Hida AIA
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Mr. George Atta, FAICP, LEED AP
Director
City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, HI 96813

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, Oʻahu, Hawaiʻi)

Dear Mr. Atta:

Thank you for your comment letter dated December 11, 2014 concerning the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalākaua Project. The following responses are offered to your comments:

1. A phasing plan will be provided for the project at the appropriate time. The plan will identify when the construction management plan (CMP), traffic management plan (TMP) updates to the initial traffic impact analysis report (TIAR), and off-site roadway work will be submitted for review and approval.
2. The CMP will identify the type, frequency and routing of heavy trucks and construction related vehicles. Efforts will be made to minimize impacts from these vehicles and construction related activities.
3. The TMP will include traffic demand management (TDM) strategies to minimize vehicular trips for daily activities and large events.
4. An updated TIAR will be prepared and submitted with studies not incorporated in the initial report for review and approval prior to submittal of off-site construction plans. The TIAR will include an analysis of warrants for traffic signals on Koa Avenue and Uluniu Avenue. Pedestrian crossing strategies will also be evaluated.
5. A post TIAR will be provided approximately one year after the issuance of the certificate of occupancy to validate traffic projections, distribution and assignment contained in the initial TIAR. The use and operation of the new port cochere on Koa Avenue and exiting porte cochere on Uluniu Avenue will be assessed to assure vehicles are not queuing onto public sidewalks and travelways.
6. Construction plans for all work within or affecting public streets will be submitted for review and approval. Traffic control plans during construction will also be submitted for review and approval. The project will meet with requirements associated with vehicular access points, adequate sight distance, and driveway grades.

We will provide your office with a copy of the Final EA. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

DEPARTMENT OF PARKS & RECREATION

CITY AND COUNTY OF HONOLULU

1000 Uluohia Street, Suite 309, Kapolei, Hawaii 96707
Phone: (808) 768-3003 • Fax: (808) 768-3053
Website: www.honolulu.gov

KIRK CALDWELL
MAYOR

MICHELE K. NEKOTA
DIRECTOR

JEANNE C. ISHIKAWA
DEPUTY DIRECTOR

RECEIVED

DEC 23 2014

GROUP 70 INTL

December 18, 2014

Mrs. Tracy Furuyama
Group 70 International
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813

Dear Ms. Furuyama:

SUBJECT: Draft Environmental Assessment
2424 Kalakaua Avenue
Tax Map Key: 2-6-23: 9, 10, 11, 12, 77, 78 and 80

Thank you for the opportunity to review and comment on the Draft Environmental Assessment for the proposed redevelopment and renovation of the three podium levels of the Hyatt Regency Waikiki Beach Resort and Spa.

The Department of Parks and Recreation has no comment. As the proposed project will have no impact on any program or facility of the department, you may remove us as a consulted party to the balance of the EIS process.

Should you have any questions, please contact Mr. John Reid, Planner at 768-3017.

Sincerely,

Michele K. Nekota
Director

MKN:jr
(586132)

cc: Sery Berhanu, Department of Planning and Permitting

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Ms. Michele K. Nekota
Director
City and County of Honolulu
Department of Parks and Recreation
1000 Uluohia Street, Suite 309
Kapolei, HI 96707

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, O'ahu, Hawai'i)

Dear Ms. Nekota:

Thank you for your comment letter dated December 18, 2014 concerning the Chapter 343, Hawai'i Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalākaua Project.

We acknowledge that Department of Parks and Recreation has no comments to offer on the Draft EA since the project will not impact any program or facility of the department. Per your request, we will remove you as a consulted party.

Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

KIRK CALDWELL
MAYOR

MICHAEL D. FORMBY
DIRECTOR

MARK N. GARRITY, AICP
DEPUTY DIRECTOR

TP10/14-586076R

November 28, 2014

RECEIVED
DEC - 1 2014
GROUP 70 INTL

Ms. Tracy Furuyama
Project Manager
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813

Dear Ms. Furuyama:

SUBJECT: Draft Environmental Assessment (DEA) 2424 Kalakaua; Tax Map Key: 2-6-23: 9, 10, 11, 12, 77, 78, and 80; Waikiki, Oahu, Hawaii

In response to a letter from George I. Atta, FAICP, Director, Department of Planning and Permitting, City and County of Honolulu, dated October 27, 2014, we have no comments to offer at this time.

Thank you for the opportunity to review this matter. Should you have any further questions, please contact Michael Murphy of my staff at 768-8359.

Very truly yours,

Michael D. Formby
Director

cc: Urban Design Branch
Department of Planning and Permitting

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Mr. Michael D. Formby
Director
Department of Transportation Services
City and County of Honolulu
650 South King Street, 3rd Floor
Honolulu, HI 96813

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, Oʻahu, Hawaiʻi)

Dear Mr. Formby:

Thank you for your comment letter dated November 28, 2014 concerning the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalākaua Project.

We acknowledge that the Department of Transportation Services has no comments to offer at this time.

We will provide your office with a copy of the Final EA. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

HONOLULU FIRE DEPARTMENT

CITY AND COUNTY OF HONOLULU

636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd

KIRK CALDWELL
MAYOR

MANUEL P. NEVES
FIRE CHIEF

LIONEL CAMARA JR.
DEPUTY FIRE CHIEF

RECEIVED

DEC - 4 2014

GROUP 70 INTL

December 2, 2014

Ms. Christine Mendes Ruotola, AICP, LEED AP
Principal
Group 70 International, Inc.
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4307

Dear Ms. Mendes Ruotola:

Subject: Draft Environmental Assessment
2424 Kalakaua
Honolulu, Hawaii 96815
Tax Map Keys: 2-6-023: 009, 010, 011, 012, 077, 078, and 080

In response to your letter dated November 6, 2014, regarding the above-mentioned subject, the Honolulu Fire Department (HFD) requires that the following be complied with:

1. Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 feet from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1, Uniform Fire Code [UFC]™, 2006 Edition, Section 18.2.3.2.2.)

   A fire department access road shall extend to within 50 ft of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. (NFPA 1, UFC™, 2006 Edition, Section 18.2.3.2.1.)

2. A water supply approved by the county, capable of supplying the required fire flow for fire protection, shall be provided to all premises upon which facilities or buildings, or portions thereof, are hereafter

constructed, or moved into or within the county. When any portion of the facility or building is in excess of 150 feet from a water supply on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the AHJ [Authority Having Jurisdiction]. (NFPA 1, UFC™, 2006 Edition, Section 18.3.1, as amended.)

3. The unobstructed width and unobstructed vertical clearance of a fire apparatus access road shall meet county requirements. (NFPA 1, UFC™, 2006 Edition, Section 18.2.3.4.1.1, as amended.)

4. Submit civil drawings to the HFD for review and approval.

Should you have questions, please contact Battalion Chief Terry Seelig of our Fire Prevention Bureau at 723-7151 or tseelig@honolulu.gov.

Sincerely,

SOCRATES D. BRATAKOS
Assistant Chief

SDB/SY:bh

cc: George Atta, Director
Department of Planning and Permitting

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Mr. Socrates. D. Bratakos
Assistant Chief
City and County of Honolulu
Honolulu Fire Department
636 South Street
Honolulu, HI 96813-5007

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, Oʻahu, Hawaiʻi)

Dear Chief Bratakos:

Thank you for your comment letter dated December 2, 2014 concerning the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalākaua Project.

1. The project will not impact existing fire department access roads. The proposed project will comply with the applicable National Fire Protection (NFPA) 1 Uniform Fire Code (UFC), 2006 Edition, Section 18.2.3.2.2.
2. The project will not impact the existing water supply, capable of supplying required fire flow for fire protection. Appropriate water supply will continue to be provided for the project. In addition, the project will meet requirements of NFPA 1, UFC, 2006 Edition, Section 18.3.1.
3. The project will not impact existing County requirements relating to unobstructed width and vertical clearance of the fire apparatus road. The project will comply with NFPA 1, UFC, 2006 Edition, Section 18.2.3.4.1.1.
4. Civil drawings will be submitted to the Honolulu Fire Department for review and approval during the building permitting period.

We will provide your office with a copy of the Final EA. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET · HONOLULU, HAWAII 96813
TELEPHONE: (808) 529-3111 · INTERNET: www.honolulupd.org

KIRK CALDWELL
MAYOR

LOUIS M. KEALOHA
CHIEF

DAVE M. KAJIHIRO
MARIE A. McCAULEY
DEPUTY CHIEFS

RECEIVED

NOV 13 2014

GROUP 70 INTL

OUR REFERENCE MT-DK

November 10, 2014

Ms. Tracy Furuyama
Group 70 International, Inc.
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813

Dear Ms. Furuyama:

This is in response to a request for comments on a Draft Environment Assessment for the redevelopment and renovation of the three podium levels (including the basement) of the Hyatt Regency Waikiki Beach Resort and Spa located at 2424 Kalakaua Avenue.

The Honolulu Police Department has some concerns regarding the project. The pedestrian and traffic activities on Kalakaua and Koa Avenues will be affected. Additionally, Koa Avenue is already a concern with the various restricted parking signs (e.g., "No Parking," "Tour Bus Loading/Unloading Only," and "3-minute Loading/Unloading"). This will create pedestrian and traffic flow challenges in the project area.

If there are any questions, please call Acting Major Lisa A. Mann of District 6 (Waikiki) at 723-3345.

Thank you for the opportunity to review this project.

Sincerely,

LOUIS M. KEALOHA
Chief of Police

By Mark Tsuyemura
MARK TSUYEMURA
Management Analyst VI
Office of the Chief

cc: Urban Design Branch, Department of Planning and Permitting

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Mr. Louis M. Kealoha
Chief of Police
City and County of Honolulu
Police Department
801 South Beretania Street
Honolulu, HI 96813

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, Oʻahu, Hawaiʻi)

Dear Chief Kealoha:

Thank you for your comment letter dated November 10, 2014 concerning the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalākaua Project. The following responses are offered to your comments:

1. The sidewalk area on Kalakaua Avenue fronting the project site will be improved to provide wider sidewalks and an improved pedestrian environment to facilitate better pedestrian flow through the area.
2. On Koa Avenue, the three-minute loading zones will be removed and tour bus parking will be restricted at strategic locations to provide increased sight distance and visibility at the pedestrian/vehicular conflict zones. All signage improvements, parking restrictions and modifications will be coordinated with the City and County of Honolulu, Department of Transportation Services, Traffic Engineering Branch, and the Department of Planning and Permitting, Traffic Review Branch.

We will provide your office with a copy of the Final EA. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

Tracy Furuya

Subject: FW: Draft EA - 2424 Kalakaua

From: "Liu, Rouen" <rouen.liu@hawaiianelectric.com>
Date: December 9, 2014 at 3:22:12 PM HST
To: '"cruotola@group70int.com"' <cruotola@group70int.com>, "Atta, George I (gatta@honolulu.gov)" <gatta@honolulu.gov>
Subject: Draft EA - 2424 Kalakaua

Dear Ms. Mendes Ruotola and Mr. Atta,
Thank you for the opportunity to comment on the subject project. Hawaiian Electric Company has no objection. Should HECO have existing easements and facilities on the subject property, we will need continued access for maintenance of our facilities. We appreciate your efforts to keep us apprised of the subject project in the planning process. As the proposed 2424 Kalalaua project comes to fruition, please continue to keep us informed. Further along in the design, we will be better able to evaluate the effects on our system facilities.
If you have any questions, please call me at 543-7245.

Sincerely,
Rouen Q. W. Liu
Permits Engineer

CONFIDENTIALITY NOTICE: This e-mail message, including any attachments, is for the sole use of the intended recipient(s) and may contain confidential and/or privileged information. Any unauthorized review, use, copying, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender immediately by reply e-mail and destroy the original message and all copies.

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Hitoshi Hida AIA

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

January 7, 2015

Mr. Rouen Q. W. Liu
Permits Engineer
Hawaiian Electric Company
820 Ward Avenue
Honolulu, HI 96814

Subject: Chapter 343 Draft Environmental Assessment
2424 Kalakaua
TMK: (1) 2-6-23: 9,10,11,12, 77, 78, and 80
(Waikīkī, Oʻahu, Hawaiʻi)

Dear Mr. Wong:

Thank you for your comment letter dated December 9, 2014 concerning the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the 2424 Kalākaua Project.

We acknowledge that the Hawaiian Electric Company (HECO) has no objection to the project. Access to any of HECO's existing easements and facilities on the subject property will be maintained.

We will provide your office with a copy of the Final EA. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

Appendix B

TRAFFIC IMPACT REPORT

Traffic Impact Report

Hyatt Regency Waikiki Beach Resort Redevelopment

Prepared for:
MK HW Consulting LLC

Prepared by:
Wilson Okamoto Corporation

June 2014

TRAFFIC IMPACT REPORT

FOR THE

HYATT REGENCY WAIKIKI BEACH RESORT

REDEVELOPMENT

Prepared for:

MK HW Consulting LLC
1288 Ala Moana Blvd, Ste. 208
Honolulu, HI 96816

Prepared by:

Wilson Okamoto Corporation/W-Trans
1907 S. Beretania Street, Suite 400
Honolulu, Hawaii 96826
WOC Ref #10021-01

June 2014

TABLE OF CONTENTS

		Page
I.	Introduction	1
	A. Purpose of Study	1
	B. Scope of Study	1
II.	Project Description	1
	A. Location	1
	B. Project Characteristics	3
III.	Existing Traffic Conditions	3
	A. Area Roadway System	3
	B. Traffic Volumes and Conditions	7
	1. General	7
	a. Field Investigation	7
	b. Capacity Analysis Methodology	8
	2. Existing Peak Hour Traffic	9
	a. General	9
	b. Kaiulani Avenue and Kalakaua Avenue	9
	c. Kaiulani Avenue and Koa Avenue	9
	d. Kaiulani Avenue, Kanekapolei Street, and Prince Edward Street	11
	e. Kanekapolei Street and Kuhio Avenue	12
	f. Kaiulani Avenue and Kuhio Avenue	12
	g. Uluniu Avenue and Kuhio Avenue	13
	h. Uluniu Avenue and Prince Edward Street	14
	i. Uluniu Avenue and Koa Avenue	14
	j. Uluniu Avenue and Kalakaua Avenue	15
IV.	Projected Traffic Conditions	15
	A. Site-Generated Traffic	15
	1. Trip Generation Methodology	15
	2. Trip Distribution	17
	B. Through-Traffic Forecasting Methodology	17
	C. Other Considerations	17
	D. Total Traffic Volumes Without Project	19
	E. Total Traffic Volumes With Project	21
V.	Traffic Impact Analysis	21
VI.	Recommendations	24
VII.	Conclusion	24

LIST OF FIGURES

FIGURE 1	Location Map and Vicinity Map
FIGURE 2	First Floor Project Site Plan
FIGURE 3	Existing Lane Configurations
FIGURE 4	Existing Peak Hours of Traffic
FIGURE 5	Distribution of Site-Generated Vehicles
FIGURE 6	Year 2017 Peak Hours of Traffic Without Project
FIGURE 7	Year 2017 Peak Hours of Traffic With Project

LIST OF APPENDICIES

APPENDIX A	Existing Traffic Count Data
APPENDIX B	Level of Service Definitions
APPENDIX C	Capacity Analysis Calculations Existing Peak Period Traffic Analysis
APPENDIX D	Capacity Analysis Calculations Year 2017 Peak Period Traffic Analysis Without Project
APPENDIX E	Capacity Analysis Calculations Year 2017 Peak Period Traffic Analysis With Project

I. INTRODUCTION

A. Purpose of Study

The purpose of this study is to identify and assess the traffic impacts resulting from a proposed redevelopment of the Hyatt Regency Waikiki Beach Resort in Waikiki on the island of Oahu. The project entails the replacement and expansion of the existing commercial uses at the hotel, as well as, the addition of a new porte cochere along Koa Avenue.

B. Scope of Study

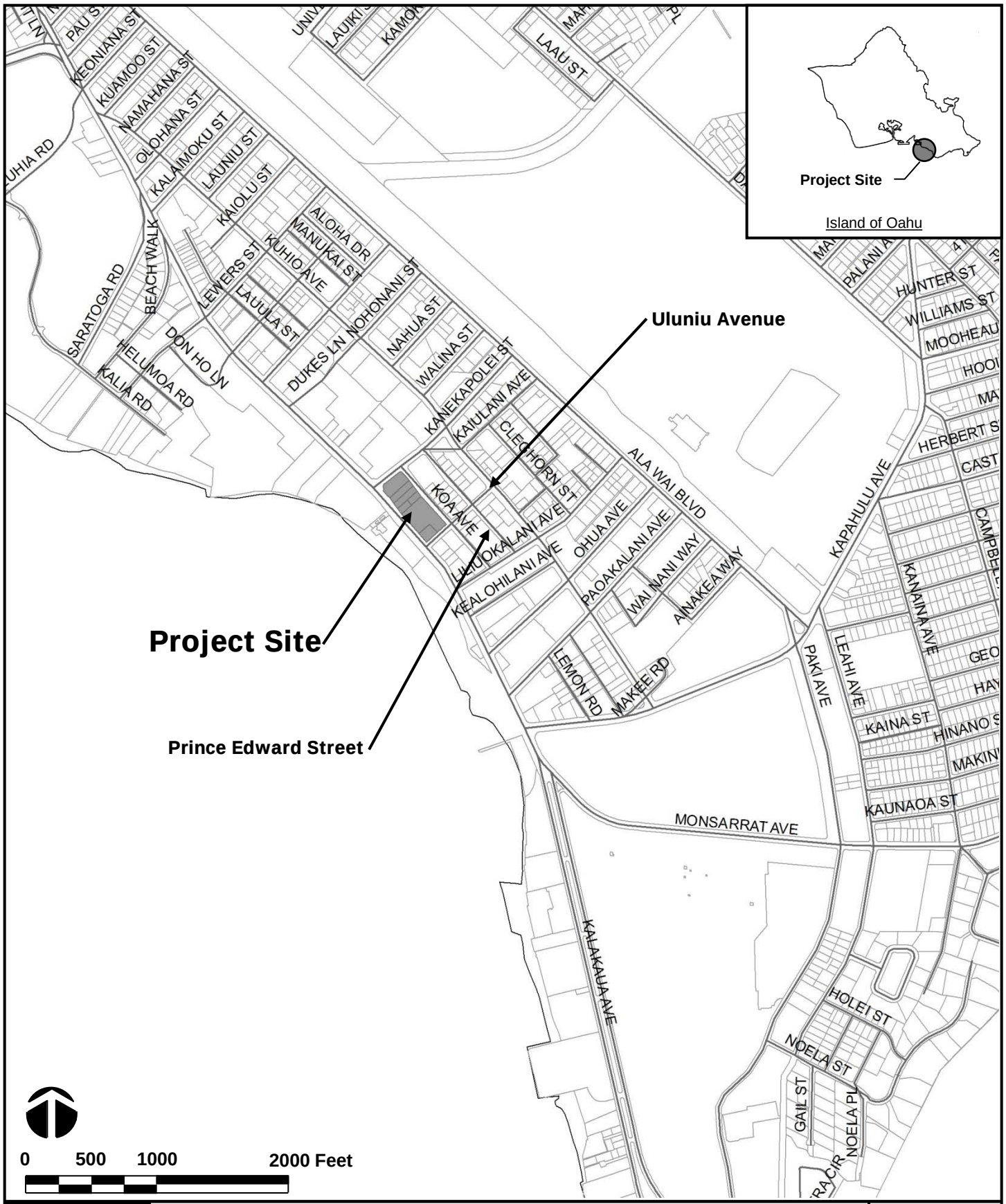
This report presents the findings and conclusions of the traffic study, the scope of which includes:

1. Description of the proposed project.
2. Evaluation of existing roadway and traffic operations in the vicinity.
3. Analysis of future roadway and traffic conditions without the proposed project.
4. Analysis and development of trip generation characteristics for the proposed project.
5. Superimposing site-generated traffic over future traffic conditions.
6. The identification and analysis of traffic impacts resulting from the proposed project.
7. Recommendations of improvements, if appropriate, that would mitigate the traffic impacts resulting from the proposed project.

II. PROJECT DESCRIPTION

A. Location

The project site is located adjacent to Kalakaua Avenue in Waikiki on the island of Oahu (see Figure 1) and is bounded by Kaiulani Avenue to the west, Koa Avenue to the north, Uluniu Avenue to the east, and Kalakaua Avenue to the south. Primary access to the resort will continue to be provided off Uluniu Avenue with secondary access provided off Koa Avenue.



HYATT REGENCY WAIKIKI BEACH RESORT REDEVELOPMENT

LOCATION MAP AND VICINITY MAP

FIGURE 1

WILSON OKAMOTO CORPORATION

B. Project Characteristics

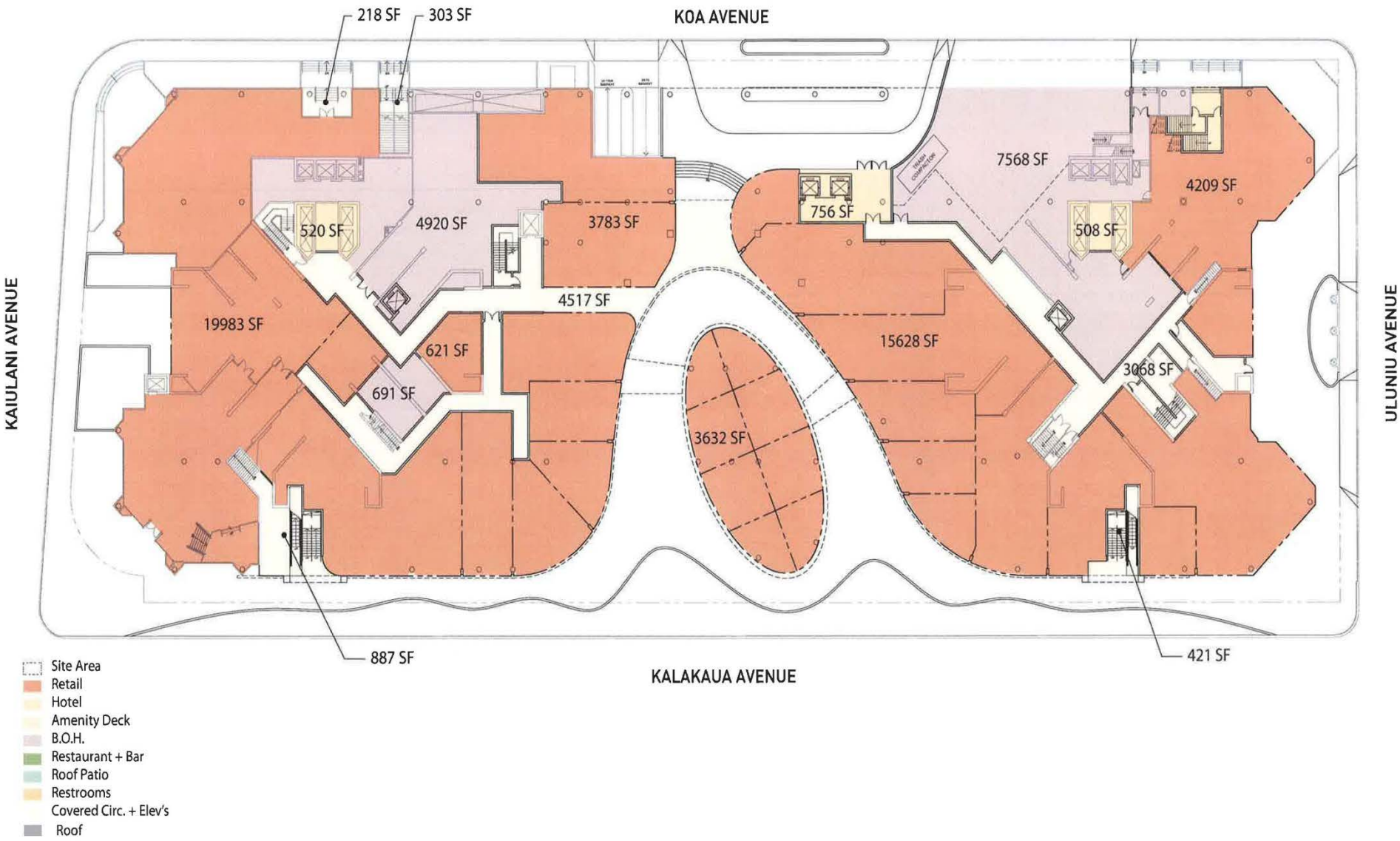
The existing Hyatt Regency Waikiki Beach is split into two sections by Uluniu Avenue with the hotel and commercial podium located west of the roadway, and the parking garage and ballrooms located east of that roadway. The proposed project entails the redevelopment of the portion of the resort located west of Uluniu Avenue which currently includes approximately 1,230 hotel rooms, meeting rooms, and approximately 69,468 square feet of commercial/retail uses. Upon completion, that portion of the resort will still include the same number of hotel rooms and approximately 2,280 square feet less meeting rooms space, as well as a total of 89,574 square feet of commercial/retail uses. In addition, the project includes the provision of an additional porte cochere along Koa Avenue. The proposed redevelopment is expected to be completed by the Year 2017. Figure 2 shows the proposed project site plan.

III. EXISTING TRAFFIC CONDITIONS

A. Area Roadway System

The proposed project site is located adjacent to Kalakaua Avenue in Waikiki. Kalakaua Avenue is a predominantly four-lane, one-way (eastbound) roadway generally oriented in the east-west direction that with Ala Wai Boulevard forms a couplet system that provides access through Waikiki. At the southwest corner of the project site, Kalakaua Avenue intersects Kaiulani Avenue. At this signalized intersection, the Kalakaua Avenue approach has an exclusive left-turn lane and three through lanes (see Figure 3). Kaiulani Avenue originates at Kalakaua Avenue as a two-lane, one-way (northbound) roadway that transitions into a four-lane, two-way roadway at Koa Avenue until Prince Edward Street. At the intersection with Prince Edward Street and Kanekapolei Street, Kaiulani Avenue transitions back to a one-way (northbound) roadway with two lanes between Prince Edward Street and Kuhio Avenue.

North of the intersection with Kalakaua Avenue, Kaiulani Avenue intersects Koa Avenue. At this unsignalized intersection, both approaches of Kaiulani Avenue have two lanes that serve all traffic movements. The east leg of the intersection is comprised of Koa Avenue which is a one-lane, one-way (eastbound) roadway that

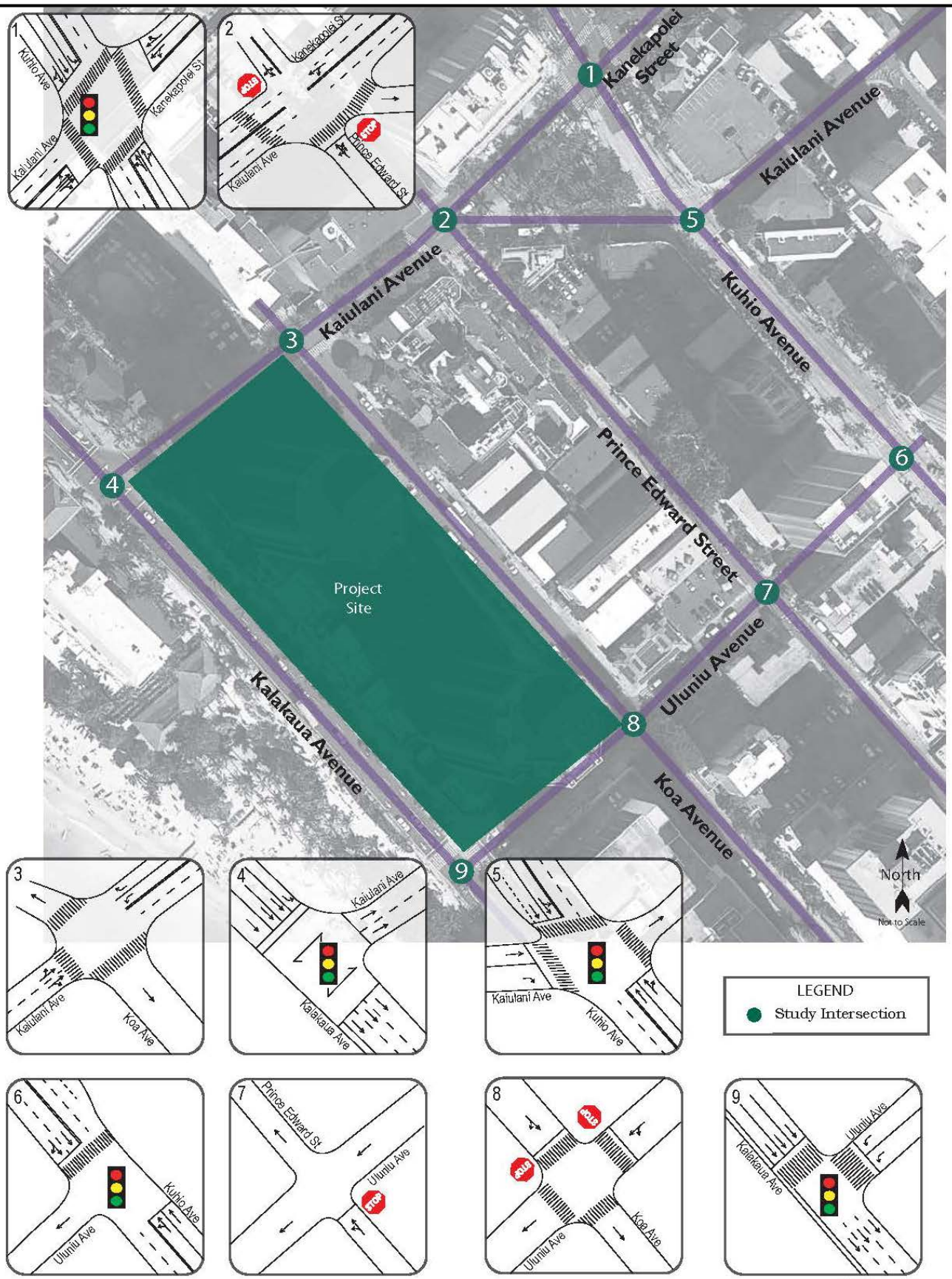


WILSON OKAMOTO CORPORATION

HYATT REGENCY WAIKIKI BEACH RESORT REDEVELOPMENT

FIRST FLOOR PROJECT SITE PLAN

FIGURE 2



WILSON OKAMOTO CORPORATION

HYATT REGENCY WAIKIKI BEACH RESORT REDEVELOPMENT

EXISTING LANE CONFIGURATIONS

FIGURE 3

serves as a connector roadway between Kaiulani Avenue and Liliuokalani Avenue. The west leg of the intersection is comprised of the entrance to the existing porte cochere for the Princess Kaiulani Hotel.

Further north, Kaiulani Avenue intersects Kanekapolei Street and Prince Edward Street. At this unsignalized intersection, the northbound approach of Kaiulani Avenue has two lanes that serve all traffic movements. The southbound approach of the intersection is comprised of Kanekapolei Street which serves as a connector roadway between this intersection and Ala Wai Boulevard. At the intersection with Prince Edward Street and Kaiulani Avenue, the Kanekapolei Street approach has two southbound lanes that serve all traffic movements. The eastbound approach of the intersection is comprised of the existing driveways for the Princess Kaiulani Hotel and the adjacent Ohana East Hotel. The driveway for the Princess Kaiulani Hotel is a two-lane, two-way driveway that leads to the parking structure while the driveway for the Ohana East Hotel is a one-lane, one-way (exiting) driveway. The westbound approach of the intersection is comprised of Prince Edward Street which is a one-lane, one-way (westbound) roadway that serves as a connector roadway between Kaiulani Avenue and Liliuokalani Avenue. At the intersection with Kaiulani Avenue and Kanekapolei Street, the Prince Edward Street approach has one stop-controlled lane that serves left-turn and right-turn traffic movements.

North of the intersection with Kaiulani Avenue and Prince Edward Street, Kanekapolei Street intersects Kuhio Avenue. At the signalized intersection with Kuhio Avenue, the northbound approach of Kanekapolei Street has two lanes that serve left-turn and through traffic movements while the southbound approach has two lanes that serve all traffic movements. Kuhio Avenue is a predominantly four-lane, two-way roadway that also serves as an access roadway through Waikiki. At the intersection with Kanekapolei Street, the eastbound approach of Kuhio Avenue has an exclusive left-turn lane, one through lane, and a shared through and right-turn lane while the westbound approach has two lanes that serve all traffic movements.

East of the intersection with Kanekapolei Street, Kuhio Avenue intersects Kaiulani Avenue. At this signalized intersection, the eastbound approach of Kuhio Avenue has two lanes that serve left-turn and through traffic movements while the westbound approach has two lanes that serve through and right-turn traffic movements. The Kaiulani Avenue approach of the intersection has one through lane and an exclusive right-turn lane.

Further east, Kuhio Avenue intersects Uluniu Avenue. At this signalized T-intersection, the eastbound approach of Kuhio Avenue has two lanes that serve through and right-turn traffic movements while the westbound approach has two lanes that serve left-turn and through traffic movements. Uluniu Avenue is a predominantly one-lane, one-way (southbound) roadway that serves as a connector roadway between Kuhio Avenue and Kalakaua Avenue.

South of the intersection with Kuhio Avenue, Uluniu Avenue intersects Prince Edward Street and Koa Avenue. At the unsignalized intersection with Prince Edward Street, the Uluniu Avenue approach has one lane that serves through and right-turn traffic movements while the Prince Edward Street approach has one stop-controlled lane that serves left-turn and through traffic movements. At the unsignalized intersection with Koa Avenue, the Uluniu Avenue approach has one stop-controlled lane that serves left-turn and through traffic movements while the Koa Avenue approach has one stop-controlled lane that serves through and right-turn traffic movements.

Further south, Uluniu Avenue intersects Kalakaua Avenue. At this signalized T-intersection, the Uluniu Avenue approach has two left-turn lanes. The Kalakaua Avenue approach of the intersection has three through lanes.

B. Traffic Volumes and Conditions

1. General

a. Field Investigation

Field investigations were conducted in September and October 2013 and consisted of manual turning movement count surveys during the morning peak hours between 6:00 AM and 9:00 AM, and the

afternoon peak hours between 3:00 PM and 6:00 PM at the following intersections:

- Kaiulani Avenue and Kalakaua Avenue
- Kaiulani Avenue and Koa Avenue
- Kaiulani Avenue, Kanekapolei Street, and Prince Edward Street
- Kanekapolei Street and Kuhio Avenue
- Kaiulani Avenue and Kuhio Avenue
- Uluniu Avenue and Kuhio Avenue
- Uluniu Avenue and Prince Edward Street
- Uluniu Avenue and Koa Avenue
- Uluniu Avenue and Kalakaua Avenue

Appendix A includes the existing traffic count data

b. Capacity Analysis Methodology

The highway capacity analysis performed in this study is based upon procedures presented in the "Highway Capacity Manual", Transportation Research Board, 2000, and the "Synchro" software, developed by Trafficware. The analysis is based on the concept of Level of Service (LOS) to identify the traffic impacts associated with traffic demands during the peak periods of traffic.

LOS is a quantitative and qualitative assessment of traffic operations. Levels of Service are defined by LOS "A" through "F"; LOS "A" representing ideal or free-flow traffic operating conditions and LOS "F" unacceptable or potentially congested traffic operating conditions.

"Volume-to-Capacity" (v/c) ratio is another measure indicating the relative traffic demand to the road carrying capacity. A v/c ratio of one (1.00) indicates that the roadway is operating at or near capacity. A v/c ratio of greater than 1.00 indicates that the traffic demand exceeds the road's carrying capacity. The LOS definitions are included in Appendix B.

2. Existing Peak Hour Traffic

a. General

Figure 4 shows the existing AM and PM peak period traffic volumes. The AM peak hour of traffic generally occurs between 7:30 AM and 8:30 AM. The PM peak hour of traffic general occurs between the hours of 4:45 PM and 5:45 PM. The analysis is based on these peak hour time periods for each intersection to identify the traffic impacts resulting from the proposed project. LOS calculations are included in Appendix C.

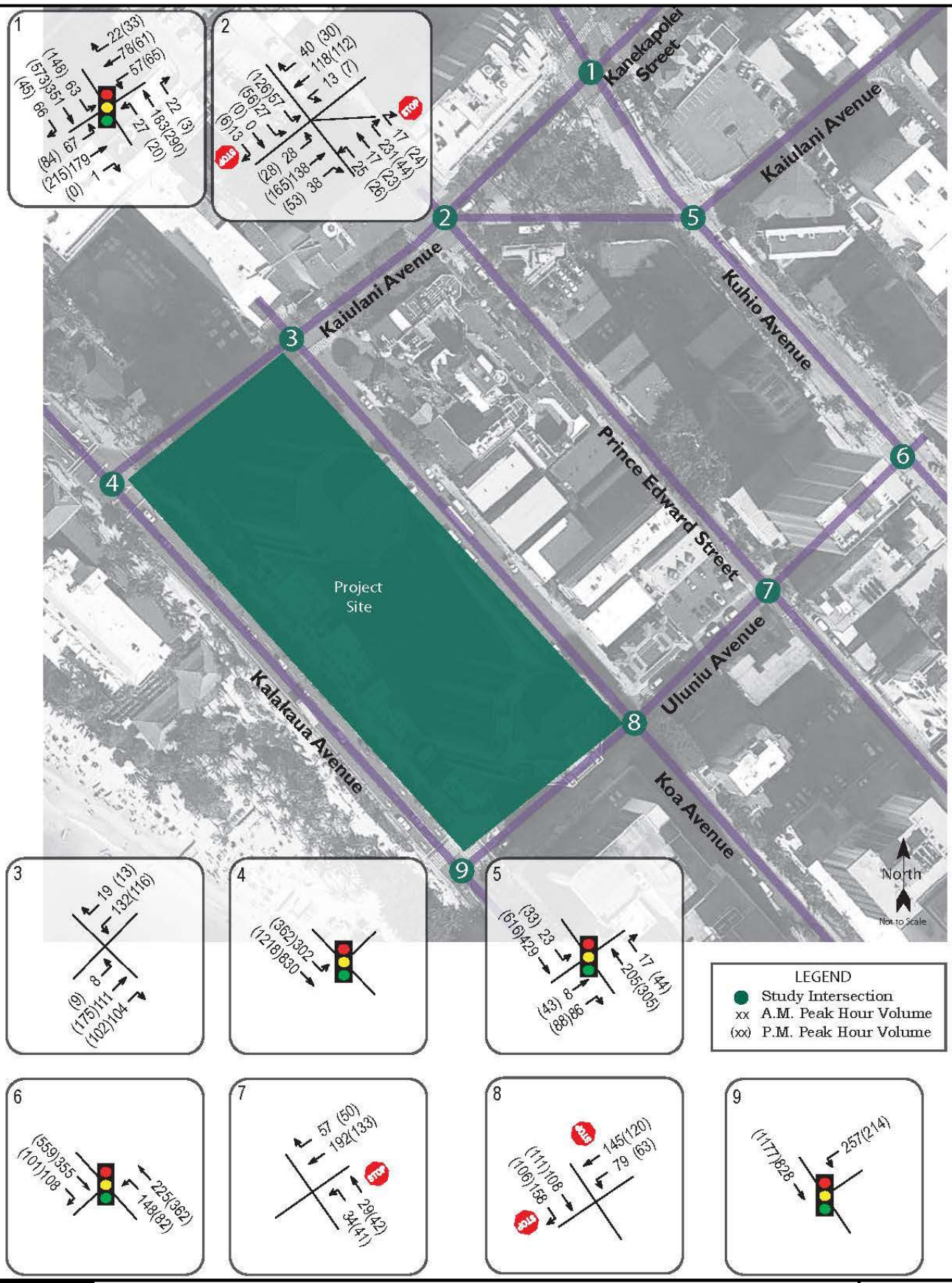
b. Kaiulani Avenue and Kalakaua Avenue

At the intersection with Kaiulani Avenue, Kalakaua Avenue carries 1,132 vehicles eastbound during the AM peak period and 1,580 vehicles during the PM peak period. The Kalakaua Avenue approach operates at LOS "A" during both peak periods. An all-way pedestrian crossing is provided at this intersection. 990 pedestrians were observed crossing at this intersection during the AM peak period and 2,142 pedestrians were observed during the PM peak period.

c. Kaiulani Avenue and Koa Avenue

At the intersection with Koa Avenue, Kaiulani Avenue carries 151 vehicles southbound and 223 vehicles northbound during the AM peak period. During the PM peak period, the overall traffic volume is higher with Kaiulani Avenue carrying 129 vehicles southbound and 286 vehicles traveling northbound. Both approaches of Kaiulani Avenue operate at LOS "A" during both peak periods.

Pedestrian crossings are provided across the south, east, and west legs of the intersection. During the AM peak period, 313 pedestrians were observed crossing Kaiulani Avenue on the south side of the intersection, 273 pedestrians were observed crossing Koa Avenue on the east side of the intersection, and 203 pedestrians were observed crossing the driveway on the west side of the intersection. During the PM peak period, 362 pedestrians were observed crossing



WILSON OKAMOTO CORPORATION

HYATT REGENCY WAIKIKI BEACH RESORT REDEVELOPMENT

EXISTING PEAK HOURS OF TRAFFIC

FIGURE 4

Kaiulani Avenue on the south side of the intersection, 677 pedestrians were observed crossing Koa Avenue on the east side of the intersection, and 362 pedestrians were observed crossing the driveway on the west side of the intersection.

d. Kaiulani Avenue, Kanekapolei Street, and Prince Edward Street

At the intersection with Prince Edward Street, Kaiulani Avenue carries 204 vehicles northbound while Kanekapolei Street carries 171 vehicles southbound during the AM peak period. During the PM peak period, the overall traffic volume is higher with Kaiulani Avenue carrying 246 vehicles northbound while Kanekapolei Street has 159 vehicles traveling southbound. The northbound approach of Kaiulani Avenue operates at LOS "A" during both peak periods.

The Prince Edward Street approach carries 290 vehicles westbound while the driveway approach carries 97 vehicles eastbound during the AM peak period. During the PM peak period, the overall traffic volume is less with Prince Edward Street approach carrying 117 vehicles westbound while the driveway approach carries 188 vehicles eastbound during the PM peak period. The westbound approach of Prince Edward Street operates at LOS "B" during both peak periods while the driveway approach operates at LOS "C" during both peak periods.

Pedestrian crossings are provided across the south and east legs of the intersection. During the AM peak period, 146 pedestrians were observed crossing Kaiulani Avenue on the south side of the intersection and 231 pedestrians were observed crossing Prince Edward Street on the east side of the intersection. During the PM peak period, 166 pedestrians were observed crossing Kaiulani Avenue on the south side of the intersection, and 386 pedestrians were observed crossing Prince Edward Street on the east side of the intersection.

e. Kanekapolei Street and Kuhio Avenue

At the intersection with Kuhio Avenue, Kanekapolei Street carries 247 vehicles northbound and 157 vehicles southbound during the AM peak period. During the PM peak period, the overall traffic volume is higher with Kanekapolei Street carrying 299 vehicles northbound while 159 vehicles travel southbound. Both approaches of Kanekapolei Street operate at LOS "B" and LOS "C" during the AM and PM peak periods, respectively.

The Kuhio Avenue approaches of the intersection carry 480 vehicles eastbound and 232 vehicles westbound during the AM peak period. During the PM peak period, traffic volumes are higher with 766 vehicles traveling eastbound and 313 vehicles traveling westbound. The eastbound approach of Kuhio Avenue operates at LOS "B" during both peak periods while the westbound approach operates at LOS "A" during both peak periods.

Pedestrian crossings are provided across all approaches of the intersection. During the AM peak period, 279 pedestrians and 288 pedestrians were observed crossing Kanekapolei Street on the north and south sides of the intersection, respectively, while 134 pedestrians and 179 pedestrians were observed crossing Kuhio Avenue on the east and west sides of the intersection, respectively. During the PM peak period, 509 pedestrians and 446 pedestrians were observed crossing Kanekapolei Street on the north and south sides of the intersection, respectively, while 351 pedestrians and 364 pedestrians were observed crossing Kuhio Avenue on the east and west sides of the intersection, respectively.

f. Kaiulani Avenue and Kuhio Avenue

At the intersection with Kuhio Avenue, the Kaiulani Avenue approach carries 94 vehicles northbound during the AM peak period and 131 vehicles northbound during the PM peak period. The

Kaiulani Avenue approach operates at LOS "B" and LOS "C" during the AM and PM peak periods, respectively.

The Kuhio Avenue approaches of the intersection carry 452 vehicles eastbound and 222 vehicles westbound during the AM peak period. During the PM peak period, traffic volumes are higher with 649 vehicles eastbound and 349 vehicles traveling westbound. The eastbound approach of Kuhio Avenue operates at LOS "A" during both peak periods while the westbound approach operates at LOS "B" during both peak periods.

Pedestrian crossings are provided across the north, south, and west legs of the intersection. During the AM peak period, 184 pedestrians and 126 pedestrians were observed crossing Kaiulani Avenue on the north and south sides of the intersection, respectively while 90 pedestrians were observed crossing Kuhio Avenue on the west side of the intersection. During the PM peak period, 249 pedestrians and 409 pedestrians were observed crossing Kaiulani Avenue on the north and south sides of the intersection, respectively, while 154 pedestrians were observed crossing Kuhio Avenue on the west side of the intersection.

g. Uluniu Avenue and Kuhio Avenue

At the intersection with Uluniu Avenue, Kuhio Avenue carries 463 vehicles eastbound and 373 vehicles westbound during the AM peak period. During the PM peak period, traffic volumes are higher with 660 vehicles traveling eastbound and 444 vehicles traveling westbound. The eastbound approach of Kuhio Avenue operates at LOS "B" during both peak periods while the westbound approach operates at LOS "B" and LOS "A" during the AM and PM peak periods, respectively.

Pedestrian crossings are provided across the south and west legs of the intersection. During the AM peak period, 145 pedestrians were observed crossing Uluniu Avenue on the south side of the

intersection and 95 pedestrians were observed crossing Kuhio Avenue on the west side of the intersection. During the PM peak period, 332 pedestrians were observed crossing Uluniu Avenue on the south side of the intersection and 162 pedestrians were observed crossing Kuhio Avenue on the west side of the intersection.

h. Uluniu Avenue and Prince Edward Street

At the intersection with Prince Edward Street, the Uluniu Avenue approach of the intersection carries 249 vehicles southbound during the AM peak period and 183 vehicles southbound during the PM peak period.

The Prince Edward Street approach carries 63 vehicles westbound during the AM peak period and 83 vehicles westbound during the PM peak period. The westbound approach of Prince Edward Street operates at LOS "B" during both peak periods.

i. Uluniu Avenue and Koa Avenue

At the intersection with Koa Avenue, the Uluniu Avenue approach of the intersection carries 224 vehicles southbound during the AM peak period and 183 vehicles southbound during the PM peak period. The Uluniu Avenue approach operates at LOS "A" during both peak periods.

The Koa Avenue approach carries 266 vehicles eastbound during the AM peak period and 217 vehicles eastbound during the PM peak period. The Koa Avenue approach operates at LOS "A" during both peak periods.

Pedestrian crossings are provided across all approaches of the intersection. During the AM peak hour, 122 pedestrians and 157 pedestrians were observed crossing Uluniu Avenue on the north and south sides of the intersection, respectively, while 176 pedestrians and 222 pedestrians were observed crossing Koa Avenue on the east and west sides of the intersection, respectively. During the PM peak hour, 150 pedestrians and 192 pedestrians were observed crossing Uluniu

Avenue on the north and south sides of the intersection, respectively, while 147 pedestrians and 358 pedestrians were observed crossing Koa Avenue on the east and west sides of the intersection, respectively.

j. Uluniu Avenue and Kalakaua Avenue

At the intersection with Kalakaua Avenue, the Uluniu Avenue approach of the intersection carries 257 vehicles southbound during the AM peak period and 214 vehicles southbound during the PM peak period. The Uluniu Avenue approach operates at LOS "C" during both peak periods.

The Kalakaua Avenue approach carries 828 vehicles during the AM peak period and 1,177 vehicles during the PM peak period. The Kalakaua Avenue approach operates at LOS "A" during both peak periods.

Pedestrian crossings are provided across the north and west legs of the intersection. During the AM peak period, 709 pedestrians were observed crossing Uluniu Avenue on the north side of the intersection and 828 pedestrians were observed crossing Kalakaua Avenue on the west side of the intersection. During the PM peak period, 1396 pedestrians were observed crossing Uluniu Avenue on the north side of the intersection and 770 pedestrians were observed crossing Kalakaua Avenue on the west side of the intersection.

IV. PROJECTED TRAFFIC CONDITIONS

A. Site-Generated Traffic

1. Trip Generation Methodology

The trip generation methodology used in this study is based upon generally accepted techniques developed by the Institute of Transportation Engineers (ITE) and published in "Trip Generation, 9th Edition," 2012. The ITE trip generation rates are developed empirically by correlating vehicle trip generation data with various land use characteristics such as the number of vehicle trips generated per dwelling unit or 1,000 square feet of development. Since the proposed development is located in a neighborhood with limited

parking, high volumes of pedestrian traffic, and a high density of attractive destinations, guests and customers destined for the project site may elect to walk rather than drive. As such, for the purpose of this report, a portion of the existing and projected trips were assumed to be pedestrian rather than vehicular trips. Table 1 summarizes the project site trip generation characteristics of the existing uses on the project site and Table 2 summarizes the adjusted project site trip generation characteristics of the proposed project.

Table 1: Existing Peak Hour Trip Generation (Adjusted)

COMMERCIAL/RETAIL (SPECIALTY RETAIL CENTER) INDEPENDENT VARIABLE: 1,000 sf of development = 69.468		
		PROJECTED TRIP ENDS
AM PEAK	ENTER	0
	EXIT	0
	TOTAL	0
PM PEAK	ENTER	85
	EXIT	109
	TOTAL	194

Table 2: Projected Peak Hour Trip Generation (Adjusted)

COMMERCIAL/RETAIL (SPECIALTY RETAIL CENTER) INDEPENDENT VARIABLE: 1,000 sf of development = 89.574		
		PROJECTED TRIP ENDS
AM PEAK	ENTER	0
	EXIT	0
	TOTAL	0
PM PEAK	ENTER	66
	EXIT	84
	TOTAL	150
NET DIFFERENCE FROM EXISTING CONDITIONS		
		PROJECTED TRIP ENDS
AM PEAK	ENTER	0
	EXIT	0
	TOTAL	0
PM PEAK	ENTER	19
	EXIT	25
	TOTAL	44

2. Trip Distribution

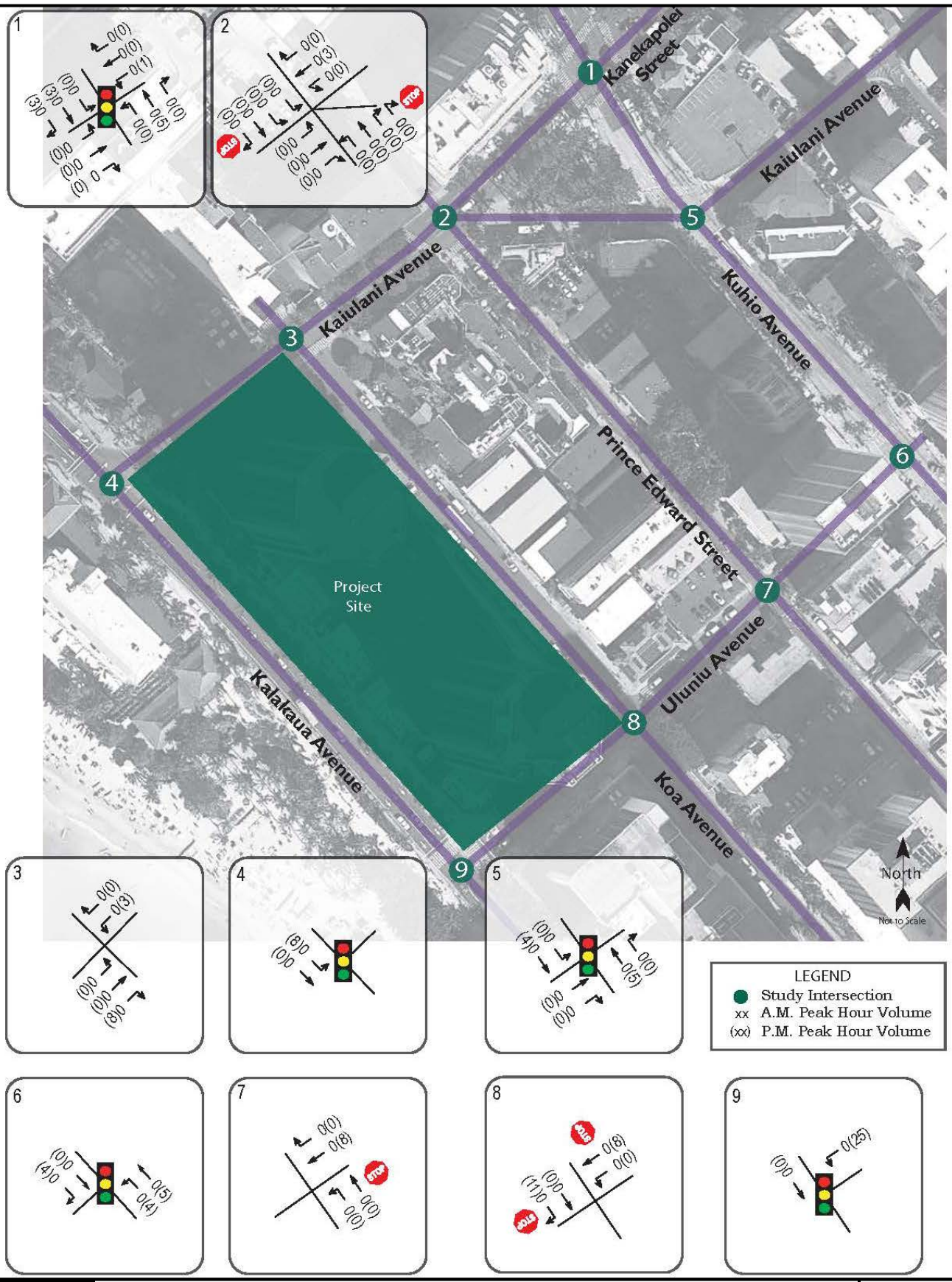
Figure 5 shows the distribution of new site-generated traffic during the AM and PM peak periods. Primary access to the proposed project will be provided via existing driveways off Uluniu Avenue with secondary access provided via a new driveway off Koa Avenue. For the purpose of this report, all new-site generated trips were conservatively assumed to use the driveways off Uluniu Avenue. Site-generated trips were distributed based upon their assumed origin/destination, relative convenience of the available routes, and existing distribution of traffic at the study intersections.

B. Through Traffic Forecasting Methodology

There are no State of Hawaii or City and County of Honolulu traffic count stations in the immediate vicinity of the project site with sufficient available historical data to obtain a historical trend for the growth of traffic in the project vicinity. However, for the purpose of this report, an average annual growth rate of 2.0% per year was conservatively assumed along Kalakaua Avenue and Kuhio Avenue to account for ambient growth in traffic. As such, using 2013 as the Base Year, a growth rate of 1.08 was applied to the existing through traffic demands along Kalakaua Avenue and Kuhio Avenue to achieve the projected Year 2017 traffic demands.

C. Other Considerations

There are three other planned developments in the vicinity of the proposed Hyatt Regency Waikiki Beach Resort renovation. The first project is the redevelopment of the existing Princess Kaiulani Hotel located across Kaiulani Avenue from the project site. The second project is the redevelopment of the International Market Place located less than a block west of Kaiulani Avenue. The third project is the replacement of the existing King's Village across Koa Avenue from the project site with the 133 Kaiulani condo/hotel development. All projects are expected to be completed by the Year 2017. As such, the trips associated with the proposed developments were incorporated into without project conditions based upon the Traffic Impact Reports prepared for the above projects.



HYATT REGENCY WAIKIKI BEACH RESORT REDEVELOPMENT

DISTRIBUTION OF SITE-GENERATED VEHICLES

FIGURE 5

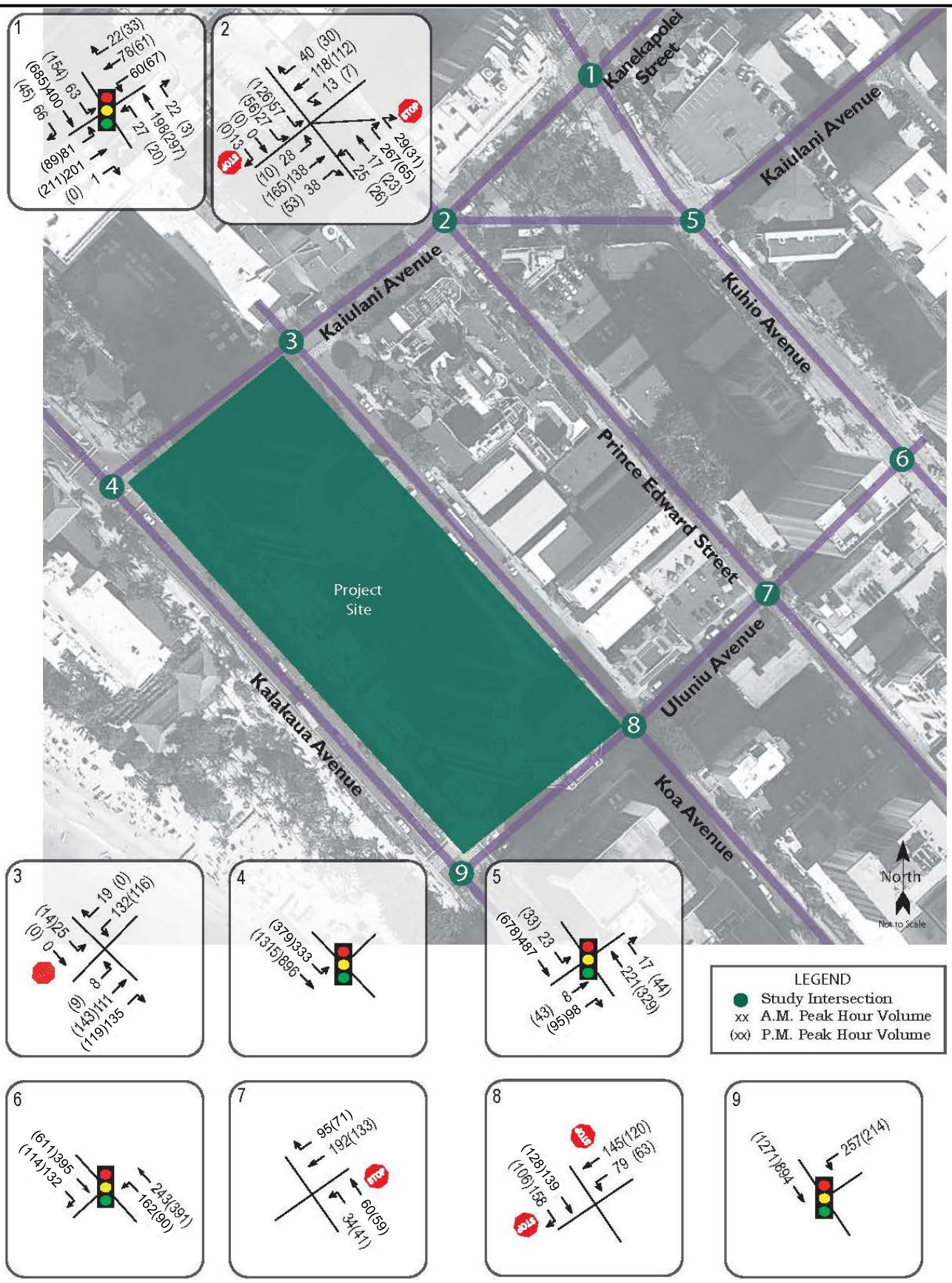
WILSON OKAMOTO CORPORATION

D. Total Traffic Volumes Without Project

The projected Year 2017 AM and PM peak period traffic volumes and operating conditions without the proposed Hyatt Regency Waikiki Beach Resort renovation are shown in Figure 6, and summarized in Table 3. The existing levels of service are provided for comparison purposes. LOS calculations are included in Appendix D.

Table 3: Existing and Projected Year 2017 (Without Project) LOS Traffic Operating Conditions

Intersection	Approach	AM		PM	
		Exist	Year 2017 w/out Proj	Exist	Year 2017 w/out Proj
Kalakaua Ave/ Kaiulani Ave	Eastbound	A	A	A	A
Kaiulani Ave/ Koa Ave	Eastbound	-	B	-	B
	Northbound	A	A	A	A
	Southbound	A	A	A	A
Kaiulani Ave/ Kanekapolei St/ Prince Edward St	Eastbound	C	C	C	C
	Westbound	B	B	B	B
	Northbound	A	A	A	A
Kanekapolei St/ Kuhio Ave	Eastbound	B	B	B	B
	Westbound	A	A	A	A
	Northbound	B	B	C	C
	Southbound	B	B	C	C
Kaiulani Ave/ Kuhio Ave	Eastbound	A	A	A	A
	Westbound	B	B	B	B
	Northbound	B	B	C	C
Uluniu Ave/ Kuhio Ave	Eastbound	B	B	B	B
	Westbound	B	B	A	A
Uluniu Ave/ Prince Edward St	Westbound	B	B	B	B
Uluniu Ave/ Koa Ave	Eastbound	A	A	A	A
	Southbound	A	B	A	A
Uluniu Ave/ Kalakaua Ave	Eastbound	A	A	A	A
	Southbound	C	C	C	C



WILSON OKAMOTO CORPORATION

HYATT REGENCY WAIKIKI BEACH RESORT REDEVELOPMENT

YEAR 2017 PEAK HOUR OF TRAFFIC
WITHOUT PROJECT

FIGURE
6

Traffic operations under Year 2017 without project conditions are expected to remain similar to existing conditions. With the exception of the southbound approach of Uluniu Avenue at Koa Avenue, the approaches of the study intersections along Kalakaua Avenue and Koa Avenue are expected to continue operating at levels of service similar to existing conditions despite the anticipated increases in traffic due to ambient growth and the completion of other developments in the project vicinity. At the intersection with Koa Avenue, the southbound approach of Uluniu Avenue deteriorates slightly from LOS "A" to LOS "B" during the AM peak period.

E. Total Traffic Volumes With Project

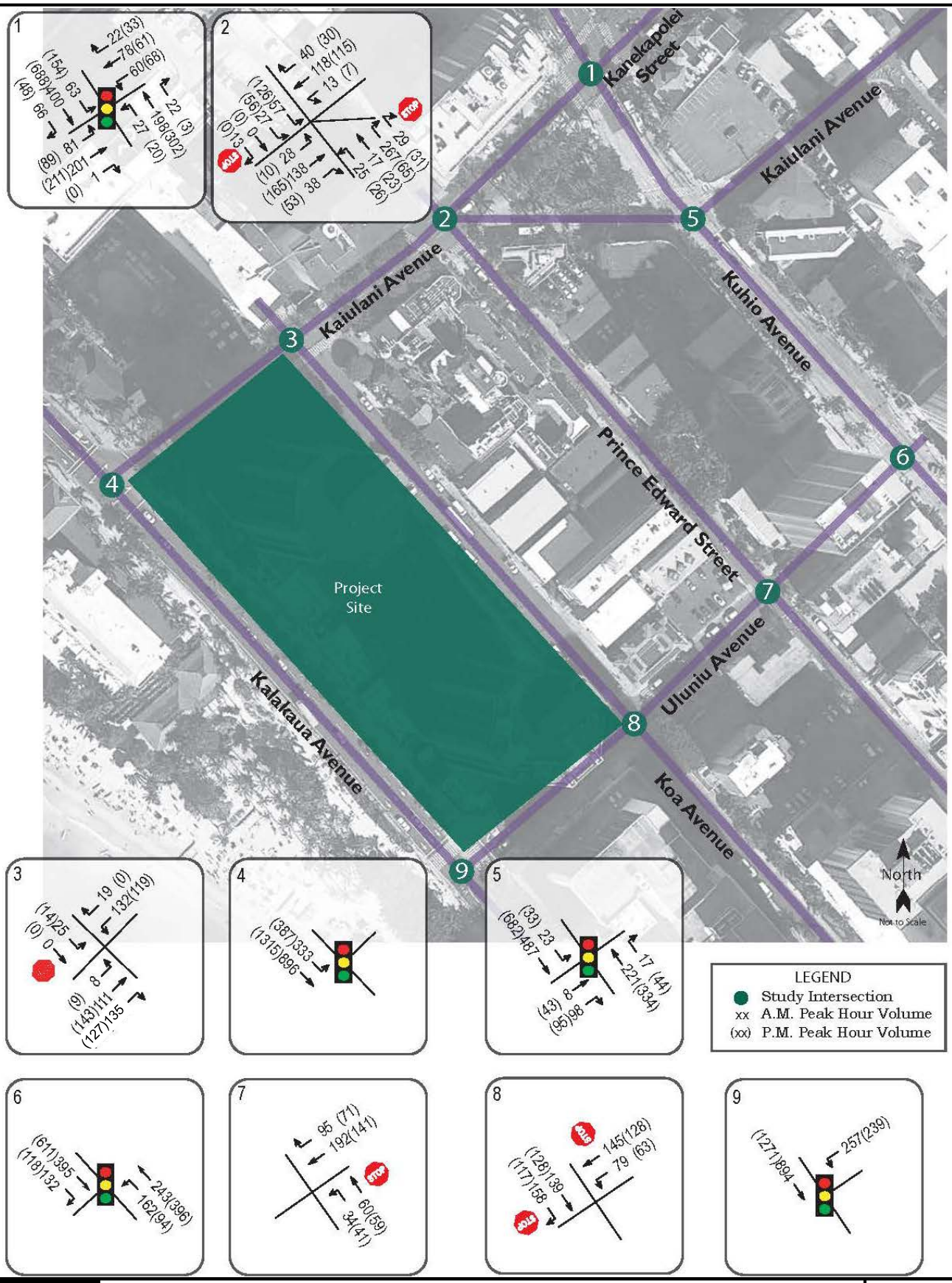
Figure 7 shows the Year 2017 cumulative AM and PM peak hour traffic conditions resulting from the projected external traffic and the proposed Hyatt Regency Waikiki Beach Resort renovation. The cumulative volumes consist of site-generated traffic superimposed over Year 2017 projected traffic demands. The traffic impacts resulting from the proposed project are addressed in the following section.

V. TRAFFIC IMPACT ANALYSIS

The Year 2017 cumulative AM and PM peak hour traffic conditions with the Hyatt Regency Waikiki Beach Resort renovation are summarized in Table 4. The existing and projected Year 2017 (Without Project) operating conditions are provided for comparison purposes. LOS calculations are included in Appendix E.

Table 4: Existing and Projected Year 2017 (Without and With Project) LOS Traffic Operating Conditions

Intersection	Approach	AM			PM		
		Exist	Year 2017		Exist	Year 2017	
			w/out Proj	w/ Proj		w/out Proj	w/ Proj
Kalakaua Ave/ Kaiulani Ave	Eastbound	A	A	A	A	A	A
Kaiulani Ave/ Koa Ave	Eastbound	-	B	B	-	B	B
	Northbound	A	A	A	A	A	A
	Southbound	A	A	A	A	A	A
Kaiulani Ave/ Kanekapolei St/ Prince Edward St	Eastbound	C	C	C	C	C	C
	Westbound	B	B	B	B	B	B
	Northbound	A	A	A	A	A	A



HYATT REGENCY WAIKIKI BEACH RESORT REDEVELOPMENT

YEAR 2017 PEAK HOUR OF TRAFFIC
WITH PROJECT

FIGURE
7

WILSON OKAMOTO CORPORATION

Table 4: Existing and Projected Year 2017 (Without and With Project) LOS Traffic Operating Conditions (Cont'd)

Intersection	Approach	AM			PM		
		Exist	Year 2017		Exist	Year 2017	
			w/out Proj	w/ Proj		w/out Proj	w/ Proj
Kanekapolei St/ Kuhio Ave	Eastbound	B	B	B	B	B	B
	Westbound	A	A	A	A	A	A
	Northbound	B	B	B	C	C	C
	Southbound	B	B	B	C	C	C
Kaiulani Ave/ Kuhio Ave	Eastbound	A	A	A	A	A	A
	Westbound	B	B	B	B	B	B
	Northbound	B	B	B	C	C	C
Uluniu Ave/ Kuhio Ave	Eastbound	B	B	B	B	B	B
	Westbound	B	B	B	A	A	A
Uluniu Ave/ Prince Edward St	Westbound	B	B	B	B	B	B
Uluniu Ave/ Koa Ave	Eastbound	A	A	A	A	A	A
	Southbound	A	B	B	A	A	A
Uluniu Ave/ Kalakaua Ave	Eastbound	A	A	A	A	A	A
	Southbound	C	C	C	C	C	C

Traffic operations in the vicinity of the Hyatt Regency Waikiki Beach Resort renovation are expected to remain similar to existing and Year 2017 without project conditions despite the addition of new site-generated traffic to the surrounding roadways. Along Kaiulani Avenue and Kanekapolei Street, the approaches of the study intersections are expected to continue operating at LOS "B" or better during both peak periods with the exception of the intersection of Kaiulani Avenue with Kanekapolei Street and Prince Edward Street and the intersections of those roadways with Kuhio Avenue. The intersection of Kaiulani Avenue with Kanekapolei Street and Prince Edward Street is expected to continue operating at LOS "C" or better during both peak periods while the intersections of Kuhio Avenue with Kaiulani Avenue and Kanekapolei Street are expected to continue operating at LOS "B" or better during the AM peak period and LOS "C" or better during the PM peak period. Along Uluniu Avenue, the approaches of the study intersections are expected to continue operating at LOS "B" or better during both peak periods with the exception of the

intersection with Kalakaua Avenue which is expected to continue operating at LOS "C" or better during both peak periods.

VI. RECOMMENDATIONS

Based on the analysis of the traffic data, the following are the recommendations of this study to be incorporated in the project design.

1. Maintain sufficient sight distance for motorists to safely enter and exit the project driveways.

2. Provide adequate on-site loading and off-loading service areas and prohibit off-site loading operations.

3. Provide adequate turn-around area for service, delivery, and refuse collection vehicles to maneuver on the project site to avoid vehicle-reversing maneuvers onto public roadways.

4. Provide sufficient turning radii at all project driveways to avoid or minimize vehicle encroachments to oncoming traffic lanes.

5. Prohibit parking and loading along the south side of Koa Avenue along the project frontage to facilitate ingress and egress for the new proposed porte cochere along that roadway.

6. Consider modifying the intersection of Kalakaua Avenue and Uluniu Street to provide an all-way pedestrian crossing (Barnes-Dance) to facilitate safer pedestrian crossing across Kalakaua Avenue adjacent to the project site.

7. Prepare a crosswalk warrant study for Uluniu Street at or near the intersection with Koa Avenue. Currently, the facilities at the Hyatt Regency Beach Resort are split into two sections with the hotel and commercial podium located west of Uluniu Street, and the parking garage and ballrooms located east of that roadway.

VII. CONCLUSION

The proposed Hyatt Regency Waikiki Beach Resort renovation entails the replacement and expansion that will include approximately 2,280 square feet less of meeting rooms space, an additional 20,106 square feet of commercial/retail uses, and an additional porte cochere fronting Koa Avenue. Traffic operations in the vicinity of the proposed development are expected to remain similar to existing and without project conditions. As such, with the implementation of the aforementioned recommendations, the proposed Hyatt Regency Waikiki Beach Resort redevelopment is not expected to have a significant impact on traffic operations in the vicinity.

APPENDIX A

EXISTING TRAFFIC COUNT DATA

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:GC, MA
Counter:D4-5675, D4-5676
Weather:Clear

File Name : KanKuh AM
Site Code : 00000004
Start Date : 10/2/2013
Page No : 1

Groups Printed- Unshifted

	Kanekapolei Street Southbound					Kuhio Avenue Westbound					Kanekapolei Street Northbound					Kuhio Avenue Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	12	13	4	17	46	1	26	8	17	52	4	18	0	15	37	6	40	4	8	58	193
06:15 AM	3	23	7	24	57	3	20	2	29	54	14	28	0	23	65	7	34	11	13	65	241
06:30 AM	9	18	2	29	58	4	31	4	22	61	9	23	0	30	62	8	41	14	13	76	257
06:45 AM	10	15	2	40	67	5	29	4	51	89	9	29	1	51	90	10	68	11	30	119	365
Total	34	69	15	110	228	13	106	18	119	256	36	98	1	119	254	31	183	40	64	318	1056
07:00 AM	14	8	5	42	69	3	27	3	44	77	4	44	0	47	95	17	62	4	42	125	366
07:15 AM	19	9	6	48	82	2	29	1	36	68	5	29	0	59	93	11	83	9	38	141	384
07:30 AM	20	24	4	56	104	4	49	3	40	96	13	33	0	71	117	12	101	12	25	150	467
07:45 AM	17	22	7	59	105	11	46	3	42	102	14	34	0	55	103	20	138	14	45	217	527
Total	70	63	22	205	360	20	151	10	162	343	36	140	0	232	408	60	384	39	150	633	1744
08:00 AM	10	21	4	68	103	4	42	9	28	83	13	47	1	63	124	14	58	18	41	131	441
08:15 AM	20	20	9	76	125	8	50	2	36	96	23	42	0	87	152	14	68	17	43	142	515
08:30 AM	10	15	2	76	103	4	45	8	28	85	17	56	0	83	156	15	87	17	50	169	513
08:45 AM	6	14	7	76	103	11	41	4	29	85	16	38	0	104	158	23	82	13	60	178	524
Total	46	70	22	296	434	27	178	23	121	349	69	183	1	337	590	66	295	65	194	620	1993
Grand Total	150	202	59	611	1022	60	435	51	402	948	141	421	2	688	1252	157	862	144	408	1571	4793
Apprch %	14.7	19.8	5.8	59.8		6.3	45.9	5.4	42.4		11.3	33.6	0.2	55		10	54.9	9.2	26		
Total %	3.1	4.2	1.2	12.7	21.3	1.3	9.1	1.1	8.4	19.8	2.9	8.8	0	14.4	26.1	3.3	18	3	8.5	32.8	

	Kanekapolei Street Southbound				Kuhio Avenue Westbound				Kanekapolei Street Northbound				Kuhio Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	17	22	7	46	11	46	3	60	14	34	0	48	20	138	14	172	326
08:00 AM	10	21	4	35	4	42	9	55	13	47	1	61	14	58	18	90	241
08:15 AM	20	20	9	49	8	50	2	60	23	42	0	65	14	68	17	99	273
08:30 AM	10	15	2	27	4	45	8	57	17	56	0	73	15	87	17	119	276
Total Volume	57	78	22	157	27	183	22	232	67	179	1	247	63	351	66	480	1116
% App. Total	36.3	49.7	14		11.6	78.9	9.5		27.1	72.5	0.4		13.1	73.1	13.8		
PHF	.713	.886	.611	.801	.614	.915	.611	.967	.728	.799	.250	.846	.788	.636	.917	.698	.856

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:GC, CL
Counter:D4-5676, D4-5675
Weather:Clear

File Name : KanKuh PM
Site Code : 00000004
Start Date : 10/2/2013
Page No : 1

Groups Printed- Unshifted

	Kanekapolei Street Southbound					Kuhio Avenue Westbound					Kanekapolei Street Northbound					Kuhio Avenue Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	13	16	1	92	122	5	55	2	50	112	24	73	0	67	164	24	96	18	89	227	625
03:15 PM	13	17	3	106	139	7	67	4	63	141	13	69	1	124	207	26	110	14	83	233	720
03:30 PM	12	22	14	101	149	4	67	1	44	116	18	68	0	91	177	28	108	14	63	213	655
03:45 PM	14	21	6	90	131	6	55	5	45	111	11	59	1	106	177	33	126	16	55	230	649
Total	52	76	24	389	541	22	244	12	202	480	66	269	2	388	725	111	440	62	290	903	2649
04:00 PM	13	11	11	133	168	9	60	6	73	148	20	72	7	97	196	37	123	16	83	259	771
04:15 PM	23	10	12	111	156	7	49	2	76	134	22	64	0	118	204	28	126	15	83	252	746
04:30 PM	15	16	8	97	136	7	56	1	50	114	12	61	0	125	198	36	151	12	81	280	728
04:45 PM	18	8	11	130	167	3	66	0	77	146	21	37	0	92	150	36	144	11	86	277	740
Total	69	45	42	471	627	26	231	9	276	542	75	234	7	432	748	137	544	54	333	1068	2985
05:00 PM	17	17	4	133	171	6	84	2	62	154	27	61	0	88	176	40	137	7	87	271	772
05:15 PM	15	20	10	149	194	4	84	0	162	250	24	56	0	141	221	36	141	15	110	302	967
05:30 PM	18	7	4	114	143	8	47	17	74	146	10	48	2	120	180	26	124	14	101	265	734
05:45 PM	16	8	8	142	174	6	67	4	104	181	20	44	0	97	161	27	127	7	80	241	757
Total	66	52	26	538	682	24	282	23	402	731	81	209	2	446	738	129	529	43	378	1079	3230
Grand Total	187	173	92	1398	1850	72	757	44	880	1753	222	712	11	1266	2211	377	1513	159	1001	3050	8864
Apprch %	10.1	9.4	5	75.6		4.1	43.2	2.5	50.2		10	32.2	0.5	57.3		12.4	49.6	5.2	32.8		
Total %	2.1	2	1	15.8	20.9	0.8	8.5	0.5	9.9	19.8	2.5	8	0.1	14.3	24.9	4.3	17.1	1.8	11.3	34.4	

	Kanekapolei Street Southbound				Kuhio Avenue Westbound				Kanekapolei Street Northbound				Kuhio Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	15	16	8	39	**7**	56	1	64	12	**61**	0	73	36	**151**	12	**199**	375
04:45 PM	**18**	8	**11**	37	3	66	0	69	21	37	0	58	36	144	11	191	355
05:00 PM	17	17	4	38	6	**84**	**2**	**92**	**27**	61	0	**88**	**40**	137	7	184	402
05:15 PM	15	**20**	10	**45**	4	84	0	88	24	56	0	80	36	141	**15**	192	**405**
Total Volume	65	61	33	159	20	290	3	313	84	215	0	299	148	573	45	766	1537
% App. Total	40.9	38.4	20.8		6.4	92.7	1		28.1	71.9	0		19.3	74.8	5.9		
PHF	.903	.763	.750	.883	.714	.863	.375	.851	.778	.881	.000	.849	.925	.949	.750	.962	.949

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:DY, CY
Counter:D4-5673, D4-5674
Weather:Clear

File Name : KaiPriKan AM-1
Site Code : 00000003
Start Date : 10/2/2013
Page No : 1

Groups Printed- Unshifted

	Kanekapolei Street Left = Left Turn Into Kaiulani Avenue, Right = Right Into Princess Kaiulani Parking Garage Southbound					Prince Edward Street Westbound					Kaiulani Avenue Left = Left Turn Into Princes Kaiulani Garage, Right = Right Turn Into Kaiulani Avenue Northbound					Princess Kaiulani Garage Driveway Left = Left Turn Into Kanekapolei Street, Thru = Thru To Kaiulani Avenue, Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	0	9	8	0	17	2	0	30	30	62	10	14	6	22	52	8	1	0	0	9	140
06:15 AM	0	21	13	0	34	1	0	28	0	29	9	25	5	16	55	8	1	0	0	9	127
06:30 AM	4	17	15	0	36	1	0	45	0	46	18	13	3	27	61	4	0	0	0	4	147
06:45 AM	0	18	10	0	28	3	0	69	0	72	12	21	5	37	75	5	0	3	0	8	183
Total	4	65	46	0	115	7	0	172	30	209	49	73	19	102	243	25	2	3	0	30	597
07:00 AM	0	11	5	0	16	2	1	46	0	49	12	17	3	26	58	23	1	1	0	25	148
07:15 AM	3	10	6	0	19	5	0	47	0	52	13	11	5	29	58	6	4	2	0	12	141
07:30 AM	1	30	5	0	36	10	0	53	0	63	5	33	5	54	97	8	1	3	0	12	208
07:45 AM	2	31	11	0	44	8	0	67	0	75	2	28	9	27	66	8	1	1	0	10	195
Total	6	82	27	0	115	25	1	213	0	239	32	89	22	136	279	45	7	7	0	59	692
08:00 AM	2	23	12	0	37	6	3	60	0	69	12	32	10	16	70	8	0	2	0	10	186
08:15 AM	2	35	10	0	47	6	0	57	0	63	4	38	11	21	74	14	2	3	0	19	203
08:30 AM	7	29	7	0	43	5	0	47	0	52	10	40	8	26	84	8	0	3	0	11	190
08:45 AM	3	16	8	0	27	8	0	70	0	78	7	32	5	45	89	6	0	2	0	8	202
Total	14	103	37	0	154	25	3	234	0	262	33	142	34	108	317	36	2	10	0	48	781
Grand Total	24	250	110	0	384	57	4	619	30	710	114	304	75	346	839	106	11	20	0	137	2070
Apprch %	6.2	65.1	28.6	0		8	0.6	87.2	4.2		13.6	36.2	8.9	41.2		77.4	8	14.6	0		
Total %	1.2	12.1	5.3	0	18.6	2.8	0.2	29.9	1.4	34.3	5.5	14.7	3.6	16.7	40.5	5.1	0.5	1	0	6.6	

	Kanekapolei Street Left = Left Turn Into Kaiulani Avenue, Right = Right Into Princess Kaiulani Parking Garage Southbound				Prince Edward Street Westbound				Kaiulani Avenue Left = Left Turn Into Princes Kaiulani Garage, Right = Right Turn Into Kaiulani Avenue Northbound				Princess Kaiulani Garage Driveway Left = Left Turn Into Kanekapolei Street, Thru = Thru To Kaiulani Avenue, Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	2	31	11	44	**8**	0	**67**	**75**	2	28	9	39	8	1	1	10	168
08:00 AM	2	23	**12**	37	6	**3**	60	69	**12**	32	10	54	8	0	2	10	170
08:15 AM	2	**35**	10	**47**	6	0	57	63	4	38	**11**	53	**14**	**2**	**3**	**19**	**182**
08:30 AM	**7**	29	7	43	5	0	47	52	10	**40**	8	**58**	8	0	3	11	164
Total Volume	13	118	40	171	25	3	231	259	28	138	38	204	38	3	9	50	684
% App. Total	7.6	69	23.4		9.7	1.2	89.2		13.7	67.6	18.6		76	6	18		
PHF	.464	.843	.833	.910	.781	.250	.862	.863	.583	.863	.864	.879	.679	.375	.750	.658	.940

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:DY, CY
Counter:D4-5673, D4-5674
Weather:Clear

File Name : KaiPriKan AM-2
Site Code : 00000003
Start Date : 10/2/2013
Page No : 1

Groups Printed- Unshifted

	Southbound	Prince Edward Street Right = Right Turn Into Kaiulani Avenue Westbound					Northbound	Miramar Parking Garage Left = Left Turn Into Kanekapolei Street, Thru = Thru to Kaiulani Avenue, Right = Right Turn Into Kaiulani Avenue Eastbound					
Start Time	App. Total	Left	Thru	Right	Peds	App. Total	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
06:15 AM	0	0	0	1	0	1	0	1	0	1	0	2	3
06:30 AM	0	0	0	3	0	3	0	3	0	0	0	3	6
06:45 AM	0	0	0	4	0	4	0	2	0	0	0	2	6
Total	0	0	0	8	0	8	0	6	0	2	0	8	16
07:00 AM	0	0	0	1	0	1	0	0	0	1	0	1	2
07:15 AM	0	0	0	4	0	4	0	4	1	2	0	7	11
07:30 AM	0	0	0	1	0	1	0	2	1	0	0	3	4
07:45 AM	0	0	0	2	0	2	0	4	5	0	0	9	11
Total	0	0	0	8	0	8	0	10	7	3	0	20	28
08:00 AM	0	0	0	6	0	6	0	1	2	1	0	4	10
08:15 AM	0	0	0	5	0	5	0	4	2	1	0	7	12
08:30 AM	0	0	0	4	0	4	0	8	0	2	0	10	14
08:45 AM	0	0	0	5	0	5	0	3	1	1	0	5	10
Total	0	0	0	20	0	20	0	16	5	5	0	26	46
Grand Total	0	0	0	36	0	36	0	32	12	10	0	54	90
Apprch %		0	0	100	0			59.3	22.2	18.5	0		
Total %	0	0	0	40	0	40	0	35.6	13.3	11.1	0	60	

	Southbound	Prince Edward Street Right = Right Turn Into Kaiulani Avenue Westbound				Northbound	Miramar Parking Garage Left = Left Turn Into Kanekapolei Street, Thru = Thru to Kaiulani Avenue, Right = Right Turn Into Kaiulani Avenue Eastbound				
Start Time	App. Total	Left	Thru	Right	App. Total	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1											
Peak Hour for Entire Intersection Begins at 07:45 AM											
07:45 AM	0	0	0	2	2	0	4	5	0	9	11
08:00 AM	0	0	0	6	6	0	1	2	1	4	10
08:15 AM	0	0	0	5	5	0	4	2	1	7	12
08:30 AM	0	0	0	4	4	0	8	0	2	10	14
Total Volume	0	0	0	17	17	0	17	9	4	30	47
% App. Total		0	0	100			56.7	30	13.3		
PHF	.000	.000	.000	.708	.708	.000	.531	.450	.500	.750	.839

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:DY, CY
Counter:D4-5673, D4-5674
Weather:Clear

File Name : KaiPriKan AM-3
Site Code : 00000003
Start Date : 10/2/2013
Page No : 1

Groups Printed- Unshifted

	Southbound	Prince Edward Street Thru = Thru To Ohana East Parking Garage Westbound					Northbound	Ohana East Parking Garage Left = Left Turn Into Kanekapolei Street, Thru = Thru To Kaiulani Avenue Eastbound					
Start Time	App. Total	Left	Thru	Right	Peds	App. Total	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	0	0	4	0	0	4	0	2	3	0	0	5	9
07:15 AM	0	0	4	0	0	4	0	0	3	0	0	3	7
07:30 AM	0	0	4	0	0	4	0	0	3	0	0	3	7
07:45 AM	0	0	2	0	0	2	0	0	6	0	0	6	8
Total	0	0	14	0	0	14	0	2	15	0	0	17	31
08:00 AM	0	0	2	0	0	2	0	0	6	0	0	6	8
08:15 AM	0	0	1	0	0	1	0	0	4	0	0	4	5
08:30 AM	0	0	1	0	0	1	0	1	6	0	0	7	8
08:45 AM	0	0	1	0	0	1	0	0	5	0	0	5	6
Total	0	0	5	0	0	5	0	1	21	0	0	22	27
Grand Total	0	0	19	0	0	19	0	3	36	0	0	39	58
Apprch %		0	100	0	0			7.7	92.3	0	0		
Total %	0	0	32.8	0	0	32.8	0	5.2	62.1	0	0	67.2	

	Southbound	Prince Edward Street Thru = Thru To Ohana East Parking Garage Westbound				Northbound	Ohana East Parking Garage Left = Left Turn Into Kanekapolei Street, Thru = Thru To Kaiulani Avenue Eastbound				
Start Time	App. Total	Left	Thru	Right	App. Total	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1											
Peak Hour for Entire Intersection Begins at 07:00 AM											
07:00 AM	0	0	4	0	4	0	2	3	0	5	9
07:15 AM	0	0	4	0	4	0	0	3	0	3	7
07:30 AM	0	0	4	0	4	0	0	3	0	3	7
07:45 AM	0	0	2	0	2	0	0	6	0	6	8
Total Volume	0	0	14	0	14	0	2	15	0	17	31
% App. Total		0	100	0			11.8	88.2	0		
PHF	.000	.000	.875	.000	.875	.000	.250	.625	.000	.708	.861

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:DY, CY
Counter:D4-5673, D4-5674
Weather:Clear

File Name : KaiPriKan PM-1
Site Code : 00000003
Start Date : 10/2/2013
Page No : 1

Groups Printed- Unshifted

	Kanekapolei Street Left = Left Turn Into Kaiulani Avenue, Right = Right Into Princess Kaiulani Parking Garage Southbound					Prince Edward Street Westbound					Kaiulani Avenue Left = Left Turn Into Princess Kaiulani Garage, Right = Right Turn Into Kaiulani Avenue Northbound					Princess Kaiulani Parking Garage Left = Left Turn Into Kanekapolei Street, Thru = Thru To Kaiulani Avenue Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	3	31	5	0	39	7	2	10	100	119	13	43	13	18	87	32	12	2	0	46	291
03:15 PM	2	25	7	0	34	7	1	9	99	116	11	40	12	48	111	24	8	0	0	32	293
03:30 PM	1	26	10	0	37	8	0	13	98	119	2	46	14	48	110	18	5	0	0	23	289
03:45 PM	1	30	8	0	39	4	1	12	89	106	2	36	14	52	104	16	2	2	0	20	269
Total	7	112	30	0	149	26	4	44	386	460	28	165	53	166	412	90	27	4	0	121	1142
04:00 PM	0	23	8	0	31	5	0	14	115	134	6	47	13	66	132	14	4	0	0	18	315
04:15 PM	2	17	7	0	26	6	1	18	134	159	4	40	23	54	121	12	3	1	0	16	322
04:30 PM	3	22	7	0	32	4	1	13	106	124	7	44	17	85	153	14	4	0	0	18	327
04:45 PM	1	20	0	0	21	4	1	14	117	136	4	38	20	89	151	5	2	0	0	7	315
Total	6	82	22	0	110	19	3	59	472	553	21	169	73	294	557	45	13	1	0	59	1279
05:00 PM	4	25	4	0	33	1	0	15	97	113	9	50	12	74	145	10	5	2	0	17	308
05:15 PM	0	30	6	0	36	6	1	7	145	159	9	41	13	47	110	20	1	2	0	23	328
05:30 PM	0	20	7	0	27	5	0	9	135	149	8	39	13	84	144	8	2	1	0	11	331
05:45 PM	3	17	2	0	22	8	0	14	147	169	5	32	23	66	126	7	1	0	0	8	325
Total	7	92	19	0	118	20	1	45	524	590	31	162	61	271	525	45	9	5	0	59	1292
Grand Total	20	286	71	0	377	65	8	148	1382	1603	80	496	187	731	1494	180	49	10	0	239	3713
Apprch %	5.3	75.9	18.8	0		4.1	0.5	9.2	86.2		5.4	33.2	12.5	48.9		75.3	20.5	4.2	0		
Total %	0.5	7.7	1.9	0	10.2	1.8	0.2	4	37.2	43.2	2.2	13.4	5	19.7	40.2	4.8	1.3	0.3	0	6.4	

	Kanekapolei Street Left = Left Turn Into Kaiulani Avenue, Right = Right Into Princess Kaiulani Parking Garage Southbound				Prince Edward Street Westbound				Kaiulani Avenue Left = Left Turn Into Princess Kaiulani Garage, Right = Right Turn Into Kaiulani Avenue Northbound				Princess Kaiulani Parking Garage Left = Left Turn Into Kanekapolei Street, Thru = Thru To Kaiulani Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	3	31	5	39	7	2	10	19	13	43	13	69	32	12	2	46	173
03:15 PM	2	25	7	34	7	1	9	17	11	40	12	63	24	8	0	32	146
03:30 PM	1	26	10	37	8	0	13	21	2	46	14	62	18	5	0	23	143
03:45 PM	1	30	8	39	4	1	12	17	2	36	14	52	16	2	2	20	128
Total Volume	7	112	30	149	26	4	44	74	28	165	53	246	90	27	4	121	590
% App. Total	4.7	75.2	20.1		35.1	5.4	59.5		11.4	67.1	21.5		74.4	22.3	3.3		
PHF	.583	.903	.750	.955	.813	.500	.846	.881	.538	.897	.946	.891	.703	.563	.500	.658	.853

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:DY, CY
Counter:D4-5673, D4-5674
Weather:Clear

File Name : KaiPriKan PM-2
Site Code : 00000003
Start Date : 10/2/2013
Page No : 1

Groups Printed- Unshifted

	Southbound	Prince Edward Street Right = Right Turn Into Kaiulani Avenue Westbound					Northbound	Miramar Parking Garage Left = Left Turn Into Kanekapolei Street, Thru = Thru To Kaiulani Avenue, Right = Right Turn Into Kaiulani Avenue Eastbound					
Start Time	App. Total	Left	Thru	Right	Peds	App. Total	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	0	0	0	1	0	1	0	8	4	1	0	13	14
03:15 PM	0	0	0	9	0	9	0	5	1	0	0	6	15
03:30 PM	0	0	0	6	0	6	0	6	3	0	0	9	15
03:45 PM	0	0	0	3	0	3	0	2	3	0	0	5	8
Total	0	0	0	19	0	19	0	21	11	1	0	33	52
04:00 PM	0	0	0	6	0	6	0	11	3	2	0	16	22
04:15 PM	0	0	0	1	0	1	0	8	1	1	0	10	11
04:30 PM	0	0	0	4	0	4	0	3	3	0	0	6	10
04:45 PM	0	0	0	3	0	3	0	3	3	0	0	6	9
Total	0	0	0	14	0	14	0	25	10	3	0	38	52
05:00 PM	0	0	0	5	0	5	0	7	3	0	0	10	15
05:15 PM	0	0	0	6	0	6	0	6	4	0	0	10	16
05:30 PM	0	0	0	5	0	5	0	4	1	1	0	6	11
05:45 PM	0	0	0	2	0	2	0	6	3	3	0	12	14
Total	0	0	0	18	0	18	0	23	11	4	0	38	56
Grand Total	0	0	0	51	0	51	0	69	32	8	0	109	160
Apprch %		0	0	100	0			63.3	29.4	7.3	0		
Total %	0	0	0	31.9	0	31.9	0	43.1	20	5	0	68.1	

	Southbound	Prince Edward Street Right = Right Turn Into Kaiulani Avenue Westbound				Northbound	Miramar Parking Garage Left = Left Turn Into Kanekapolei Street, Thru = Thru To Kaiulani Avenue, Right = Right Turn Into Kaiulani Avenue Eastbound				
Start Time	App. Total	Left	Thru	Right	App. Total	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1											
Peak Hour for Entire Intersection Begins at 03:15 PM											
03:15 PM	0	0	0	9	9	0	5	1	0	6	15
03:30 PM	0	0	0	6	6	0	6	3	0	9	15
03:45 PM	0	0	0	3	3	0	2	3	0	5	8
04:00 PM	0	0	0	6	6	0	11	3	2	16	22
Total Volume	0	0	0	24	24	0	24	10	2	36	60
% App. Total		0	0	100			66.7	27.8	5.6		
PHF	.000	.000	.000	.667	.667	.000	.545	.833	.250	.563	.682

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:DY, CY
Counter:D4-5673, D4-5674
Weather:Clear

File Name : KaiPriKan PM-3
Site Code : 00000003
Start Date : 10/2/2013
Page No : 1

Groups Printed- Unshifted

	Southbound	Prince Edward Street Thru = Thru To Ohana East Parking Garage Westbound					Northbound	Ohana East Parking Garage Thru = Thru To Kaiulani Avenue Eastbound					
Start Time	App. Total	Left	Thru	Right	Peds	App. Total	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	0	0	2	0	0	2	0	4	2	0	0	6	8
03:15 PM	0	0	3	0	0	3	0	0	3	0	0	3	6
03:30 PM	0	0	1	0	0	1	0	0	1	0	0	1	2
03:45 PM	0	0	2	0	0	2	0	1	2	0	0	3	5
Total	0	0	8	0	0	8	0	5	8	0	0	13	21
04:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	1
04:15 PM	0	0	2	0	0	2	0	0	2	0	0	2	4
04:30 PM	0	0	7	0	0	7	0	2	7	0	0	9	16
04:45 PM	0	0	6	0	0	6	0	0	6	0	0	6	12
Total	0	0	15	0	0	15	0	3	15	0	0	18	33
05:00 PM	0	0	4	0	0	4	0	5	4	0	0	9	13
05:15 PM	0	0	2	0	0	2	0	5	2	0	0	7	9
05:30 PM	0	0	0	0	0	0	0	2	0	0	0	2	2
05:45 PM	0	0	6	0	0	6	0	3	6	0	0	9	15
Total	0	0	12	0	0	12	0	15	12	0	0	27	39
Grand Total	0	0	35	0	0	35	0	23	35	0	0	58	93
Apprch %		0	100	0	0			39.7	60.3	0	0		
Total %	0	0	37.6	0	0	37.6	0	24.7	37.6	0	0	62.4	

	Southbound	Prince Edward Street Thru = Thru To Ohana East Parking Garage Westbound				Northbound	Ohana East Parking Garage Thru = Thru To Kaiulani Avenue Eastbound				
Start Time	App. Total	Left	Thru	Right	App. Total	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1											
Peak Hour for Entire Intersection Begins at 04:30 PM											
04:30 PM	0	0	7	0	7	0	2	7	0	9	16
04:45 PM	0	0	6	0	6	0	0	6	0	6	12
05:00 PM	0	0	4	0	4	0	5	4	0	9	13
05:15 PM	0	0	2	0	2	0	5	2	0	7	9
Total Volume	0	0	19	0	19	0	12	19	0	31	50
% App. Total		0	100	0			38.7	61.3	0		
PHF	.000	.000	.679	.000	.679	.000	.600	.679	.000	.861	.781

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:PA, LH
Counter:TU-0653, D4-3890
Weather:Clear

File Name : KaiKoa AM
Site Code : 00000002
Start Date : 10/2/2013
Page No : 1

Groups Printed- Unshifted

	Kaiulani Avenue Southbound					Koa Avenue Westbound					Kaiulani Avenue Northbound					Princess Kaiulani Valet Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	13	0	3	0	16	0	0	0	50	50	2	21	12	58	93	5	0	0	15	20	179
06:15 AM	18	0	3	0	21	0	0	0	48	48	1	39	16	49	105	4	0	0	25	29	203
06:30 AM	13	0	3	0	16	0	0	0	30	30	2	16	6	30	54	3	0	0	63	66	166
06:45 AM	16	1	2	0	19	0	0	0	18	18	2	26	18	59	105	1	0	0	53	54	196
Total	60	1	11	0	72	0	0	0	146	146	7	102	52	196	357	13	0	0	156	169	744
07:00 AM	11	0	4	0	15	0	0	0	26	26	2	21	28	69	120	3	0	0	51	54	215
07:15 AM	20	0	3	0	23	0	0	0	48	48	2	21	16	36	75	3	0	0	45	48	194
07:30 AM	38	0	3	0	41	0	0	0	52	52	1	28	28	97	154	7	0	0	64	71	318
07:45 AM	37	0	4	0	41	0	0	0	79	79	0	24	22	87	133	2	0	0	59	61	314
Total	106	0	14	0	120	0	0	0	205	205	5	94	94	289	482	15	0	0	219	234	1041
08:00 AM	26	0	10	0	36	0	0	0	100	100	0	26	31	74	131	7	0	0	43	50	317
08:15 AM	31	0	2	0	33	0	0	0	42	42	7	33	23	55	118	9	0	0	37	46	239
08:30 AM	25	0	6	0	31	0	0	0	61	61	2	29	17	71	119	6	0	0	44	50	261
08:45 AM	30	0	3	0	33	0	0	0	62	62	3	28	23	82	136	1	0	0	71	72	303
Total	112	0	21	0	133	0	0	0	265	265	12	116	94	282	504	23	0	0	195	218	1120
Grand Total	278	1	46	0	325	0	0	0	616	616	24	312	240	767	1343	51	0	0	570	621	2905
Apprch %	85.5	0.3	14.2	0		0	0	0	100		1.8	23.2	17.9	57.1		8.2	0	0	91.8		
Total %	9.6	0	1.6	0	11.2	0	0	0	21.2	21.2	0.8	10.7	8.3	26.4	46.2	1.8	0	0	19.6	21.4	

	Kaiulani Avenue Southbound				Koa Avenue Westbound				Kaiulani Avenue Northbound				Princess Kaiulani Valet Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**38**	0	3	**41**	0	0	0	0	1	28	28	57	7	0	0	7	**105**
07:45 AM	37	0	4	41	0	0	0	0	0	24	22	46	2	0	0	2	89
08:00 AM	26	0	**10**	36	0	0	0	0	0	26	**31**	57	7	0	0	7	100
08:15 AM	31	0	2	33	0	0	0	0	**7**	**33**	23	**63**	**9**	0	0	**9**	105
Total Volume	132	0	19	151	0	0	0	0	8	111	104	223	25	0	0	25	399
% App. Total	87.4	0	12.6		0	0	0		3.6	49.8	46.6		100	0	0		
PHF	.868	.000	.475	.921	.000	.000	.000	.000	.286	.841	.839	.885	.694	.000	.000	.694	.950

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:PA, LH
Counter:TU-0653, D4-3890
Weather:Clear

File Name : KaiKoa PM
Site Code : 00000002
Start Date : 10/2/2013
Page No : 1

Groups Printed- Unshifted

	Kaiulani Avenue Southbound					Koa Avenue Westbound					Kaiulani Avenue Northbound					Princess Kaiulani Valet Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	37	0	7	0	44	0	0	0	124	124	2	30	12	70	114	8	0	0	82	90	372
03:15 PM	31	0	3	0	34	0	0	0	112	112	2	32	17	79	130	8	0	0	77	85	361
03:30 PM	28	0	4	0	32	0	0	0	157	157	3	45	36	85	169	6	0	0	86	92	450
03:45 PM	35	0	4	0	39	0	0	0	142	142	1	37	24	79	141	3	0	0	91	94	416
Total	131	0	18	0	149	0	0	0	535	535	8	144	89	313	554	25	0	0	336	361	1599
04:00 PM	33	0	1	0	34	0	0	0	193	193	1	42	22	100	165	5	0	0	86	91	483
04:15 PM	20	0	4	0	24	0	0	0	185	185	4	51	20	98	173	9	0	0	99	108	490
04:30 PM	28	0	2	0	30	0	0	0	177	177	2	51	17	105	175	4	0	0	139	143	525
04:45 PM	22	0	1	0	23	0	0	0	159	159	3	36	10	78	127	1	0	0	83	84	393
Total	103	0	8	0	111	0	0	0	714	714	10	180	69	381	640	19	0	0	407	426	1891
05:00 PM	29	0	1	0	30	0	0	0	166	166	4	56	14	80	154	13	0	0	113	126	476
05:15 PM	33	0	1	0	34	0	0	0	135	135	3	36	17	81	137	2	0	0	143	145	451
05:30 PM	21	0	2	0	23	0	0	0	201	201	6	48	26	86	166	1	0	0	121	122	512
05:45 PM	26	0	2	0	28	0	0	0	190	190	1	59	21	100	181	1	0	0	112	113	512
Total	109	0	6	0	115	0	0	0	692	692	14	199	78	347	638	17	0	0	489	506	1951
Grand Total	343	0	32	0	375	0	0	0	1941	1941	32	523	236	1041	1832	61	0	0	1232	1293	5441
Apprch %	91.5	0	8.5	0		0	0	0	100		1.7	28.5	12.9	56.8		4.7	0	0	95.3		
Total %	6.3	0	0.6	0	6.9	0	0	0	35.7	35.7	0.6	9.6	4.3	19.1	33.7	1.1	0	0	22.6	23.8	

	Kaiulani Avenue Southbound				Koa Avenue Westbound				Kaiulani Avenue Northbound				Princess Kaiulani Valet Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	28	0	4	32	0	0	0	0	3	45	36	84	6	0	0	6	122
03:45 PM	35	0	4	39	0	0	0	0	1	37	24	62	3	0	0	3	104
04:00 PM	33	0	1	34	0	0	0	0	1	42	22	65	5	0	0	5	104
04:15 PM	20	0	4	24	0	0	0	0	4	51	20	75	9	0	0	9	108
Total Volume	116	0	13	129	0	0	0	0	9	175	102	286	23	0	0	23	438
% App. Total	89.9	0	10.1		0	0	0		3.1	61.2	35.7		100	0	0		
PHF	.829	.000	.813	.827	.000	.000	.000	.000	.563	.858	.708	.851	.639	.000	.000	.639	.898

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:GL, MM
Counter:TU-0652, TU-0651
Weather:Clear

File Name : KalKai AM
Site Code : 00000001
Start Date : 10/2/2013
Page No : 1

Groups Printed- Unshifted

	Kaiulani Avenue Southbound					Kalakaua Avenue Westbound					Northbound	Kalakaua Avenue Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	0	0	0	29	29	0	0	0	41	41	0	44	64	0	13	121	191
06:15 AM	0	0	0	27	27	0	0	0	29	29	0	55	79	0	35	169	225
06:30 AM	0	0	0	38	38	0	0	0	34	34	0	46	98	0	46	190	262
06:45 AM	0	0	0	50	50	0	0	0	46	46	0	55	109	0	63	227	323
Total	0	0	0	144	144	0	0	0	150	150	0	200	350	0	157	707	1001
07:00 AM	0	0	0	67	67	0	0	0	49	49	0	56	140	0	47	243	359
07:15 AM	0	0	0	64	64	0	0	0	49	49	0	50	158	0	55	263	376
07:30 AM	0	0	0	65	65	0	0	0	51	51	0	83	224	0	76	383	499
07:45 AM	0	0	0	83	83	0	0	0	73	73	0	66	224	0	72	362	518
Total	0	0	0	279	279	0	0	0	222	222	0	255	746	0	250	1251	1752
08:00 AM	0	0	0	92	92	0	0	0	61	61	0	81	223	0	50	354	507
08:15 AM	0	0	0	116	116	0	0	0	75	75	0	72	159	0	79	310	501
08:30 AM	0	0	0	118	118	0	0	0	60	60	0	68	184	0	62	314	492
08:45 AM	0	0	0	167	167	0	0	0	67	67	0	75	198	0	104	377	611
Total	0	0	0	493	493	0	0	0	263	263	0	296	764	0	295	1355	2111
Grand Total	0	0	0	916	916	0	0	0	635	635	0	751	1860	0	702	3313	4864
Apprch %	0	0	0	100		0	0	0	100			22.7	56.1	0	21.2		
Total %	0	0	0	18.8	18.8	0	0	0	13.1	13.1	0	15.4	38.2	0	14.4	68.1	

	Kaiulani Avenue Southbound				Kalakaua Avenue Westbound				Northbound	Kalakaua Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 07:30 AM														
07:30 AM	0	0	0	0	0	0	0	0	0	83	224	0	307	307
07:45 AM	0	0	0	0	0	0	0	0	0	66	224	0	290	290
08:00 AM	0	0	0	0	0	0	0	0	0	81	223	0	304	304
08:15 AM	0	0	0	0	0	0	0	0	0	72	159	0	231	231
Total Volume	0	0	0	0	0	0	0	0	0	302	830	0	1132	1132
% App. Total	0	0	0		0	0	0			26.7	73.3	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.910	.926	.000	.922	.922

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:
Counter:
Weather:

File Name : KalKai AM - Diagonal X-Walk AM
Site Code : 00000001
Start Date : 10/2/2013
Page No : 1

Groups Printed- Unshifted

	Kaiulani Avenue - Diagonal Crossing Between Northwest & Southeast Southbound					Westbound	Kaiulani Avenue - Diagonal Crossing Between Northeast & Southwest Northbound					Eastbound	
Start Time	Left	Thru	Right	Peds	App. Total	App. Total	Left	Thru	Right	Peds	App. Total	App. Total	Int. Total
06:00 AM	0	0	0	9	9	0	0	0	0	17	17	0	26
06:15 AM	0	0	0	5	5	0	0	0	0	18	18	0	23
06:30 AM	0	0	0	7	7	0	0	0	0	4	4	0	11
06:45 AM	0	0	0	15	15	0	0	0	0	22	22	0	37
Total	0	0	0	36	36	0	0	0	0	61	61	0	97
07:00 AM	0	0	0	6	6	0	0	0	0	15	15	0	21
07:15 AM	0	0	0	3	3	0	0	0	0	8	8	0	11
07:30 AM	0	0	0	2	2	0	0	0	0	25	25	0	27
07:45 AM	0	0	0	14	14	0	0	0	0	15	15	0	29
Total	0	0	0	25	25	0	0	0	0	63	63	0	88
08:00 AM	0	0	0	14	14	0	0	0	0	18	18	0	32
08:15 AM	0	0	0	26	26	0	0	0	0	42	42	0	68
08:30 AM	0	0	0	11	11	0	0	0	0	16	16	0	27
08:45 AM	0	0	0	3	3	0	0	0	0	18	18	0	21
Total	0	0	0	54	54	0	0	0	0	94	94	0	148
Grand Total	0	0	0	115	115	0	0	0	0	218	218	0	333
Apprch %	0	0	0	100			0	0	0	100			
Total %	0	0	0	34.5	34.5	0	0	0	0	65.5	65.5	0	

	Kaiulani Avenue - Diagonal Crossing Between Northwest & Southeast Southbound				Westbound	Kaiulani Avenue - Diagonal Crossing Between Northeast & Southwest Northbound				Eastbound	
Start Time	Left	Thru	Right	App. Total	App. Total	Left	Thru	Right	App. Total	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1											
Peak Hour for Entire Intersection Begins at 06:00 AM											
06:00 AM	0	0	0	0	0	0	0	0	0	0	0
06:15 AM	0	0	0	0	0	0	0	0	0	0	0
06:30 AM	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0			0	0	0			
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:GL, MM
Counter:TU-0652, TU-0651
Weather:Clear

File Name : KalKai PM
Site Code : 00000001
Start Date : 10/2/2013
Page No : 1

Groups Printed- Unshifted

	Kaiulani Avenue Southbound					Kalakaua Avenue Westbound					Northbound	Kalakaua Avenue Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	0	0	0	254	254	0	0	0	116	116	0	95	232	0	152	479	849
03:15 PM	0	0	0	184	184	0	0	0	109	109	0	97	255	0	152	504	797
03:30 PM	0	0	0	173	173	0	0	0	121	121	0	95	248	3	103	449	743
03:45 PM	0	0	0	158	158	0	0	0	99	99	0	91	282	0	106	479	736
Total	0	0	0	769	769	0	0	0	445	445	0	378	1017	3	513	1911	3125
04:00 PM	0	0	0	186	186	0	0	0	111	111	0	88	268	0	115	471	768
04:15 PM	0	0	0	155	155	0	0	0	114	114	0	97	300	0	217	614	883
04:30 PM	0	0	0	176	176	0	0	0	117	117	0	80	288	0	171	539	832
04:45 PM	0	0	0	199	199	0	0	0	122	122	0	83	290	0	129	502	823
Total	0	0	0	716	716	0	0	0	464	464	0	348	1146	0	632	2126	3306
05:00 PM	0	0	0	237	237	0	0	0	101	101	0	97	320	0	118	535	873
05:15 PM	0	0	0	250	250	0	0	0	129	129	0	91	321	0	118	530	909
05:30 PM	0	0	0	201	201	0	0	0	123	123	0	91	287	0	146	524	848
05:45 PM	0	0	0	208	208	0	0	0	110	110	0	83	272	0	171	526	844
Total	0	0	0	896	896	0	0	0	463	463	0	362	1200	0	553	2115	3474
Grand Total	0	0	0	2381	2381	0	0	0	1372	1372	0	1088	3363	3	1698	6152	9905
Apprch %	0	0	0	100		0	0	0	100			17.7	54.7	0	27.6		
Total %	0	0	0	24	24	0	0	0	13.9	13.9	0	11	34	0	17.1	62.1	

	Kaiulani Avenue Southbound				Kalakaua Avenue Westbound				Northbound	Kalakaua Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 04:45 PM														
04:45 PM	0	0	0	0	0	0	0	0	0	83	290	0	373	373
05:00 PM	0	0	0	0	0	0	0	0	0	**97**	320	0	**417**	**417**
05:15 PM	0	0	0	0	0	0	0	0	0	91	**321**	0	412	412
05:30 PM	0	0	0	0	0	0	0	0	0	91	287	0	378	378
Total Volume	0	0	0	0	0	0	0	0	0	362	1218	0	1580	1580
% App. Total	0	0	0		0	0	0			22.9	77.1	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.933	.949	.000	.947	.947

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:GL, MM
Counter:TU-0651, TU-0652
Weather:Clear

File Name : KalKai PM - Diagonal X-Walk PM
Site Code : 00000001
Start Date : 10/2/2013
Page No : 1

Groups Printed- Unshifted

	Kaiulani Avenue - Diuagonal Crossing Between Northwest & Southeast Curbs Southbound					Westbound	Kaiulani Avenue - Diuagonal Crossing Between Northeast & Southwest Curbs Northbound					Eastbound	
Start Time	Left	Thru	Right	Peds	App. Total	App. Total	Left	Thru	Right	Peds	App. Total	App. Total	Int. Total
03:00 PM	0	0	0	60	60	0	0	0	0	24	24	0	84
03:15 PM	0	0	0	29	29	0	0	0	0	5	5	0	34
03:30 PM	0	0	0	48	48	0	0	0	0	39	39	0	87
03:45 PM	0	0	0	20	20	0	0	0	0	44	44	0	64
Total	0	0	0	157	157	0	0	0	0	112	112	0	269
04:00 PM	0	0	0	60	60	0	0	0	0	30	30	0	90
04:15 PM	0	0	0	87	87	0	0	0	0	16	16	0	103
04:30 PM	0	0	0	70	70	0	0	0	0	37	37	0	107
04:45 PM	0	0	0	49	49	0	0	0	0	51	51	0	100
Total	0	0	0	266	266	0	0	0	0	134	134	0	400
05:00 PM	0	0	0	34	34	0	0	0	0	22	22	0	56
05:15 PM	0	0	0	52	52	0	0	0	0	23	23	0	75
05:30 PM	0	0	0	27	27	0	0	0	0	29	29	0	56
05:45 PM	0	0	0	32	32	0	0	0	0	10	10	0	42
Total	0	0	0	145	145	0	0	0	0	84	84	0	229
Grand Total	0	0	0	568	568	0	0	0	0	330	330	0	898
Apprch %	0	0	0	100			0	0	0	100			
Total %	0	0	0	63.3	63.3	0	0	0	0	36.7	36.7	0	

	Kaiulani Avenue - Diuagonal Crossing Between Northwest & Southeast Curbs Southbound				Westbound	Kaiulani Avenue - Diuagonal Crossing Between Northeast & Southwest Curbs Northbound				Eastbound	
Start Time	Left	Thru	Right	App. Total	App. Total	Left	Thru	Right	App. Total	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1											
Peak Hour for Entire Intersection Begins at 03:00 PM											
03:00 PM	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0			0	0	0			
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:MM, GC
Counter:D4-5675, TU-0654
Weather:Clear

File Name : KuhKai AM
Site Code : 00000005
Start Date : 10/3/2013
Page No : 1

Groups Printed- Unshifted

	Kaiulani Avenue Southbound					Kuhio Avenue Westbound					Kaiulani Avenue Northbound					Kuhio Avenue Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	0	0	0	2	2	0	28	7	0	35	0	0	5	16	21	2	41	0	5	48	106
06:15 AM	0	0	0	7	7	0	19	5	0	24	0	3	1	11	15	3	36	0	3	42	88
06:30 AM	0	0	0	20	20	0	26	5	0	31	0	1	8	22	31	4	58	0	14	76	158
06:45 AM	0	0	0	21	21	0	36	6	0	42	0	1	11	35	47	5	67	0	16	88	198
Total	0	0	0	50	50	0	109	23	0	132	0	5	25	84	114	14	202	0	38	254	550
07:00 AM	0	0	0	24	24	0	38	10	0	48	0	1	8	44	53	4	77	0	27	108	233
07:15 AM	0	0	0	30	30	0	33	1	0	34	0	3	11	37	51	2	94	0	18	114	229
07:30 AM	0	0	0	37	37	0	42	4	0	46	0	5	21	45	71	7	115	0	19	141	295
07:45 AM	0	0	0	52	52	0	51	5	0	56	0	1	21	37	59	6	135	0	18	159	326
Total	0	0	0	143	143	0	164	20	0	184	0	10	61	163	234	19	421	0	82	522	1083
08:00 AM	0	0	0	40	40	0	49	5	0	54	0	0	23	57	80	7	94	0	25	126	300
08:15 AM	0	0	0	55	55	0	63	3	0	66	0	2	21	33	56	3	85	0	28	116	293
08:30 AM	0	0	0	49	49	0	52	10	0	62	0	7	14	64	85	2	90	0	19	111	307
08:45 AM	0	0	0	65	65	0	58	8	0	66	0	4	17	58	79	4	111	0	26	141	351
Total	0	0	0	209	209	0	222	26	0	248	0	13	75	212	300	16	380	0	98	494	1251
Grand Total	0	0	0	402	402	0	495	69	0	564	0	28	161	459	648	49	1003	0	218	1270	2884
Apprch %	0	0	0	100		0	87.8	12.2	0		0	4.3	24.8	70.8		3.9	79	0	17.2		
Total %	0	0	0	13.9	13.9	0	17.2	2.4	0	19.6	0	1	5.6	15.9	22.5	1.7	34.8	0	7.6	44	

	Kaiulani Avenue Southbound				Kuhio Avenue Westbound				Kaiulani Avenue Northbound				Kuhio Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	42	4	46	0	**5**	21	**26**	**7**	115	0	122	194
07:45 AM	0	0	0	0	0	51	**5**	56	0	1	21	22	6	**135**	0	**141**	**219**
08:00 AM	0	0	0	0	0	49	5	54	0	0	**23**	23	7	94	0	101	178
08:15 AM	0	0	0	0	0	**63**	3	**66**	0	2	21	23	3	85	0	88	177
Total Volume	0	0	0	0	0	205	17	222	0	8	86	94	23	429	0	452	768
% App. Total	0	0	0		0	92.3	7.7		0	8.5	91.5		5.1	94.9	0		
PHF	.000	.000	.000	.000	.000	.813	.850	.841	.000	.400	.935	.904	.821	.794	.000	.801	.877

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:MM, GC
Counter:TU-0654, D4-5675
Weather:Clear

File Name : KuhKai PM
Site Code : 00000005
Start Date : 10/3/2013
Page No : 1

Groups Printed- Unshifted

	Kaiulani Avenue Southbound					Kuhio Avenue Westbound					Kaiulani Avenue Northbound					Kuhio Avenue Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	0	0	0	40	40	0	63	11	0	74	0	7	20	71	98	4	102	0	24	130	342
03:15 PM	0	0	0	43	43	0	74	5	0	79	0	12	22	91	125	7	142	0	27	176	423
03:30 PM	0	0	0	54	54	0	84	11	0	95	0	8	14	65	87	10	117	0	36	163	399
03:45 PM	0	0	0	53	53	0	78	5	0	83	0	2	19	75	96	12	127	0	41	180	412
Total	0	0	0	190	190	0	299	32	0	331	0	29	75	302	406	33	488	0	128	649	1576
04:00 PM	0	0	0	62	62	0	68	8	0	76	0	8	21	87	116	8	126	0	23	157	411
04:15 PM	0	0	0	62	62	0	66	9	0	75	0	8	19	87	114	10	159	0	30	199	450
04:30 PM	0	0	0	67	67	0	62	8	0	70	0	13	13	75	101	12	146	0	26	184	422
04:45 PM	0	0	0	49	49	0	76	11	0	87	0	11	22	85	118	8	139	0	42	189	443
Total	0	0	0	240	240	0	272	36	0	308	0	40	75	334	449	38	570	0	121	729	1726
05:00 PM	0	0	0	75	75	0	79	8	0	87	0	12	29	77	118	9	154	0	20	183	463
05:15 PM	0	0	0	62	62	0	66	10	0	76	0	14	19	144	177	10	151	0	36	197	512
05:30 PM	0	0	0	63	63	0	84	15	0	99	0	6	18	103	127	6	172	0	56	234	523
05:45 PM	0	0	0	101	101	0	79	12	0	91	0	9	17	117	143	7	138	0	95	240	575
Total	0	0	0	301	301	0	308	45	0	353	0	41	83	441	565	32	615	0	207	854	2073
Grand Total	0	0	0	731	731	0	879	113	0	992	0	110	233	1077	1420	103	1673	0	456	2232	5375
Apprch %	0	0	0	100		0	88.6	11.4	0		0	7.7	16.4	75.8		4.6	75	0	20.4		
Total %	0	0	0	13.6	13.6	0	16.4	2.1	0	18.5	0	2	4.3	20	26.4	1.9	31.1	0	8.5	41.5	

	Kaiulani Avenue Southbound				Kuhio Avenue Westbound				Kaiulani Avenue Northbound				Kuhio Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	76	11	87	0	11	22	33	8	139	0	147	267
05:00 PM	0	0	0	0	0	79	8	87	0	12	29	41	9	154	0	163	291
05:15 PM	0	0	0	0	0	66	10	76	0	14	19	33	10	151	0	161	270
05:30 PM	0	0	0	0	0	84	15	99	0	6	18	24	6	172	0	178	301
Total Volume	0	0	0	0	0	305	44	349	0	43	88	131	33	616	0	649	1129
% App. Total	0	0	0		0	87.4	12.6		0	32.8	67.2		5.1	94.9	0		
PHF	.000	.000	.000	.000	.000	.908	.733	.881	.000	.768	.759	.799	.825	.895	.000	.912	.938

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:DY, PA
Counter:D4-3890, D4-3889
Weather:Clear

File Name : KuhUlu AM
Site Code : 00000004
Start Date : 10/3/2013
Page No : 1

Groups Printed- Unshifted

	Southbound	Kuhio Avenue Westbound					Uluniu Avenue Northbound					Kuhio Avenue Left = Left Turn Into Waikiki Park Heights Hotel Eastbound					
Start Time	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	0	24	32	0	0	56	0	0	0	7	7	0	36	7	16	59	122
06:15 AM	0	29	27	0	0	56	0	0	0	9	9	0	31	4	7	42	107
06:30 AM	0	24	29	0	0	53	0	0	0	17	17	0	57	11	13	81	151
06:45 AM	0	37	43	0	0	80	0	0	0	18	18	0	58	9	12	79	177
Total	0	114	131	0	0	245	0	0	0	51	51	0	182	31	48	261	557
07:00 AM	0	25	43	0	0	68	0	0	0	28	28	0	71	14	24	109	205
07:15 AM	0	25	36	0	0	61	0	0	0	54	54	2	80	18	17	117	232
07:30 AM	0	32	42	0	0	74	0	0	0	34	34	0	104	26	30	160	268
07:45 AM	0	42	57	0	0	99	0	0	0	33	33	0	120	24	27	171	303
Total	0	124	178	0	0	302	0	0	0	149	149	2	375	82	98	557	1008
08:00 AM	0	37	58	0	0	95	0	0	0	43	43	1	68	28	12	109	247
08:15 AM	0	37	68	0	0	105	0	0	0	35	35	1	63	30	26	120	260
08:30 AM	0	26	58	0	0	84	0	0	0	46	46	0	73	27	33	133	263
08:45 AM	0	31	69	0	0	100	0	0	0	40	40	0	88	28	13	129	269
Total	0	131	253	0	0	384	0	0	0	164	164	2	292	113	84	491	1039
Grand Total	0	369	562	0	0	931	0	0	0	364	364	4	849	226	230	1309	2604
Apprch %		39.6	60.4	0	0		0	0	0	100		0.3	64.9	17.3	17.6		
Total %	0	14.2	21.6	0	0	35.8	0	0	0	14	14	0.2	32.6	8.7	8.8	50.3	

	Southbound	Kuhio Avenue Westbound				Uluniu Avenue Northbound				Kuhio Avenue Left = Left Turn Into Waikiki Park Heights Hotel Eastbound				
Start Time	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 07:30 AM														
07:30 AM	0	32	42	0	74	0	0	0	0	0	104	26	130	204
07:45 AM	0	42	57	0	99	0	0	0	0	0	120	24	144	243
08:00 AM	0	37	58	0	95	0	0	0	0	1	68	28	97	192
08:15 AM	0	37	68	0	105	0	0	0	0	1	63	30	94	199
Total Volume	0	148	225	0	373	0	0	0	0	2	355	108	465	838
% App. Total		39.7	60.3	0		0	0	0		0.4	76.3	23.2		
PHF	.000	.881	.827	.000	.888	.000	.000	.000	.000	.500	.740	.900	.807	.862

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:DY, PA
Counter:D4-3889, D4-3890
Weather:Clear

File Name : KuhUlu PM
Site Code : 00000004
Start Date : 10/3/2013
Page No : 1

Groups Printed- Unshifted

	Southbound	Kuhio Avenue Westbound					Uluniu Avenue Northbound					Kuhio Avenue Left = Left Turn Into Waikiki Park Heights Hotel Eastbound					
Start Time	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	0	23	72	0	0	95	0	0	0	74	74	0	108	26	30	164	333
03:15 PM	0	16	81	0	0	97	0	0	0	47	47	1	128	20	45	194	338
03:30 PM	0	28	92	0	0	120	0	0	0	41	41	1	104	21	32	158	319
03:45 PM	0	29	89	0	0	118	0	0	0	65	65	1	109	21	22	153	336
Total	0	96	334	0	0	430	0	0	0	227	227	3	449	88	129	669	1326
04:00 PM	0	24	75	0	0	99	0	0	0	55	55	1	118	21	41	181	335
04:15 PM	0	25	72	0	0	97	0	0	0	70	70	1	157	12	47	217	384
04:30 PM	0	27	64	0	0	91	0	0	0	71	71	0	134	13	19	166	328
04:45 PM	0	26	91	0	0	117	0	0	0	68	68	0	121	32	36	189	374
Total	0	102	302	0	0	404	0	0	0	264	264	2	530	78	143	753	1421
05:00 PM	0	13	92	0	0	105	0	0	0	77	77	0	155	21	45	221	403
05:15 PM	0	19	70	0	0	89	0	0	0	102	102	0	147	19	26	192	383
05:30 PM	0	24	109	0	0	133	0	0	0	85	85	0	136	29	55	220	438
05:45 PM	0	12	86	0	0	98	0	0	0	96	96	0	119	19	48	186	380
Total	0	68	357	0	0	425	0	0	0	360	360	0	557	88	174	819	1604
Grand Total	0	266	993	0	0	1259	0	0	0	851	851	5	1536	254	446	2241	4351
Apprch %		21.1	78.9	0	0		0	0	0	100		0.2	68.5	11.3	19.9		
Total %	0	6.1	22.8	0	0	28.9	0	0	0	19.6	19.6	0.1	35.3	5.8	10.3	51.5	

	Southbound	Kuhio Avenue Westbound				Uluniu Avenue Northbound				Kuhio Avenue Left = Left Turn Into Waikiki Park Heights Hotel Eastbound				
Start Time	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 04:45 PM														
04:45 PM	0	**26**	91	0	117	0	0	0	0	0	121	**32**	153	270
05:00 PM	0	13	92	0	105	0	0	0	0	0	**155**	21	**176**	281
05:15 PM	0	19	70	0	89	0	0	0	0	0	147	19	166	255
05:30 PM	0	24	**109**	0	**133**	0	0	0	0	0	136	29	165	**298**
Total Volume	0	82	362	0	444	0	0	0	0	0	559	101	660	1104
% App. Total		18.5	81.5	0		0	0	0		0	84.7	15.3		
PHF	.000	.788	.830	.000	.835	.000	.000	.000	.000	.000	.902	.789	.938	.926

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:CY
Counter:T-1839
Weather:Clear

File Name : UluPri AM
Site Code : 00000003
Start Date : 10/3/2013
Page No : 1

Groups Printed- Unshifted

	Uluniu Avenue Southbound					Prince Edward Street Westbound					Uluniu Avenue Northbound					Prince Edward Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	0	26	5	1	32	2	5	0	6	13	0	0	0	3	3	0	0	0	22	22	70
06:15 AM	0	32	2	2	36	5	4	0	8	17	0	0	0	2	2	0	0	0	8	8	63
06:30 AM	0	29	8	1	38	2	3	0	9	14	0	0	0	3	3	0	0	0	18	18	73
06:45 AM	0	32	11	2	45	3	8	0	4	15	0	0	0	4	4	0	0	0	23	23	87
Total	0	119	26	6	151	12	20	0	27	59	0	0	0	12	12	0	0	0	71	71	293
07:00 AM	0	37	8	1	46	6	9	0	8	23	0	0	0	1	1	0	0	0	24	24	94
07:15 AM	0	35	7	1	43	8	9	0	16	33	0	0	0	3	3	0	0	0	23	23	102
07:30 AM	0	42	15	5	62	7	6	0	9	22	0	0	0	5	5	0	0	0	43	43	132
07:45 AM	0	49	10	3	62	4	3	0	14	21	0	0	0	9	9	0	0	1	39	40	132
Total	0	163	40	10	213	25	27	0	47	99	0	0	0	18	18	0	0	1	129	130	460
08:00 AM	0	61	11	5	77	6	2	0	14	22	0	0	0	3	3	0	0	0	35	35	137
08:15 AM	0	52	15	5	72	9	10	0	15	34	0	0	0	10	10	0	0	0	60	60	176
08:30 AM	0	36	17	3	56	12	9	0	14	35	0	0	0	4	4	0	0	0	37	37	132
08:45 AM	0	43	14	8	65	7	8	0	21	36	0	0	0	12	12	0	0	0	49	49	162
Total	0	192	57	21	270	34	29	0	64	127	0	0	0	29	29	0	0	0	181	181	607
Grand Total	0	474	123	37	634	71	76	0	138	285	0	0	0	59	59	0	0	1	381	382	1360
Apprch %	0	74.8	19.4	5.8		24.9	26.7	0	48.4		0	0	0	100		0	0	0.3	99.7		
Total %	0	34.9	9	2.7	46.6	5.2	5.6	0	10.1	21	0	0	0	4.3	4.3	0	0	0.1	28	28.1	

	Uluniu Avenue Southbound				Prince Edward Street Westbound				Uluniu Avenue Northbound				Prince Edward Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	**61**	11	**72**	6	2	0	8	0	0	0	0	0	0	0	0	80
08:15 AM	0	52	15	67	9	**10**	0	19	0	0	0	0	0	0	0	0	**86**
08:30 AM	0	36	**17**	53	**12**	9	0	**21**	0	0	0	0	0	0	0	0	74
08:45 AM	0	43	14	57	7	8	0	15	0	0	0	0	0	0	0	0	72
Total Volume	0	192	57	249	34	29	0	63	0	0	0	0	0	0	0	0	312
% App. Total	0	77.1	22.9		54	46	0		0	0	0		0	0	0		
PHF	.000	.787	.838	.865	.708	.725	.000	.750	.000	.000	.000	.000	.000	.000	.000	.000	.907

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:CY
Counter:T-1839
Weather:Clear

File Name : UluPri PM
Site Code : 00000003
Start Date : 10/3/2013
Page No : 1

Groups Printed- Unshifted

	Uluniu Avenue Southbound					Prince Edward Street Westbound					Uluniu Avenue Northbound					Prince Edward Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	0	39	11	4	54	9	14	0	14	37	0	0	0	3	3	0	0	0	62	62	156
03:15 PM	0	26	9	7	42	6	6	0	17	29	0	0	0	4	4	0	0	0	67	67	142
03:30 PM	0	38	11	12	61	7	5	0	18	30	0	0	0	9	9	0	0	0	59	59	159
03:45 PM	0	41	8	11	60	5	12	0	10	27	0	0	0	3	3	0	0	0	54	54	144
Total	0	144	39	34	217	27	37	0	59	123	0	0	0	19	19	0	0	0	242	242	601
04:00 PM	0	38	7	9	54	13	8	0	21	42	1	0	0	9	10	0	0	0	74	74	180
04:15 PM	0	30	9	1	40	9	7	0	16	32	0	0	0	8	8	0	0	0	71	71	151
04:30 PM	0	31	7	16	54	12	13	0	19	44	0	0	0	17	17	0	0	1	53	54	169
04:45 PM	0	42	12	10	64	15	11	0	13	39	0	0	0	8	8	0	0	0	39	39	150
Total	0	141	35	36	212	49	39	0	69	157	1	0	0	42	43	0	0	1	237	238	650
05:00 PM	0	22	15	8	45	5	9	0	10	24	1	0	0	2	3	0	0	0	98	98	170
05:15 PM	0	28	12	8	48	10	9	0	10	29	0	0	0	5	5	0	0	0	70	70	152
05:30 PM	0	41	11	11	63	11	13	0	7	31	1	0	0	3	4	0	0	0	78	78	176
05:45 PM	0	21	12	8	41	7	14	0	49	70	0	0	0	11	11	0	0	0	45	45	167
Total	0	112	50	35	197	33	45	0	76	154	2	0	0	21	23	0	0	0	291	291	665
Grand Total	0	397	124	105	626	109	121	0	204	434	3	0	0	82	85	0	0	1	770	771	1916
Apprch %	0	63.4	19.8	16.8		25.1	27.9	0	47		3.5	0	0	96.5		0	0	0.1	99.9		
Total %	0	20.7	6.5	5.5	32.7	5.7	6.3	0	10.6	22.7	0.2	0	0	4.3	4.4	0	0	0.1	40.2	40.2	

	Uluniu Avenue Southbound				Prince Edward Street Westbound				Uluniu Avenue Northbound				Prince Edward Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	**42**	12	**54**	**15**	11	0	**26**	0	0	0	0	0	0	0	0	**80**
05:00 PM	0	22	**15**	37	5	9	0	14	**1**	0	0	**1**	0	0	0	0	52
05:15 PM	0	28	12	40	10	9	0	19	0	0	0	0	0	0	0	0	59
05:30 PM	0	41	11	52	11	**13**	0	24	1	0	0	1	0	0	0	0	77
Total Volume	0	133	50	183	41	42	0	83	2	0	0	2	0	0	0	0	268
% App. Total	0	72.7	27.3		49.4	50.6	0		100	0	0		0	0	0		
PHF	.000	.792	.833	.847	.683	.808	.000	.798	.500	.000	.000	.500	.000	.000	.000	.000	.838

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:MA
Counter:T-1841
Weather:Clear

File Name : KoaUlu AM
Site Code : 00000002
Start Date : 10/3/2013
Page No : 1

Groups Printed- Unshifted

	Uluniu Avenue Southbound					Koa Avenue Westbound					Uluniu Avenue Northbound					Koa Avenue Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	9	18	0	2	29	0	0	0	12	12	0	0	0	10	10	0	7	15	22	44	95
06:15 AM	24	16	0	7	47	0	0	0	16	16	0	0	0	25	25	0	14	16	15	45	133
06:30 AM	17	15	0	24	56	0	0	0	20	20	0	0	0	17	17	0	24	9	32	65	158
06:45 AM	12	24	0	19	55	0	0	0	21	21	0	0	0	20	20	0	18	7	50	75	171
Total	62	73	0	52	187	0	0	0	69	69	0	0	0	72	72	0	63	47	119	229	557
07:00 AM	20	20	0	17	57	0	0	0	10	10	0	0	0	24	24	0	27	18	56	101	192
07:15 AM	13	35	0	23	71	0	0	0	27	27	0	0	0	36	36	0	16	15	44	75	209
07:30 AM	19	32	0	39	90	0	0	0	29	29	0	0	0	47	47	0	18	30	60	108	274
07:45 AM	21	35	0	22	78	0	0	0	26	26	0	0	0	31	31	0	19	36	56	111	246
Total	73	122	0	101	296	0	0	0	92	92	0	0	0	138	138	0	80	99	216	395	921
08:00 AM	19	45	0	31	95	0	0	0	35	35	0	0	0	56	56	0	24	34	61	119	305
08:15 AM	27	35	0	33	95	0	0	0	56	56	0	0	0	30	30	0	19	53	62	134	315
08:30 AM	18	28	0	24	70	0	0	0	37	37	0	0	0	42	42	0	39	33	55	127	276
08:45 AM	15	37	0	34	86	0	0	0	48	48	0	0	0	29	29	0	26	38	44	108	271
Total	79	145	0	122	346	0	0	0	176	176	0	0	0	157	157	0	108	158	222	488	1167
Grand Total	214	340	0	275	829	0	0	0	337	337	0	0	0	367	367	0	251	304	557	1112	2645
Apprch %	25.8	41	0	33.2		0	0	0	100		0	0	0	100		0	22.6	27.3	50.1		
Total %	8.1	12.9	0	10.4	31.3	0	0	0	12.7	12.7	0	0	0	13.9	13.9	0	9.5	11.5	21.1	42	

	Uluniu Avenue Southbound				Koa Avenue Westbound				Uluniu Avenue Northbound				Koa Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	19	45	0	64	0	0	0	0	0	0	0	0	0	24	34	58	122
08:15 AM	27	35	0	62	0	0	0	0	0	0	0	0	0	19	53	72	134
08:30 AM	18	28	0	46	0	0	0	0	0	0	0	0	0	39	33	72	118
08:45 AM	15	37	0	52	0	0	0	0	0	0	0	0	0	26	38	64	116
Total Volume	79	145	0	224	0	0	0	0	0	0	0	0	0	108	158	266	490
% App. Total	35.3	64.7	0		0	0	0		0	0	0		0	40.6	59.4		
PHF	.731	.806	.000	.875	.000	.000	.000	.000	.000	.000	.000	.000	.000	.692	.745	.924	.914

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:DY
Counter:D4-3890
Weather:Clear

File Name : KoaUlu PM
Site Code : 00000002
Start Date : 9/24/2013
Page No : 1

Groups Printed- Unshifted

	Uluniu Street Southbound					Koa Street Westbound					Uluniu Street Northbound					Koa Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	13	31	0	41	85	0	0	0	51	51	5	0	0	55	60	0	33	22	75	130	326
03:15 PM	11	32	0	23	66	0	0	0	53	53	0	0	0	59	59	0	24	21	65	110	288
03:30 PM	10	27	0	32	69	0	0	0	42	42	0	0	0	39	39	0	20	25	70	115	265
03:45 PM	18	37	0	34	89	0	0	0	35	35	0	0	0	42	42	0	23	29	81	133	299
Total	52	127	0	130	309	0	0	0	181	181	5	0	0	195	200	0	100	97	291	488	1178
04:00 PM	20	30	0	24	74	0	0	0	30	30	0	0	0	63	63	0	37	26	110	173	340
04:15 PM	16	24	0	27	67	0	0	0	43	43	0	0	0	47	47	0	28	23	70	121	278
04:30 PM	9	29	0	49	87	0	0	0	39	39	0	0	0	40	40	0	23	28	97	148	314
04:45 PM	10	25	0	65	100	0	0	0	64	64	0	0	0	57	57	0	24	14	89	127	348
Total	55	108	0	165	328	0	0	0	176	176	0	0	0	207	207	0	112	91	366	569	1280
05:00 PM	17	19	0	32	68	0	0	0	49	49	0	0	0	52	52	0	25	26	77	128	297
05:15 PM	11	29	0	49	89	0	0	0	40	40	0	0	0	54	54	0	29	18	81	128	311
05:30 PM	13	22	0	36	71	0	0	0	58	58	0	0	0	45	45	0	15	27	102	144	318
05:45 PM	8	25	0	49	82	0	0	0	42	42	0	0	0	53	53	0	24	19	99	142	319
Total	49	95	0	166	310	0	0	0	189	189	0	0	0	204	204	0	93	90	359	542	1245
Grand Total	156	330	0	461	947	0	0	0	546	546	5	0	0	606	611	0	305	278	1016	1599	3703
Apprch %	16.5	34.8	0	48.7		0	0	0	100		0.8	0	0	99.2		0	19.1	17.4	63.5		
Total %	4.2	8.9	0	12.4	25.6	0	0	0	14.7	14.7	0.1	0	0	16.4	16.5	0	8.2	7.5	27.4	43.2	

	Uluniu Street Southbound				Koa Street Westbound				Uluniu Street Northbound				Koa Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:45 PM																	
03:45 PM	**18**	**37**	0	**55**	0	0	0	0	0	0	0	0	0	23	**29**	52	107
04:00 PM	**20**	30	0	50	0	0	0	0	0	0	0	0	0	**37**	26	**63**	**113**
04:15 PM	**16**	24	0	40	0	0	0	0	0	0	0	0	0	28	23	51	91
04:30 PM	9	29	0	38	0	0	0	0	0	0	0	0	0	23	28	51	89
Total Volume	63	120	0	183	0	0	0	0	0	0	0	0	0	111	106	217	400
% App. Total	34.4	65.6	0		0	0	0		0	0	0		0	51.2	48.8		
PHF	.788	.811	.000	.832	.000	.000	.000	.000	.000	.000	.000	.000	.000	.750	.914	.861	.885

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:CL, GL
Counter:TU-0650, TU-0652
Weather:Clear

File Name : KalUlu AM
Site Code : 00000001
Start Date : 10/3/2013
Page No : 1

Groups Printed- Unshifted

	Uluniu Avenue Southbound					Westbound	Northbound	Kalakaua Avenue Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	App. Total	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	22	0	0	36	58	0	0	0	79	0	34	113	171
06:15 AM	30	0	0	44	74	0	0	0	78	0	42	120	194
06:30 AM	20	0	0	61	81	0	0	0	95	0	46	141	222
06:45 AM	24	0	0	81	105	0	0	0	124	0	63	187	292
Total	96	0	0	222	318	0	0	0	376	0	185	561	879
07:00 AM	35	0	0	103	138	0	0	0	145	0	55	200	338
07:15 AM	41	0	0	100	141	0	0	0	176	0	72	248	389
07:30 AM	59	0	0	131	190	0	0	0	235	0	71	306	496
07:45 AM	64	0	0	158	222	0	0	0	217	0	79	296	518
Total	199	0	0	492	691	0	0	0	773	0	277	1050	1741
08:00 AM	65	0	0	164	229	0	0	0	208	0	85	293	522
08:15 AM	69	0	0	256	325	0	0	0	168	0	131	299	624
08:30 AM	68	0	0	232	300	0	0	0	166	0	113	279	579
08:45 AM	73	0	0	231	304	0	0	0	0	0	0	0	304
Total	275	0	0	883	1158	0	0	0	542	0	329	871	2029
Grand Total	570	0	0	1597	2167	0	0	0	1691	0	791	2482	4649
Apprch %	26.3	0	0	73.7				0	68.1	0	31.9		
Total %	12.3	0	0	34.4	46.6	0	0	0	36.4	0	17	53.4	

	Uluniu Avenue Southbound				Westbound	Northbound	Kalakaua Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	App. Total	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:30 AM - Peak 1 of 1											
Peak Hour for Entire Intersection Begins at 07:30 AM											
07:30 AM	59	0	0	59	0	0	0	235	0	235	294
07:45 AM	64	0	0	64	0	0	0	217	0	217	281
08:00 AM	65	0	0	65	0	0	0	208	0	208	273
08:15 AM	69	0	0	69	0	0	0	168	0	168	237
Total Volume	257	0	0	257	0	0	0	828	0	828	1085
% App. Total	100	0	0				0	100	0		
PHF	.931	.000	.000	.931	.000	.000	.000	.881	.000	.881	.923

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, Hi 96826

Counted By:MM, PA
Counter:D4-5677, D4-5675
Weather:Clear

File Name : KalUlu PM
Site Code : 00000001
Start Date : 9/24/2013
Page No : 1

Groups Printed- Unshifted

	Uluniu Street Southbound					Westbound	Northbound	Kalakaua Avenue Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	App. Total	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	41	0	0	354	395	0	0	0	219	0	169	388	783
03:15 PM	55	0	0	314	369	0	0	0	262	0	141	403	772
03:30 PM	59	0	0	271	330	0	0	0	243	0	174	417	747
03:45 PM	66	0	0	346	412	0	0	0	277	0	185	462	874
Total	221	0	0	1285	1506	0	0	0	1001	0	669	1670	3176
04:00 PM	65	0	0	330	395	0	0	0	266	0	183	449	844
04:15 PM	54	0	0	325	379	0	0	0	322	0	203	525	904
04:30 PM	64	0	0	310	374	0	0	0	259	0	168	427	801
04:45 PM	57	0	0	313	370	0	0	0	260	0	235	495	865
Total	240	0	0	1278	1518	0	0	0	1107	0	789	1896	3414
05:00 PM	47	0	0	368	415	0	0	0	298	0	172	470	885
05:15 PM	55	0	0	339	394	0	0	0	329	0	195	524	918
05:30 PM	55	0	0	376	431	0	0	0	290	0	168	458	889
05:45 PM	43	0	0	361	404	0	0	0	258	0	247	505	909
Total	200	0	0	1444	1644	0	0	0	1175	0	782	1957	3601
Grand Total	661	0	0	4007	4668	0	0	0	3283	0	2240	5523	10191
Apprch %	14.2	0	0	85.8				0	59.4	0	40.6		
Total %	6.5	0	0	39.3	45.8	0	0	0	32.2	0	22	54.2	

	Uluniu Street Southbound				Westbound	Northbound	Kalakaua Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	App. Total	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1											
Peak Hour for Entire Intersection Begins at 04:45 PM											
04:45 PM	57	0	0	57	0	0	0	260	0	260	317
05:00 PM	47	0	0	47	0	0	0	298	0	298	345
05:15 PM	55	0	0	55	0	0	0	329	0	329	384
05:30 PM	55	0	0	55	0	0	0	290	0	290	345
Total Volume	214	0	0	214	0	0	0	1177	0	1177	1391
% App. Total	100	0	0				0	100	0		
PHF	.939	.000	.000	.939	.000	.000	.000	.894	.000	.894	.906

APPENDIX B

LEVEL OF SERVICE DEFINITIONS

LEVEL OF SERVICE DEFINITIONS

LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Level of Service (LOS) criteria are given in Table 1. As used here, control delay is defined as the total elapsed time from the time a vehicle stops at the end of the queue to the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in the queue.

The average total delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. If the degree of saturation is greater than about 0.9, average control delay is significantly affected by the length of the analysis period.

Table 1: Level-of-Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay (Sec/Veh)
A	≤10.0
B	>10.0 and ≤15.0
C	>15.0 and ≤25.0
D	>25.0 and ≤35.0
E	>35.0 and ≤50.0
F	>50.0

"Highway Capacity Manual," Transportation Research Board, 2000.

LEVEL OF SERVICE DEFINITIONS

LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

Level of Service (LOS) can be characterized for the entire intersection, each intersection approach, and each lane group. Control delay alone is used to characterize LOS for the entire intersection or an approach. Control and volume–to-capacity .ratio are used to characterize LOS for a lane group. Delay quantifies the increase in travel time due to traffic signal control. It is also a surrogate measure of driver discomfort and fuel consumption. The volume-to-capacity ratio quantifies the degree to which a phase's capacity is utilized by a lane group.

Table 1: Level-of-Service Criteria for Signalized Intersections

Level of Service	LOS by Volume-to-Capacity Ratio
A	≤10
B	>10 – 20
C	>20 – 35
D	>35 - 55.0
E	>55.0 - 80.0
F	>80.0

Level of Service A describes operation with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

Level of Service B describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

Level of Service C describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

Level of Service D describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

"Highway Capacity Manual," Transportation Research Board, 2000.

Level of Service E describes operation with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

Level of Service F describes operation with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. The level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

"Highway Capacity Manual," Transportation Research Board, 2000.

APPENDIX C

CAPACITY ANALYSIS CALCULATIONS
EXISTING PEAK PERIOD TRAFFIC ANALYSIS

HCM Signalized Intersection Capacity Analysis
1: Kanekapolei Street & Kuhio Avenue

6/20/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	63	351	66	27	183	22	67	179	1	57	78	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95			0.95			0.95			0.95	
Frt	1.00	0.98			0.99			1.00			0.98	
Flt Protected	0.95	1.00			0.99			0.99			0.98	
Satd. Flow (prot)	1770	3455			3468			3490			3402	
Flt Permitted	0.50	1.00			0.87			0.82			0.77	
Satd. Flow (perm)	935	3455			3034			2905			2674	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	73	408	77	31	213	26	78	208	1	66	91	26
RTOR Reduction (vph)	0	20	0	0	10	0	0	0	0	0	16	0
Lane Group Flow (vph)	73	466	0	0	260	0	0	287	0	0	167	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	40.0	40.0			30.0			30.0			30.0	
Effective Green, g (s)	40.0	40.0			30.0			30.0			30.0	
Actuated g/C Ratio	0.50	0.50			0.38			0.38			0.38	
Clearance Time (s)	5.0	5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)	519	1727			1137			1089			1002	
v/s Ratio Prot	0.01	c0.13										
v/s Ratio Perm	0.06				0.09			c0.10			0.06	
v/c Ratio	0.14	0.27			0.23			0.26			0.17	
Uniform Delay, d1	10.6	11.6			17.1			17.3			16.7	
Progression Factor	1.00	1.00			0.32			1.00			1.00	
Incremental Delay, d2	0.6	0.4			0.5			0.6			0.4	
Delay (s)	11.2	11.9			5.9			17.9			17.0	
Level of Service	B	B			A			B			B	
Approach Delay (s)		11.8			5.9			17.9			17.0	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: Kanekapolei Street & Kuhio Avenue

6/20/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	148	573	45	20	290	3	84	215	0	65	61	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95			0.95			0.95			0.95	
Frt	1.00	0.99			1.00			1.00			0.97	
Flt Protected	0.95	1.00			1.00			0.99			0.98	
Satd. Flow (prot)	1770	3501			3523			3490			3360	
Flt Permitted	0.49	1.00			0.90			0.81			0.74	
Satd. Flow (perm)	908	3501			3174			2876			2540	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	156	603	47	21	305	3	88	226	0	68	64	35
RTOR Reduction (vph)	0	6	0	0	1	0	0	0	0	0	23	0
Lane Group Flow (vph)	156	644	0	0	328	0	0	314	0	0	144	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	50.0	50.0			40.0			30.0			30.0	
Effective Green, g (s)	50.0	50.0			40.0			30.0			30.0	
Actuated g/C Ratio	0.56	0.56			0.44			0.33			0.33	
Clearance Time (s)	5.0	5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)	552	1945			1410			958			846	
v/s Ratio Prot	0.02	c0.18										
v/s Ratio Perm	0.14				0.10			c0.11			0.06	
v/c Ratio	0.28	0.33			0.23			0.33			0.17	
Uniform Delay, d1	9.9	10.9			15.5			22.5			21.2	
Progression Factor	1.00	1.00			0.24			1.00			1.00	
Incremental Delay, d2	1.3	0.5			0.4			0.9			0.4	
Delay (s)	11.2	11.3			4.2			23.4			21.6	
Level of Service	B	B			A			C			C	
Approach Delay (s)		11.3			4.2			23.4			21.6	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	84	0	13	25	17	248	28	176	0	0	131	40
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	89	0	14	27	18	264	30	187	0	0	139	43
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								432			262	
pX, platoon unblocked												
vC, conflicting volume	587	407	91	330	429	94	182			187		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	587	407	91	330	429	94	182			187		
tC, single (s)	*6.5	6.5	*5.9	*6.5	*5.5	*5.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	73	100	99	96	97	73	98			100		
cM capacity (veh/h)	326	520	974	639	573	971	1391			1384		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	103	309	92	125	93	89
Volume Left	89	27	30	0	0	0
Volume Right	14	264	0	0	0	43
cSH	358	894	1391	1700	1700	1700
Volume to Capacity	0.29	0.34	0.02	0.07	0.05	0.05
Queue Length 95th (ft)	29	39	2	0	0	0
Control Delay (s)	19.1	11.1	2.6	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s)	19.1	11.1	1.1		0.0	
Approach LOS	C	B				

Intersection Summary				
Average Delay	7.0			
Intersection Capacity Utilization	46.9%	ICU Level of Service	A	
Analysis Period (min)	15			

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	182	0	6	26	23	68	28	218	0	0	119	30
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	214	0	7	31	27	80	33	256	0	0	140	35
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								428			267	
pX, platoon unblocked												
vC, conflicting volume	445	480	88	399	498	128	175			256		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	445	480	88	399	498	128	175			256		
tC, single (s)	*6.5	6.5	*5.9	*6.5	*5.5	*5.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	56	100	99	95	95	91	98			100		
cM capacity (veh/h)	487	472	978	586	533	932	1399			1305		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	221	138	118	171	93	82
Volume Left	214	31	33	0	0	0
Volume Right	7	80	0	0	0	35
cSH	495	729	1399	1700	1700	1700
Volume to Capacity	0.45	0.19	0.02	0.10	0.05	0.05
Queue Length 95th (ft)	57	17	2	0	0	0
Control Delay (s)	18.0	11.1	2.3	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s)	18.0	11.1	0.9		0.0	
Approach LOS	C	B				

Intersection Summary				
Average Delay	7.0			
Intersection Capacity Utilization	38.2%	ICU Level of Service	A	
Analysis Period (min)	15			

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	8	111	104	132	0	19
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour 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
Hourly flow rate (vph)	0	0	0	0	0	0	8	117	109	139	0	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								217			477	
pX, platoon unblocked												
vC, conflicting volume	353	521	0	466	486	113	20			226		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	353	521	0	466	486	113	20			226		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	99			90		
cM capacity (veh/h)	529	409	1084	440	428	918	1595			1339		

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	67	168	139	20
Volume Left	8	0	139	0
Volume Right	0	109	0	20
cSH	1595	1700	1339	1700
Volume to Capacity	0.01	0.10	0.10	0.01
Queue Length 95th (ft)	0	0	9	0
Control Delay (s)	1.0	0.0	8.0	0.0
Lane LOS	A		A	
Approach Delay (s)	0.3		7.0	
Approach LOS				

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	20.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	9	175	102	116	0	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	0	0	0	10	194	113	129	0	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								217			478	
pX, platoon unblocked												
vC, conflicting volume	375	586	0	529	543	154	14			308		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	375	586	0	529	543	154	14			308		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	99			90		
cM capacity (veh/h)	511	375	1084	397	397	865	1602			1250		

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	107	211	129	14
Volume Left	10	0	129	0
Volume Right	0	113	0	14
cSH	1602	1700	1250	1700
Volume to Capacity	0.01	0.12	0.10	0.01
Queue Length 95th (ft)	0	0	9	0
Control Delay (s)	0.7	0.0	8.2	0.0
Lane LOS	A		A	
Approach Delay (s)	0.2		7.4	
Approach LOS				

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	21.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	302	830	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0				
Lane Util. Factor	1.00	0.91				
Frt	1.00	1.00				
Flt Protected	0.95	1.00				
Satd. Flow (prot)	1770	5085				
Flt Permitted	0.95	1.00				
Satd. Flow (perm)	1770	5085				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	328	902	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	328	902	0	0	0	0
Turn Type	Perm	NA				
Protected Phases		4				
Permitted Phases	4					
Actuated Green, G (s)	75.0	75.0				
Effective Green, g (s)	75.0	75.0				
Actuated g/C Ratio	0.68	0.68				
Clearance Time (s)	5.0	5.0				
Lane Grp Cap (vph)	1206	3467				
v/s Ratio Prot		0.18				
v/s Ratio Perm	c0.19					
v/c Ratio	0.27	0.26				
Uniform Delay, d1	6.8	6.8				
Progression Factor	1.00	1.00				
Incremental Delay, d2	0.6	0.2				
Delay (s)	7.4	7.0				
Level of Service	A	A				
Approach Delay (s)		7.1	0.0		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM 2000 Control Delay	7.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.20		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	20.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	362	1218	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0				
Lane Util. Factor	1.00	0.91				
Frt	1.00	1.00				
Flt Protected	0.95	1.00				
Satd. Flow (prot)	1770	5085				
Flt Permitted	0.95	1.00				
Satd. Flow (perm)	1770	5085				
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	381	1282	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	381	1282	0	0	0	0
Turn Type	Perm	NA				
Protected Phases		4				
Permitted Phases	4					
Actuated Green, G (s)	75.0	75.0				
Effective Green, g (s)	75.0	75.0				
Actuated g/C Ratio	0.68	0.68				
Clearance Time (s)	5.0	5.0				
Lane Grp Cap (vph)	1206	3467				
v/s Ratio Prot		c0.25				
v/s Ratio Perm	0.22					
v/c Ratio	0.32	0.37				
Uniform Delay, d1	7.1	7.4				
Progression Factor	1.00	1.00				
Incremental Delay, d2	0.7	0.3				
Delay (s)	7.8	7.7				
Level of Service	A	A				
Approach Delay (s)		7.8	0.0		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	27.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	429	0	0	205	17	0	8	86	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0	5.0			
Lane Util. Factor		0.95			0.95			1.00	1.00			
Frt		1.00			0.99			1.00	0.85			
Flt Protected		1.00			1.00			1.00	1.00			
Satd. Flow (prot)		3530			3499			1863	1583			
Flt Permitted		0.93			1.00			1.00	1.00			
Satd. Flow (perm)		3303			3499			1863	1583			
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	26	488	0	0	233	19	0	9	98	0	0	0
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	67	0	0	0
Lane Group Flow (vph)	0	514	0	0	245	0	0	9	31	0	0	0
Turn Type	pm+pt	NA			NA			NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases	4								2			
Actuated Green, G (s)		45.0			40.0			25.0	25.0			
Effective Green, g (s)		45.0			40.0			25.0	25.0			
Actuated g/C Ratio		0.56			0.50			0.31	0.31			
Clearance Time (s)		5.0			5.0			5.0	5.0			
Lane Grp Cap (vph)		1865			1749			582	494			
v/s Ratio Prot		c0.01			0.07			0.00				
v/s Ratio Perm		c0.15							c0.02			
v/c Ratio		0.28			0.14			0.02	0.06			
Uniform Delay, d1		9.1			10.8			19.0	19.3			
Progression Factor		0.56			1.39			1.00	1.00			
Incremental Delay, d2		0.4			0.2			0.0	0.2			
Delay (s)		5.5			15.1			19.0	19.5			
Level of Service		A			B			B	B			
Approach Delay (s)		5.5			15.1			19.5			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	34.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	33	616	0	0	305	44	0	43	88	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0	5.0			
Lane Util. Factor		0.95			0.95			1.00	1.00			
Frt		1.00			0.98			1.00	0.85			
Flt Protected		1.00			1.00			1.00	1.00			
Satd. Flow (prot)		3530			3472			1863	1583			
Flt Permitted		0.92			1.00			1.00	1.00			
Satd. Flow (perm)		3257			3472			1863	1583			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	35	655	0	0	324	47	0	46	94	0	0	0
RTOR Reduction (vph)	0	0	0	0	13	0	0	0	68	0	0	0
Lane Group Flow (vph)	0	690	0	0	358	0	0	46	26	0	0	0
Turn Type	pm+pt	NA			NA			NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases	4								2			
Actuated Green, G (s)		55.0			50.0			25.0	25.0			
Effective Green, g (s)		55.0			50.0			25.0	25.0			
Actuated g/C Ratio		0.61			0.56			0.28	0.28			
Clearance Time (s)		5.0			5.0			5.0	5.0			
Lane Grp Cap (vph)		1997			1928			517	439			
v/s Ratio Prot		c0.01			0.10			c0.02				
v/s Ratio Perm		c0.20							0.02			
v/c Ratio		0.35			0.19			0.09	0.06			
Uniform Delay, d1		8.6			9.9			24.1	23.9			
Progression Factor		0.44			1.47			1.00	1.00			
Incremental Delay, d2		0.5			0.2			0.3	0.3			
Delay (s)		4.2			14.7			24.4	24.1			
Level of Service		A			B			C	C			
Approach Delay (s)		4.2			14.7			24.2			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	355	108	148	225	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0			5.0		
Lane Util. Factor	0.95			0.95		
Frt	0.96			1.00		
Flt Protected	1.00			0.98		
Satd. Flow (prot)	3415			3470		
Flt Permitted	1.00			0.63		
Satd. Flow (perm)	3415			2229		
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	413	126	172	262	0	0
RTOR Reduction (vph)	36	0	0	0	0	0
Lane Group Flow (vph)	503	0	0	434	0	0
Turn Type	NA		Perm	NA		
Protected Phases	4			8		
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0		
Effective Green, g (s)	45.0			45.0		
Actuated g/C Ratio	0.56			0.56		
Clearance Time (s)	5.0			5.0		
Lane Grp Cap (vph)	1920			1253		
v/s Ratio Prot	0.15					
v/s Ratio Perm				c0.19		
v/c Ratio	0.26			0.35		
Uniform Delay, d1	9.0			9.5		
Progression Factor	1.91			1.00		
Incremental Delay, d2	0.3			0.8		
Delay (s)	17.5			10.3		
Level of Service	B			B		
Approach Delay (s)	17.5			10.3	0.0	
Approach LOS	B			B	A	

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	32.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	559	101	82	362	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0			5.0		
Lane Util. Factor	0.95			0.95		
Frt	0.98			1.00		
Flt Protected	1.00			0.99		
Satd. Flow (prot)	3458			3507		
Flt Permitted	1.00			0.73		
Satd. Flow (perm)	3458			2576		
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	601	109	88	389	0	0
RTOR Reduction (vph)	16	0	0	0	0	0
Lane Group Flow (vph)	694	0	0	477	0	0
Turn Type	NA		Perm	NA		
Protected Phases	4			8		
Permitted Phases			8			
Actuated Green, G (s)	55.0			55.0		
Effective Green, g (s)	55.0			55.0		
Actuated g/C Ratio	0.61			0.61		
Clearance Time (s)	5.0			5.0		
Lane Grp Cap (vph)	2113			1574		
v/s Ratio Prot	c0.20					
v/s Ratio Perm				0.19		
v/c Ratio	0.33			0.30		
Uniform Delay, d1	8.5			8.4		
Progression Factor	1.84			1.00		
Incremental Delay, d2	0.4			0.5		
Delay (s)	16.0			8.8		
Level of Service	B			A		
Approach Delay (s)	16.0			8.8	0.0	
Approach LOS	B			A	A	

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	39.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	34	29	0	0	0	0	0	192	57
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	37	32	0	0	0	0	0	211	63
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											209	
pX, platoon unblocked												
vC, conflicting volume	258	242	242	242	274	0	274			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	258	242	242	242	274	0	274			0		
tC, single (s)	7.1	6.5	6.2	*6.1	*5.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	95	95	100	100			100		
cM capacity (veh/h)	670	659	797	762	684	1085	1290			1623		

Direction, Lane #	WB 1	SB 1
Volume Total	69	274
Volume Left	37	0
Volume Right	0	63
cSH	724	1700
Volume to Capacity	0.10	0.16
Queue Length 95th (ft)	8	0
Control Delay (s)	10.5	0.0
Lane LOS	B	
Approach Delay (s)	10.5	0.0
Approach LOS	B	

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	23.6%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	41	42	0	0	0	0	0	133	50
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	0	0	0	49	50	0	0	0	0	0	158	60
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											204	
pX, platoon unblocked												
vC, conflicting volume	213	188	188	188	218	0	218			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	213	188	188	188	218	0	218			0		
tC, single (s)	7.1	6.5	6.2	*6.1	*5.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	94	93	100	100			100		
cM capacity (veh/h)	704	707	854	815	724	1085	1352			1623		

Direction, Lane #	WB 1	SB 1
Volume Total	99	218
Volume Left	49	0
Volume Right	0	60
cSH	766	1700
Volume to Capacity	0.13	0.13
Queue Length 95th (ft)	11	0
Control Delay (s)	10.4	0.0
Lane LOS	B	
Approach Delay (s)	10.4	0.0
Approach LOS	B	

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	21.2%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	108	158	0	0	0	0	0	0	79	145	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	119	174	0	0	0	0	0	0	87	159	0

Direction, Lane #	EB 1	SB 1
Volume Total (vph)	292	246
Volume Left (vph)	0	87
Volume Right (vph)	174	0
Hadj (s)	-0.32	0.10
Departure Headway (s)	4.2	4.7
Degree Utilization, x	0.34	0.32
Capacity (veh/h)	814	737
Control Delay (s)	9.3	9.8
Approach Delay (s)	9.3	9.8
Approach LOS	A	A

Intersection Summary			
Delay	9.6		
Level of Service	A		
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	111	106	0	0	0	0	0	0	63	120	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	125	119	0	0	0	0	0	0	71	135	0

Direction, Lane #	EB 1	SB 1
Volume Total (vph)	244	206
Volume Left (vph)	0	71
Volume Right (vph)	119	0
Hadj (s)	-0.26	0.10
Departure Headway (s)	4.1	4.5
Degree Utilization, x	0.28	0.26
Capacity (veh/h)	835	757
Control Delay (s)	8.8	9.1
Approach Delay (s)	8.8	9.1
Approach LOS	A	A

Intersection Summary			
Delay	8.9		
Level of Service	A		
Intersection Capacity Utilization	28.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑			↰↰	
Volume (vph)	0	828	0	0	257	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.91			0.97	
Frt		1.00			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		5085			3433	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		5085			3433	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	900	0	0	279	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	900	0	0	279	0
Turn Type		NA			Prot	
Protected Phases		4			6	
Permitted Phases						
Actuated Green, G (s)		70.0			30.0	
Effective Green, g (s)		70.0			30.0	
Actuated g/C Ratio		0.64			0.27	
Clearance Time (s)		5.0			5.0	
Lane Grp Cap (vph)		3235			936	
v/s Ratio Prot		c0.18			c0.08	
v/s Ratio Perm						
v/c Ratio		0.28			0.30	
Uniform Delay, d1		8.8			31.7	
Progression Factor		0.54			1.00	
Incremental Delay, d2		0.2			0.8	
Delay (s)		5.0			32.5	
Level of Service		A			C	
Approach Delay (s)		5.0	0.0		32.5	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	31.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑			↰↰	
Volume (vph)	0	1177	0	0	214	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.91			0.97	
Frt		1.00			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		5085			3433	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		5085			3433	
Peak-hour factor, PHF	0.91	0.91	0.91	0.92	0.92	0.92
Adj. Flow (vph)	0	1293	0	0	233	0
RTOR Reduction (vph)	0	0	0	0	131	0
Lane Group Flow (vph)	0	1293	0	0	102	0
Turn Type		NA			Prot	
Protected Phases		4			6	
Permitted Phases						
Actuated Green, G (s)		75.0			25.0	
Effective Green, g (s)		75.0			25.0	
Actuated g/C Ratio		0.68			0.23	
Clearance Time (s)		5.0			5.0	
Lane Grp Cap (vph)		3467			780	
v/s Ratio Prot		c0.25			c0.03	
v/s Ratio Perm						
v/c Ratio		0.37			0.13	
Uniform Delay, d1		7.5			33.8	
Progression Factor		0.56			1.00	
Incremental Delay, d2		0.3			0.3	
Delay (s)		4.5			34.2	
Level of Service		A			C	
Approach Delay (s)		4.5	0.0		34.2	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	37.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX D

CAPACITY ANALYSIS CALCULATIONS
PROJECTED YEAR 2017 PEAK PERIOD TRAFFIC
ANALYSIS WITHOUT PROJECT

HCM Signalized Intersection Capacity Analysis
1: Kanekapolei Street & Kuhio Avenue

6/20/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	63	400	66	27	198	22	81	201	1	60	78	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95			0.95			0.95			0.95	
Frt	1.00	0.98			0.99			1.00			0.98	
Flt Protected	0.95	1.00			0.99			0.99			0.98	
Satd. Flow (prot)	1770	3464			3472			3488			3402	
Flt Permitted	0.49	1.00			0.87			0.81			0.75	
Satd. Flow (perm)	920	3464			3025			2853			2607	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	73	465	77	31	230	26	94	234	1	70	91	26
RTOR Reduction (vph)	0	17	0	0	9	0	0	0	0	0	16	0
Lane Group Flow (vph)	73	526	0	0	278	0	0	329	0	0	171	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	40.0	40.0			30.0			30.0			30.0	
Effective Green, g (s)	40.0	40.0			30.0			30.0			30.0	
Actuated g/C Ratio	0.50	0.50			0.38			0.38			0.38	
Clearance Time (s)	5.0	5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)	513	1732			1134			1069			977	
v/s Ratio Prot	0.01	c0.15										
v/s Ratio Perm	0.06				0.09			c0.12			0.07	
v/c Ratio	0.14	0.30			0.24			0.31			0.17	
Uniform Delay, d1	10.6	11.8			17.2			17.7			16.7	
Progression Factor	1.00	1.00			0.31			1.00			1.00	
Incremental Delay, d2	0.6	0.5			0.5			0.7			0.4	
Delay (s)	11.2	12.2			5.9			18.4			17.1	
Level of Service	B	B			A			B			B	
Approach Delay (s)		12.1			5.9			18.4			17.1	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: Kanekapolei Street & Kuhio Avenue

6/20/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	685	45	20	297	3	89	211	0	67	61	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95			0.95			0.95			0.95	
Frt	1.00	0.99			1.00			1.00			0.97	
Flt Protected	0.95	1.00			1.00			0.99			0.98	
Satd. Flow (prot)	1770	3507			3524			3487			3360	
Flt Permitted	0.48	1.00			0.89			0.80			0.73	
Satd. Flow (perm)	898	3507			3145			2841			2519	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	162	721	47	21	313	3	94	222	0	71	64	35
RTOR Reduction (vph)	0	5	0	0	1	0	0	0	0	0	23	0
Lane Group Flow (vph)	162	763	0	0	336	0	0	316	0	0	147	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	50.0	50.0			40.0			30.0			30.0	
Effective Green, g (s)	50.0	50.0			40.0			30.0			30.0	
Actuated g/C Ratio	0.56	0.56			0.44			0.33			0.33	
Clearance Time (s)	5.0	5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)	547	1948			1397			947			839	
v/s Ratio Prot	0.02	c0.22										
v/s Ratio Perm	0.15				0.11			c0.11			0.06	
v/c Ratio	0.30	0.39			0.24			0.33			0.17	
Uniform Delay, d1	10.0	11.4			15.6			22.5			21.2	
Progression Factor	1.00	1.00			0.22			1.00			1.00	
Incremental Delay, d2	1.4	0.6			0.4			0.9			0.5	
Delay (s)	11.4	12.0			3.9			23.5			21.7	
Level of Service	B	B			A			C			C	
Approach Delay (s)		11.8			3.9			23.5			21.7	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	84	0	13	25	17	296	28	176	0	0	131	40
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	89	0	14	27	18	315	30	187	0	0	139	43
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								432			262	
pX, platoon unblocked												
vC, conflicting volume	638	407	91	330	429	94	182			187		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	638	407	91	330	429	94	182			187		
tC, single (s)	*6.5	6.5	*5.9	*6.5	*5.5	*5.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	68	100	99	96	97	68	98			100		
cM capacity (veh/h)	282	520	974	639	573	971	1391			1384		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	103	360	92	125	93	89
Volume Left	89	27	30	0	0	0
Volume Right	14	315	0	0	0	43
cSH	312	905	1391	1700	1700	1700
Volume to Capacity	0.33	0.40	0.02	0.07	0.05	0.05
Queue Length 95th (ft)	35	48	2	0	0	0
Control Delay (s)	22.2	11.6	2.6	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s)	22.2	11.6	1.1		0.0	
Approach LOS	C	B				

Intersection Summary			
Average Delay	7.8		
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	182	0	0	26	23	96	10	218	0	0	119	30
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	214	0	0	31	27	113	12	256	0	0	140	35
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								428			267	
pX, platoon unblocked												
vC, conflicting volume	436	438	88	350	455	128	175			256		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	436	438	88	350	455	128	175			256		
tC, single (s)	*6.5	6.5	6.9	*6.5	*5.5	*5.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	55	100	100	95	95	88	99			100		
cM capacity (veh/h)	481	507	953	638	565	932	1399			1305		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	214	171	97	171	93	82
Volume Left	214	31	12	0	0	0
Volume Right	0	113	0	0	0	35
cSH	481	786	1399	1700	1700	1700
Volume to Capacity	0.45	0.22	0.01	0.10	0.05	0.05
Queue Length 95th (ft)	56	21	1	0	0	0
Control Delay (s)	18.4	10.8	1.0	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s)	18.4	10.8	0.4		0.0	
Approach LOS	C	B				

Intersection Summary				
Average Delay	7.1			
Intersection Capacity Utilization	36.8%	ICU Level of Service		A
Analysis Period (min)	15			

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	25	0	0	0	0	0	8	111	135	132	0	19
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour 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
Hourly flow rate (vph)	26	0	0	0	0	0	8	117	142	139	0	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								217			477	
pX, platoon unblocked												
vC, conflicting volume	353	554	0	483	503	129	20			259		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	353	554	0	483	503	129	20			259		
tC, single (s)	*6.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	100	100	100	100	99			89		
cM capacity (veh/h)	585	390	1084	427	417	896	1595			1303		

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	26	67	201	139	20
Volume Left	26	8	0	139	0
Volume Right	0	0	142	0	20
cSH	585	1595	1700	1303	1700
Volume to Capacity	0.05	0.01	0.12	0.11	0.01
Queue Length 95th (ft)	4	0	0	9	0
Control Delay (s)	11.4	1.0	0.0	8.1	0.0
Lane LOS	B	A		A	
Approach Delay (s)	11.4	0.2		7.1	
Approach LOS	B				

Intersection Summary				
Average Delay	3.3			
Intersection Capacity Utilization	28.3%	ICU Level of Service	A	
Analysis Period (min)	15			

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	0	0	0	0	0	9	143	119	116	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	16	0	0	0	0	0	10	159	132	129	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								217			478	
pX, platoon unblocked												
vC, conflicting volume	357	569	0	503	503	146	0			291		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	357	569	0	503	503	146	0			291		
tC, single (s)	*6.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	100	100	100	100	99			90		
cM capacity (veh/h)	584	384	1084	415	419	875	1622			1268		

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	16	89	212	129	0
Volume Left	16	10	0	129	0
Volume Right	0	0	132	0	0
cSH	584	1622	1700	1268	1700
Volume to Capacity	0.03	0.01	0.12	0.10	0.00
Queue Length 95th (ft)	2	0	0	8	0
Control Delay (s)	11.3	0.9	0.0	8.2	0.0
Lane LOS	B	A		A	
Approach Delay (s)	11.3	0.3		8.2	
Approach LOS	B				

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	27.8%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	333	896	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0				
Lane Util. Factor	1.00	0.91				
Frt	1.00	1.00				
Flt Protected	0.95	1.00				
Satd. Flow (prot)	1770	5085				
Flt Permitted	0.95	1.00				
Satd. Flow (perm)	1770	5085				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	362	974	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	362	974	0	0	0	0
Turn Type	Perm	NA				
Protected Phases		4				
Permitted Phases	4					
Actuated Green, G (s)	75.0	75.0				
Effective Green, g (s)	75.0	75.0				
Actuated g/C Ratio	0.68	0.68				
Clearance Time (s)	5.0	5.0				
Lane Grp Cap (vph)	1206	3467				
v/s Ratio Prot		0.19				
v/s Ratio Perm	c0.20					
v/c Ratio	0.30	0.28				
Uniform Delay, d1	7.0	6.9				
Progression Factor	1.00	1.00				
Incremental Delay, d2	0.6	0.2				
Delay (s)	7.6	7.1				
Level of Service	A	A				
Approach Delay (s)		7.2	0.0		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	22.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	379	1315	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0				
Lane Util. Factor	1.00	0.91				
Frt	1.00	1.00				
Flt Protected	0.95	1.00				
Satd. Flow (prot)	1770	5085				
Flt Permitted	0.95	1.00				
Satd. Flow (perm)	1770	5085				
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	399	1384	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	399	1384	0	0	0	0
Turn Type	Perm	NA				
Protected Phases		4				
Permitted Phases	4					
Actuated Green, G (s)	75.0	75.0				
Effective Green, g (s)	75.0	75.0				
Actuated g/C Ratio	0.68	0.68				
Clearance Time (s)	5.0	5.0				
Lane Grp Cap (vph)	1206	3467				
v/s Ratio Prot		c0.27				
v/s Ratio Perm	0.23					
v/c Ratio	0.33	0.40				
Uniform Delay, d1	7.2	7.7				
Progression Factor	1.00	1.00				
Incremental Delay, d2	0.7	0.3				
Delay (s)	7.9	8.0				
Level of Service	A	A				
Approach Delay (s)		8.0	0.0		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	29.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	487	0	0	221	17	0	8	98	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0	5.0			
Lane Util. Factor		0.95			0.95			1.00	1.00			
Frt		1.00			0.99			1.00	0.85			
Flt Protected		1.00			1.00			1.00	1.00			
Satd. Flow (prot)		3531			3502			1863	1583			
Flt Permitted		0.93			1.00			1.00	1.00			
Satd. Flow (perm)		3308			3502			1863	1583			
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	26	553	0	0	251	19	0	9	111	0	0	0
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	76	0	0	0
Lane Group Flow (vph)	0	579	0	0	263	0	0	9	35	0	0	0
Turn Type	pm+pt	NA			NA			NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases	4								2			
Actuated Green, G (s)		45.0			40.0			25.0	25.0			
Effective Green, g (s)		45.0			40.0			25.0	25.0			
Actuated g/C Ratio		0.56			0.50			0.31	0.31			
Clearance Time (s)		5.0			5.0			5.0	5.0			
Lane Grp Cap (vph)		1867			1751			582	494			
v/s Ratio Prot		c0.01			0.08			0.00				
v/s Ratio Perm		c0.16							c0.02			
v/c Ratio		0.31			0.15			0.02	0.07			
Uniform Delay, d1		9.3			10.8			19.0	19.3			
Progression Factor		0.53			1.35			1.00	1.00			
Incremental Delay, d2		0.4			0.2			0.0	0.3			
Delay (s)		5.3			14.8			19.0	19.6			
Level of Service		A			B			B	B			
Approach Delay (s)		5.3			14.8			19.6			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	36.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	33	678	0	0	329	44	0	43	95	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0	5.0			
Lane Util. Factor		0.95			0.95			1.00	1.00			
Frt		1.00			0.98			1.00	0.85			
Flt Protected		1.00			1.00			1.00	1.00			
Satd. Flow (prot)		3531			3476			1863	1583			
Flt Permitted		0.92			1.00			1.00	1.00			
Satd. Flow (perm)		3261			3476			1863	1583			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	35	721	0	0	350	47	0	46	101	0	0	0
RTOR Reduction (vph)	0	0	0	0	12	0	0	0	73	0	0	0
Lane Group Flow (vph)	0	756	0	0	385	0	0	46	28	0	0	0
Turn Type	pm+pt	NA			NA			NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases	4								2			
Actuated Green, G (s)		55.0			50.0			25.0	25.0			
Effective Green, g (s)		55.0			50.0			25.0	25.0			
Actuated g/C Ratio		0.61			0.56			0.28	0.28			
Clearance Time (s)		5.0			5.0			5.0	5.0			
Lane Grp Cap (vph)		2000			1931			517	439			
v/s Ratio Prot		c0.01			0.11			c0.02				
v/s Ratio Perm		c0.22							0.02			
v/c Ratio		0.38			0.20			0.09	0.06			
Uniform Delay, d1		8.8			10.0			24.1	23.9			
Progression Factor		0.39			1.43			1.00	1.00			
Incremental Delay, d2		0.5			0.2			0.3	0.3			
Delay (s)		4.0			14.5			24.4	24.2			
Level of Service		A			B			C	C			
Approach Delay (s)		4.0			14.5			24.2			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	395	132	162	243	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0			5.0		
Lane Util. Factor	0.95			0.95		
Frt	0.96			1.00		
Flt Protected	1.00			0.98		
Satd. Flow (prot)	3406			3470		
Flt Permitted	1.00			0.61		
Satd. Flow (perm)	3406			2144		
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	459	153	188	283	0	0
RTOR Reduction (vph)	41	0	0	0	0	0
Lane Group Flow (vph)	571	0	0	471	0	0
Turn Type	NA		Perm	NA		
Protected Phases	4			8		
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0		
Effective Green, g (s)	45.0			45.0		
Actuated g/C Ratio	0.56			0.56		
Clearance Time (s)	5.0			5.0		
Lane Grp Cap (vph)	1915			1206		
v/s Ratio Prot	0.17					
v/s Ratio Perm				c0.22		
v/c Ratio	0.30			0.39		
Uniform Delay, d1	9.2			9.8		
Progression Factor	1.94			1.00		
Incremental Delay, d2	0.4			1.0		
Delay (s)	18.2			10.8		
Level of Service	B			B		
Approach Delay (s)	18.2			10.8	0.0	
Approach LOS	B			B	A	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	34.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	611	114	90	391	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0			5.0		
Lane Util. Factor	0.95			0.95		
Frt	0.98			1.00		
Flt Protected	1.00			0.99		
Satd. Flow (prot)	3455			3506		
Flt Permitted	1.00			0.70		
Satd. Flow (perm)	3455			2487		
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	657	123	97	420	0	0
RTOR Reduction (vph)	17	0	0	0	0	0
Lane Group Flow (vph)	763	0	0	517	0	0
Turn Type	NA		Perm	NA		
Protected Phases	4			8		
Permitted Phases			8			
Actuated Green, G (s)	55.0			55.0		
Effective Green, g (s)	55.0			55.0		
Actuated g/C Ratio	0.61			0.61		
Clearance Time (s)	5.0			5.0		
Lane Grp Cap (vph)	2111			1519		
v/s Ratio Prot	c0.22					
v/s Ratio Perm				0.21		
v/c Ratio	0.36			0.34		
Uniform Delay, d1	8.7			8.6		
Progression Factor	2.02			1.00		
Incremental Delay, d2	0.5			0.6		
Delay (s)	18.1			9.2		
Level of Service	B			A		
Approach Delay (s)	18.1			9.2	0.0	
Approach LOS	B			A	A	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	34	60	0	0	0	0	0	192	95
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	37	66	0	0	0	0	0	211	104
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											209	
pX, platoon unblocked												
vC, conflicting volume	296	263	263	263	315	0	315			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	296	263	263	263	315	0	315			0		
tC, single (s)	7.1	6.5	6.2	*6.1	*5.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	95	90	100	100			100		
cM capacity (veh/h)	606	642	775	743	656	1085	1245			1623		

Direction, Lane #	WB 1	SB 1
Volume Total	103	315
Volume Left	37	0
Volume Right	0	104
cSH	685	1700
Volume to Capacity	0.15	0.19
Queue Length 95th (ft)	13	0
Control Delay (s)	11.2	0.0
Lane LOS	B	
Approach Delay (s)	11.2	0.0
Approach LOS	B	

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	27.6%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	41	59	0	0	0	0	0	133	71
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	0	0	0	49	70	0	0	0	0	0	158	85
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											204	
pX, platoon unblocked												
vC, conflicting volume	236	201	201	201	243	0	243			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	236	201	201	201	243	0	243			0		
tC, single (s)	7.1	6.5	6.2	*6.1	*5.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	94	90	100	100			100		
cM capacity (veh/h)	664	695	840	802	706	1085	1323			1623		

Direction, Lane #	WB 1	SB 1
Volume Total	119	243
Volume Left	49	0
Volume Right	0	85
cSH	742	1700
Volume to Capacity	0.16	0.14
Queue Length 95th (ft)	14	0
Control Delay (s)	10.8	0.0
Lane LOS	B	
Approach Delay (s)	10.8	0.0
Approach LOS	B	

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	23.4%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	139	158	0	0	0	0	0	0	79	145	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	153	174	0	0	0	0	0	0	87	159	0

Direction, Lane #	EB 1	SB 1
Volume Total (vph)	326	246
Volume Left (vph)	0	87
Volume Right (vph)	174	0
Hadj (s)	-0.29	0.10
Departure Headway (s)	4.2	4.8
Degree Utilization, x	0.38	0.32
Capacity (veh/h)	808	720
Control Delay (s)	9.9	10.0
Approach Delay (s)	9.9	10.0
Approach LOS	A	B

Intersection Summary			
Delay	9.9		
Level of Service	A		
Intersection Capacity Utilization	35.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	128	106	0	0	0	0	0	0	63	120	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	144	119	0	0	0	0	0	0	71	135	0

Direction, Lane #	EB 1	SB 1
Volume Total (vph)	263	206
Volume Left (vph)	0	71
Volume Right (vph)	119	0
Hadj (s)	-0.24	0.10
Departure Headway (s)	4.2	4.6
Degree Utilization, x	0.30	0.26
Capacity (veh/h)	822	748
Control Delay (s)	9.0	9.2
Approach Delay (s)	9.0	9.2
Approach LOS	A	A

Intersection Summary			
Delay	9.1		
Level of Service	A		
Intersection Capacity Utilization	29.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑			↰↰	
Volume (vph)	0	894	0	0	257	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.91			0.97	
Frt		1.00			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		5085			3433	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		5085			3433	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	972	0	0	279	0
RTOR Reduction (vph)	0	0	0	0	216	0
Lane Group Flow (vph)	0	972	0	0	63	0
Turn Type		NA			Prot	
Protected Phases		4			6	
Permitted Phases						
Actuated Green, G (s)		75.0			25.0	
Effective Green, g (s)		75.0			25.0	
Actuated g/C Ratio		0.68			0.23	
Clearance Time (s)		5.0			5.0	
Lane Grp Cap (vph)		3467			780	
v/s Ratio Prot		c0.19			c0.02	
v/s Ratio Perm						
v/c Ratio		0.28			0.08	
Uniform Delay, d1		6.9			33.5	
Progression Factor		0.59			1.00	
Incremental Delay, d2		0.2			0.2	
Delay (s)		4.3			33.7	
Level of Service		A			C	
Approach Delay (s)		4.3	0.0		33.7	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	32.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑			↰↰	
Volume (vph)	0	1271	0	0	214	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.91			0.97	
Frt		1.00			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		5085			3433	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		5085			3433	
Peak-hour factor, PHF	0.91	0.91	0.91	0.92	0.92	0.92
Adj. Flow (vph)	0	1397	0	0	233	0
RTOR Reduction (vph)	0	0	0	0	107	0
Lane Group Flow (vph)	0	1397	0	0	126	0
Turn Type		NA			Prot	
Protected Phases		4			6	
Permitted Phases						
Actuated Green, G (s)		75.0			25.0	
Effective Green, g (s)		75.0			25.0	
Actuated g/C Ratio		0.68			0.23	
Clearance Time (s)		5.0			5.0	
Lane Grp Cap (vph)		3467			780	
v/s Ratio Prot		c0.27			c0.04	
v/s Ratio Perm						
v/c Ratio		0.40			0.16	
Uniform Delay, d1		7.7			34.1	
Progression Factor		0.55			1.00	
Incremental Delay, d2		0.3			0.4	
Delay (s)		4.5			34.5	
Level of Service		A			C	
Approach Delay (s)		4.5	0.0		34.5	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	39.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX E

CAPACITY ANALYSIS CALCULATIONS
PROJECTED YEAR 2017 PEAK PERIOD TRAFFIC
ANALYSIS WITH PROJECT

HCM Signalized Intersection Capacity Analysis
1: Kanekapolei Street & Kuhio Avenue

6/20/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	63	400	66	27	198	22	81	201	1	60	78	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95			0.95			0.95			0.95	
Frt	1.00	0.98			0.99			1.00			0.98	
Flt Protected	0.95	1.00			0.99			0.99			0.98	
Satd. Flow (prot)	1770	3464			3472			3488			3402	
Flt Permitted	0.49	1.00			0.87			0.81			0.75	
Satd. Flow (perm)	920	3464			3025			2853			2607	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	73	465	77	31	230	26	94	234	1	70	91	26
RTOR Reduction (vph)	0	17	0	0	9	0	0	0	0	0	16	0
Lane Group Flow (vph)	73	526	0	0	278	0	0	329	0	0	171	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	40.0	40.0			30.0			30.0			30.0	
Effective Green, g (s)	40.0	40.0			30.0			30.0			30.0	
Actuated g/C Ratio	0.50	0.50			0.38			0.38			0.38	
Clearance Time (s)	5.0	5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)	513	1732			1134			1069			977	
v/s Ratio Prot	0.01	c0.15										
v/s Ratio Perm	0.06				0.09			c0.12			0.07	
v/c Ratio	0.14	0.30			0.24			0.31			0.17	
Uniform Delay, d1	10.6	11.8			17.2			17.7			16.7	
Progression Factor	1.00	1.00			0.31			1.00			1.00	
Incremental Delay, d2	0.6	0.5			0.5			0.7			0.4	
Delay (s)	11.2	12.2			5.9			18.4			17.1	
Level of Service	B	B			A			B			B	
Approach Delay (s)		12.1			5.9			18.4			17.1	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: Kanekapolei Street & Kuhio Avenue

6/20/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	688	48	20	302	3	89	211	0	68	61	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95			0.95			0.95			0.95	
Frt	1.00	0.99			1.00			1.00			0.97	
Flt Protected	0.95	1.00			1.00			0.99			0.98	
Satd. Flow (prot)	1770	3504			3524			3487			3360	
Flt Permitted	0.48	1.00			0.89			0.80			0.73	
Satd. Flow (perm)	892	3504			3145			2840			2513	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	162	724	51	21	318	3	94	222	0	72	64	35
RTOR Reduction (vph)	0	6	0	0	1	0	0	0	0	0	23	0
Lane Group Flow (vph)	162	769	0	0	341	0	0	316	0	0	148	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	50.0	50.0			40.0			30.0			30.0	
Effective Green, g (s)	50.0	50.0			40.0			30.0			30.0	
Actuated g/C Ratio	0.56	0.56			0.44			0.33			0.33	
Clearance Time (s)	5.0	5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)	544	1946			1397			946			837	
v/s Ratio Prot	0.02	c0.22										
v/s Ratio Perm	0.15				0.11			c0.11			0.06	
v/c Ratio	0.30	0.40			0.24			0.33			0.18	
Uniform Delay, d1	10.0	11.4			15.6			22.5			21.2	
Progression Factor	1.00	1.00			0.22			1.00			1.00	
Incremental Delay, d2	1.4	0.6			0.4			1.0			0.5	
Delay (s)	11.4	12.0			3.9			23.5			21.7	
Level of Service	B	B			A			C			C	
Approach Delay (s)		11.9			3.9			23.5			21.7	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	84	0	13	25	17	296	28	176	0	0	131	40
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	89	0	14	27	18	315	30	187	0	0	139	43
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								432			262	
pX, platoon unblocked												
vC, conflicting volume	638	407	91	330	429	94	182			187		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	638	407	91	330	429	94	182			187		
tC, single (s)	*6.5	6.5	*5.9	*6.5	*5.5	*5.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	68	100	99	96	97	68	98			100		
cM capacity (veh/h)	282	520	974	639	573	971	1391			1384		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	103	360	92	125	93	89
Volume Left	89	27	30	0	0	0
Volume Right	14	315	0	0	0	43
cSH	312	905	1391	1700	1700	1700
Volume to Capacity	0.33	0.40	0.02	0.07	0.05	0.05
Queue Length 95th (ft)	35	48	2	0	0	0
Control Delay (s)	22.2	11.6	2.6	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s)	22.2	11.6	1.1		0.0	
Approach LOS	C	B				

Intersection Summary				
Average Delay	7.8			
Intersection Capacity Utilization	49.9%	ICU Level of Service		A
Analysis Period (min)	15			

* User Entered Value

HCM Unsignalized Intersection Capacity Analysis
2: Kaiulani Avenue/Kanekapolei Street

6/20/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	182	0	0	26	23	96	10	218	0	0	122	30
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	214	0	0	31	27	113	12	256	0	0	144	35
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								428			267	
pX, platoon unblocked												
vC, conflicting volume	439	441	89	352	459	128	179			256		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	439	441	89	352	459	128	179			256		
tC, single (s)	*6.5	6.5	6.9	*6.5	*5.5	*5.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	55	100	100	95	95	88	99			100		
cM capacity (veh/h)	479	505	951	636	563	932	1394			1305		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	214	171	97	171	96	83
Volume Left	214	31	12	0	0	0
Volume Right	0	113	0	0	0	35
cSH	479	785	1394	1700	1700	1700
Volume to Capacity	0.45	0.22	0.01	0.10	0.06	0.05
Queue Length 95th (ft)	57	21	1	0	0	0
Control Delay (s)	18.5	10.9	1.0	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s)	18.5	10.9	0.4		0.0	
Approach LOS	C	B				

Intersection Summary				
Average Delay	7.1			
Intersection Capacity Utilization	36.8%	ICU Level of Service		A
Analysis Period (min)	15			

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	25	0	0	0	0	0	8	111	135	132	0	19
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour 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
Hourly flow rate (vph)	26	0	0	0	0	0	8	117	142	139	0	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								217			477	
pX, platoon unblocked												
vC, conflicting volume	353	554	0	483	503	129	20			259		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	353	554	0	483	503	129	20			259		
tC, single (s)	*6.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	100	100	100	100	99			89		
cM capacity (veh/h)	585	390	1084	427	417	896	1595			1303		

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	26	67	201	139	20
Volume Left	26	8	0	139	0
Volume Right	0	0	142	0	20
cSH	585	1595	1700	1303	1700
Volume to Capacity	0.05	0.01	0.12	0.11	0.01
Queue Length 95th (ft)	4	0	0	9	0
Control Delay (s)	11.4	1.0	0.0	8.1	0.0
Lane LOS	B	A		A	
Approach Delay (s)	11.4	0.2		7.1	
Approach LOS	B				

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	28.3%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

HCM Unsignalized Intersection Capacity Analysis
3: Kaiulani Avenue & Koa Avenue

6/20/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	0	0	0	0	0	9	143	127	119	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	16	0	0	0	0	0	10	159	141	132	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								217			478	
pX, platoon unblocked												
vC, conflicting volume	364	584	0	514	514	150	0			300		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	364	584	0	514	514	150	0			300		
tC, single (s)	*6.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	100	100	100	100	99			89		
cM capacity (veh/h)	577	375	1084	406	412	870	1622			1258		

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	16	89	221	132	0
Volume Left	16	10	0	132	0
Volume Right	0	0	141	0	0
cSH	577	1622	1700	1258	1700
Volume to Capacity	0.03	0.01	0.13	0.11	0.00
Queue Length 95th (ft)	2	0	0	9	0
Control Delay (s)	11.4	0.9	0.0	8.2	0.0
Lane LOS	B	A		A	
Approach Delay (s)	11.4	0.2		8.2	
Approach LOS	B				

Intersection Summary				
Average Delay	2.9			
Intersection Capacity Utilization	28.2%	ICU Level of Service		A
Analysis Period (min)	15			

* User Entered Value

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	333	896	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0				
Lane Util. Factor	1.00	0.91				
Frt	1.00	1.00				
Flt Protected	0.95	1.00				
Satd. Flow (prot)	1770	5085				
Flt Permitted	0.95	1.00				
Satd. Flow (perm)	1770	5085				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	362	974	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	362	974	0	0	0	0
Turn Type	Perm	NA				
Protected Phases		4				
Permitted Phases	4					
Actuated Green, G (s)	75.0	75.0				
Effective Green, g (s)	75.0	75.0				
Actuated g/C Ratio	0.68	0.68				
Clearance Time (s)	5.0	5.0				
Lane Grp Cap (vph)	1206	3467				
v/s Ratio Prot		0.19				
v/s Ratio Perm	c0.20					
v/c Ratio	0.30	0.28				
Uniform Delay, d1	7.0	6.9				
Progression Factor	1.00	1.00				
Incremental Delay, d2	0.6	0.2				
Delay (s)	7.6	7.1				
Level of Service	A	A				
Approach Delay (s)		7.2	0.0		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	22.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	387	1315	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0				
Lane Util. Factor	1.00	0.91				
Frt	1.00	1.00				
Flt Protected	0.95	1.00				
Satd. Flow (prot)	1770	5085				
Flt Permitted	0.95	1.00				
Satd. Flow (perm)	1770	5085				
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	407	1384	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	407	1384	0	0	0	0
Turn Type	Perm	NA				
Protected Phases		4				
Permitted Phases	4					
Actuated Green, G (s)	75.0	75.0				
Effective Green, g (s)	75.0	75.0				
Actuated g/C Ratio	0.68	0.68				
Clearance Time (s)	5.0	5.0				
Lane Grp Cap (vph)	1206	3467				
v/s Ratio Prot		c0.27				
v/s Ratio Perm	0.23					
v/c Ratio	0.34	0.40				
Uniform Delay, d1	7.2	7.7				
Progression Factor	1.00	1.00				
Incremental Delay, d2	0.8	0.3				
Delay (s)	8.0	8.0				
Level of Service	A	A				
Approach Delay (s)		8.0	0.0		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	29.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	487	0	0	221	17	0	8	98	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0	5.0			
Lane Util. Factor		0.95			0.95			1.00	1.00			
Frt		1.00			0.99			1.00	0.85			
Flt Protected		1.00			1.00			1.00	1.00			
Satd. Flow (prot)		3531			3502			1863	1583			
Flt Permitted		0.93			1.00			1.00	1.00			
Satd. Flow (perm)		3308			3502			1863	1583			
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	26	553	0	0	251	19	0	9	111	0	0	0
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	76	0	0	0
Lane Group Flow (vph)	0	579	0	0	263	0	0	9	35	0	0	0
Turn Type	pm+pt	NA			NA			NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases	4								2			
Actuated Green, G (s)		45.0			40.0			25.0	25.0			
Effective Green, g (s)		45.0			40.0			25.0	25.0			
Actuated g/C Ratio		0.56			0.50			0.31	0.31			
Clearance Time (s)		5.0			5.0			5.0	5.0			
Lane Grp Cap (vph)		1867			1751			582	494			
v/s Ratio Prot		c0.01			0.08			0.00				
v/s Ratio Perm		c0.16							c0.02			
v/c Ratio		0.31			0.15			0.02	0.07			
Uniform Delay, d1		9.3			10.8			19.0	19.3			
Progression Factor		0.53			1.35			1.00	1.00			
Incremental Delay, d2		0.4			0.2			0.0	0.3			
Delay (s)		5.3			14.8			19.0	19.6			
Level of Service		A			B			B	B			
Approach Delay (s)		5.3			14.8			19.6			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	36.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
5: Kaiulani Avenue & Kuhio Avenue

6/20/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	33	682	0	0	334	44	0	43	95	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0	5.0			
Lane Util. Factor		0.95			0.95			1.00	1.00			
Frt		1.00			0.98			1.00	0.85			
Flt Protected		1.00			1.00			1.00	1.00			
Satd. Flow (prot)		3531			3477			1863	1583			
Flt Permitted		0.92			1.00			1.00	1.00			
Satd. Flow (perm)		3260			3477			1863	1583			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	35	726	0	0	355	47	0	46	101	0	0	0
RTOR Reduction (vph)	0	0	0	0	12	0	0	0	73	0	0	0
Lane Group Flow (vph)	0	761	0	0	390	0	0	46	28	0	0	0
Turn Type	pm+pt	NA			NA			NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases	4								2			
Actuated Green, G (s)		55.0			50.0			25.0	25.0			
Effective Green, g (s)		55.0			50.0			25.0	25.0			
Actuated g/C Ratio		0.61			0.56			0.28	0.28			
Clearance Time (s)		5.0			5.0			5.0	5.0			
Lane Grp Cap (vph)		1999			1931			517	439			
v/s Ratio Prot		c0.01			0.11			c0.02				
v/s Ratio Perm		c0.22							0.02			
v/c Ratio		0.38			0.20			0.09	0.06			
Uniform Delay, d1		8.9			10.0			24.1	23.9			
Progression Factor		0.39			1.42			1.00	1.00			
Incremental Delay, d2		0.5			0.2			0.3	0.3			
Delay (s)		4.0			14.5			24.4	24.2			
Level of Service		A			B			C	C			
Approach Delay (s)		4.0			14.5			24.2			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	395	132	162	243	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0			5.0		
Lane Util. Factor	0.95			0.95		
Frt	0.96			1.00		
Flt Protected	1.00			0.98		
Satd. Flow (prot)	3406			3470		
Flt Permitted	1.00			0.61		
Satd. Flow (perm)	3406			2144		
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	459	153	188	283	0	0
RTOR Reduction (vph)	41	0	0	0	0	0
Lane Group Flow (vph)	571	0	0	471	0	0
Turn Type	NA		Perm	NA		
Protected Phases	4			8		
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0		
Effective Green, g (s)	45.0			45.0		
Actuated g/C Ratio	0.56			0.56		
Clearance Time (s)	5.0			5.0		
Lane Grp Cap (vph)	1915			1206		
v/s Ratio Prot	0.17					
v/s Ratio Perm				c0.22		
v/c Ratio	0.30			0.39		
Uniform Delay, d1	9.2			9.8		
Progression Factor	1.94			1.00		
Incremental Delay, d2	0.4			1.0		
Delay (s)	18.2			10.8		
Level of Service	B			B		
Approach Delay (s)	18.2			10.8	0.0	
Approach LOS	B			B	A	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	34.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	611	118	94	396	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0			5.0		
Lane Util. Factor	0.95			0.95		
Frt	0.98			1.00		
Flt Protected	1.00			0.99		
Satd. Flow (prot)	3453			3506		
Flt Permitted	1.00			0.69		
Satd. Flow (perm)	3453			2454		
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	657	127	101	426	0	0
RTOR Reduction (vph)	18	0	0	0	0	0
Lane Group Flow (vph)	766	0	0	527	0	0
Turn Type	NA		Perm	NA		
Protected Phases	4			8		
Permitted Phases			8			
Actuated Green, G (s)	55.0			55.0		
Effective Green, g (s)	55.0			55.0		
Actuated g/C Ratio	0.61			0.61		
Clearance Time (s)	5.0			5.0		
Lane Grp Cap (vph)	2110			1499		
v/s Ratio Prot	c0.22					
v/s Ratio Perm				0.21		
v/c Ratio	0.36			0.35		
Uniform Delay, d1	8.7			8.7		
Progression Factor	2.03			1.00		
Incremental Delay, d2	0.5			0.6		
Delay (s)	18.2			9.3		
Level of Service	B			A		
Approach Delay (s)	18.2			9.3	0.0	
Approach LOS	B			A	A	

Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	34	60	0	0	0	0	0	192	95
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	37	66	0	0	0	0	0	211	104
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											209	
pX, platoon unblocked												
vC, conflicting volume	296	263	263	263	315	0	315			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	296	263	263	263	315	0	315			0		
tC, single (s)	7.1	6.5	6.2	*6.1	*5.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	95	90	100	100			100		
cM capacity (veh/h)	606	642	775	743	656	1085	1245			1623		

Direction, Lane #	WB 1	SB 1
Volume Total	103	315
Volume Left	37	0
Volume Right	0	104
cSH	685	1700
Volume to Capacity	0.15	0.19
Queue Length 95th (ft)	13	0
Control Delay (s)	11.2	0.0
Lane LOS	B	
Approach Delay (s)	11.2	0.0
Approach LOS	B	

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	27.6%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

HCM Unsignalized Intersection Capacity Analysis
7: Uluniu Avenue & Prince Edward St

6/20/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	41	59	0	0	0	0	0	141	71
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	0	0	0	49	70	0	0	0	0	0	168	85
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											204	
pX, platoon unblocked												
vC, conflicting volume	245	210	210	210	252	0	252			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	245	210	210	210	252	0	252			0		
tC, single (s)	7.1	6.5	6.2	*6.1	*5.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	94	90	100	100			100		
cM capacity (veh/h)	654	687	830	793	699	1085	1313			1623		

Direction, Lane #	WB 1	SB 1
Volume Total	119	252
Volume Left	49	0
Volume Right	0	85
cSH	735	1700
Volume to Capacity	0.16	0.15
Queue Length 95th (ft)	14	0
Control Delay (s)	10.8	0.0
Lane LOS	B	
Approach Delay (s)	10.8	0.0
Approach LOS	B	

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	23.8%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	139	158	0	0	0	0	0	0	79	145	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	153	174	0	0	0	0	0	0	87	159	0

Direction, Lane #	EB 1	SB 1
Volume Total (vph)	326	246
Volume Left (vph)	0	87
Volume Right (vph)	174	0
Hadj (s)	-0.29	0.10
Departure Headway (s)	4.2	4.8
Degree Utilization, x	0.38	0.32
Capacity (veh/h)	808	720
Control Delay (s)	9.9	10.0
Approach Delay (s)	9.9	10.0
Approach LOS	A	B

Intersection Summary			
Delay	9.9		
Level of Service	A		
Intersection Capacity Utilization	35.7%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
8: Uluniu Avenue & Koa Avenue

6/20/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	128	117	0	0	0	0	0	0	63	128	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	144	131	0	0	0	0	0	0	71	144	0

Direction, Lane #	EB 1	SB 1
Volume Total (vph)	275	215
Volume Left (vph)	0	71
Volume Right (vph)	131	0
Hadj (s)	-0.25	0.10
Departure Headway (s)	4.2	4.6
Degree Utilization, x	0.32	0.28
Capacity (veh/h)	819	743
Control Delay (s)	9.1	9.4
Approach Delay (s)	9.1	9.4
Approach LOS	A	A

Intersection Summary			
Delay	9.2		
Level of Service	A		
Intersection Capacity Utilization	30.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	894	0	0	257	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.91			0.97	
Frt		1.00			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		5085			3433	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		5085			3433	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	972	0	0	279	0
RTOR Reduction (vph)	0	0	0	0	216	0
Lane Group Flow (vph)	0	972	0	0	63	0
Turn Type		NA			Prot	
Protected Phases		4			6	
Permitted Phases						
Actuated Green, G (s)		75.0			25.0	
Effective Green, g (s)		75.0			25.0	
Actuated g/C Ratio		0.68			0.23	
Clearance Time (s)		5.0			5.0	
Lane Grp Cap (vph)		3467			780	
v/s Ratio Prot		c0.19			c0.02	
v/s Ratio Perm						
v/c Ratio		0.28			0.08	
Uniform Delay, d1		6.9			33.5	
Progression Factor		0.59			1.00	
Incremental Delay, d2		0.2			0.2	
Delay (s)		4.3			33.7	
Level of Service		A			C	
Approach Delay (s)		4.3	0.0		33.7	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	32.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑			↰↰	
Volume (vph)	0	1271	0	0	239	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.91			0.97	
Frt		1.00			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		5085			3433	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		5085			3433	
Peak-hour factor, PHF	0.91	0.91	0.91	0.92	0.92	0.92
Adj. Flow (vph)	0	1397	0	0	260	0
RTOR Reduction (vph)	0	0	0	0	107	0
Lane Group Flow (vph)	0	1397	0	0	153	0
Turn Type		NA			Prot	
Protected Phases		4			6	
Permitted Phases						
Actuated Green, G (s)		75.0			25.0	
Effective Green, g (s)		75.0			25.0	
Actuated g/C Ratio		0.68			0.23	
Clearance Time (s)		5.0			5.0	
Lane Grp Cap (vph)		3467			780	
v/s Ratio Prot		c0.27			c0.04	
v/s Ratio Perm						
v/c Ratio		0.40			0.20	
Uniform Delay, d1		7.7			34.4	
Progression Factor		0.55			1.00	
Incremental Delay, d2		0.3			0.6	
Delay (s)		4.5			34.9	
Level of Service		A			C	
Approach Delay (s)		4.5	0.0		34.9	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	39.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Appendix C

ARCHAEOLOGICAL LITERATURE REVIEW AND FIELD INSPECTION

Draft

Archaeological Literature Review and Field Inspection for the Hyatt Waikiki Redevelopment Project, Waikīkī Ahupuaʻa, Honolulu (Kona) District, Oʻahu TMKs: [1] 2-6-023:009-012, 077, 078, 080

Prepared for
BRE Waikiki Owner II, LLC

Prepared by
Joanne DeMaio Starr, M.A.,
Lisa Humphrey, Ph.D.,
and
Hallett H. Hammatt, Ph.D.

Cultural Surveys Hawaiʻi, Inc.
Kailua, Hawaiʻi
(Job Code: WAIKIKI 137)

August 2014

Oʻahu Office
P.O. Box 1114
Kailua, Hawaiʻi 96734
Ph.: (808) 262-9972
Fax: (808) 262-4950

www.culturalsurveys.com

Maui Office
1860 Main St.
Wailuku, Hawaiʻi 96793
Ph: (808) 242-9882
Fax: (808) 244-1994

Management Summary

Reference	Archaeological Literature Review and Field Inspection for the Hyatt Waikiki Redevelopment Project, Waikīkī Ahupua‘a, Honolulu (Kona) District, O‘ahu TMKs: [1] 2-6-023:009-012, 077, 078, and 080 (Starr et al. 2014)
Date	August 2014
Project Number (s)	CSH (Cultural Surveys Hawai‘i) Job Code: WAIKIKI 137
Investigation Permit Number	CSH conducted the archaeological fieldwork for this investigation under state archaeological permit number 14-04, issued by Hawai‘i State Historic Preservation Division/Department of Land and Natural Resources (SHPD).
Project Location	The project area includes the Hyatt Regency Waikiki Beach Resort and Spa property, which is bounded by Koa Avenue to the northeast, Kalākaua Avenue to the southwest, Ka‘iulani Avenue to the northwest, and Uluniu Avenue to the southeast. The project area is depicted on a portion of the 1998 Honolulu U.S. Geological Survey (USGS) topographic quadrangle.
Land Jurisdiction	Private
Agencies	State of Hawai‘i Department of Health/Office of Environmental Quality Control (DOH/OEQC)
Project Description	The project will include a redevelopment of the existing Hyatt Regency Waikiki Beach Resort and Spa. The proposed redevelopment includes improvements to the existing retail facilities, the addition of a new porte cochere, and new pool deck.
Project Acreage	The total project acreage is approximately 2.4 acres.
Area of Potential Effect (APE)	The APE is defined as the entire approximately 2.4-acre project area.
Document Purpose	This archaeological literature review and field inspection study was completed for use as a planning document. The proposed project is subject to Hawai‘i State environmental and historic preservation review legislation (Hawai‘i Revised Statutes [HRS] §343 and HRS §6E-8/Hawai‘i Administrative Rules [HAR] §13-275, respectively). While this investigation does not fulfill the requirements of an archaeological inventory survey investigation (per HAR §13-276), it serves as a document to facilitate the proposed project’s planning and supports historic preservation review compliance by assessing if there are major archaeological concerns within the project area and developing data on the general nature, density, and distribution of archaeological resources.

Fieldwork Effort	Fieldwork was completed on 23 July 2014 by Lisa Humphrey, Ph.D., under the general supervision of Hallett H. Hammatt, Ph.D. This work required approximately 3 person-hours to complete.
Historic Properties Potentially Affected	No historic properties have been recorded within the project area. No historic properties were observed during the field inspection.
Impacts and Recommendations	No subsurface excavation is planned for the current project. No further archaeological work for the demolition of exclusively surface structures is recommended.

Table of Contents

Management Summary ..... **i**

Section 1 Introduction **1**

1.1 Project Background 1
1.2 Project Description 1
1.3 Scope of Work 1
1.4 Document Purpose 5
1.5 Natural Environment 5

Section 2 Methods **8**

2.1 Archival Research 8
2.2 Field Methods 8

Section 3 Background Research **9**

3.1 Traditional and Historical Background 9
3.1.1 Legendary Accounts 9
3.1.2 Pre-Contact to Early 1800s 14
3.1.3 Mid-Nineteenth Century and the Māhele 20
3.1.4 Mid- to Late 1800s 21
3.1.5 Early Twentieth Century 28
3.1.6 1940s to the Present 36
3.2 Previous Archaeological Research 40
3.2.1 NAGPRA and Bishop Museum Records 49
3.2.2 Griffin 1987 49
3.2.3 Chiogioji and Hammatt 1991 49
3.2.4 Kennedy 1991 49
3.2.5 Simons et al. 1991 49
3.2.6 McDermott et al. 1996 50
3.2.7 Beardsley and Kaschko 1997 50
3.2.8 Perzinski et al. 2000 50
3.2.9 Cleghorn 2001a and 2001b 50
3.2.10 Elmore and Kennedy 2001 50
3.2.11 Winieski and Hammatt 2001 51
3.2.12 Winieski et al. 2001 51
3.2.13 Bush et al. 2002 51
3.2.14 Mann and Hammatt 2002 52
3.2.15 Winieski et al. 2002 52
3.2.16 Bush et al. 2003 52
3.2.17 Kailihiwa and Cleghorn 2003 52
3.2.18 Tome and Dega 2003 53
3.2.19 Chiogioji et al. 2004 53
3.2.20 Chiogioji and Hammatt 2004a 53
3.2.21 Chiogioji and Hammatt 2004b 53
3.2.22 Esh and Hammatt 2004 53
3.2.23 Havel and Spear 2004 53
3.2.24 Bush and Hammatt 2005 54
3.2.25 O’Leary et al. 2005 54

3.2.26 Esh and Hammatt 2006a 54
3.2.27 Esh and Hammatt 2006b 54
3.2.28 Groza et al. 2007 54
3.2.29 Hammatt and Shideler 2007 54
3.2.30 Pammer and Hammatt 2007 54
3.2.31 Tulchin and Hammatt 2007 54
3.2.32 Hazlett, Chiogioji, Borthwick, and Hammatt 2008 55
3.2.33 Hazlett, Esh and Hammatt 2008 55
3.2.34 Runyon et al. 2008 55
3.2.35 Thurman and Hammatt 2008 55
3.2.36 Kahahane and Cleghorn 2009 55
3.2.37 Thurman et al. 2009 55
3.2.38 Runyon, Shideler, and Hammatt 2010 56
3.2.39 Runyon, Yucha, Schideler, and Hammatt 2010 56
3.2.40 Hammatt et al. 2012 56
3.2.41 Yucha et al. 2013 56
3.2.42 Inglis et al. 2014 56
3.3 Background Summary and Predictive Model 57
3.3.1 Background Summary 57
3.3.2 Predictive Model 58

Section 4 Results of Fieldwork 59

4.1.1 Proposed Koa Avenue Porte Cochere area 62
4.1.2 Basement (Koa Avenue Side) 62
4.1.3 Retail Podium (Ground, Second, and Third Floors) 62

Section 5 Significance Assessments 66

Section 6 Summary and Recommendations 67

6.1 Summary 67
6.2 Recommendations 67

Section 7 References Cited 68

Appendix A Land Commission Awards 76

List of Figures

Figure 1. Portion of the 1998 Honolulu USGS 7.5-minute topographic quadrangle, showing the location of the project area 2
Figure 2. Tax Map Key (TMK) [1] 2-6-023 showing the location of the project area....3
Figure 3. Aerial photography depicting the project area (Google Earth 2013) 4
Figure 4. Overlay of a soil survey of the State of Hawaii (U.S. Department of Agriculture 2001), indicating sediment types within and surrounding the current project area Built Environment 6
Figure 5. Map of the project area vicinity showing the *‘ili* boundaries and former ‘Āpuakēhau Stream 10
Figure 6. Reconstruction of Kahekili's invasion of O‘ahu ca. 1783 18
Figure 7. Portion of the 1881 Hawaiian Government Survey map (portion) of Waikiki by S.E. Bishop 22
Figure 8. Portion of 1893 map of Honolulu by W.E. Wall showing the project area located in open, undeveloped lands south of the Cleghorn estate (‘Āinahau) and east of ‘Āpuakēhau Stream 24
Figure 9. Photo of Cleghorn bungalow, ca. 1978, with Annie Cleghorn (left) and Princess Ka‘iulani (right) on the lawn (Hawai‘i State Archives, reproduced in Kanahele 1995)....26
Figure 10. Cleghorn’s Victorian-style house at ‘Āinahau (late nineteenth century) (Kanahele 1995)....26
Figure 11. The road to ‘Āinahau as depicted on a postcard (HSS n.d.)....27
Figure 12. Princess Ka‘iulani ca. 1896 (from Grant 1996:24) 29
Figure 13. Photo ca. 1895 of Princess Ka‘iulani feeding her pet peacocks near the front steps of the ‘Āinahau mansion (from Grant 1996:24)....29
Figure 14. Portion of a 1910-1917 U.S. Engineers map with the project area shown amongst possible *lo‘i* or wetland areas with rice fields to the northeast 31
Figure 15. Portion of a 1916 Bishop Museum Government Survey map showing the project area, the names of various tracts of land and nearby landmarks 32
Figure 16. Portion of a 1919 U.S. Army War Department fire control map (Honolulu quadrangle) with project area location, showing growth of streets and housing 33
Figure 17. 1920 photograph of Waikīkī before construction of the Ala Wai Canal; land around the project area (right side of the photo) is more developed than the areas to the left (photograph reprinted in Grant 1966:63) 34
Figure 18. View of the Āpuakēhau *muliwai* or lagoonal backwater, ca. 1901 (left central portion of picture); Moana Hotel in background view to northeast (photograph reprinted in Acson 1983:55)....35
Figure 19. Portion of 1933 U.S. Army War Department fire control map (Honolulu quadrangle) showing the project area amongst increasingly urbanized setting 37
Figure 20. Portion of a 1943 U.S. Army War Department terrain map (Diamond Head and Honolulu Quadrangles) showing the project area 38
Figure 21. Portion of a 1956 Sanborn Fire Insurance map; note that newer structures have been added since the 1933 and 1943 maps....39

Figure 22. Portion of 1998 Honolulu USGS 7.5-minute topographic quadrangle showing the location of previous archaeological investigations within the project area and immediate vicinity 47
Figure 23. Portion of a 1998 Honolulu USGS 7.5-minute series topographic quadrangle showing the location of historic properties and burials within the project area and immediate vicinity 48
Figure 24. View of Hyatt Waikiki complex looking west (‘Ewa) along Kalākaua Avenue 60
Figure 25. View of Hyatt Waikiki complex looking north (*mauka*) along Uluniu Avenue 60
Figure 26. View of Hyatt Waikiki complex looking north (*mauka*) along Ka‘iulani Avenue 61
Figure 27. View of Hyatt Waikiki complex looking east (Diamond Head) along Koa Avenue; proposed new porte cochere will be constructed where small pedestrian entrance (with green awning) now located; rental car basement ramps in foreground 63
Figure 28. View toward portion of Hyatt Waikiki basement inner wall, facing Koa Avenue (*mauka*), showing approximate location of proposed new elevators to be built near the new Koa Avenue porte cochere 64
Figure 29. View of ground-level retail podium, facing southwest toward Kalākaua 65
Figure 30. View of third floor pool and pool deck area in retail podium, facing southwest toward Kalākaua 65

List of Tables

Table 1. Land Commission Awards in Project Vicinity 20
Table 2. Previous Archaeological Investigations within Approximately 400 m of Project Area 40
Table 3. References to Burial Finds in Waikīkī within 400 m of the Current Project Area (adapted from the Bishop Museum NAGPRA Inventory) 46

Section 1 Introduction

1.1 Project Background

At the request of Hyatt Regency Waikiki Beach Resort and Spa (Hyatt), Cultural Surveys Hawai‘i Inc. (CSH) completed an archaeological literature review and field inspection (LRFI) for the Hyatt Waikiki Redevelopment Project, Waikīkī Ahupua‘a, Honolulu (Kona) District, O‘ahu TMKs: [1] 2-6-023:009–012, 077, 078, and 080. The project is located in central Waikīkī bounded by Koa Avenue to the northeast, Kai‘ulani Avenue to the northwest, Kalākaua Avenue to the southwest, and Uluniu Avenue to the southeast. The project area is depicted on the 1998 U.S. Geological Survey (USGS) topographic map (Figure 1), a tax map plat (Figure 2), and an aerial photograph (Figure 3).

The State of Hawai‘i Department of Health/Office of Environmental Quality Control (DOH/OEQC) in partnership with Hyatt are proposing the redevelopment of the Hyatt Waikiki property. The proposed redevelopment project area includes 2.4 acres. For the purpose of this archaeological literature review and field inspection, the area of potential effect (APE) is considered to be the entire approximately 2.4-acre project area.

1.2 Project Description

The project will include improvements to the existing retail facilities in the resort and spa’s three-storied retail podium, the addition of a new porte cochere along Koa Avenue, improved pedestrian circulation, and inclusion of a second floor lanai shopping arcade. The project will also include new elevators at the porte cochere that will take visitors and guests directly to the hotel lobby and upper floors, and a new pool deck for the hotel located on the third floor. The retail redevelopment project will not increase total floor area at the hotel. Parking for the project will continue to be provided in the hotel basement level and east of the hotel.

1.3 Scope of Work

The scope of work for this archaeological literature review and field inspection includes the following:

1. Historical research involving study of archival sources, historic maps, Land Commission Awards, and previous archaeological reports to reconstruct a history of land use and to determine if archaeological sites have been recorded on or near this property.

2. Limited field inspection of the project area to verify or confirm existing sites, identify any surface archaeological features, and to investigate and assess the potential for impact to such sites. This assessment will identify any sensitive areas that may require further investigation or mitigation before the project proceeds.

3. Preparation of a report to include the results of the historical research and the limited fieldwork with an assessment of archaeological potential based on that research, with recommendations for further archaeological work, if appropriate. It will also provide

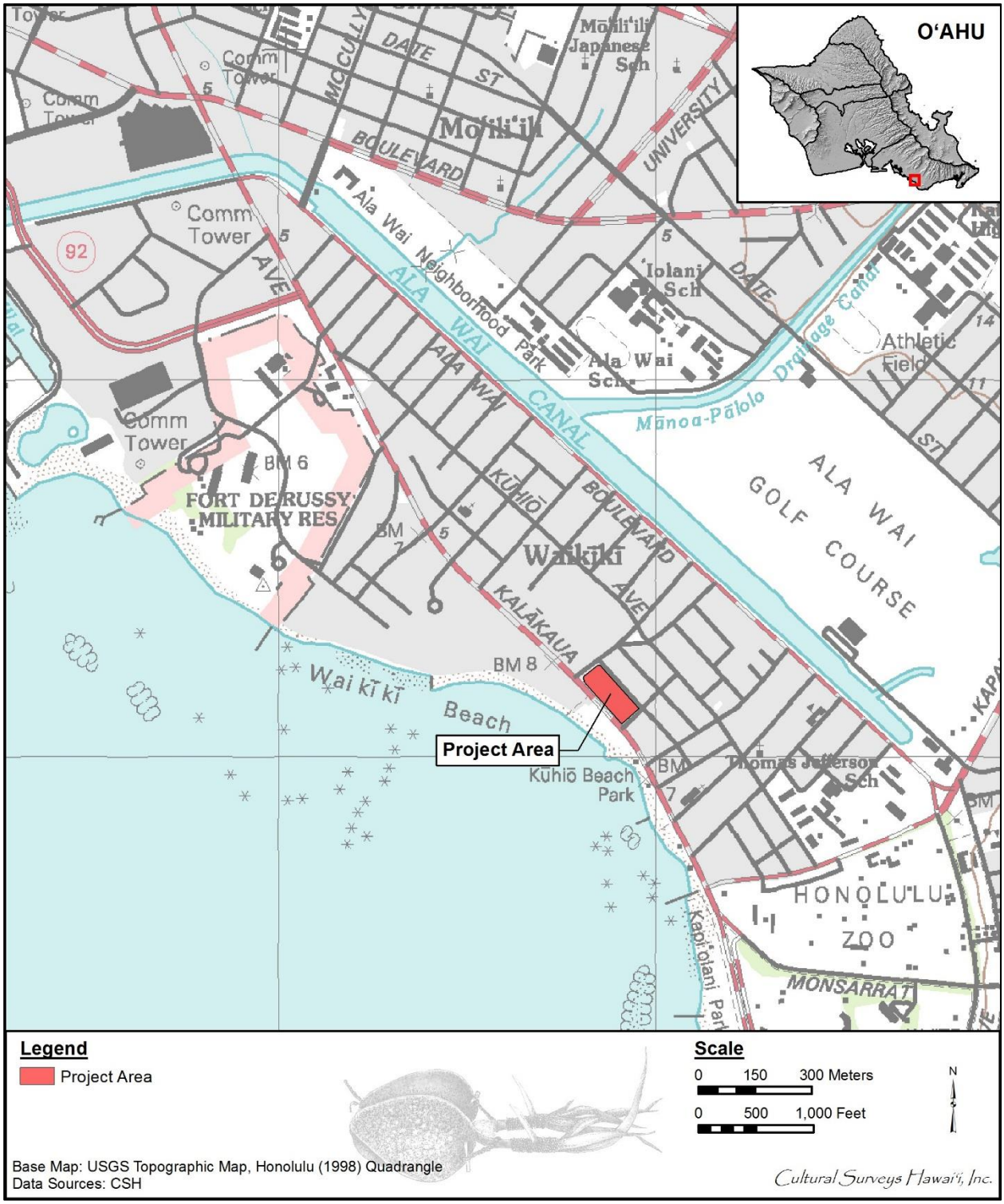
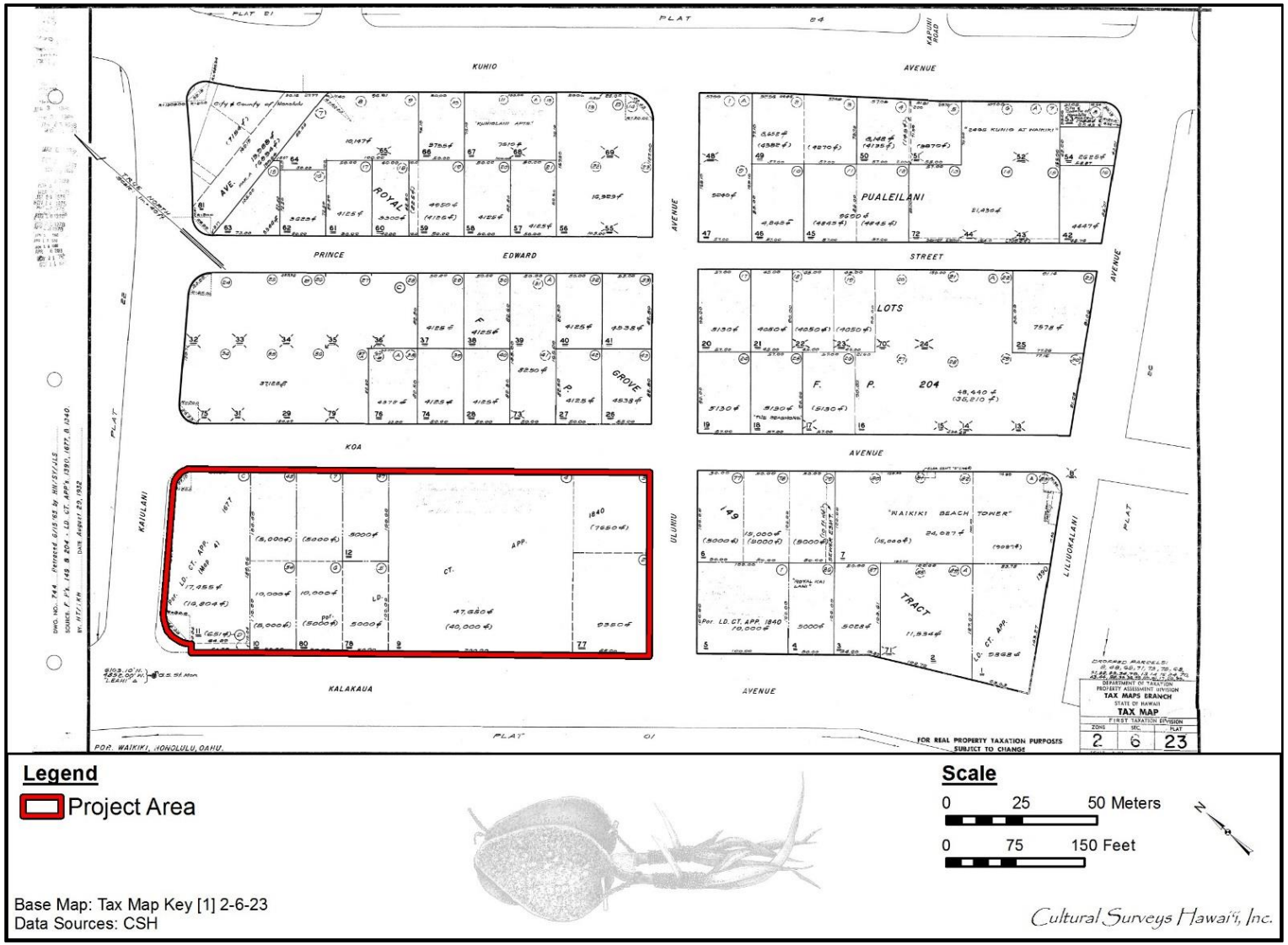


Figure 1. Portion of the 1998 Honolulu USGS 7.5-minute topographic quadrangle, showing the location of the project area



Legend

Project Area

Scale

0 25 50 Meters

0 75 150 Feet

Base Map: Tax Map Key [1] 2-6-23
Data Sources: CSH

Cultural Surveys Hawai‘i, Inc.

Figure 2. Tax Map Key (TMK) [1] 2-6-023 showing the location of the project area

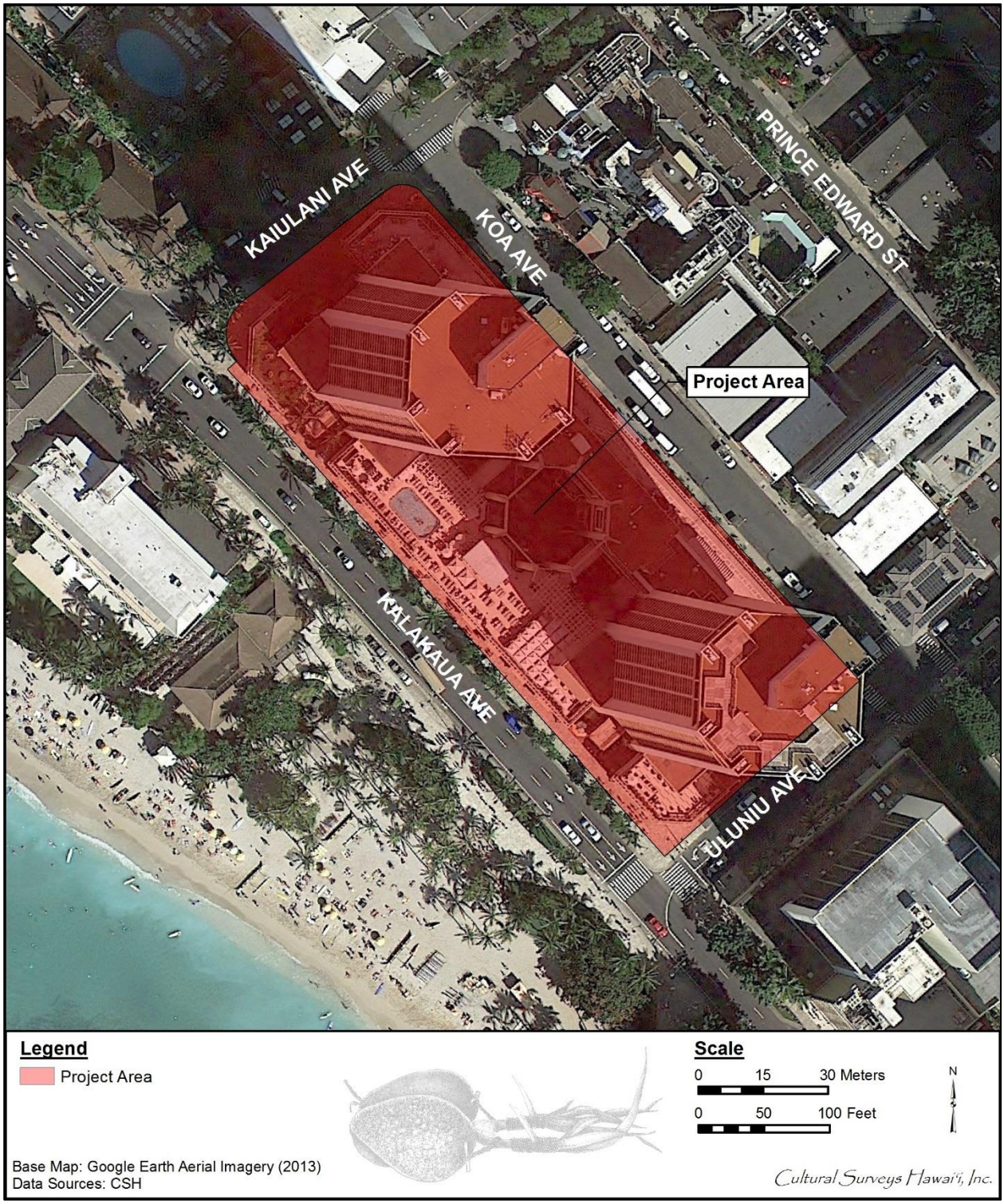


Figure 3. Aerial photography depicting the project area (Google Earth 2013)

mitigation recommendations if there are archaeologically sensitive areas that need to be taken into consideration.

1.4 Document Purpose

The proposed project is subject to Hawai‘i State environmental and historic preservation review legislation (Hawai‘i Revised Statutes [HRS] §343 and HRS§6E-8/Hawai‘i Administrative Rules [HAR] §13-275, respectively).

This literature review and field inspection provides a comprehensive overview document that will synthesize the work previously performed in this project area. This study includes analysis of the previous work, available information, and limited site inspections, as well as recommendations for future development contingencies around the marsh system.

The archaeological study provides an overview of existing archaeological conditions to facilitate planning and budgeting considerations, and to convey any possible archaeological constraints to proposed development(s) or improvements. Although the primary purpose of this investigation is planning, the investigation and its associated report can, in some instances, be used by project proponents to consult with the State Historic Preservation Division (SHPD) regarding the need for an archaeological inventory survey of a proposed project area.

Please be advised that the proposed literature review and field inspection will not meet the requirements of an archaeological inventory per the rules and regulations of the SHPD (HAR §13-276). Additionally, based on background research and field inspection results, the literature review and field inspection report may recommend that an archaeological inventory survey be completed for portions of the proposed project.

The level of work would be sufficient to address potential archaeological site types and locations and allow for future work recommendations. The literature review and field inspection report details methods, findings, and results, and if an inventory survey is required, the completed work will provide a basis for the study.

1.5 Natural Environment

The project area is situated on the level, low-lying coastal area of Waikīkī, and is approximately 2 m (6 ft) above mean sea level (AMSL). The water table is typically observed at 1.3 m to 2.0 m (4.2 to 6.0 ft) below the current land surface. The average rainfall in this coastal area of Waikīkī is approximately 50–76 cm (20-30 inches) per year, with temperatures ranging from 60 to 85 degrees Fahrenheit (Armstrong 1973:56).

Although the area has been altered by construction, the natural soil deposit is Jaucus sand (JaC), calcareous soils developed in wind- and water- deposited sand from coral and seashells. The slope range of this soil is 0 to 15%, but in most places the slope does not exceed 7%. The soil is single grain, pale brown to very pale brown, sandy, and more than 60 inches deep. In many places, the surface layer is dark brown as a result of accumulation of organic matter and alluvium. The soil is neutral to moderately alkaline throughout the profile (Foote et al. 1972) (Figure 4). Generally, vegetation in the Waikīkī area today includes mainly introduced exotics such as banyan, MacArthur palm, Brassaia, coconut, plumeria, money, Alexander palm, Manila palm, date palm, fern, monkey pod, tulip wood, and opiuma trees, and a variety of grasses.

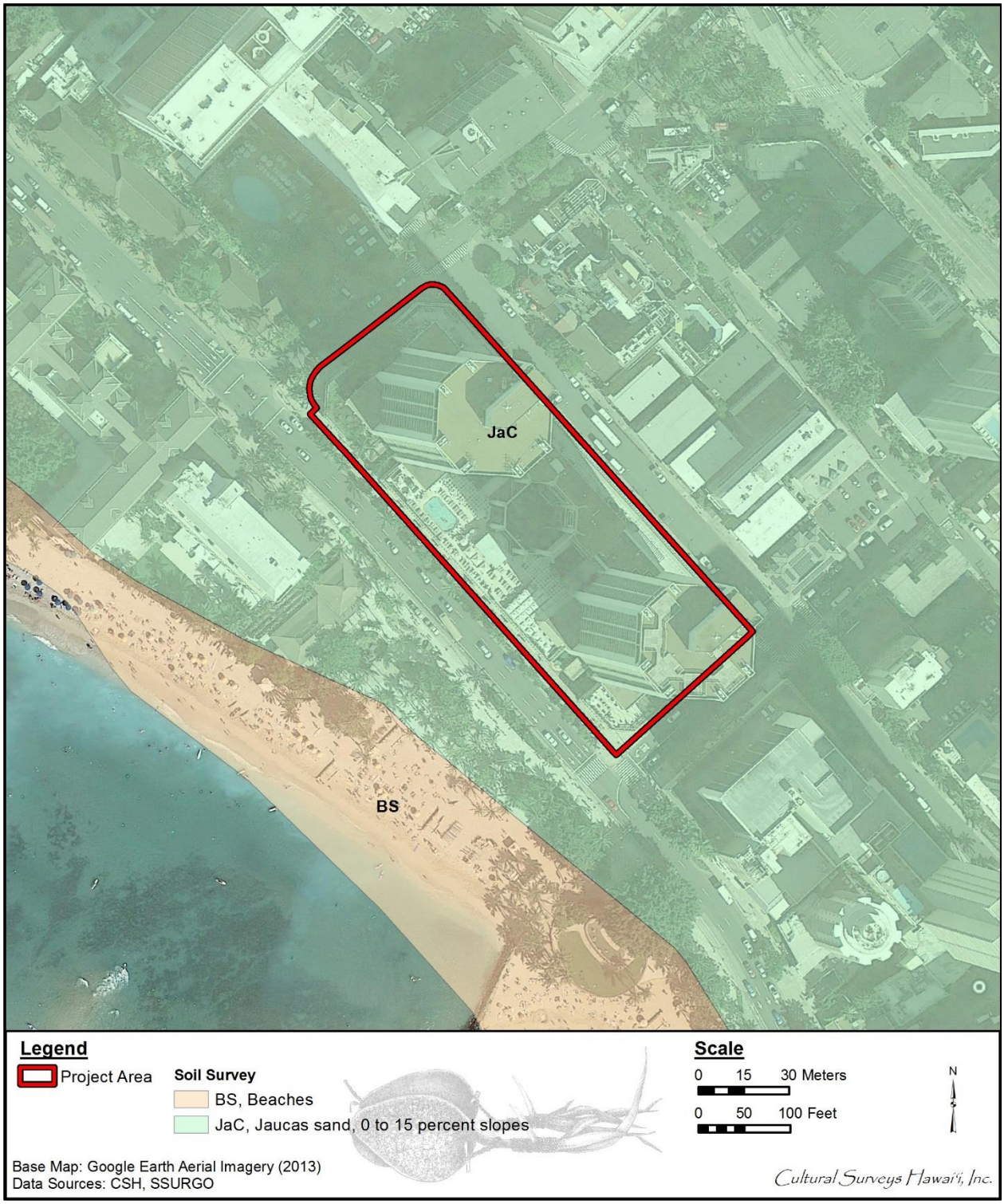


Figure 4. Overlay of a soil survey of the State of Hawaii (U.S. Department of Agriculture 2001), indicating sediment types within and surrounding the current project area Built Environment

The project area is located near the center of Waikīkī and is surrounded by modern urban development including high-rise condominiums, apartments and hotels, streets, sidewalks, and utility infrastructure. The current project area includes the of Hyatt Regency Waikiki Beach Resort and Spa, which is a mixed use resort featuring retail, restaurants, and 1,230 guest rooms. The Waikīkī area has been heavily developed and urbanized since the early twentieth century. The Hyatt property opened in 1976, and has undergone numerous renovations in the last three decades.

Section 2 Methods

2.1 Archival Research

Historical documents, maps, and existing archaeological information pertaining to the project area were researched at the CSH library and other archives including the University of Hawai‘i at Mānoa’s Hamilton Library, the State Historic Preservation Division (SHPD) library, the Hawai‘i State Archives, the State Land Survey Division, and the Bishop Museum Archives. Previous archaeological reports for the area were reviewed, as were historic maps and photographs and primary and secondary historical sources. Information on Land Commission Awards (LCAs) was accessed through Waihona ‘Aina Corporation’s Māhele database (Waihona ‘Aina 2000) and the Office of Hawaiian Affairs (OHA) Papakilo database (Office of Hawaiian Affairs 2014) as well as a selection of CSH library references.

Cultural research for the traditional background section centered on traditional Native Hawaiian religious and ceremonial knowledge and practices, traditional subsistence land use and settlement patterns, gathering practices and agricultural pursuits, as well as Hawaiian place names and *mo‘olelo* (story), *mele* (songs), *oli* (chant), *‘ōlelo no‘eau* (proverb), and more. For the historical background section, research focused on land transformation, development, and population changes beginning in the early post–Western Contact era to the present day (see Scope of Work above).

2.2 Field Methods

Fieldwork was completed on 23 July 2014 by Lisa Humphrey, Ph.D., under the general supervision of Hallett H. Hammatt, Ph.D. This work required approximately 3 person-hours to complete. This fieldwork included a brief pedestrian field inspection of the 2.4-acre project area to identify any potential historic properties and to investigate and assess the potential for impact to such historic properties.

Section 3 Background Research

3.1 Traditional and Historical Background

The project area is located in the *‘ili* (land division) of Uluniu and Kapuni within the *ahupua‘a* (larger land division) of Waikīkī, O‘ahu. The *‘ili* of Uluniu and Kapuni abutted the *‘ili* of Kaluaoku on the northwest along the ‘Āpuakēhau Stream, Auaukai on the northeast and Hamohamo on the south east and southwest (Figure 5).

Uluniu translates as “coconut grove,” (Pukui and Elbert 1986:370; Pukui et al. 1974:215) and Kapuni translates as “the surrounding” (Pukui et al. 1974:90). ‘Āpuakēhau, literally “basket [of] dew,” was the former stream and northern boundary of the *‘ili*, which had its outlet at the present Royal Hawaiian Hotel. It was probably named for a rain (Pukui et al. 1974:13).

The marshland of Waikīkī was watered from streams in the Makiki, Mānoa, and Pālolo valleys and from springs in Mānoa (Punahou and Kānewai). The name Waikīkī, which means “spouting water” according to Pukui et al. (1974:223), was well adapted to the character of the swampy land of ancient Waikīkī, where water from the upland valleys would gush forth from underground. Before construction of the Ala Wai Canal, the Mānoa and Pālolo streams did not merge until deep within Waikīkī. As they entered the flat Waikīkī Plain, the names of the streams changed. The Mānoa Stream became the Kālia and the Pālolo Stream became the Pāhoa. They joined near Hamohamo (now an area *mauka* of the Kapahulu Library) and then divided into three new streams, Kuekaunahi, ‘Āpuakēhau, and Pi‘inaio. The Kuekaunahi Stream once emptied into the sea at Hamohamo (near the intersection of ‘Ōhua and Kalākaua Avenues). The ‘Āpuakēhau, also called the Muliwai o Kawehewehe, or “the stream that opens the way” (Kanahele 1995:7) on some maps, emptied in the ocean at Helumoa and Kaluaokau. The Pi‘inaio entered the sea at Kālia as a wide delta. The land between these three streams was called Waikolu, meaning “three waters” (Kanahele 1995:7-8).

3.1.1 Legendary Accounts

3.1.1.1 Story of Kawelo

Kawelo is a legendary Hawaiian figure, who—though he was born and raised on Kaua‘i—lived on O‘ahu for some time. According to Sterling and Summers (1978):

> Story of Kawelo. This friend was Kauahoa also an alii of Wailua (Kauai). Their king, Aikanaka, in the time of Kakuhihewa of Oahu and Lonoikamakahiki of Hawaii. Aikanaka got offended with Kawelo and sent him to live at Waikiki. Cause. The king at a surf bathing told Kawelo to get a calabash of water for him to wash off with, but on Kawelo’s failing to do it, he took a calabash of soft poi and threw it over Kawelo and sent him off as already stated. At Waikiki, Kawelo studied the art of fighting to be revenged on Aikanaka. [Sterling and Summers 1978:41]

In other versions of this story, Kawelo goes to O‘ahu to fish, meets his wife, and her father teaches him to fight with spears. He then returns to Kaua‘i to avenge an attack on his birthplace (Green and Pukui 1936).

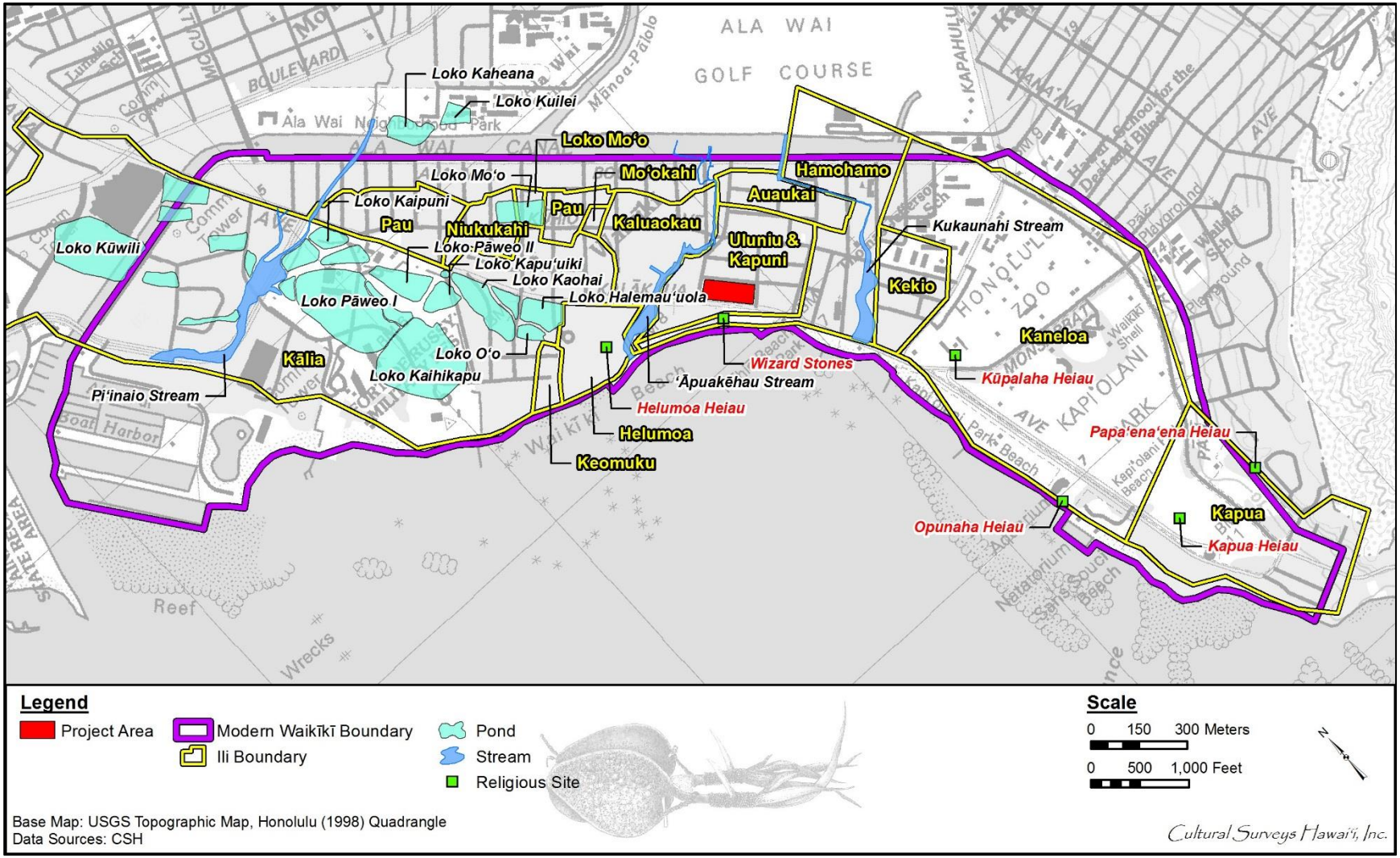


Figure 5. Map of the project area vicinity showing the *‘ili* boundaries and former ‘Āpuakēhau Stream

3.1.1.2 Āpuakēhau and Ka-lua-‘Ōlohe

‘Āpuakēhau is mentioned in a *mo‘olelo* as the home of the cruel chief ‘Ōlohe, a master of *lua* wrestling. The defeat of this chief led to the naming of the area now covered by Kapi‘olani Park as Ka-lua-‘Ōlohe, or “the *lua* fighting of ‘Ōlohe” (Pukui et al. 1974:79):

> Loheloa came from Waipio on a huge log. He came first to Makapuu and then to Keauau Point, now called Leahi. He saw a strange glow like a ball of fire there. He asked for the chief Olohe and was told that the light was his.
>
> He saw some fishermen who told him to go away for he was scaring the fish. He called to Ku and Hina to bring them a school of fish which they did. The natives were grateful. He lifted his huge canoe and rested one end at Haula and the other at Namahana, against the hill. He told the people that he wanted to wrestle with their chief Olohe, a dogman who lived at Apuakehau, Waikiki. A messenger came to tell the chief who accepted the challenge. In the meantime the men were busy catching fish brought to them by Loheloa. A messenger was sent to bring Loheloa to the chief and Loheloa suggested that they wrestle in the open where they can be seen. He would bet his bones and his canoe on himself.
>
> Olohe and Loheloa fought on the field now known as Kapiolani Park. Olohe punched and raised a gale that flattened the ilima bushes. Loheloa slapped his ear hard enough to throw him in the air. The place he fell is called Kalua-Olohe (Olohe’s pit) to this day. Loheloa won and the people shouted with joy over the defeat and death of their cruel chief. [Hainakolo, *Hawaii Holomua*, 21 July 1912, Oahu Place Names in Sterling and Summers 1978:279]

3.1.1.3 Nā Pohaku ‘Ola Kapaemahu a Kapuni

Richard Paglinawan summarizes the history of Nā Pōhaku ‘Ola Kapaemahu a Kapuni, or the Life-giving Stones of Kapaemahu and Kapuni, commonly referred to as the Wizard Stones (Paglinawan 1997). According to Mr. Paglinawan’s summary of various *mo‘olelo*, four healers gifted in medicinal practices once came from Kahiki [the ancestral homeland of the Hawaiians], most likely the sacred land of Raiatea. While some sources claim that they were homosexuals, Tutu Mary Kawena Pukui asserts that they were gender neutral. The wizards included Kapaemahu, who, due to his neutral gender, could examine and heal both men and women, Kahoe, a diagnostician who could determine illness just by visual assessment, Kahaloa, who was able to breathe life into ill patients, and Kapuni, who could envelope his patients with is *mana* to overcome their illness (Paglinawan 1997).

When the four healers returned to Kahiki, they had stones placed to commemorate their existence. They were most likely quarried from a site in Kaimukī near the present-day intersection of Wai‘alae Avenue and Fifth Avenue, and then transported to Waikīkī. The coastal and inland region of Waikīkī was dominated by *lo‘i*, which would have made the movement of these *pōhaku* difficult, but, according to Dr. George S. Kanahele, the stones may have been moved on a 12-ft wide causeway that extended between Mānoa and Waikīkī, which was observed by George Vancouver in 1792 (Paglinawan 1997).

Two of the commemorative stones were placed at the healers’ residences, and two were placed in their bathing place in the sea. The Honorable A.S. Cleghorn unearthed an 8-ton stone at his

residence close to the Moana Hotel in 1905. Another stone weighing 10 tons was uncovered by Mr. Lutted, and two more were excavated in a straight line with the others. Underneath the 10-ton stone Mr. Cleghorn uncovered a female jaw bone and some crude images, which he later cemented onto the stone. In 1941, the Waikiki Bowling Alley was constructed with the stones serving as part of the foundation, but were then uncovered in 1958 when the building was razed. In 1963 the stones were located together on the beach, and in 1980 they were relocated to their present site near the police station—110 m (360 ft) southwest of the current project area. The location of Mr. Cleghorn’s cement casings indicated the stones had been positioned incorrectly; however, a decision was reached to leave them as they had been placed (Paglinawan 1997).

3.1.1.4 Ka‘ehu and the Man-Eater

Pukui and Curtis (1994) relate the story of Ka‘ehu and the Man-Eater:

> Ka‘ehu, the little yellow shark of Pu‘uloa, was traveling with friends. As they swam about O‘ahu they came to Waikīkī. While they played outside the reef Ka‘ehu saw a stranger. ‘Aloha!’ he said. ‘Are you, too, traveling?’
>
> ‘I am a Maui shark,’ the stranger answered, ‘and I’m hunting for fat crabs. I think this famous surf of Waikīkī should be a good place for crabbing.’
>
> A man-eater! thought Ka‘ehu. The waves were high that day and many men were surfing. The man-eater would kill someone unless Ka‘ehu acted quickly! He swam along beside the stranger saying, ‘There is no finer place for crabbing. Both chiefs and commoners surf at Waikīkī and sometimes even the gods. Have you heard . . .’
>
> The man-eater listened to a story not noticing that Ka‘ehu had led him over a reef. When they stopped Ka‘ehu said, ‘Wait here hidden in the shallows of this pool. My friends and I will drive the crabs close where you can get them.’ He swam back to his friends and told them of the man-eater. ‘We must not let that Maui shark kill people of O‘ahu,’ he said and explained a plan.
>
> Surfers rushed in on a great wave. ‘Drive them this way!’ the man-eater shouted.
>
> ‘Wait!’ Ka‘ehu shouted back. ‘Here come two fat ones. Be ready!’
>
> The two men caught the high surf and came rushing in, standing erect and shouting. They rode the wave and under it the man-eater saw sharks swimming—to help him catch a man, he thought. He leapt. But as he leapt a shark turned the surfers to one side, out of his way, while the others struck him, rolling and pushing him into the shallow water. Head first he went into a hole. ‘Help me!’ he shouted. ‘I can't get out!’ But the good sharks were swimming toward deeper ocean. Their work was done.
>
> Men who had been frightened by the sight of sharks, soon saw that only one was left and that one a prisoner now stuck in a hole. From shore they watched his struggles. ‘He is dead!’ they said at last and went to get and burn the body. ‘A man-eater!’ they exclaimed and turned to watch the company of sharks playing outside the reef. ‘Those are our friends,’ they said. ‘They drove this man-eater into the hole to die. Once more our friends have saved us.’ [Pukui and Curtis 1994:156-157]

3.1.1.5 Proverbs and Poetical Sayings

The following proverbs come from Mary Kawena Pukui's *‘Ōlelo No‘eau* (Pukui 1983).

27:

Aia aku la paha i Waikīkī i ka ‘imi ‘ahu‘awa.

Perhaps gone to Waikīkī to seek the ‘ahu‘awa *sedge*.

Gone where disappointment is met. A play on *ahu* (heap) and *‘awa* (sour). [Pukui 1983:6]

110:

Alia e ‘oki ka ‘āina o Kahewahewa, he ua.

Wait to cut the land of Kahewahewa, for it is raining.

Let us not rush. Said by Kaweloleimakua as he wrestled with an opponent at Waikīkī. [Pukui 1983:14]

285:

E ho‘i ka u‘i o Mānoa, ua ahiahi.

Let the youth of Mānoa go home, for it is evening.

Refers to the youth of Mānoa who used to ride the surf at Kalehuawehe in Waikīkī. The surfboards were shared among several people who would take turns using them. Those who finished first often suggested going home early, even though it might not be evening, to avoid carrying the boards to the *hālau* where they were stored. Later the expression was used for anyone who went off to avoid work. [Pukui 1983:36]

363:

E nui ke aho, e ku‘u keiki, a moe i ke kai, no ke kai la ho‘i ka ‘āina.

Take a deep breath, my son, and lay yourself in the sea, for then the land shall belong to the sea.

Uttered by the priest Ka‘opulupulu at Wai‘anae. Weary with the cruelty and injustice of Kahāhana, chief of O‘ahu, Ka‘opulupulu walked with his son to Wai‘anae, where he told his son to throw himself into the sea. The boy obeyed, and there died. Ka‘opulupulu was later slain and taken to Waikīkī where he was laid on the sacrificial altar at Helumoa. [Pukui 1983:44]

1044:

Ho‘i ‘ōlohelohe i ke kula o Hamohamo.

Going home destitute on the plain of Hamohamo.

Going home empty-handed. A play on *hamo* (rub), as in the act of rubbing the hands together to indicate that one is empty-handed. Hamohamo is a place in Waikīkī. [Pukui 1983:111]

1493:

Ka nalu ha‘i o Kalehuawehe.

The rolling surf of Kalehuawehe.

Ka-lehua-wehe (Take-off-the-*lehua*) was Waikīkī’s most famous surf. It was so named when a legendary hero took off his *lei* of *lehua* blossoms and gave it to the wife of the ruling chief, with whom he was surfing. [Pukui 1983:161-162]

1772:

Ke one ‘ai ali‘i o Kakuhihewa.

The chief-destroying sands of Kakuhihewa.

The island of O‘ahu. When the priest Ka‘opulupulu was put to death by the chief Kahāhana for warning him against cruelty to his subjects, he uttered a prophecy. He predicted that where his own corpse would lie in a *heiau* at Waikīkī, there would lie the chief’s corpse as well. Furthermore, he said, the land would someday go to the sea—that is, to a people from across the sea. This was felt to be a curse. When Kamehameha III was persuaded by a missionary friend to move the capital from Lahaina to O‘ahu, a *kahuna,* remembering the curse, warned him not to, lest the monarchy perish. The warning was ignored, and before the century had passed, the Kingdom of Hawai‘i was no more. [Pukui 1983:190]

1776:

Ke one kuilima laula o ‘Ewa.

The sand on which there was a linking of arms on the breadth of ‘Ewa.

‘Ewa, O‘ahu. The chiefs of Waikīkī and Waikele were brothers. The former wished to destroy the latter and laid his plot. He went fishing and caught a large *niuhi,* whose skin he stretched over a framework. Then he sent a messenger to ask his brother if he would keep a fish for him. Having gained his consent, the chief left Waikīkī, hidden with his best warriors in the ‘fish.’ Other warriors joined them along the way until there was a large army. They surrounded the residence of the chief of Waikele and linked arms to form a wall, while the Waikīkī warriors poured out of the ‘fish’ and destroyed those of Waikele. [Pukui 1983:191]

2255:

Na līpoa ‘ala o Kawehewehe.

Thefragrant līpōa *of Kawehewehe.*

The *līpoa* seaweed of Waikīkī, especially at Kawehewehe, was so fragrant that one could smell it while standing on the shore. Often mentioned in songs about Waikīkī. [Pukui 1983:246]

3.1.2 Pre-Contact to Early 1800s

In approximately AD 1310 (a time estimate based on an average length of generational intervals in chiefly genealogies), Māweke partitioned O‘ahu into three districts: the Kona region, the ‘Ewa,

Wai‘anae, and Waialua region, and the windward Ko‘olau region. Then, in approximately AD 1490, the *‘aha ali‘i* (council of chiefs) chose Mā‘ilikūkahi, an *ali‘i kapu* (sacred chief) who was born at the sacred site of Kūkaniloko in the uplands of Waialua to be the new *ali‘i nui* (paramount chief) of O‘ahu. After his paramountship was installed at the *heiau* (temple) of Kapukapuākea in central Waialua, Mā‘ilikūkahi instituted an explicit land division and administration structure: O‘ahu was divided into six *moku*—Kona, ‘Ewa, Wai‘anae, Waialua, Ko‘olauloa, and Ko‘olaupoko—that were further divided into 86 *ahupua‘a* and smaller territorial units such as *‘ili* (subdivisions of *ahupua‘a*) (Kirch 2010:84–90). Upon his ascent to *ali‘i nui*, Mā‘ilikūkahi shifted his residence from Waialua to Waikīkī

Ma‘ilikūkahi was known as a kind chief greatly loved by his subjects who enjoyed prosperity and peace under his reign (Kamakau 1964:223). Ma‘ilikūkahi won the respect and loyalty of his people “because of his exceedingly great concern for the prosperity of the kingdom” (Kamakau 1991:55). About AD 1350, Ma‘ilikūkahi constructed a *heiau* at Helumoa for the Makahiki festival. Two idols, the long god and the short god, were carried on a circuit of the islands, each carried in the opposite direction and meeting again at Kualoa on the windward coast of O‘ahu.

Kanahele (1995:134) notes continuity in the royal residences: “The royal residences were generally located in the same areas that all of Waikīkī’s ancient chiefs had located their residences for hundreds of years.” Kanahele (1995:134-1345) goes on to explain, “Three features were common to royal locations in Waikīkī. They were situated (1) near the beach, (2) next to a stream or *‘auwai* (canal), and (3) among a grove of cocoanut or *kou* trees.”

Hibbard and Franzen (1986) note the following:

> When old Hawaiians refer to O‘ahu they recall, ‘ke one ‘ai ali‘i o Kākuhihewa,’ or the chief-consuming sands of Kakuhihewa. Kakuhihewa was a famous ali‘i (chief) who ruled O‘ahu during the late 1500s. He lived at Ulukou, Waikiki on the spot now occupied by the Moana Hotel. His reign was marked by great prosperity during which all the invading chiefs from other islands were defeated. The sands at Ulukou were known as chief-eating sands because of the strength of this great chief. Kakuhihewa’s Waikiki came to epitomize the golden era of aboriginal Hawaiian history and is mentioned frequently in traditional Hawaiian chants as well as contemporary song. Five generations before Kakuhihewa’s birth, circa 1450, Ma‘ilikukahi first established Waikiki as the government center for the island of O‘ahu. From this time until 1809, when Kamehameha I moved his court to Honolulu, Waikiki was the seat of power for O‘ahu. Originally Waikiki encompassed a larger area than the section we are familiar with today. [Hibbard and Franzen 1986:2]

The preeminence of Waikīkī continued into the eighteenth century, betokened by Kamehameha’s decision to reside there upon winning control of O‘ahu by defeating the island’s chief, Kalanikūpule. The nineteenth century Hawaiian historian John Papa ‘Ī‘ī, himself a member of the *ali‘i* (chiefly class), described the king’s Waikīkī residence:

> Kamehameha’s houses were at Puaaliilii, makai of the old road [now Kalākaua Avenue], and extended as far as the west side of the sands of ‘Apuakehau [Stream]. Within it was Helumoa where Ka‘ahumanu mā [Ka‘ahumanu’s people] went to

> while away the time. The king built a stone house there, enclosed by a fence . . . [‘Ī‘ī 1959:17]

‘Ī‘ī further noted the “place had long been a residence of chiefs. It is said that it had been Kekuapoi’s home, through her husband Kahahana, since the time of Kahekili” (‘Ī‘ī 1959:17). Kamehameha lived here from 1795 to 1809. Puaaliilii has two meanings—*pua ali‘il‘i‘i* means “flower of the exalted royalty.” With the *‘okina* (glottal stop) in a different position, the name *pua‘a li‘ili‘i* means “little pig.” Since the pig was a sacred animal, both meanings may be correct since both could refer to a royal residence (Acson 1983:19).

There are many references to royal residences in this portion of Waikīkī. ‘Āpuakēhau Stream is one of the two branches of the united Mānoa-Pālolo Stream which once flowed past taro patches and fishponds. The mouth of the stream once emptied out into the ocean at the present location of the east side of the Outrigger Hotel and the west side of the (Sheraton) Moana Hotel. Land on the west side of the stream was known as Kahaloa, “the long place,” and on the east, Ulukou, “the kou tree grove.” The stream carved a small channel in the seabed where it emptied out in the ocean, creating a special surf, called the “Cornucopia,” due to the shape of the breaking waves (Clark 1977:55).

The village of Waikīkī, once known as ‘Āpuakēhau, was probably centered around the mouth of ‘Āpuakēhau Stream. Located near the mouth of the stream was a *heiau,* Helumoa Heiau, also known as ‘Āpuakēhau Heiau, and an athletic field known as Kahuamokomoko, meaning a “sports field for boxing.” According to Thrum, portions the Royal Hawaiian Hotel are built on the former site of Helumoa Heiau. Thrum described Helumoa Heiau as “Heiau pookanaka, the place of sacrifice of Kauhi-a-Kama, the defeated moi [*mō‘ī*] of Maui, in his raid on Oahu about 1610, in the reign of Kaihikapu” (Thrum 1907:44).

Po‘okanaka Heiau, as mentioned by Thrum above, was ceremoniously used as sacrificial *heiau* to include human sacrifices (Stokes 1991:24). This sacrificial *heiau* was where Ka‘opulupulu—the last O‘ahu-born Kahuna Nui of O‘ahu—was laid after being slain in Wai‘anae by Kahahana (or Kahāhana). Eventually, Kahahana himself was also sacrificed at Helumoa Heiau by Kahekili’s invading army from Maui (Thrum 1903:112–113).

Hawaiian authors in the nineteenth and twentieth centuries have emphasized that victims for sacrifice were “criminals,” “wrongdoers,” or “individuals who had broken *tabu,* or rendered themselves obnoxious to the chiefs” (Kanahele 1995:116). Another major category of human sacrifice victims were the “*kauwā*.” Pukui and Elbert (1986:128) translate *kauwā* as “Untouchable, outcast, pariah: a cast which lived apart and was drawn on for sacrificial victims.”

Four Waikīkī *heiau* associated with human sacrifice are documented as having existed. Available historic documentation indicates the closest *heiau* to the present project is Helumoa Heiau, which is not well documented in the literature. We know of no maps showing the location of Helumoa Heiau. Thomas Thrum (1927:34) noted: “This temple was long ago demolished, not a stone being left to mark the site, which was doubtlessly near, if not *the* [italics in original] actual spot now graced by the new Royal Hawaiian Hotel.”

The invasion of the island of O‘ahu by the Maui ruling chief, Kahekili ca. 1783 is documented by Samuel M. Kamakau (1964). The account makes reference to fighting at “Kawehewehe,” which

is understood as the name of the beach on the ‘Ewa side of the Royal Hawaiian Hotel (adjacent to Helumoa).

Fornander’s (1919:289) account of “The Story of Kahahana” relates that Maui chief Kahekili’s army was encamped at ‘Āpuakēhau, where they were organizing and preparing to march inland. The O‘ahu forces first attacked “the Maui troops collected at the *heiau*” and “a fight commenced to which Hawaiian legends record no parallel” (Fornander 1919:289). A reconstruction of Kamakau’s account of Kahekili’s attack (Figure 6) definitely suggests battle casualties in Waikīkī although most of these likely occurred west of the present project area. Intense fighting and mortality are indicated in the immediate vicinity of the Royal Hawaiian and Sheraton Waikīkī resorts.

Chiefly residences and *heiau*, however, were only two elements of a complex of features that characterized Waikīkī through the pre-Contact period. Beginning in the fifteenth century, a vast system of irrigated taro fields was constructed, extending across the littoral plain from Waikīkī to lower Mānoa and Pālolo valleys. This field system——an impressive engineering design traditionally attributed to the chief Kalamakua—took advantage of streams descending from Makiki, Mānoa and Pālolo valleys that also provided ample fresh water for Hawaiians living in the *ahupua‘a*. Water was also available from springs in nearby Mō‘ili‘ili and Punahou. Closer to the Waikīkī shoreline, cocoanut groves and fishponds dotted the landscape. A sizeable population developed amidst this Hawaiian-engineered abundance.

Captain George Vancouver, arriving at “Whyteete” in 1792, captured something of this profusion in his journals:

> On shores, the villages appeared numerous, large, and in good repair; and the surrounding country pleasingly interspersed with deep, though not extensive valleys; which, with the plains near the sea-side, presented a high degree of cultivation and fertility. . . .
>
> [Our] guides led us to the northward through the village, to an exceedingly well-made causeway, about twelve feet broad, with a ditch on each side.
>
> This opened our view to a spacious plain, which, in the immediate vicinity of the village, had the appearance of the open common fields in England; but, on advancing, the major part appeared to be divided into fields of irregular shape and figure, which were separated from each other by low stone walls, and were in a very high state of cultivation. These several portions of land were planted with the eddo or taro root, in different stages of inundation; none being perfectly dry, and some from three to six or seven inches under water. The causeway led us near a mile from the beach, at the end of which was the water we were in quest of. It was a rivulet five or six feet wide, and about two or three feet deep, well banked up, and nearly motionless; some small rills only, finding a passage through the dams that checked the sluggish stream, by which a constant supply was afforded to the taro plantations.

Figure 6. Reconstruction of Kahekili's invasion of O‘ahu ca. 1783

> [We] found the plain in a high state of cultivation, mostly under immediate crops of taro; and abounding with a variety of wild fowl, chiefly of the duck kind . . . The sides of the hills, which were at some distance, seemed rocky and barren; the intermediate vallies, which were all inhabited, produced some large trees, and made a pleasing appearance. The plain, however, if we may judge from the labour bestowed on their cultivation, seemed to afford the principal proportion of the different vegetable productions on which the inhabitants depend for their subsistence. [Vancouver 1798:161–164]

Further details of the exuberant life that must have characterized Hawaiian land use that included the *ahupua‘a* of Waikīkī are given by Archibald Menzies, a naturalist accompanying Vancouver’s expedition:

> The verge of the shore was planted with a large grove of cocoanut palms, affording a delightful shade to the scattered habitations of the natives. Some of those near the beach were raised a few feet from the ground upon a kind of stage, so as to admit the surf to wash underneath them. We pursued a pleasing path back to the plantation, which was nearly level and very extensive, and laid out with great neatness into little fields planted with taro, yams, sweet potatoes and the cloth plant. These, in many cases, were divided by little banks on which grew the sugar cane and a species of Draecena without the aid of much cultivation, and the whole was watered in a most ingenious manner by dividing the general stream into little aqueducts leading in various directions so as to be able to supply the most distant fields at pleasure, and the soil seemed to repay the labour and industry of these people by the luxuriancy of its productions. Here and there we met with ponds of considerable size, and besides being well stocked with fish, they swarmed with waterfowl of various kinds such as ducks, coots, water hens, bitterns, plovers and curlews. [Menzies 1920:23-24]

However, the traditional Hawaiian focus on Waikīkī as a center of chiefly and agricultural activities on southeastern O‘ahu was soon to change—disrupted by the same Euro-American contact that produced the first documentation (including the records cited above) of that traditional life. The *ahupua‘a* of Honolulu—with the only sheltered harbor on O‘ahu—became the center for trade with visiting foreign vessels, drawing increasing numbers of Hawaiians away from their traditional environments. Kamehameha himself moved his residence from Waikīkī to the coast near Honolulu harbor, likely in order to maintain his control of the lucrative trade in sandalwood that had developed. By 1828, the missionary Levi Chamberlain (1957:26), describing a journey into Waikīkī, would note the following:

> Our path led us along the borders of extensive plats of marshy ground, having raised banks on one or more sides, and which were once filled with water, and replenished abundantly with esculent fish; but now overgrown with tall rushes waving in the wind. The land all around for several miles has the appearance of having once been under cultivation. I entered into conversation with the natives respecting this present neglected state. They ascribed it to the decrease of population. [Chamberlain 1957:26]

The depopulation of Waikīkī was not simply a result of the attractions of Honolulu—where, by the 1820s, the population was estimated at 6,000 to 7,000—but also of the Western diseases that had devastating effects upon the Hawaiians.

3.1.3 Mid-Nineteenth Century and the Māhele

The Organic Acts of 1845 and 1846 initiated the process of the Māhele (the division of Hawaiian lands), which introduced private property into Hawaiian society. In 1848, the crown (Hawaiian government) and the *ali‘i* (royalty) received their land titles. Subsequently in the Māhele, Land Commission Awards (LCAs) for *kuleana* parcels were awarded to commoners and others who could prove residency on and use of the parcels they claimed. LCA records document that awardees continued to maintain fishponds and irrigated and dryland agricultural plots, though on a greatly reduced scale. The current project area is within a single large LCA (104 FL:5) with a number of smaller LCA parcels nearby (1506, 2006:3, 2079:1, 2082, and 2084:3). The LCAs within the vicinity (i.e., not more than 50 m) of the project area are summarized in Table 1.

Table 1. Land Commission Awards in Project Vicinity

LCA #	Claimant	*‘Ili* Name	Location	Comments
104FL:5	Mataio Kekūanao‘a	Kapuni, Uluniu, Kaukahoku, Kuhimana, Alewa, Kunawai, Kuwili, Kālia, Piinaio, Kamanolepo	Within and extending beyond the project area	House site in a coconut grove, two *lo‘i*, five fishponds, and one *muliwai* in Piinaio
1506	Waikīkī, Wahine	Ulukou, Hohe	Southwest of the project area	A house lot in Ulukou, Waikīkī; a small *kula* and one *lo‘i* in Hohe, Waikīkī
2006	Male	Kalokoeli, Kamoomuku	West of the project area	Five *lo‘i* and house lot on beach
2079	Kauhola	Makiki, Mokahi, Hohe, Kawaiaala, Kaluahole, Kālia	North of the project area across the ‘Āpuakēhau	Thirteen *lo‘i*, one line of *kalo* in Hone, *kula* lands in Kaluahole
2082	Kuene (John Needles)	Kālia, Kamo‘okahi	Southwest of the project area	*Lo‘i* and irrigation ditch in Kamo‘okahi and house lot in Kālia
2084	Keohokahina	Kalokoeli, Kamo‘okahi, Ulukou	Northwest of the project area	*Lo‘i* and portion of irrigation ditch and fishpond in Kalokoeli, two *lo‘i* and fishpond in Kamo‘okahi, house lot and *kula* in Ulukou

Kekūanao‘a (ca. 1791-1868), the awardee of LCA 104FL:5, was the husband of Kīna‘u (Mataio hence a son-in-law of Kamehameha the Great), and father of Alexander Liholiho Kamehameha (Kamehameha IV), Lot Kamehameha (Kamehameha V) and Victoria Kamāmalu. He served as governor of O‘ahu and was allotted extensive lands in the Māhele of 1848, including three *‘ili* on O‘ahu. His Waikīkī lands included 31 acres at Kapuni and 102 acres at Uluniu. He held a coastal area surrounding LCA 6324 to Kameheu on all sides and land to the east at the future original Surfrider Hotel location. It appears Kekūanao‘a’s Waikīkī home was located to the east of the current project area.

For LCA 1506, two *‘āpana* (lots) were awarded to Waikīkī, Wahine; one *lo‘i* (irrigated taro patch) and a *kula* (land for pasture or dryland agriculture) in the *‘ili* of Hohe and a house lot in the *‘ili* of Ulukou. The house lot was described as follows:

> *Mauka* is Government land
> Waialae is Opupahoa [east]
> *Makai*, sea
> Honolulu [west] is Keawe.

For LCA 2006, three *‘āpana* were awarded to Male (two in the vicinity of the project area and one in Kalia). *‘Āpana* 1: one *lo‘i* and *‘auwai* (irrigated ditch) in the *‘ili* of Kalokoeli; *‘Āpana* 2: one *lo‘i* and fishpond in the *‘ili* of Kalokoeli; and *‘Apana* 3: House lot and *kula ‘aina* (land for pasture or dryland agriculture) in the *‘ili* of Kalia.

For LCA 2079:1, six *‘āpana* (lots) were awarded to Kauhola; nine *lo‘i* in the *‘ili* of Makiki, Mokahi, Hohe, Kawaiaala, Kaluahole, and Kalia; an *‘auwai* (ditch) and one house lot are mentioned. The 1881 Bishop map indicates a house lot existed in the parcel (Figure 7).

For LCA 2082, two ‘*āpana* (lots) were awarded to Kuene; four *lo‘i* in the ‘*ili* of Kālia and a house lot in the *‘ili* of Kamookahi. The house lot was described as:

> *Mauka*, Kaluahinenui
> Waialae [east]and *makai*, Keohokālole
> Honolulu [west], Kanaina

For LCA 2084, three ‘*āpana* (lots) were awarded to Keohokahina; two *lo‘i* in the ‘*ili* of Kalokoeli and a house lot in the *‘ili* of Ulukou. A house is shown within this LCA on the 1881 Bishop map (Figure 7).The house lot was described as follows:

> *Mauka* and to the east of my lot is an unused place,
> *Makai* is Male,
> Towards Honolulu [west] is a stream

3.1.4 Mid- to Late 1800s

As the nineteenth century progressed, Waikīkī was becoming a popular site among foreigners —mostly American—who had settled on O‘ahu. An 1865 article in the *Pacific Commercial Advertiser* mentioned a small community that had developed along the beach. The area continued to be popular with the *ali‘i* and several notables had residences there. A visitor to O‘ahu in 1873 described Waikīkī as “a hamlet of plain cottages, whither the people of Honolulu go to revel in bathing clothes, mosquitoes, and solitude, at odd times of the year” (Bliss 1873).

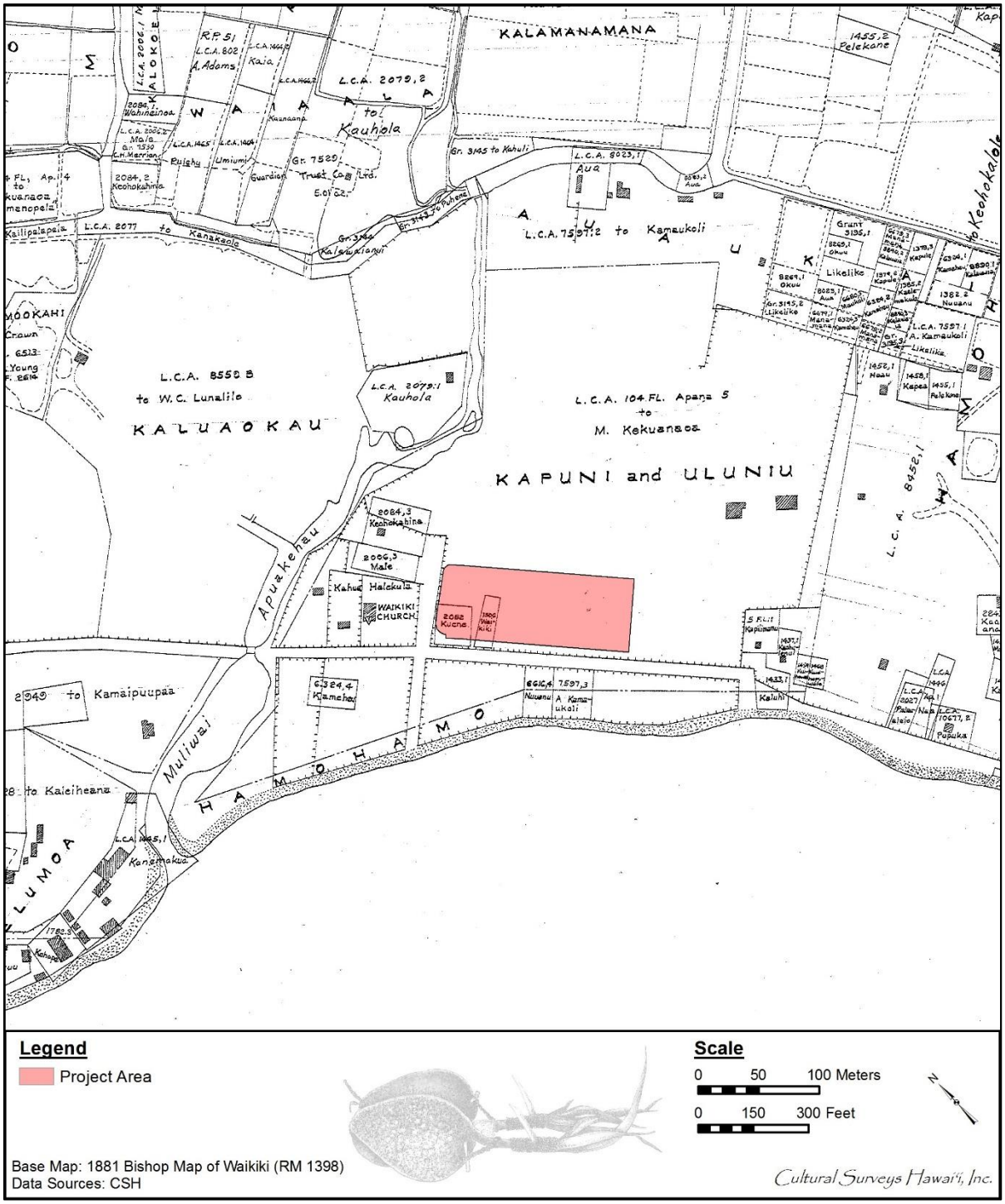


Figure 7. Portion of the 1881 Hawaiian Government Survey map (portion) of Waikiki by S.E. Bishop

Other developments during the second half of the nineteenth century, preceding changes that would dramatically alter the landscape of Waikīkī during the twentieth century, included the improvement of the road connecting Waikīkī to Honolulu (the route of the present Kalākaua Avenue), the building of a tram line between the two areas, and the opening of Kapi‘olani Park in 1877. Traditional land uses in Waikīkī were abandoned or modified. By the end of the nineteenth century, most of the fishponds that had previously proliferated had been neglected and allowed to deteriorate. The remaining taro fields were planted in rice to supply the growing numbers of immigrant laborers imported from China and Japan, and for shipment to the west coast of the United States.

As the sugar industry throughout the Hawaiian Kingdom expanded in the second half of the nineteenth century, the need for increased numbers of field laborers prompted passage of contract labor laws. In 1852, the first Chinese contract laborers arrived in the Islands. Contracts were for five years and pay was $3 a month plus room and board. Upon completion of their contracts, a number of the immigrants remained in the Islands, many becoming merchants or rice farmers. As was happening in other locales in the 1880s, groups of Chinese began leasing and buying (from the Hawaiians of Waikīkī) former taro lands for conversion to rice farming. The taro lands' availability throughout the Islands in the late 1800s reflected the declining demand for taro as the Native Hawaiian population diminished.

The Hawaiian Islands were well positioned for rice cultivation. A market for rice in California had developed as increasing numbers of Chinese laborers immigrated there since the mid-nineteenth century. Similarly, as Chinese immigration to the Islands also accelerated, a domestic market opened.

> The primary market for both husked rice and paddy raised in all parts of the Hawaiian Islands was in Honolulu. The number of Chinese in the islands created a large home demand.
>
> In 1880 the home market was made more secure by an increase in the duty on rice imported into Hawai‘i to 1½ cents on paddy and 2½ cents on hulled rice. It resulted in further checking the importation of foreign rice and giving an immense impetus to the home product. [Coulter and Chun 1937:130]

By 1892, Waikīkī had 542 acres planted in rice, representing almost 12% of the total 4,659 acres planted in rice on O‘ahu. Most of the former taro *lo‘i* converted to rice fields were *mauka* of the present Ala Wai Boulevard.

An 1893 map shows the project area in an uncultivated area surrounded by swampland, probably still used to grow taro, with rice fields *mauka* of the property (Figure 8). Early surveyors only mapped what they considered substantial "permanent" structures, but did not map grass houses or "beach cottages." Although no houses are shown in the project area on this map, this does not mean that there was not a cottage elsewhere on the property.

3.1.4.1 Āinahau and Princess Ka‘iulani

Historic maps identify the present project area as near a portion of ‘Āinahau, the Waikīkī estate of Archibald Cleghorn (1835-1910), his wife Princess Miriam Likelike (1851-1887), and their daughter Princess Ka‘iulani (1875-1899)—all significant personages in the history of Hawai‘i.

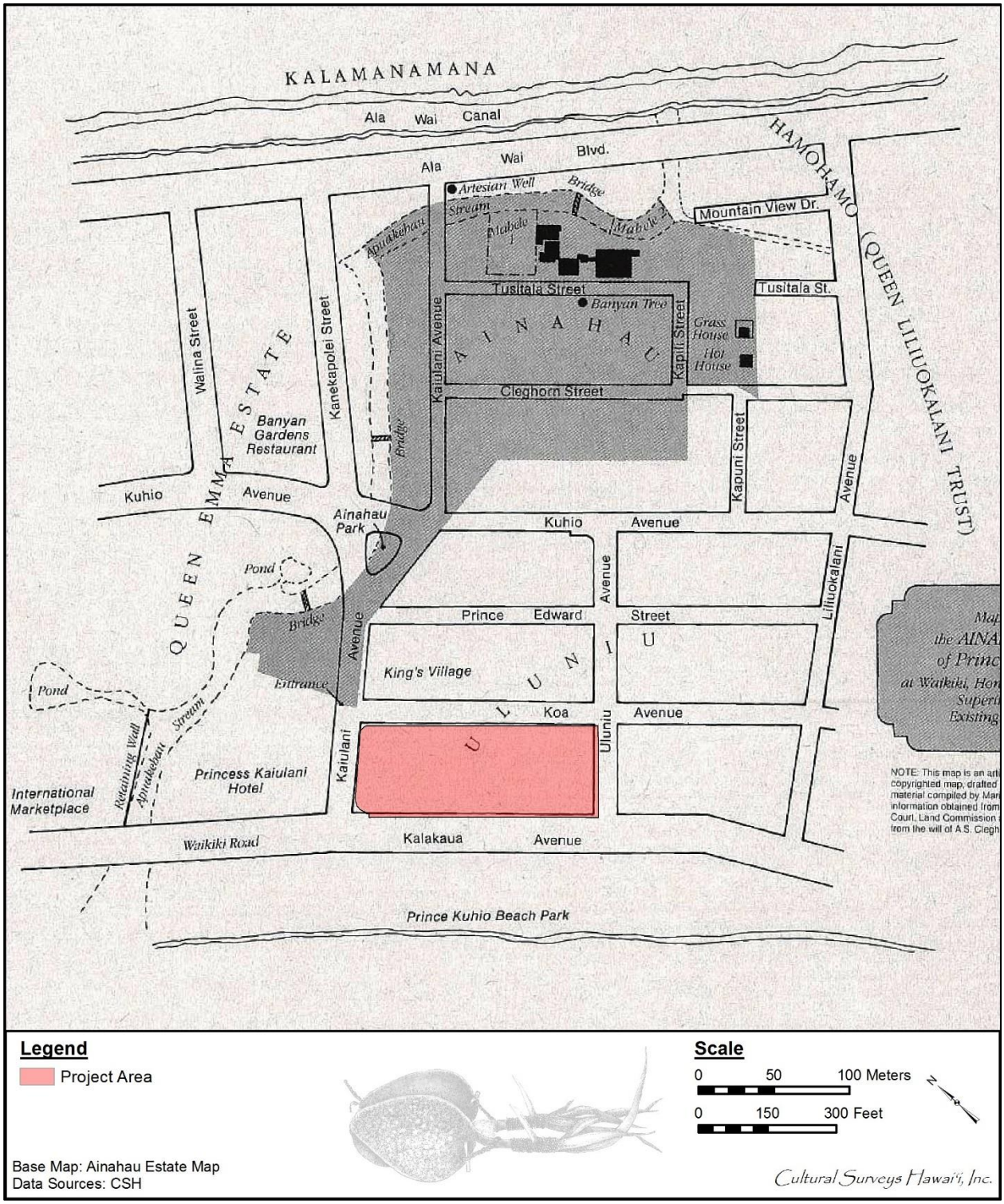


Figure 8. Portion of 1893 map of Honolulu by W.E. Wall showing the project area located in open, undeveloped lands south of the Cleghorn estate (‘Āinahau) and east of ‘Āpuakēhau Stream

This estate began when Princess Likelike and her husband purchased 6 acres of land in the *‘ili* of ‘Au‘aukai from Ma‘aua and Koihala in 1872. Additional land came to the property in 1875, when 3.9 acres were given to Princess Ka‘iulani as a christening gift by her aunt and godmother Ruth Ke‘elikōlani, who inherited the land from her father, Mataio Kekūanaō‘a. Princess Ruth gave an additional 1.3 acres to Ka‘iulani later, creating a total estate of 12 acres (Kanahele 1995:133-134, 137). The estate was called ‘Āinahau (*hau* tree land), named for the many *hau* trees that grew along ‘Āpuakēhau Stream (Pukui et al. 1974:7).

The property in 1872 had several native grass huts, which Cleghorn removed and replaced with a neo-Hawaiian-style bungalow (Figure 9). He later built a new, large two-story Victorian-style house designed by the famous Honolulu architect, Clinton B. Ripley (Figure 10).

> Cleghorn not only beautified Waikīkī through his work at Kapi‘olani Park [he had been instrumental in the park’s creation and design], but also at his estate, ‘Āinahau, which he had purchased in 1872 for $300. Inheriting a love of horticulture from his father, Cleghorn lavishly landscaped this parcel, making it ‘the most beautiful private estate in the Hawaiian Islands.’ [Hibbard and Franzen 1986:12]

The structures indicated within LCA 7597 ‘Āpana 2 on the 1881 map (see Figure 7) would appear to be buildings constructed by Cleghorn on the ‘Āinahau grounds. Among these buildings, the large structure indicated in the northern portion of the estate is likely the bungalow that was the Cleghorn family’s first residence on the estate. Subsequently, in the 1890s, Cleghorn constructed immediately adjacent to the bungalow a large Victorian-style house. A visitor in the 1890s noted,

> The new house was a white frame structure, of two stories, with wings at either end —the favourite form of Honolulu architecture—with a wide verandah extending across the front. The shrubbery had been cut away for several yards in every direction to allow the free circulation of the air, and just beyond the main entrance stood the one incomparable banyan tree, which the owner presently informed me was the handsomest thing he had. [Stassen-McLaughlin 1986:127]

The current project area appears to be adjacent to (southeast of) the westernmostmost corner of the ‘Āinahau estate, which, based on historic maps, contained no structures and was likely the location of the access drive from Kalākaua Avenue (

Figure 11). In his book on the Princess Ka‘iulani Hotel, Cohen notes the following:

> The site for the hotel [Princess Ka‘iulani] fronts the old Waikiki Road, now Waikiki’s main thoroughfare, Kalakaua Avenue. The hotel’s Porte Cochere on Ka‘iulani Avenue is at the approximate southern entrance driveway to Ainahau. The rest of the original estate lies to the north fronting Ala Wai Boulevard. The entrance to the hotel’s parking lot marks the approximate spot of the trellised arch entrance to the beautiful Ainahau garden, where Governor Cleghorn, assembled flora from throughout the islands and abroad. The princess’ private driveway entered from Waikiki through that arch and wound gracefully through rows of stately palms to the white house set deep within the grounds. [Cohen 1997:48–49]

Figure 9. Photo of Cleghorn bungalow, ca. 1978, with Annie Cleghorn (left) and Princess Ka‘iulani (right) on the lawn (Hawai‘i State Archives, reproduced in Kanahele 1995)

Figure 10. Cleghorn’s Victorian-style house at ‘Āinahau (late nineteenth century) (Kanahele 1995)

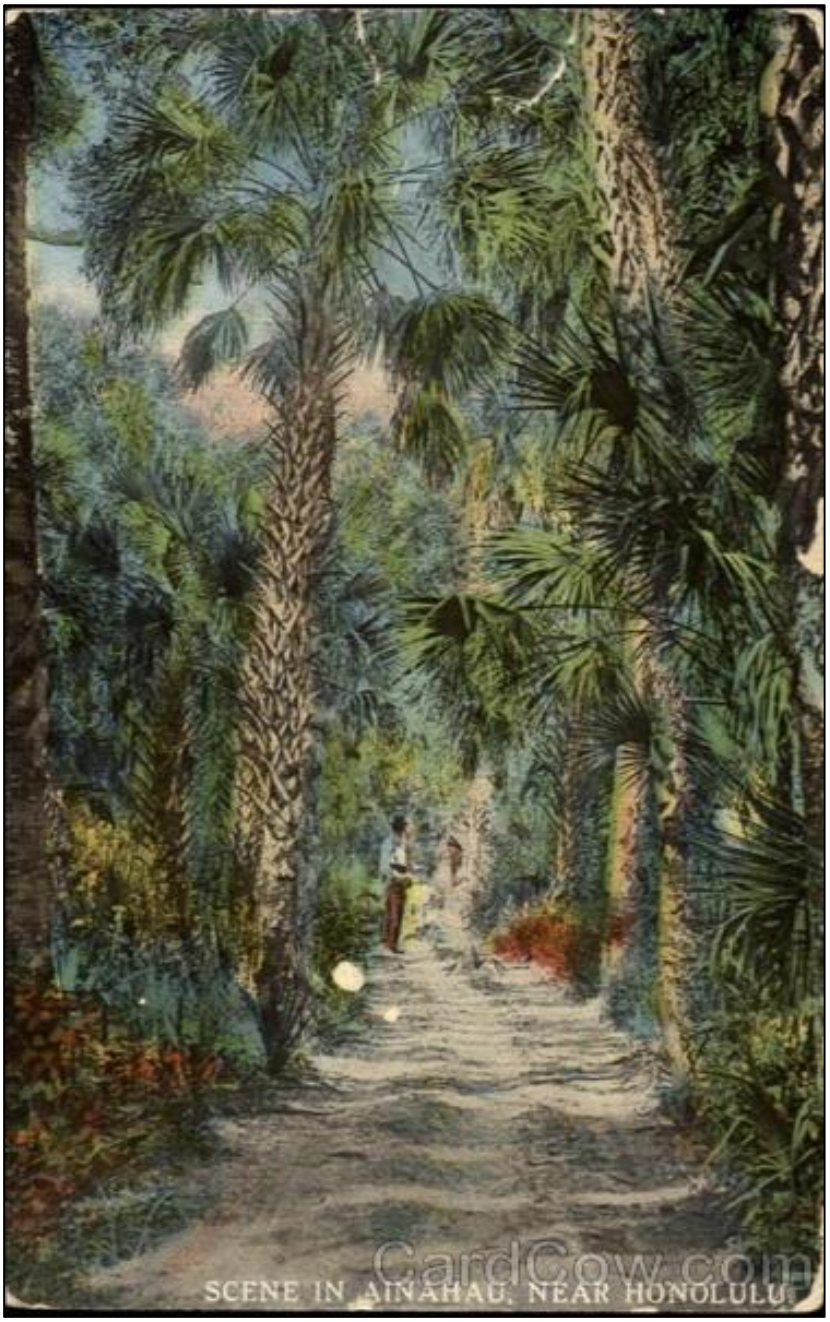


Figure 11. The road to ‘Āinahau as depicted on a postcard (HSS n.d.)

When Princess Likelike died in February of 1887, her daughter Princess Ka‘iulani was named heir apparent to the throne. By all accounts, Princess Ka‘iulani was a beautiful and charming young woman who spent much time wandering the estate grounds (Figure 12 and Figure 13). In his book, *Waikiki Yesteryear*, Grant writes the following:

> [T]he Governor [Cleghorn] designed Japanese gardens, verdant walkways, and fern-lined roads at Ainahau . . . and several of the little Princess' favorite bird, the beautiful peacock, strolled about the lawns, perching in the trees and piercing the air with their shrill cry [Grant 1996:24].

Robert Louis Stevenson visited the estate in 1889 when Princess Ka‘iulani was 13 years old.

> [He] was so impressed with the young girl that he spent many afternoons with her, sitting under the great banyan tree, telling her stories. When he learned she was going to go to school in Scotland, he wrote her a little poem in her red-plush album to keep her company on her travels. [Grant 1996:24]

After her return to ‘Āinahau from Scotland, the Princess' health began to fail and in 1899 she passed away at just 24 years of age. According to Grant (1996):

> The night she died, her beloved peacocks screeched wildly. Since her favorite flower had been the Chinese jasmine, Hawaiians called the flower ‘pikake', or peacock, in honor of the Princess. [Grant 1996:24]

Cleghorn himself continued to reside at ‘Āinahau until his death in 1910. After his death, the house was used as a hotel and then as a rental property until 1921, when it was claimed by a fire.

> One August night in 1921, W.T. Aldrich, the ‘movie picture man,' was having dinner when his wife yelled ‘Fire!' He ran to the room where the gas heater stood and saw flames. Neighbors tried to help by beating them out with cloths. A fire truck was summoned from Kaimukī, but the pin holding together the steering gear fell out and the truck crashed into a fence. By the time help arrived, the building could not be saved and the Cleghorn house burned to the ground. [Stassen-McLaughlin 1986:182]

3.1.5 Early Twentieth Century

During the first decade of the twentieth century, the U.S. War Department acquired more than 70 acres in the Kālia portion of Waikīkī for the establishment of a military reservation called Fort DeRussy, named in honor of Brigadier General R.E. DeRussy of the Army Corps of Engineers.

> On 12 November 1908, a detachment of the 1st Battalion of Engineers from Fort Mason, California, occupied the new post . . .
>
> Between 1909 and 1911, the engineers were primarily occupied with mapping the island of O‘ahu. At DeRussy other activities also had to be attended to—especially the filling of a portion of the fishponds which covered most of the Fort. This task fell to the Quartermaster Corps, and they accomplished it through the use of an hydraulic dredger which pumped fill from the ocean continuously for nearly a year in order to build up an area on which permanent structures could be built. Thus the

Figure 12. Princess Ka‘iulani ca. 1896 (from Grant 1996:24)

Figure 13. Photo ca. 1895 of Princess Ka‘iulani feeding her pet peacocks near the front steps of the ‘Āinahau mansion (from Grant 1996:24)

> Army began the transformation of Waikīkī from wetlands to solid ground. [Hibbard and Franzen 1986:79]

A 1910-1917 U.S. Engineers map shows the project area in the taro area, with rice fields *mauka* and marked by earthen berms (Figure 14). On this map, several structures are visible near the shoreline and near ‘Āpuakēhau Stream but none within the project area. The vicinity of the project area is labeled the “Royal Grove Tract” on a 1917 Bishop Museum Government Survey Map (Figure 15). This tract was purchased and opened up for development by Percy Martin Pond in 1914 or 1915 (Hibbard and Franzen 1986:106; Siddall 1917:214).

> In Waikīkī, between 1913 and 1921, the large *kama‘āina* landholdings virtually disappeared. With the subdivision of Queen Lili‘uokalani’s property, Hamohamo, in December 1913, the former haunts of royalty began to yield to the real estate market’s demand for moderately priced house lots. In February 1915 the trend continued, when Prince Kalaniana‘ole sold a six-acre portion of King Kalākaua and Queen Kapi‘olani’s Waikīkī estate to Percy Pond for $32,500. Pond, who had previously been involved in the development of the Beach Walk Tract, immediately converted these grounds into the Royal Grove Subdivision, complete with coconut-tree-lined streets, concrete sidewalks, and both gas and water lines. Priced between $925 and $1,500, with one third cash down and the balance, plus 7% interest, due in three years, the ninety 5,000 square foot lots moved briskly.
>
> The success of the Royal Grove Tract encouraged further subdivision activity. [Hibbard and Franzen 1986:106]

Within a few years, a 1919 U.S. War Department map (Figure 16) shows a grid of streets and many structures in the vicinity.

In the 1920s, the Waikīkī landscape (Figure 17) would be transformed when the construction of the Ala Wai Drainage Canal, begun in 1921 and completed in 1928, resulted in the draining and filling in of the remaining ponds and irrigated fields of Waikīkī. The *muliwai* or lagoonal backwater of ‘Āpuakēhau Stream (Figure 18) that reached the sea between the present Royal Hawaiian and Moana Hotels was filled in between 1919 and 1927. The filling in of ‘Āpuakēhau Stream and the excavating of the Ala Wai Canal were elements of a plan to urbanize Waikīkī and the surrounding districts:

> The [Honolulu city] planning commission began by submitting street layout plans for a Waikīkī reclamation district. In January 1922 a Waikīkī improvement commission resubmitted these plans to the board of supervisors, which, in turn approved them a year later. From this grew a wider plan that eventually reached the Kapahulu, Mō‘ili‘ili, and McCully districts, as well as lower Makiki and Mānoa. The standard plan for new neighborhoods, with allowances for local terrain, was to be that of a grid, with 80-foot-wide streets crossing 70-foot-wide avenues at right angles so as to leave blocks of house lots about 260 by 620 feet. Allowing for a 10-foot-wide sidewalk and a 10-foot right-of-way [alley] down the center of each block, there would be twenty house lots, each about 60 by 120 feet, in each block. [Johnson 1991:311]

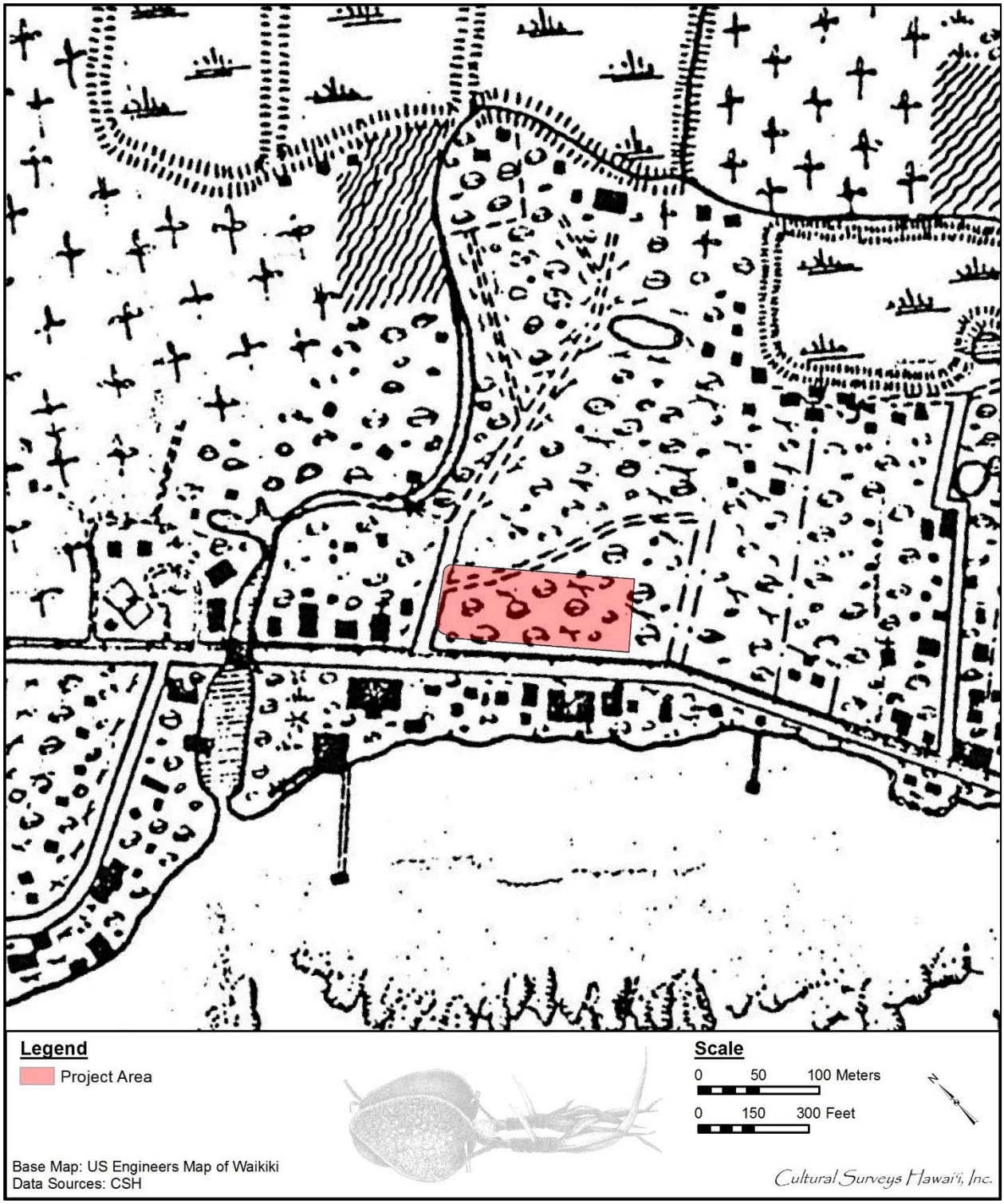


Figure 14. Portion of a 1910-1917 U.S. Engineers map with the project area shown amongst possible *lo‘i* or wetland areas with rice fields to the northeast

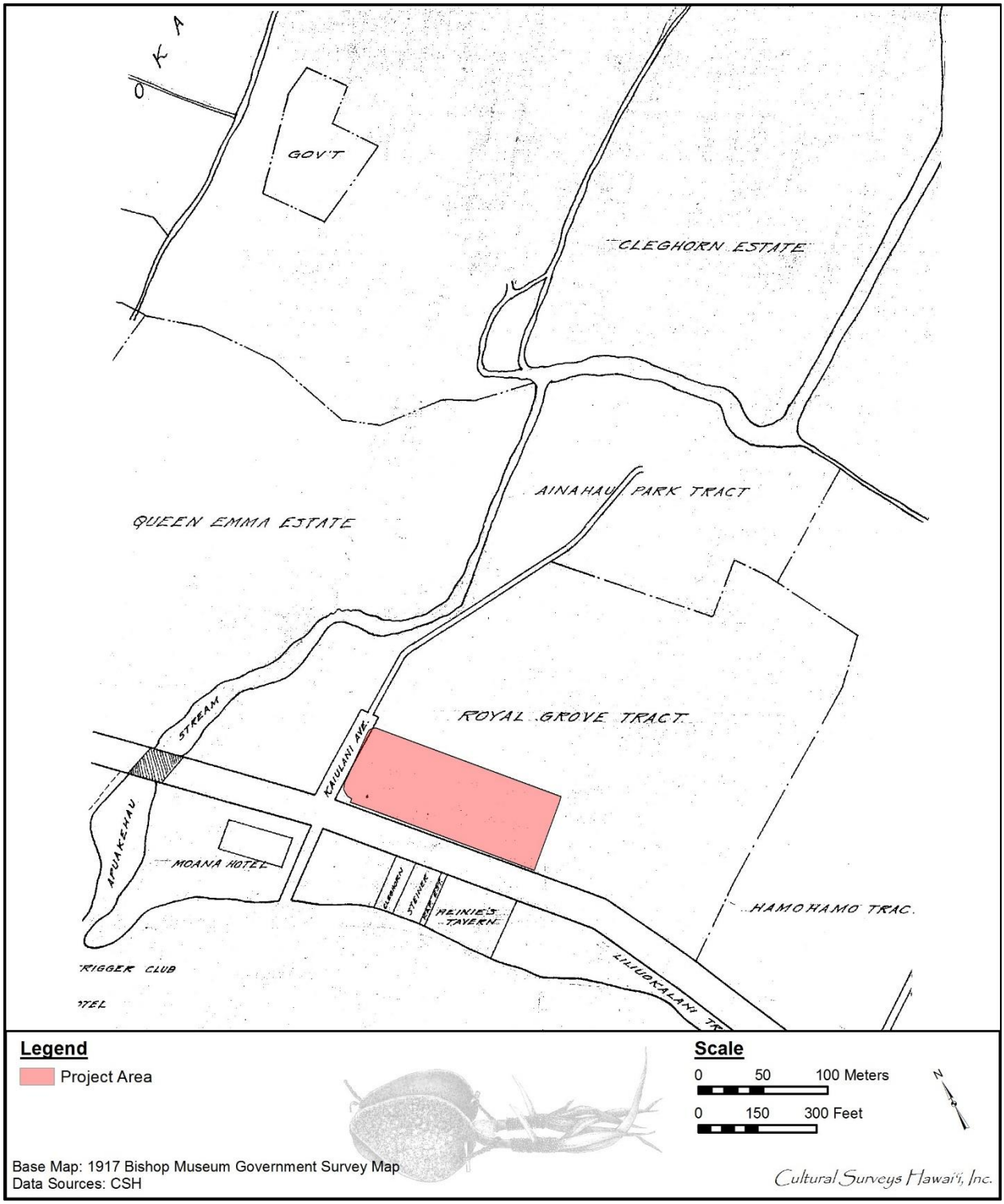


Figure 15. Portion of a 1916 Bishop Museum Government Survey map showing the project area, the names of various tracts of land and nearby landmarks

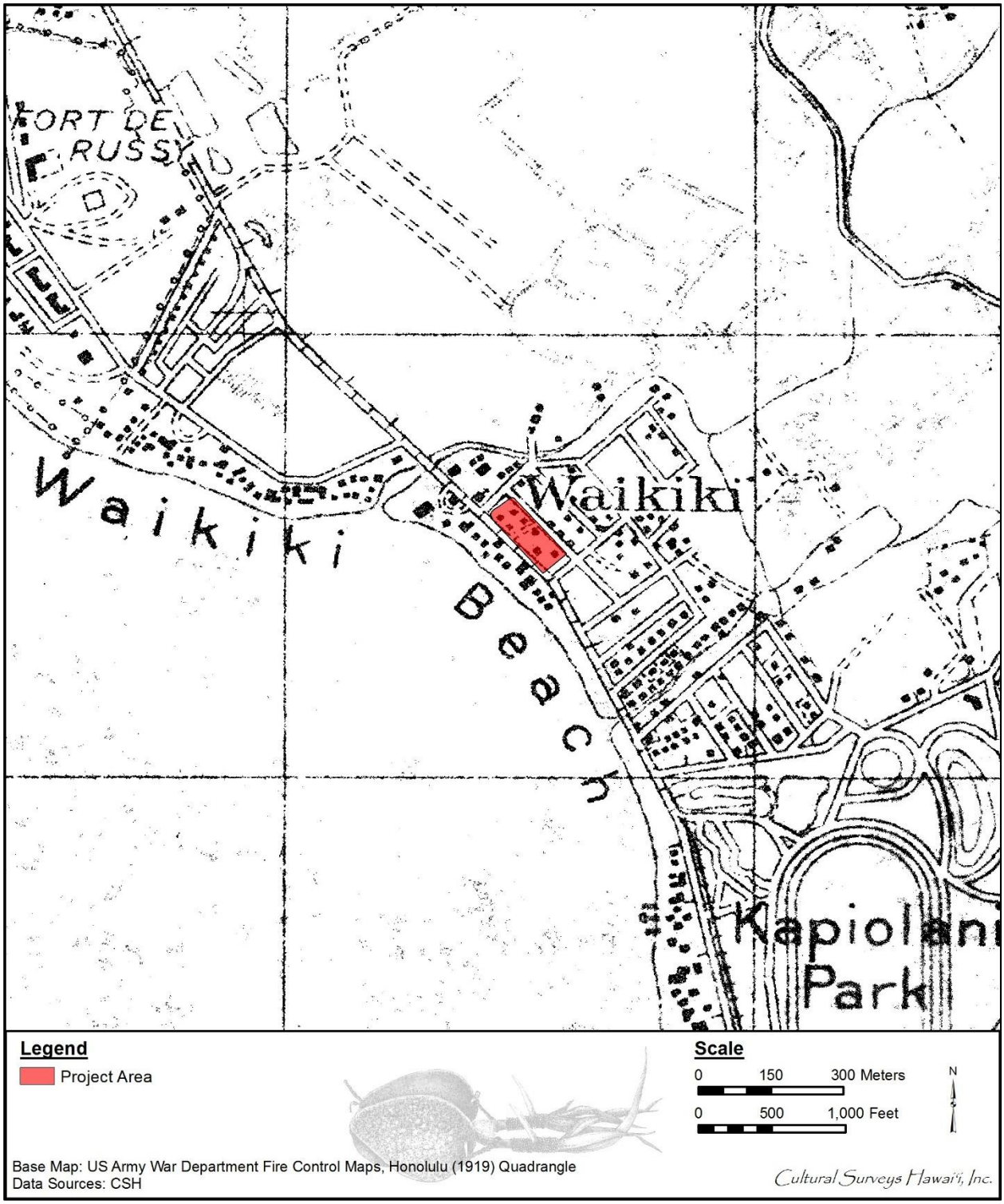


Figure 16. Portion of a 1919 U.S. Army War Department fire control map (Honolulu quadrangle) with project area location, showing growth of streets and housing

Figure 17. 1920 photograph of Waikīkī before construction of the Ala Wai Canal; land around the project area (right side of the photo) is more developed than the areas to the left (photograph reprinted in Grant 1966:63)

Figure 18. View of the Āpuakēhau *muliwai* or lagoonal backwater, ca. 1901 (left central portion of picture); Moana Hotel in background view to northeast (photograph reprinted in Acson 1983:55)

During the course of the Ala Wai Canal’s construction, the banana patches and ponds between the canal and the *mauka* side of Kalākaua Avenue were filled and the present grid of streets was laid out. These newly created land tracts spurred a rush to development in the 1930s. A 1928 *Honolulu Star-Bulletin* article extolled the area’s progress:

> The expansion of apartment and private residence construction is no secret. Examination of building permits will show that more projects have been completed during the past year, and more are now underway in this area, than in any other section of the territory.
>
> These developments are being made by island residents who have recognized the fact that Waikīkī presents the unparalleled possibility for safe investment with excellent return. [Newton 1938:10]

The writer speculated that the “future of Waikīkī is assured.” The 1933 U.S. Army War Department fire control map (Honolulu quadrangle) shows the increasing urbanization of the area (Figure 19).

3.1.6 1940s to the Present

The entrance of the United States into World War II following the Japanese bombing of Pearl Harbor on 7 December 1941 put plans to develop Waikīkī as a tourist destination on hold. Until the war’s end in 1945, the tourist trade was non-existent “since the Navy controlled travel to and from Hawai‘i and did not allow pleasure trips” (Brown 1989:141).

For the duration of the war, Waikīkī was transformed into a recreation area for military personnel.

> It was not the same Waikīkī as before the war, though; barbed wire barricades now lined its sands, and there were other changes too. Fort DeRussy became a huge recreation center, with a dance hall called Maluhia that attracted thousands of menat a time. The Moana Hotel continued to function, but many other establishments and private homes in the area were taken over by the military. [Brown 1989:141]

Near the war’s end, concerns began arising over the future of Waikīkī. An article in the *Honolulu Advertiser* of 16 July 1945 decried “honky-tonks” that had sprung up in Waikīkī during the course of the war, and asked, “Can anyone look at present-day Kalākaua Ave.—lined with makeshift curio shops, noisy ‘recreation’ centers, eyesores that pass under the name of lunchrooms and miscellany of ‘joints’—and hope that Waikīkī can stage a comeback [as a tourist destination]?”

By the mid-1950s, there were more than 50 hotels and apartments from the Kālia area to the Diamond Head end of Kapi‘olani Park. The Waikīkī population was not limited to transient tourists, but also included 11,000 permanent residents living in 4,000 single dwellings and apartments in stucco or frame buildings. However, by the late 1950s, a row of retail shops had been constructed along Kalākaua Avenue. Many of the older, smaller structures visible on the 1943 U.S. War Department map may have been replaced by larger and newer structures before 1956 (Figure 20 and Figure 21).

In modern times (based on the 2000 census), the resident population of Waikīkī was about 19,729 people, 2.3% of the population of the island of O‘ahu as a whole. Every day 72,000 visitors

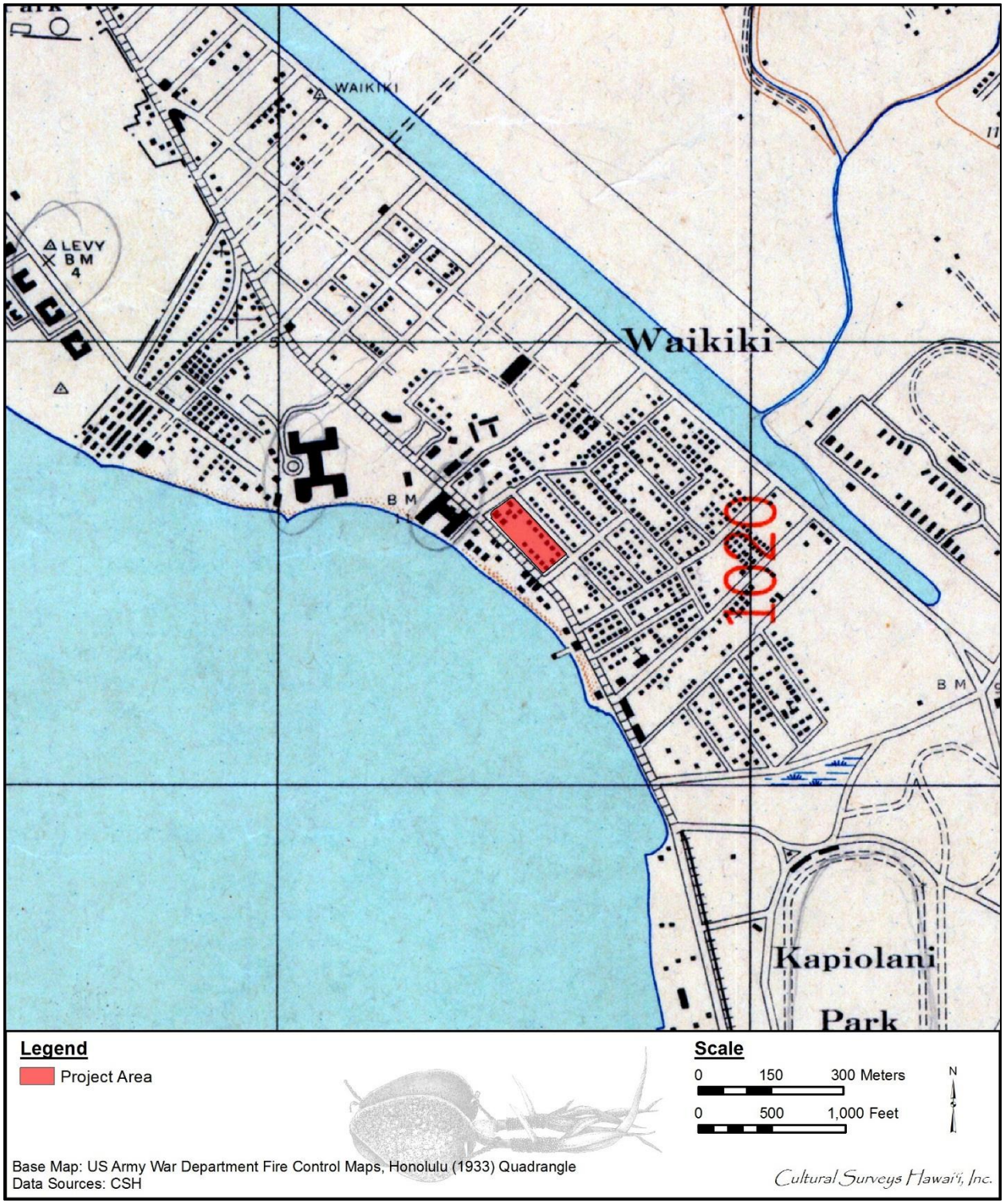


Figure 19. Portion of 1933 U.S. Army War Department fire control map (Honolulu quadrangle) showing the project area amongst increasingly urbanized setting

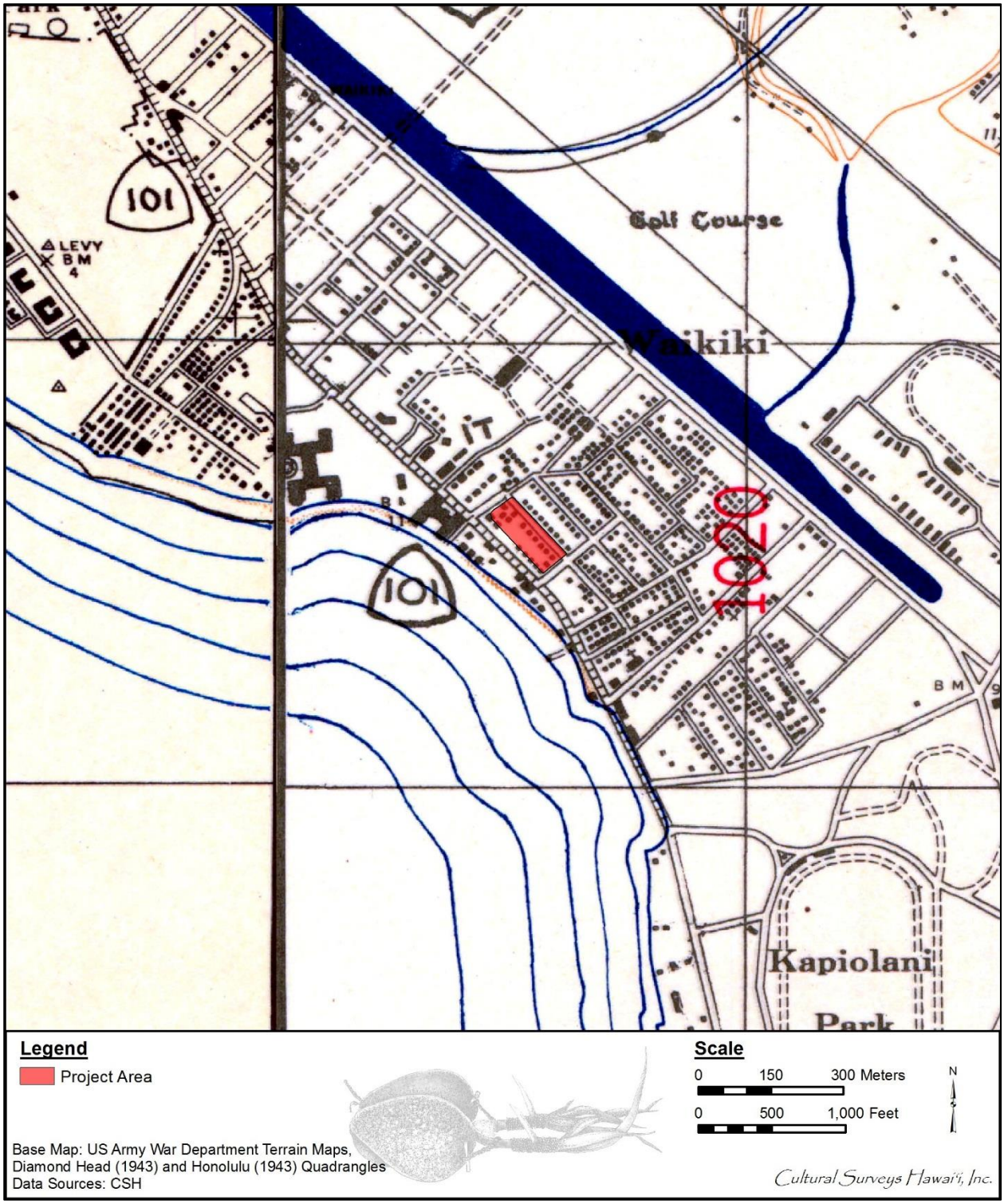


Figure 20. Portion of a 1943 U.S. Army War Department terrain map (Diamond Head and Honolulu Quadrangles) showing the project area

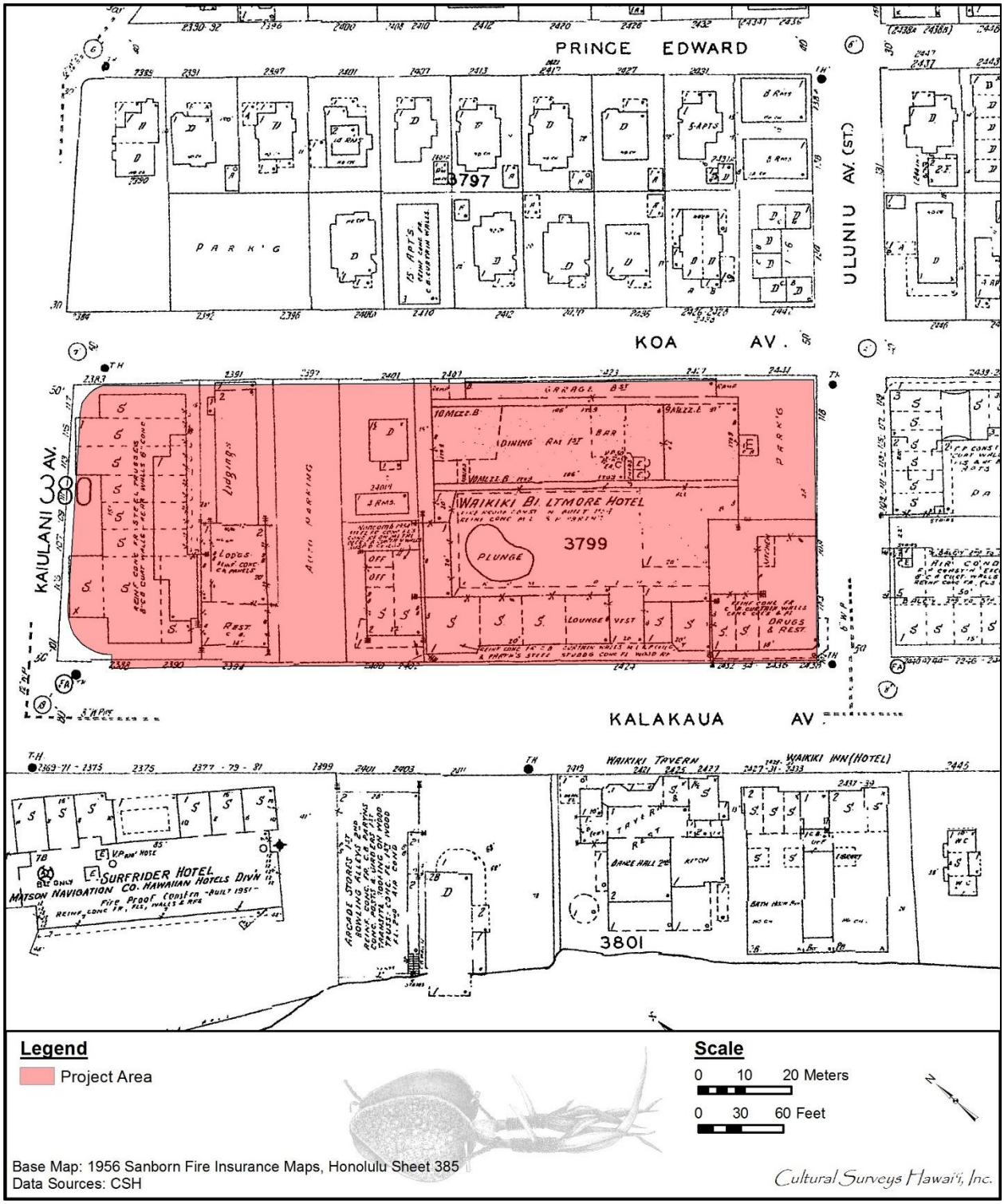


Figure 21. Portion of a 1956 Sanborn Fire Insurance map; note that newer structures have been added since the 1933 and 1943 maps

pay for a room in one of Waikīkī’s 921, apartments, hotel, or vacation units or spend money in one of the many shops, restaurants, or other attractions. The 2000 census provided evidence for Waikīkī’s importance to the economy of the Hawaiian Islands, stating that “Directly and indirectly, the small, one square mile of Waikīkī can be associated with supporting 11% of all civilian jobs in the state and 12% of state and local tax revenues” (DBEDT 2014).

3.2 Previous Archaeological Research

The Waikīkī Ahupua‘a, in the centuries before the arrival of Westerners, was an intensely utilized area with abundant natural and cultivated resources that supported a large population. In the nineteenth century and early twentieth century, after a period of depopulation, Waikīkī was inhabited by Hawaiians and foreigners residing there, and by farmers continuing to work the irrigated field system that had been converted from taro to rice. Farming continued up until the 1920s when the construction of the Ala Wai Canal drained the remaining ponds and irrigated fields. Remnants of the pre-Contact and historical occupation of Waikīkī have been discovered and described in archaeological reports, usually in connection with construction activities related to urban development or infrastructural improvements. These discoveries, which have occurred throughout Waikīkī, have included many traditional Hawaiian and historic human burials and cultural deposits. Only those studies within approximately 400 m in any direction from the current project area are discussed. Projects conducted in the Waikīkī area are summarized in Table 2 and depicted on Figure 22. Historic properties and burial sites within the vicinity of the project area are depicted on Figure 23. A list of Waikīkī burial finds held in the osteological collections of the Bishop Museum is presented in Table 3.

Table 2. Previous Archaeological Investigations within Approximately 400 m of Project Area

Reference	Investigation	General Location	Results (SIHP # 50-80-14-)
Griffin 1987	Burial recovery	Along Kalākaua Ave near corner of Kai‘ulani St	Bones removed and bagged by construction crew, burial found in *makai* wall of gas pipe excavation; designated SIHP # -3745
Chiogioji and Hammatt 1991	Assessment	Two parcels, TMKs: [1] 2-6-024:065–068 and 080–083, [1] 2-6-024:034–040 and 042–045	Formerly a corner of the ‘Āinahau estate; remainder of parcels, former *‘auwai*, *kalo*, and rice fields; test excavations and specific sampling strategy recommended
Kennedy 1991	Archaeological monitoring	TMK: [1] 2-6-022:014 IMAX theatre location	Pollen and sediment samples from ponded sediments collected; three ^{14}C dates and pollen sequence inverted
Simons et al. 1991	Interim field study, data recovery, monitoring	Moana Hotel area	Identified 24 burials within Moana Hotel area (SIHP # -9901); preliminary osteological analysis indicates pre-Contact type; pre- and post-Contact artifacts collected; burials designated part of SIHP # -1974

Reference	Investigation	General Location	Results (SIHP # 50-80-14-)
McDermott et al. 1996	Inventory survey	Two lots by Lili‘uokalani Ave and Cleghorn St, TMKs: [1] 2-2-024:034–040, 042–045, 080–082	Buried remnants of *‘auwai* and *lo‘i* sediments (SIHP # -5459); encountered in situ flexed burial (SIHP # -5460); radiocarbon dates and likely *lo‘i* sediments suggest pre-Contact age
Beardsley and Kaschko 1997	Archaeological monitoring and data recovery	Pacific Beach Hotel Office Annex	Subsurface cultural layer with traditional Hawaiian cultural deposits and two human burials; also reported three ^{14}C dates; SIHP # -4224 includes subsurface cultural layer and associated burials and a separate historic trash pit
Perzinski et al. 2000	Burial mitigation	Kalākaua Ave between Kai‘ulani Monsarrat Aves	Idnetified 44 sets of human remains (SIHP #s -5856, -5857, -5858, -5859, -5860, -5861, and -5862); 37 disinterred, seven left in place; believed to be Native Hawaiian, interred prior to 1820
Cleghorn 2001a and 2001b	Burial mitigation	Ohua Ave and Kalākaua Ave	Encountered two in situ, and two previously disturbed fragmented human remains (SIHP # -5861) during excavations for a Burger King and adjoining ABC store
Elmore and Kennedy 2001	Inadvertent finds	Royal Hawaiian Hotel, TMK: [1] 2-6-002:005	Single inadvertent find (SIHP # -5937); in situ, extended burial disturbed during excavation for a conduit line
Winieski and Hammatt 2001	Archaeological monitoring	Kalākaua Ave from Waikīkī Aquarium to Ohua Ave, Ohua Ave to Kuhio Ave	Documented discontinuous A horizon (SIHP # -5883) near Waikīkī Bandstand to intersection of Kalākaua and Monsarrat Ave; partial, previously disturbed human burial (SIHP # -5797) encountered at the intersection of Ohua and Kuhio Ave; historic dog burial and probable *imu* pit also documented
Winieski et al. 2001	Archaeological monitoring	Kalākaua Ave from Ka‘iulani Ave to Kapahulu Ave	Encountered 10 human burials, two in situ and eight previously disturbed; likely pre-Contact; associated with SIHP #s -5858, -5862, and -5863; also documented portion of historic seawall (SIHP # -5948) and discontinuous subsurface cultural layer (SIHP # -5940)

Reference	Investigation	General Location	Results (SIHP # 50-80-14-)
Bush et al. 2002	Archaeological monitoring	Kalākaua Ave, between Ala Moana Blvd and Kapahulu Ave	Encountered four human burials, likely of pre-Contact age (associated with SIHP #s -5856, -5860, and 5864); also documented entire pig within an *imu* pit (estimated ca. AD 1641-1671), gleyed sediments associated with former ponds, and three historic trash pits; no SIHP # assigned
Mann and Hammatt 2002	Archaeological monitoring	Lili‘uokalani Ave and Uluniu Ave	Encountered four previously disturbed remains and one in situ burial comprising six individuals (Finds 1–5); three finds not designated SIHP, in situ burial designated component of SIHP # -6369, and one disturbed burial consisting of two individuals designated component of SIHP # -5859; also documented two historic trash pits, SIHP #s -6372 and -6398
Winieski et al. 2002	Archaeological monitoring	Kalākaua Ave between Ka‘iulani and Monsarrat Aves	Documented 44 human burials (SIHP #s -5856, -5857, -5858, -5859, -5860, -5861, and -5862), 37 disinterred and seven left in place; also documented subsurface cultural layer (SIHP # -5940) containing traditional Hawaiian artifacts, midden, fire pits, and charcoal; observed fragment of light gauge rail, remnant of Honolulu Transit trolley system (SIHP # -5942), and low energy alluvial sediments associated with now channelized *muliwai* Kuekaunahi (SIHP # -5943)
Bush et al. 2003	Archaeological monitoring	International Marketplace	No historic properties identified
Kailihiwa and Cleghorn 2003	Archaeological monitoring	Lau‘ula St, Royal Ave between Kalākaua and Kūhiō Ave, and Waikoulu Way between Royal Hawaiian Ave	No historic properties identified

Reference	Investigation	General Location	Results (SIHP # 50-80-14-)
Tome and Dega 2003	Archaeological monitoring	Waikiki Marriot, TMK: [1] 2-6-026:003	No historic properties identified but did encounter one fragment of possible human osseous remains from modern trash and imported fill layer
Chiogioji et al. 2004	Inventory survey	Tusitala Vista Elderly Apartment	Encountered previously disturbed, disarticulated remains (SIHP # -6705); also documented subsurface cultural layer associated with former ‘Āinahau estate (SIHP # -6682), remnants of an *‘auwai* source from ‘Āpuakēhau Stream (SIHP # -6706), and remnant agricultural stone wall (SIHP # -6707)
Chiogioji and Hammatt 2004a	Assessment	Royal Hawaiian Shopping Center, TMK: [1] 2-6-002:018	No historic properties identified
Chiogioji and Hammatt 2004b	Literature review	International Market Place, TMKs: [1] 2-6-022:036, 037, and 043	Literature review, no finds
Esh and Hammatt 2004	Archaeological monitoring	Ala Wai Blvd Improvements between McCully St and Kapahulu Ave	No historic properties identified
Havel and Spear 2004	Archaeological monitoring	ABC Store No. 21, TMK: [1] 2-6-021:101	No historic properties identified
Bush and Hammatt 2005	Archaeological monitoring	Uluniu Ave	No historic properties identified
O’Leary, et al. 2005	Inventory survey	1-acre parcel, 2284 Kalākaua Ave (former Waikiki 3 Theatre); TMK: [1] 2-6-022:009	Encountered one in situ burial (SIHP # -6703)
Esh and Hammatt 2006a	Archaeological monitoring	Kūhiō Ave	One in situ dog burial encountered
Esh and Hammatt 2006b	Archaeological monitoring	Kūhiō Ave, Ka‘iulani to Kapahulu	No historic properties identified

Reference	Investigation	General Location	Results (SIHP # 50-80-14-)
Groza et al. 2007	Literature review and field inspection	Waikiki Marriot, TMK: [1] 2-6-026:009	No historic properties identified within the project area
Hammatt and Shideler 2007	Archaeological monitoring	Grease interceptor at Sheraton Moana Surfrider Hotel	No historic properties identified; thick fill noted
Pammer and Hammatt 2007	Archaeological monitoring	Perry’s Smorgy Restaurant, TMK: [1] 2-6-021:114	No historic properties identified
Tulchin and Hammatt 2007	Data recovery	Tusitala Vista Elderly Apartments, TMK: [1] 2-6-024: 070, 071, and 089	Presents palynological and radiocarbon analysis tracing paleo-environmental change and man-made alterations of landscape at SIHP # -6707
Hazlett, Chiogioji, Borthwick, and Hammatt 2008	Archaeological monitoring	Royal Hawaiian Shopping Center Parcel, TMK: [1] 2-6-002:018	No historic properties identified
Hazlett, Esh, and Hammatt 2008	Archaeological monitoring	2284 Kalākaua Ave, TMK: [1] 2-6-022:009	No historic properties identified
Runyon et al. 2008	Assessment	Improvements to Royal Hawaiian and Sheraton Hotels, TMKs: [1] 2-6-002, 005, 006	Two isolated human skeletal remains and cultural materials found within disturbed sand, and several small possible features identified; remains reinterred in designated burial area in project area; no SIHP # assigned
Thurman and Hammatt 2008	Archaeological monitoring	Royal Hawaiian and Sheraton Waikiki Hotels, TMKs: [1] 2-6-002:005, 006, and 026	No historic properties identified
Kahahane and Cleghorn 2009	Archaeological monitoring	Nohonani St, Nāhua St, Walina St, and Lili‘uokalani Ave	No historic properties identified

Reference	Investigation	General Location	Results (SIHP # 50-80-14-)
Thurman et al. 2009	Inventory survey	Diamond Head Tower Redevelopment project, TMK: [1] 2-6-001:012 por.	Documented historic trash pit (SIHP # -7069) dating to late nineteenth through early twentieth century and intact cultural layer (SIHP # -7068) radiocarbon dated to AD 1801–1939; isolated human tarsal phalange encountered (no SIHP # assigned)
Runyon, Shideler, and Hammatt 2010	Archaeological monitoring	Moana Surfrider Hotel Wedding Chapel, TMK: [1] 2-6-001:012 por.	No historic properties identified
Runyon, Yucha, Shideler, and Hammatt 2010	Inventory survey	Princess Ka‘iulani Redevelopment project	Three sites: SIHP # -7065, former Kawaiaha‘o Waikīkī Branch Church and Cemetery parcel, SIHP # -7066, cultural layer, and SIHP #-7067, an extended in situ burial
Hammatt et al. 2012	Inventory survey	International Market Place, Waikiki Town Center, and Miramar Hotel	Identified three historic properties, subsurface cultural layer (SIHP # -7307), burials with associated activity area (SIHP # -7308), remnants of early hotel infrastructure and bottle cache and trash deposit (SIHP # -7309)
Yucha et al. 2013	Inventory survey	St. Augustine-by-the-Sea Church in Waikīkī	Documented subsurface cultural layer (SIHP # -7135) with human interment complex (SIHP # -7136); SIHP # -7135 contained cultural material and disarticulated human remains in one excavation; within SIHP # -7136 two in situ burials identified (SIHP # -7136 Features A and B)
Bellville 2014	Archaeological monitoring	McDonald’s Restaurant, 2476 Kalākaua Ave	Encountered previously identified cultural layer (SIHP # -5940); identified nine additional features (D–L): six pit features, fire pit, charcoal lens, and possible basalt wall
Inglis et al. 2014	Inventory Survey	133 Kai‘ulani	Documented subsurface cultural layer (SIHP # -7598) and single human vertebrae (SIHP # -7599)

Table 3. References to Burial Finds in Waikīkī within 400 m of the Current Project Area (adapted from the Bishop Museum NAGPRA Inventory)

Date	Account	Source
1923	. . . one individual from the ‘Āinahau district, Waikīkī . . .	FR* page 2; BPBM records indicate this was ID No. OA0018 “found by Hawaiian Dredging Company by dredge Kewalo”
1964	Two accessions from 2431 Prince Edward St	BPBM records indicate this was ID No. OA0462 and OA0463 from ‘Ewa side of lot *makai* of Prince Edward St
1967	. . . one individual from Waikīkī . . .	FR* page 11; BPBM records indicate this was ID No. OA0516 from the “Tahiti by Six” at the International Market Place

FR* = Federal Register 28 January 1998 (Volume 63, Number 18)

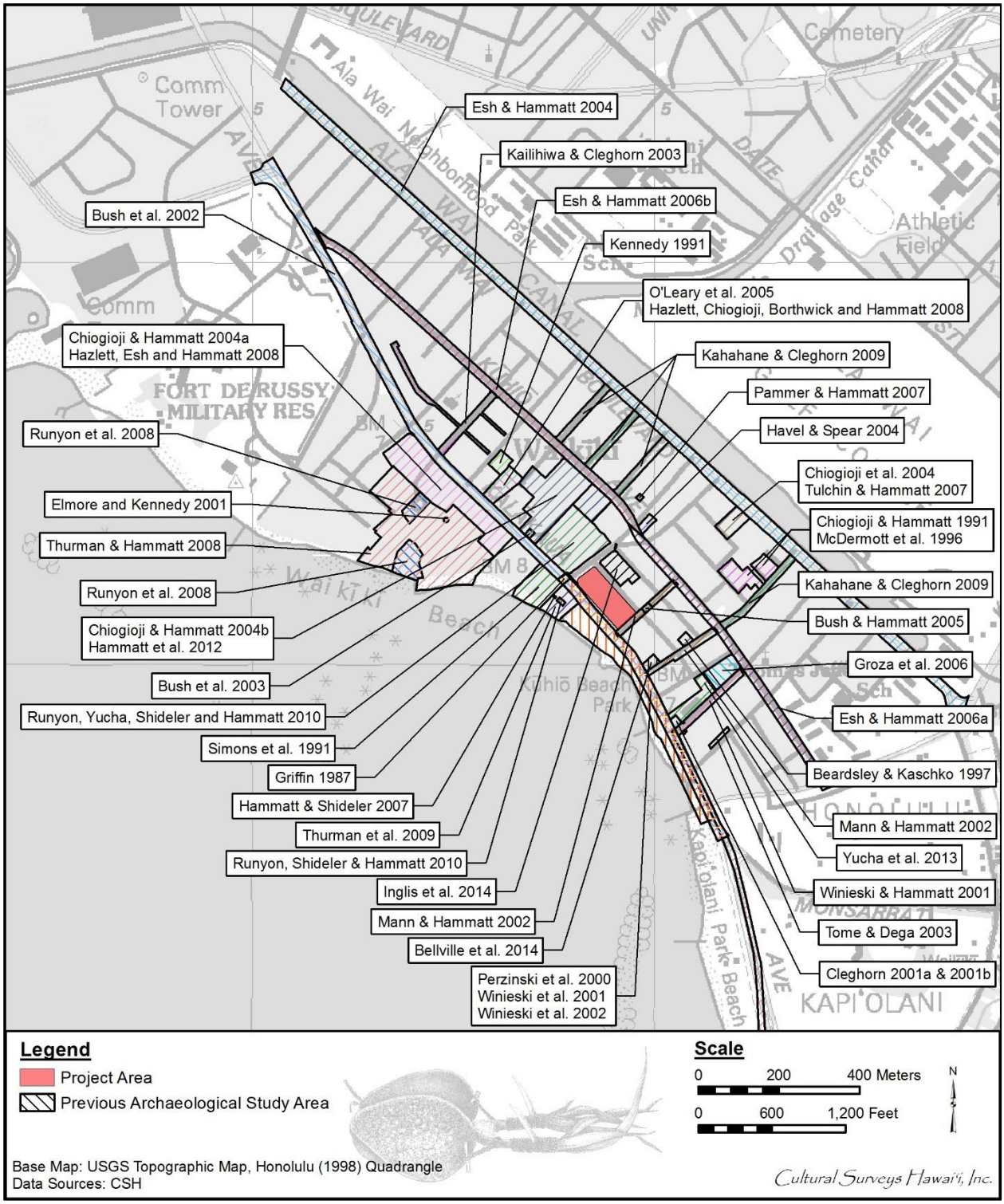


Figure 22. Portion of 1998 Honolulu USGS 7.5-minute topographic quadrangle showing the location of previous archaeological investigations within the project area and immediate vicinity

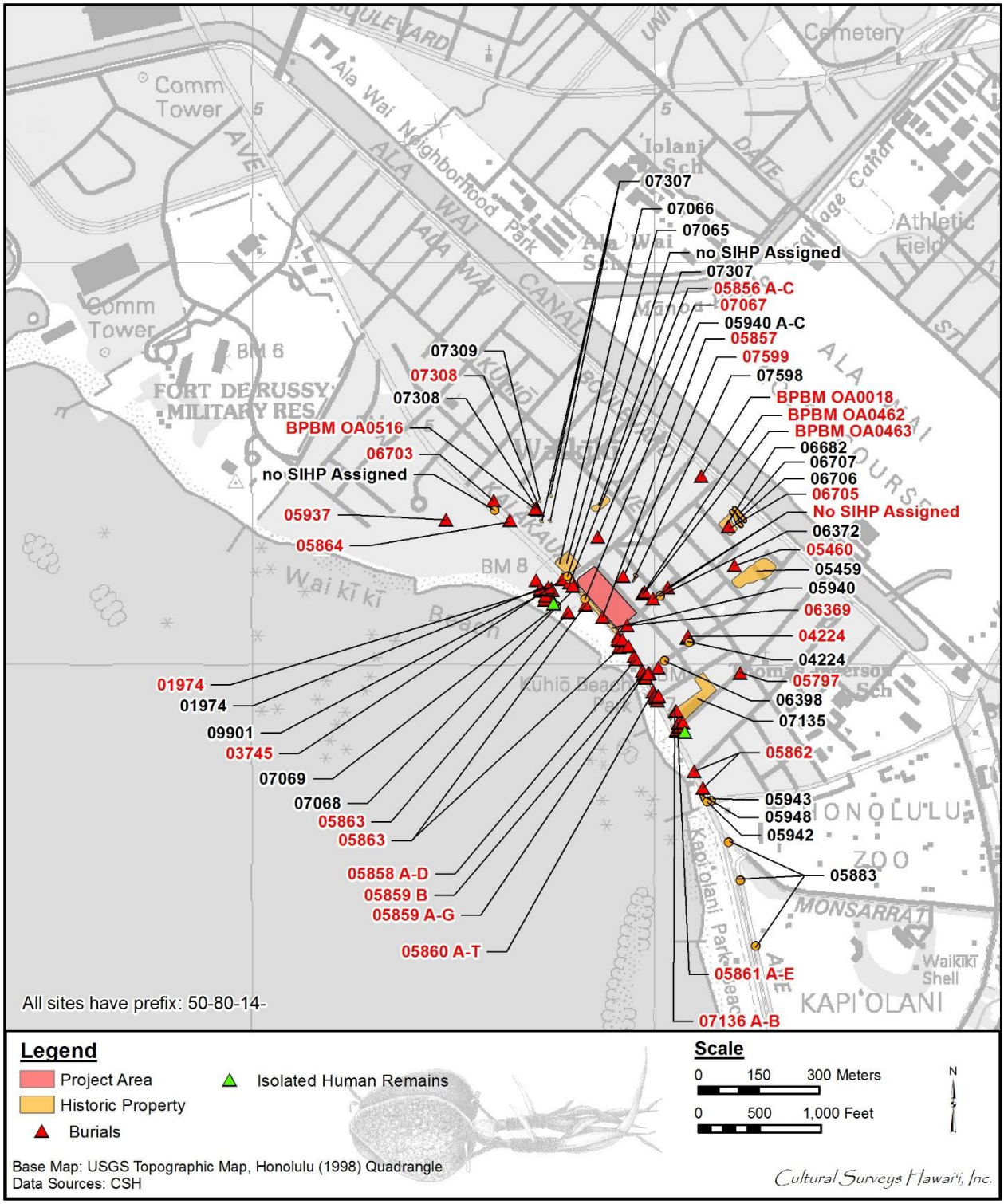


Figure 23. Portion of a 1998 Honolulu USGS 7.5-minute series topographic quadrangle showing the location of historic properties and burials within the project area and immediate vicinity

3.2.1 NAGPRA and Bishop Museum Records

Early records of human remains encountered in the Waikīkī Ahupua‘a within 400 m of the project area comes from the Bernice Pauahi Bishop Museum (BPBM) Native American Graves Protection and Repatriation Act (NAGPRA) Inventory. The majority of these finds were collected and donated to the BPBM for cataloging and long term curation. The remains donated to the BPBM were typically assigned an identification number separate from an associated state SIHP (if applicable).

In 1923 human remains consisting of a single individual (ID No. OA0018) were donated to the BPBM. The remains were collected from the ‘Āinahau district and donated by Hawaiian Dredging Company. The remains may have been encountered during dredging of the Kewalo area (Federal Register 28 January 1998, Volume 63, Number 18).

In 1964 human remains of possibly two individuals (ID No. OA0462 and OA0463) were recovered by Hirano Contractors at 2431 Prince Edward Street in Waikīkī. The remains were donated to the BPBM by Lloyd J. Soehren (Federal Register 28 January 1998, Volume 63, Number 18).

In 1967 human remains representing a single individual (ID No. OA0516) were collected from the International Market Place in Waikīkī, where the “Tahiti by Six” restaurant was being constructed. A single shell was associated with the remains. The remains were donated to the BPBM by Lloyd J. Soehren (Federal Register 28 January 1998, Volume 63, Number 18).

3.2.2 Griffin 1987

Although no formal report was produced, in 1987 a human burial was discovered and removed at the intersection of Kalākaua Avenue and Ka‘iulani Street. The remains were encountered during excavations for a gas pipe fronting the Moana Hotel on the *makai* side of Kalākaua Avenue. Griffin and Albert Ah Nee, representing the Medical Officer’s office, found the remains already removed from a pit within “a matrix of dark gray, silty sand,” presumably the buried A horizon (Griffin 1987:1). The remains were designated SIHP # -3745 and given to Mr. Albert Ah Nee.

3.2.3 Chiogioji and Hammatt 1991

Chiogioji and Hammatt (1991) conducted an archaeological assessment of two parcels (TMKs: [1] 2-6-024:065–068 and 080–083, and [1] 2-6-024:034–040 and 042–045). The project area was within the former ‘Āinahau estate and was comprised of *‘auwai*, taro, and rice fields. Subsurface testing along with specific sampling strategy were recommended.

3.2.4 Kennedy 1991

In October 1991, Archaeological Consultants of Hawaii Inc. (ACH) monitored subsurface excavations for the proposed IMAX Theater Construction project in Waikīkī. Potential pre-Contact lagoon deposits were collected and analyzed. The study included radiocarbon and pollen analysis which showed that the area was disturbed and not considered significant (Kennedy 1991).

3.2.5 Simons et al. 1991

In 1991 Bishop Museum archaeologists conducted archaeological monitoring and data recovery work for the Moana Hotel Historical Rehabilitation project. The archaeologists largely monitored activities within the basement and Banyan Court of the Moana Hotel, SIHP # -9901. A total of 24

burials were recovered during project excavations, most of which were considered pre-Contact. Pre- and post-Contact artifacts and their features were described. The burials were designated components of SIHP # -1974 (Simons et al. 1991). The recovered remains were reinterred within the project area.

3.2.6 McDermott et al. 1996

In 1996, CSH conducted an archaeological inventory survey of two parcels (TMKs: [1] 2-2-024:034–040, 042–045, 065–068, and 080–082) at Lili‘uokalani Avenue and Tusitala Street. McDermott et al. (1996) documented the buried remnants of an *‘auwai* and *lo‘i* sediments (SIHP # -5459) and an in situ flexed burial (SIHP # -5460). SIHP # -5460 was left in place. Both traditional Hawaiian and historic artifacts were also found within the project area.

3.2.7 Beardsley and Kaschko 1997

Beardsley and Kaschko (1997) conducted archaeological monitoring and data recovery for the Pacific Beach Hotel Office Annex. A total of seven features and two human burials, one in situ and one possibly in situ, were documented within the project area associated with a late pre-Contact subsurface cultural layer. A separate historic trash pit was also documented within the project area. The subsurface cultural layer and associated features and burials, and the historic trash pit were designated as components of SIHP # -4224. The two burials were disinterred and turned over to SHPD for reburial (Beardsley and Kaschko 1997).

3.2.8 Perzinski et al. 2000

Between 10 November 1999 and 1 June 2000, CSH monitored the installation of a 16-inch water main along Kalākaua Avenue from Ka‘iulani Avenue to Monsarrat Avenue and for lateral tie-ins at Lili‘uokalani, Kealohalani, ‘Ōhua, and Paoakalani avenues. Forty-four human burials (SIHP #s -5856 through -5862) and associated cultural deposits were encountered during excavation. Thirty-seven of the burials were disinterred and seven burials were left in place. In addition, all of the burials were associated with calcareous beach sand deposits; however, no historic artifacts were found in association with the burials (Perzinski et al. 2000).

3.2.9 Cleghorn 2001a and 2001b

On 2 May and 14 June 2001, two in situ (Burials 1 and 4) and two previously disturbed (Burials 2 and 3) human burials were encountered at the site of a new Burger King (Cleghorn 2001a) and an adjoining ABC Store (Cleghorn 2001b). The finds were located at the intersection of ‘Ōhua Street and Kalākaua Avenue and due to their proximity to five burials encountered during the Kalākaua 16-inch Water Main Installation project (Winieski et al. 2002), they were included with SIHP # -5861. Burials 1–3 were recovered and reinterred, and Burial 4 was left in place. Volcanic glass fragments were found in association with one of the burials. A cultural layer also was observed which contained moderate to heavy concentrations of charcoal and fragments of volcanic glass. Historic era artifacts including a bottle fragment, plastic and glass buttons, a ceramic fragment, and metal fragments also were encountered within fill deposits.

3.2.10 Elmore and Kennedy 2001

In April 2001, Archaeological Consultants of the Pacific, Inc. (ACP) documented human remains inadvertently encountered at the Royal Hawaiian Hotel (TMK: [1] 2-6-02:005 por.). The remains were disturbed during excavation for a conduit line. The remains and three shell buttons

were recovered from back dirt piles via screening. The remains originated from an in situ, extended burial consisting of one individual (SIHP # -5937). The in situ portion of the burial also had a shell button and drilled dog tooth associated with it. The burial was considered to be of post-Contact origin. The recovered remains were reinterred with the in situ portion. ACP monitored the remainder of excavations within the vicinity of SIHP # -5937 (Elmore and Kennedy 2001).

3.2.11 Winieski and Hammatt 2001

From September 1997 to September 1998, archaeological monitoring was conducted along Kalākaua Avenue for the Public Baths Waste Water Pumping Station and Force Main Replacement project in Waikīkī. Monitoring was conducted from the Waikīkī Aquarium along Kalākaua Avenue to ‘Ōhua Avenue and along ‘Ōhua Avenue to Kūhiō Avenue. A buried A horizon (SIHP # -5883) was documented along Kalākaua Avenue near the Waikīkī Bandstand area. The A horizon contained a probable fire pit or *imu* feature. The previously disturbed, partial remains of a human burial (SIHP # -5797) were encountered near the intersection of ‘Ōhua and Kūhiō avenues. The human remains were given to the SHPD Burials Program for curation. An in situ historic dog burial with a metal collar was also observed (Winieski and Hammatt 2001).

3.2.12 Winieski et al. 2001

From January to October 2000, ten human burials (SIHP #s -5858, -5862, and -5863) were encountered during archaeological monitoring of the Kūhiō Beach Extension/Kalākaua Promenade project. Two of the burials were in situ within a natural sand layer while the remaining eight were previously disturbed and encountered in fill or disturbed sand. Four of the burials were left in place while six were disinterred and reburied within a shrine on the corner of Kapahulu and Kalākaua avenues. A discontinuous, buried cultural layer (SIHP # -5940) and a portion of a historic seawall (SIHP # -5948) were also documented (Winieski et al. 2001).

3.2.13 Bush et al. 2002

Between July 1999 and October 2000, CSH completed archaeological monitoring for Phase II of the Waikīkī Anti-Crime Street Lighting Improvement project along Kalākaua Avenue from Ala Moana Boulevard to Kapahulu Avenue (Bush et al. 2002). During archaeological monitoring four human burials were encountered. The first burial was encountered on Kalākaua Avenue, just before Dukes Lane and assigned to SIHP # -5864. The burial was left in place and the light post was repositioned. The second burial was encountered at the intersection of Kalākaua and Ka‘iulani avenues. Previously, Perzinski et al. (2000) described 44 burials encountered during archaeological monitoring for the water mains project, two of which (SIHP # -5856 Features A and B) were recovered in the immediate area of the second burial Bush et al. (2002) encountered. Due to its close proximity to SIHP # -5856 Features A and B, the second burial documented by Bush et al. (2002) was designated SIHP # -5856 Feature C. The third and fourth burials encountered by Bush et al. (2002) were recovered at the intersection of Kalākaua Avenue and Kealohilani, near a concentration of burials previously described by Perzinski et al. (2000). Perzinski et al. (2000) designated the concentration of burials as components of SIHP # -5860 (Features A–T). Consequently, Bush et al. (2002) designated the third and fourth burials he documented as SIHP # -5860 Features U and V. SIHP # -5864 was left in place, while SIHP #5856 Feature C and SIHP # -5860 Features U and V were reinterred in a shrine on the corner of Kapahulu and Kalākaua avenues. In addition to the burials, in the central and southern portions of the project

area, archaeologists documented intermittent wetland sediments associated with Waikīkī fishponds and *muliwai* (stream), several historic to modern era trash pits, and one *imu* (fire pit) with an in situ pig skeleton. Wetland sediments were documented between Ala Moana Boulevard and Kuamo‘o Street and believed to be associated with the Loko Kaipuni complex. One historic to modern trash pit was identified at the intersection of Ala Moana Boulevard and Kalākaua Avenue. The wetland sediments and historic trash pits were not designated sites.

3.2.14 Mann and Hammatt 2002

In 2001 and 2002, CSH performed archaeological monitoring for the installation of 8- and 12-inch water mains on Uluniu Avenue and Lili‘uokalani Avenue. During the course of monitoring, five burial finds consisting of six individuals were recorded within the project area (Mann and Hammatt 2002). Four burial finds were recorded on Uluniu Avenue, with three of these inadvertent finds found in fill sediment. Due to the nature of the three burial finds in fill, and in consultation with Dr. Sarah Collins of SHPD, it was concluded that no SIHP number(s) be assigned to these three previously disturbed burials. The only primary in situ burial encountered on Uluniu Avenue was assigned SIHP # -6369. The fifth burial was encountered on Lili‘uokalani Avenue in fill material and consisted of two individuals. Winieski et al. (2002) found three burials in the immediate vicinity during a previous project and assigned the burials to SIHP # -5859 (Features E–G). Consequently, the two newly identified burials documented by Mann and Hammatt (2002) were designated SIHP # -5859 Feature H. The burials were reinterred with other remains in a shrine on the corner of Kapahulu and Kalākaua avenues. In addition to the burials, two historic trash pits (SIHP #s -6372 and -6398) were also documented.

3.2.15 Winieski et al. 2002

In their 2002 report, Winieski et al. describe the results of monitoring for the installation of a 16-inch water main along Kalākaua Avenue from Ka‘iulani Avenue to Monsarrat Avenue. A total of 44 human burials were encountered, 37 of which were disinterred (Perzinski et al. 2000). Winieski et al. (2002) documented a buried cultural layer (SIHP # -5940) that contained traditional Hawaiian artifacts, midden, hearths, fire pits, and charcoal. Also documented were a fragment of light gauge rail (SIHP # -5942) and alluvial sediments associated with the *muliwai* Kukaunahi (SIHP # -5943).

3.2.16 Bush et al. 2003

Between 7 and 8 October 2002, CSH conducted archaeological monitoring for the installation of a sign at the International Marketplace in Waikīkī. Excavations included two auger holes; the only cultural material observed consisted of modern trash. No historic properties were observed (Bush et al. 2003).

3.2.17 Kailihiwa and Cleghorn 2003

In 2003, Pacific Legacy, Inc., under contract to the Honolulu Board of Water Supply, conducted archaeological monitoring services for the Waikīkī Water System Improvements project (Kailihiwa and Cleghorn 2003). No archaeological sites or features were recorded in the area and no human remains were encountered.

3.2.18 Tome and Dega 2003

In May 2003, Scientific Consultant Services, Inc. (SCS), conducted archaeological monitoring at the Waikiki Marriot Hotel (TMK: [1] 2-6-26:003). During monitoring, imported fill material dominated the stratigraphy with only a small pocket of natural sediment in one excavation. Although no historic properties were observed, a single fragment from possible human osseous material was encountered (Tome and Dega 2003).

3.2.19 Chiogioji et al. 2004

In October 2004, CSH conducted an archaeological inventory survey for the Tusitala Vista Elderly Apartments in Waikīkī (TMKs: [1] 2-6-24:070–071). The inventory survey identified four historic properties, including a buried A horizon associated with the former ‘Āinahau estate (SIHP # -6682), a remnant *‘auwai* from the ‘Āpuakēhau Stream (SIHP # -6706), a remnant agricultural stone wall (SIHP # -6707), and one burial (SIHP # -6705). The burial encountered was previously disturbed, disarticulated remains of a single individual. The burial was recovered and subsequently reinterred in the same location. Archaeological monitoring was recommended for future subsurface work in the vicinity of SIHP # -6705 and data recovery was recommended for SIHP # -6707 (Chiogioji et al. 2004).

3.2.20 Chiogioji and Hammatt 2004a

In 2004, an archaeological assessment was performed for the Royal Hawaiian Shopping Center (TMK: [1] 2-6-002:018) in Waikīkī. Background and archival research indicated numerous burials have been encountered in the vicinity along Kalākaua Avenue and on the grounds of the Royal Hawaiian Hotel. Additionally, intact subsurface pre-Contact and historic cultural deposits may be present. No historic properties were documented but an archaeological monitoring plan was recommended for excavation below modern fill layers within the project area (Chiogioji and Hammatt 2004a).

3.2.21 Chiogioji and Hammatt 2004b

In 2004, an archaeological literature review was conducted for the International Market Place in Waikīkī (TMKs: [1] 2-6-22:036–037, and 043). Background and archival research indicated there was potential for subsurface cultural deposits of both pre-Contact and historic material. Although no historic properties were identified, the authors recommended that subsurface testing be part of an archaeological inventory survey be carried out prior to any ground disturbance activities in the International Market Place (Chiogioji and Hammatt 2004b).

3.2.22 Esh and Hammatt 2004

In December 2004, CSH completed an archaeological monitoring report for Ala Wai Boulevard Improvements. A single cow skeleton was encountered at the intersection of Ala Wai Boulevard and Seaside Avenue. The skeleton was redeposited and no other archaeological remains were encountered (Esh and Hammatt 2004).

3.2.23 Havel and Spear 2004

Between October 2003 and April 2004, SCS conducted archaeological monitoring for the ABC Store No. 21 Kane Kapolei Construction project in Waikīkī (TMK: [1] 2-6-021:101). No cultural deposits were observed during the monitoring (Havel and Spear 2004).

3.2.24 Bush and Hammatt 2005

On 11 February 2005, CSH performed archaeological monitoring at 125 Uluniu Avenue between Prince Edward Street and Koa Avenue (TMK: [1] 2-6-023:019). Archaeological monitoring was completed in a single day and encountered no historic properties (Bush and Hammatt 2005).

3.2.25 O’Leary et al. 2005

In 2005, CSH conducted an AIS of a 1-acre parcel at 2284 Kalākaua Avenue, the site of the former Waikiki 3 Theatre (TMK: [1] 2-6-022:009). An in situ, flexed burial (SIHP # -6703) was encountered during subsurface testing in the southeastern corner of the project close to Kalākaua Avenue and Dukes Lane. The burial was found at approximately 150 cmbs within organically stained (very dark gray to black) wetland agricultural soils present throughout the project area (O’Leary et al. 2005).

3.2.26 Esh and Hammatt 2006a

In 2006, CSH conducted archaeological monitoring on Kūhiō Avenue. No cultural material or human remains were encountered during monitoring, although an in situ dog burial was uncovered in the natural sand layer at the Kanekapolei Street and Kūhiō Avenue intersection. No cultural material was associated with the dog remains (Esh and Hammatt 2006).

3.2.27 Esh and Hammatt 2006b

In 2006, CHS conducted archaeological monitoring on Kūhiō Avenue from Ka‘iulani to Kapahulu avenues. No cultural materials or human remains were encountered during monitoring (Esh and Hammat 2006b).

3.2.28 Groza et al. 2007

In 2007, CSH conducted a literature review and field inspection for the Waikiki Marriot project (TMK: [1] 2-6-026:009). The project area was a 1-acre parcel between Kalākaua and Kuhio avenues, and ‘Ōhua Avenue. No historic properties were documented within the project area (Groza et al. 2007).

3.2.29 Hammatt and Shideler 2007

In 2007, CSH conducted archaeological monitoring for the installation of a grease interceptor at the Sheraton Moana Surfrider Hotel. A disturbed sand layer containing historic material was documented nearly to the water table. Below the disturbed sand was natural, undisturbed Jaucas sand. No historic properties were identified (Hammatt and Shideler 2007).

3.2.30 Pammer and Hammatt 2007

In 2007, CSH conducted archaeological monitoring for the installation of a grease interceptor at Perry’s Smorgy Restaurant (TMK: [1] 2-6-021:014). No historic properties were identified (Pammer and Hammatt 2007).

3.2.31 Tulchin and Hammatt 2007

In 2007, CSH performed data recovery for a remnant portion of an agricultural stone wall (SIHP # -6707) previously documented by Chiogioji et al. (2004). SIHP # -6707 was observed in the

northeastern portion of the project area, extending beyond the northwest and southeast boundaries. SIHP # -6707 is believed to be a remnant *lo‘i* wall, part of the extensive Waikīkī network of irrigated taro fields. Palynological analysis of sediments from SIHP # -6707 confirmed the presence of taro suggesting *lo‘i* sediments. Radiocarbon dating of the upper *lo‘i* sediments provided a date range of AD 1380–1450. Radiocarbon dating of lower *lo‘i* sediments at the transitional zone to underlying sandy silt (at the very base of SIHP # -6707) returned a date range of AD 1120–1270 (Tulchin and Hammatt 2007). Tulchin and Hammatt (2007) concluded that initial settlement of Waikīkī occurred from AD 1120–1270 and that the inhabitants subsequently reshaped the landscape for agricultural purposes until around AD 1380–1450.

3.2.32 Hazlett, Chiogioji, Borthwick, and Hammatt 2008

In 2008, CSH conducted archaeological monitoring of redevelopment of the former Waikiki 3 Theatre parcel (TMK: [1] 2-6-002:009). No historic properties were identified (Hazlett, Chiogioji, Borthwick, and Hammatt 2008).

3.2.33 Hazlett, Esh and Hammatt 2008

In 2008, CSH conducted archaeological monitoring for redevelopment of the Waikiki Shopping Center. No historic properties were identified (Hazlett, Esh, and Hammatt 2008).

3.2.34 Runyon et al. 2008

In 2008, CSH conducted a study relating to redevelopment of the Royal Hawaiian Hotel and Sheraton Waikiki Resort. Isolated, disarticulated human skeletal elements (no site number assigned) were recovered from disturbed sand contexts. The remains were reinterred in a designated burial facility on the east side of the Sheraton Waikiki Hotel. Pre- and post-Contact artifacts were collected from a disturbed context and included worked bone and shell, a fishhook head fragment, a coral file, and various artifacts dating from the mid- to late 1800s. No sites were designated and the study was termed an “assessment” (Runyon et al. 2008).

3.2.35 Thurman and Hammatt 2008

In January 2008, CSH conducted geotechnical testing at the Royal Hawaiian and Sheraton Waikiki Hotels in Waikīkī (TMKs: [1] 2-6-002:005, 006, and 026). The area of effect was the sum of the diameters of five geotechnical test pit borings, equaling less than 1 sq ft of ground surface. No historic properties were identified during the testing (Thurman and Hammatt 2008).

3.2.36 Kahahane and Cleghorn 2009

In 2009, Pacific Legacy, Inc. conducted archaeological monitoring for the Waikīkī Water System Improvements project along Nohonani Street, Nāhua Street, Walina Street, and Lili‘uokalani Avenue. No historic properties were encountered and the only cultural material observed was glass and ceramic fragments and a single fork (Kahahane and Cleghorn 2009).

3.2.37 Thurman et al. 2009

In 2009, CSH conducted an archaeological inventory survey for proposed redevelopment of the Diamond Head Tower of the Moana Hotel (TMK: [1] 2-6-01:012). One isolated human tarsal phalange was discovered on the *makai* side of the Diamond Head Tower. The human remain was found within a disturbed sand stratum and was reburied in the same location (no SIHP assigned). Two sites were identified during the inventory survey, including a trash pit (SIHP # -7069)

containing bottles and ceramics dating from the late 1800s to early 1900s, and an intact cultural layer (SIHP # -7068). SIHP # -7068 contained fire affected rock and charcoal deposits and was radiocarbon dated to AD 1801–1939. The cultural layer was documented between the hotel and the *makai* side of Kalakaua Avenue (Thurman et al. 2009).

3.2.38 Runyon, Shideler, and Hammatt 2010

Between August and December 2010, CSH conducted archaeological monitoring for the Moana Surfrider Hotel Wedding Chapel in Waikīkī (TMK: [1] 2-6-001:012). No historic properties were encountered (Runyon, Shideler, and Hammatt 2010).

3.2.39 Runyon, Yucha, Schideler, and Hammatt 2010

In 2009, CSH conducted fieldwork for an archaeological inventory survey for the proposed Princess Ka‘iulani Redevelopment project in Waikīkī (TMKs: [1] 2-6-022:001 and 041). The inventory survey identified three historic properties, including the former Kawaiaha‘o Waikīkī Branch Church and Cemetery parcel (SIHP # -7065), a buried cultural layer (SIHP # -7066), and an in situ burial (SIHP # -7067) (Runyon, Yucha, Shideler, and Hammatt 2010).

3.2.40 Hammatt et al. 2012

In 2012, CSH conducted an inventory survey for the International Market Place Redevelopment project (Hammatt et al. 2012). The survey identified three historic properties, including a subsurface cultural layer (SIHP # -7307), burials with an associated activity area (SIHP # -7308), and remnants of hotel infrastructure along with a bottle cache and trash deposit (SIHP # -7309). The subsurface cultural layer contained ten features (SIHP # -7307 Features A–J) and was dated to ca. AD 1400. SIHP # -7308 consists of four burials (Features A–D) and an activity area for artifact manufacturing (Feature E). The burials consist of a previously disturbed in situ burial, a partially disturbed in situ burial, and two previously disturbed secondary burials possibly from one individual. SIHP # -7309 consists of historic deposits and remnant infrastructure related to the historic Moana Hotel. SIHP # -7309 included part of a horseshoe driveway (Feature A), bottle cache (Feature B), and trash pit (Feature C).

3.2.41 Yucha et al. 2013

Between 2010 and 2011 CSH conducted an inventory survey for the St. Augustine-by-the-Sea Church Master Plan project. The survey identified two historic properties including a subsurface cultural layer (SIHP # -7135) and a human interment complex (SIHP # -7136). SIHP # -7135 represents a cultural activity layer that includes SIHP # -7136 Features A and B, and disarticulated human remains. SIHP # -7136 includes two in situ, post-Contact burials (Features A and B). The disarticulated human remains from SIHP # -7135 were recovered and temporarily curated at the St. Augustine-by-the-Sea Church, and the in situ burials were left in place (Yucha et al. 2013).

3.2.42 Inglis et al. 2014

Between 2013 and 2014, CSH conducted an inventory survey for the 133 Kai‘ulani Project. The survey identified two historic properties including a subsurface cultural layer (SIHP # -7598) and a single human vertebra (SIHP # -7599). SIHP # -7598 included 12 features all classified as indeterminate pit features. CSH assessed both sites as significant under HAR §13-284-6 significance criterion “d” (for its information content related to traditional Native Hawaiian land

use in Waikīkī) and SIHP # -7599 under criterion “e” (for its burial deposits with their traditional significance to Native Hawaiians) (Inglis et al. 2014).

3.3 Background Summary and Predictive Model

3.3.1 Background Summary

During pre-Contact times the *ahupua‘a* of Waikīkī was an intensely utilized area with abundant natural and cultivated resources that supported a large population. Multiple *heiau* were built throughout the area and traditional accounts refer to the practice of traditional activities, such as surfing and wrestling. Waikīkī also supported a vast network of irrigated taro fields and fishponds, and was an area utilized by the *ali‘i* as a place of residence.

In the nineteenth and early twentieth centuries, after a period of depopulation, Waikīkī was reanimated by Hawaiians and foreigners residing there and by farmers continuing to work the irrigated field system which had been converted from taro to rice. Farming continued up to the first decades of twentieth century until construction of the Ala Wai Canal drained the remaining ponds and irrigated fields, making way for urban development.

Early maps, historical accounts, and other archival information indicates the area where the Hyatt Regency Waikiki is now located once belonged to the area of coastal Waikīkī devoted to irrigated taro fields, fishponds, and residences (often chiefly). Land Commission Award records from the mid-1800s document the project area as belonging to a land parcel containing a house site, a coconut grove, multiple *lo‘i* and fishponds, and a stream (*muliwai*). Records for LCAs awarded within 50 m of the current project area list more *lo‘i*, house lots, fishponds, an irrigation ditch, and some *kula* (dry cultivation land). By 1893, with the rise of rice cultivation in Waikīkī, main *lo‘i* were abandoned or converted to rice fields. Most rice cultivation clustered *mauka* of present day Ala Wai Boulevard, although archaeological studies show rice cultivation within 400 m of the current project area (e.g., Chiogioji and Hammatt 1991). An 1893 map (see Figure 8) shows the project area as uncultivated land surrounded by swampland (likely still used to cultivate taro), with rice fields located *mauka*.

The project area was located southwest of the westernmost corner of Archibald Cleghorn’s ‘Āinahau estate, established in 1872. Historic maps show no structures in this region of the estate; the project area was likely near the access drive to the estate from what is now called Kalākaua Avenue (see

Figure 11). The Cleghorn estate burned down in 1921, after which the project area was drawn into the rapid post-war commercial development of Waikīkī as a busy resort sector. By the mid-1950s, much of Kalākaua Avenue was lined with shops and other small commercial buildings, and much of Waikīkī in general contained hotels, apartment buildings, and single dwellings.

Archaeological studies and finds within 400 m of the current project area document a culture-rich area, including numerous encountered traditional Hawaiian and historic human burials (both in situ and disturbed), buried sediment remnants of *lo‘i* and *‘auwai*, and evidence of rice fields *mauka* of the project area. The concentration of human burial finds encountered within 400 m of the project area during various development projects is noteworthy—Figure 23 shows burial finds clustered on all sides of the current project area.

3.3.2 Predictive Model

The original construction of the Hyatt Regency Waikiki resort and spa complex necessarily involved significant ground disturbance in and immediately around the project area—this and prior history of agricultural and other activities within the project area suggests a heavy footprint of structural intrusion into the underlying potentially culture-bearing soils. Subsequent multiple renovations to the Hyatt Regency property likely entailed further disturbance. However, based on historic background research and previous archaeological investigations in the area, there is a high probability that archaeological cultural resources—including human burials—will be encountered should proposed construction for the Hyatt Waikiki Redevelopment project involve further ground disturbance below or outside of the extant resort and spa foundation.

Section 4 Results of Fieldwork

The field inspection fieldwork was carried out 23 July 2014 by CSH archaeologist Lisa Humphrey, Ph.D. Three person-hours were required for the survey of the interior and exterior grounds of the Hyatt Regency Waikiki resort and spa, a complex of buildings encompassing an approximately 2.4-acre area spanning almost a full square city block. The Hyatt Regency Waikiki resort and spa complex at 2424 Kalākaua Avenue is bounded by Koa Avenue to the north (*mauka*), Uluniu Avenue to the east (Diamond Head side), Kalākaua Avenue to the south (*makai* side), and Ka‘iulani Avenue to the west (‘Ewa side). Fieldwork was done under the general supervision of Hallett H. Hammatt, Ph.D. (principal investigator) and under state archaeological fieldwork permit number 14-06 issued to CSH by the State Historic Preservation Division (SHPD), per HAR §13-282. Representative photographs were taken of interior and exterior portions of the project area (Figure 24 through Figure 30).

The Hyatt Regency Waikiki resort and spa complex at 2424 Kalākaua Avenue is comprised of multiple structural components, including two 20-story towers (hotel guest rooms) anchoring the property on the ‘Ewa and Diamond Head sides, joined together by a three-storied retail podium structure—with a ground floor, second floor, and third floor—containing shops, restaurants, and other commercial facilities, as well as a convention center, pool, and pool deck on the third floor. Figure 24 shows the Kalākaua Avenue side of the Hyatt Waikiki complex looking ‘Ewa; Figure 25 shows the Uluniu Avenue side looking *mauka;* Figure 26 shows the Ka‘iulani Avenue side looking *mauka*; Figure 27 shows the Koa Avenue side looking towards Diamond Head.

The main entrance to the hotel portion of the complex is on Uluniu Avenue via a large drive-up porte cochere. Another direct (pedestrian-only) entrance to the complex is on Kalākaua Avenue. A third entrance, also pedestrian-only, is located on Koa Avenue next to dual ramps leading into and out of the basement for use by Hertz and Budget rental car customers. (Hertz and Budget contract with Hyatt to use part of the property’s basement as a rental car pick up and drop off center, the only such outlet in Waikīkī.) The archaeologist was informed that the basement footprint extends at least as far in all four directions as the main resort and spa superstructure. In addition to the Hertz and Budget facilities, the basement at 2424 Kalākaua contains a receiving area for the hotel immediately below the hotel’s ground floor loading dock (near the corner of Koa and Uluniu avenues); various hotel utility infrastructural elements; and on the *makai*/Kalākaua Avenue side, event rooms.

The proposed Hyatt Waikiki Redevelopment project is in its planning stages and no construction diagrams were provided to CSH. Currently envisioned redevelopment includes a new drive-up porte cochere on Koa Avenue to replace the current partially covered pedestrian entrance; new elevators (where none have existed before) at the new porte cochere, designed to take visitors and guests directly to the second floor hotel lobby and floors above; more generally described “improvements” to existing retail facilities and pedestrian circulation; a new second floor *lanai* shopping arcade; and a new third floor pool deck.

The field inspection focused on potentially sensitive areas that might require further investigation or monitoring should construction proceed. These were areas where subsurface disturbance may be more likely to occur, including a) the exterior ground-level location of the

Figure 24. View of Hyatt Waikiki complex looking west (‘Ewa) along Kalākaua Avenue

Figure 25. View of Hyatt Waikiki complex looking north (*mauka*) along Uluniu Avenue

Figure 26. View of Hyatt Waikiki complex looking north (*mauka*) along Ka‘iulani Avenue

proposed porte cochere on Koa Avenue, and b) the portion of the Hyatt Waikiki basement over which the new porte cochere will be built and through which the new elevator(s) shaft(s) for the new porte cochere will extend. Other areas of more general interest for inspection included c) the overall layout and nature of the ground, second and third floors (where retail spaces and pedestrian circulation will be improved); d) the third floor site of the new pool deck; and e) the general interior and exterior layout and nature of the resort and spa complex as a whole.

In the course of the field inspection, effort was taken to ascertain whether there were any visible surface archaeological features likely to be disturbed during redevelopment activities, to verify or confirm existing sites (none have been recorded for the property), and to identify any areas that might be vulnerable to subsurface disturbance during redevelopment construction.

4.1.1 Proposed Koa Avenue Porte Cochere area

Figure 27 shows the exterior ground-level location of the proposed porte cochere on Koa Avenue. A partially covered pedestrian entrance currently occupies the spot where the proposed porte cochere will be constructed. Assuming the new porte cochere will accommodate vehicle drive-up (picking up and dropping off hotel guests and visitors), it seems the current sidewalk area will be incorporated into construction activities (including grading of the porte cochere driveway). This would presumably involve subsurface ground disturbance in an area extending beyond the extant foundation of the Hyatt Regency complex. On the Koa Avenue (*mauka*) side of the property, the basement footprint evidently ends at the outer wall of a low-lying concrete plant bed and utilities encasement structure extending from the resort and spa building; stand pipe openings are placed along the length of this wall (wall visible on both sides of rental car ramps in Figure 27).

4.1.2 Basement (Koa Avenue Side)

With the assistance of Kathryn Perryman from the Hyatt Waikiki property management office, field inspection included a walk-through of the property’s basement. Figure 28 shows the approximate area in the basement that will be below the new Koa Avenue porte cochere and through which the new elevator shaft(s) associated with the Koa Avenue porte cochere will run. This area is currently used for rental car parking. It is not clear at this stage whether the installation of these new elevators will involve disturbing the ground surface below the existing foundation of the Hyatt Waikiki complex.

4.1.3 Retail Podium (Ground, Second, and Third Floors)

The archaeologist briefly inspected the overall layout and nature of the three floors of the retail podium. They appear as described in the hotel’s literature. Figure 29, for example, shows a view of the ground-level retail area from the second floor facing southwest toward Kalākaua Avenue. Figure 30 shows the *makai*-facing third floor area containing the currently configured pool and pool deck (not fully visible). Without more construction or engineering details regarding the proposed redevelopments, it is not possible to definitively conclude that modifications to retail spaces and pedestrian circulation in the retail podium, as well as construction of a new retail *lanai* on the second floor and a new pool deck on the third floor, will leave subsurface ground levels beneath the existing foundation undisturbed.

Figure 27. View of Hyatt Waikiki complex looking east (Diamond Head) along Koa Avenue; proposed new porte cochere will be constructed where small pedestrian entrance (with green awning) now located; rental car basement ramps in foreground

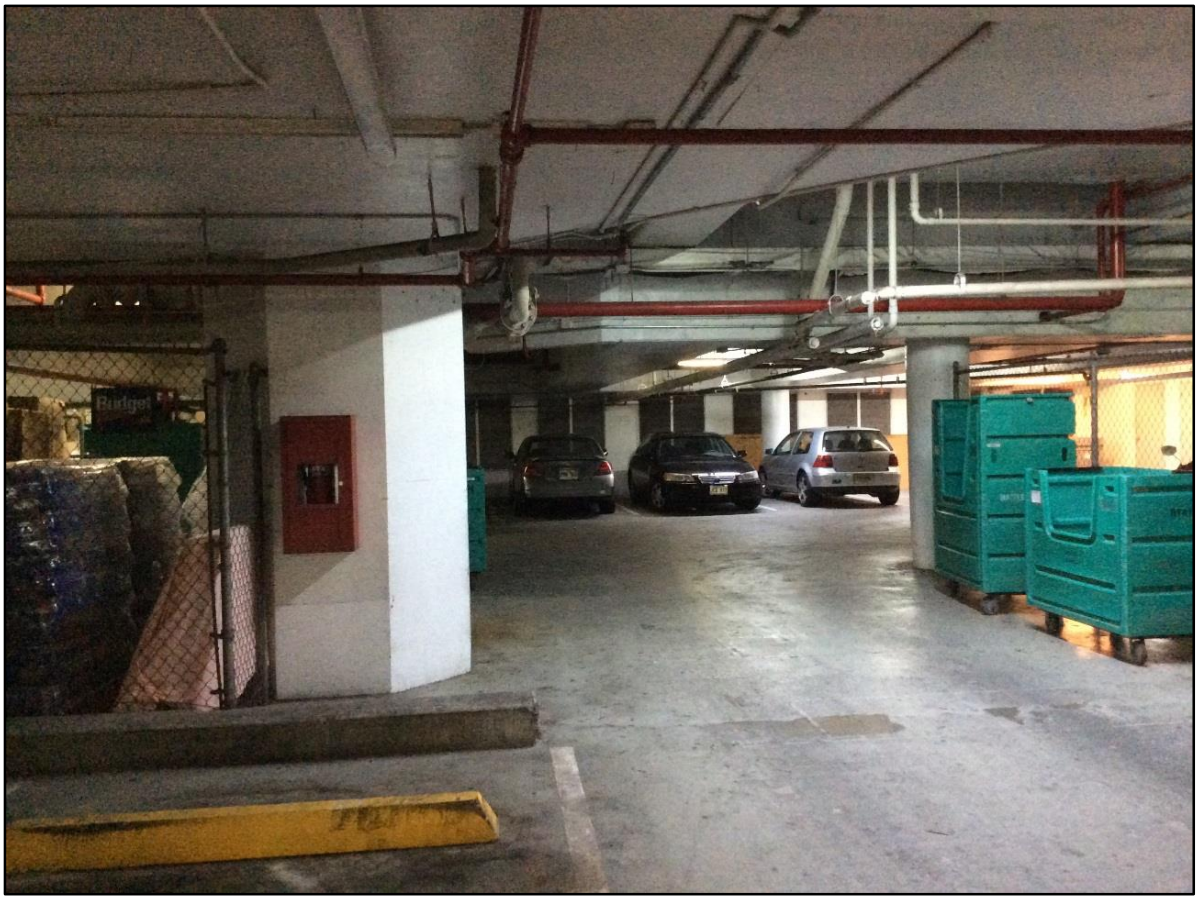


Figure 28. View toward portion of Hyatt Waikiki basement inner wall, facing Koa Avenue (*mauka*), showing approximate location of proposed new elevators to be built near the new Koa Avenue porte cochere

Figure 29. View of ground-level retail podium, facing southwest toward Kalākaua

Figure 30. View of third floor pool and pool deck area in retail podium, facing southwest toward Kalākaua

Section 5 Significance Assessments

The Hyatt Regency Waikiki is less than 50 years old and appears to lack characteristics that would meet the criteria for recommending the resort and spa as a historic property at this time. No State Inventory of Historic Properties (SIHP) designation is recommended or given here for the property. No previously identified archaeological cultural resources have been documented on the grounds of this property and none were identified during the field inspection.

Section 6 Summary and Recommendations

The following discussion and recommendations are intended to facilitate project planning and support the project’s required historic preservation review process, consultation, and compliance.

6.1 Summary

The Hyatt Regency Waikiki was constructed in 1976, making it less than 50 years old, and it appears not to possess criteria recommending it as a historic property to be assigned a State Inventory of Historic Properties (SIHP) designation. The approximately 2.4-acre resort and spa complex encompasses a square city block; its structural footprint is heavy, supporting two 20-story towers, a three-storied mixed-use (retail, dining, other commercial uses) retail podium and building connecting the two towers; and a basement at least as large in footprint as the complex’s ground floor.

Ground disturbance within the project area and its close vicinity has been significant due to previous construction and renovation efforts in the area, beginning before the construction of the Hyatt Regency Waikiki in 1976. Historical and archaeological research for the current project area and immediate vicinity indicates an elevated likelihood of encountering significant cultural resources, including human burials during subsurface excavation. However, there is no subsurface excavation planned for the current project beneath the existing grade of the building and sidewalk.

6.2 Recommendations

No subsurface excavation is planned for the current project. No further archaeological work for the demolition of exclusively surface structures is recommended. If, in the event that the finalized project plans involve subsurface ground disturbance, it is highly likely the SHPD will require additional cultural resource management, which may include the completion of an archaeological inventory survey and/or an archaeological monitoring program.

Section 7 References Cited

Acson, Veneeta

1983 *Waikiki: Nine walks through time.* Island Heritage, Honolulu.

Armstrong, Warwick, editor

1973 *Atlas of Hawai‘i*. University of Hawaii Press, Honolulu.

Beardsley, Felicia, and Michael Kaschko

1997 *Archaeological Monitoring and Data Recovery Pacific Beach Hotel Office Annex, Waikīkī, O‘ahu.* International Archaeological Research Institute, Inc., Honolulu.

Bellville, Jennifer, Hallett H. Hammatt, and David W. Shideler

2014 *Draft Archaeological Monitoring Report for the McDonald’s restaurant Alteration at Lemon Tree Project, 2476 Kalākaua Avenue, Waikīkī Ahupua‘a, Honolulu (Kona) District, O‘ahu TMK: [1] 2-6-023:001.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Bishop Museum

1917 Government Survey Map. Bishop Museum, Honolulu.

Bishop, S.E.

1881 Map of Waikiki, Registered Map No. 1398. Hawai‘i Land Survey Division, Department of Accounting and General Services, Honolulu.

Bliss, William R.

1873 A Sea-Side Retreat in the Pacific. *Pacific and Commercial Advertiser*, 1 February:4.

Brown, DeSoto

1989 *Hawaii Goes to War: Life in Hawaii from Pearl Harbor to Peace*. Editions Limited, Honolulu.

Bush, Tony and Hallett H. Hammatt

2005 *Archaeological Monitoring Report for Installation of Service Gas Lines and Meter at 125 Uluniu Avenue, Waikīkī Ahupua‘a, Kona District, O‘ahu TMK: [1] 2-6-23:019.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Bush, Anthony, John P. Winieski, and Hallett H. Hammatt

2002 *Archaeological Monitoring Report for the Waikīkī Anticrime Lighting Improvement Project Phase II (TMK 2-6-1, 2-6-2, 2-6-3, 2-6-5, 2-6-6, 2-6-25, 2-6-16, 2-6-18, 2-6-19, 2-6-22, 2-6-23, 2-6-26, 2-6-27).* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

2003 *Archaeological Monitoring Report for Excavations for the New International Market Place Sign Project, Waikīkī, O‘ahu.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Chamberlain, Levi

1957 Tour Around O‘ahu: 1828. In *Sixty-fifth Annual Report of the Hawaiian Historical Society for the Year 1956*, pp. 2541. Hawaiian Historical Society, Honolulu.

Chiogioji, Rodney, Uta Rainalter, Sallee D.M. Freeman, and Hallett H. Hammatt

2004 *Archaeological Inventory for the Tusitala Vista Elderly Apartments in Waikīkī, Ahupua‘a, Waikīkī, O‘ahu.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Chiogioji, Rodney and Hallett Hammatt

1991 *An Archaeological Assessment of Two Parcels in Waikīkī Ahupua‘a.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

2004a *Archaeological Assessment for the Royal Hawaiian Shopping Center Parcel, Waikīkī Ahupua‘a, Kona District, O‘ahu TMK: [1] 2-6-02:18.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

2004b *Archaeological Literature Review for the International Market Place Parcel, Waikīkī Ahupua‘a, Kona District, O‘ahu TMK: [1] 2-6-22:36, 37, and 43.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Clark, John R.K.

1977 *The Beaches of O‘ahu*. University of Hawaii Press, Honolulu.

Cleghorn, Paul

2001a *Archaeological Mitigation of Waikiki Burger King Construction, TMK: 2-6-026:013 Kona District, Waikiki Ahupua‘a, Island of O‘ahu*. Letter to Mr. Roy Yamani (Hawai‘i CIMMS). Pacific Legacy, Inc., Honolulu.

2001b *Archaeological Mitigation near Waikiki Burger King Construction Site TMK: 2-6-026:012 & 013, Kona District, Waikiki Ahupua‘a, Island of O‘ahu.* Letter to Mr. Paul Kosasa (ABC Stores). Pacific Legacy, Inc., Honolulu.

Cohen, Stan

1997 *Princess Victoria Kaiulani and the Princess Kaiulani Hotel in Waikiki.* Pictorial Histories Publishing Company, Inc., Missoula, Montana.

Coulter, John Wesley. and Chee Kwon Chun

1937 *Chinese Rice Farmers in Hawaii.* UH Research Publications Number 16. University of Hawaii Press, Honolulu.

DBEDT (Hawai‘i Department of Business, Economic Development and Tourism)

2014 Hawai‘i Department of Business, Economic Development and Tourism website, http://www.hawaii.gov/dbedt/info/economic/data_reports/ereports/econ_Waikīkī.pdf (accessed 4 May 2007)

Elmore, Michelle and Joseph Kennedy

2001 *A Report Concerning the Inadvertent Discovery of Human Remains at the Royal Hawaiian Hotel, (TMK: [1]2-6-02:5, in Waikīkī Ahupua‘a, Honolulu District, Island of O‘ahu.* Archaeological Consultants of Hawaii, Inc., Hale‘iwa, Hawai‘i.

Esh, Kelly S. and Hallett H. Hammatt

2004 *Archaeological Monitoring Report for Ala Wai Boulevard Improvements, Waikīkī Ahupua‘a, Kona District, O‘ahu TMK: [1] 2-6-14, 15, 16, 17, 20, 21, 24, 25, 28, 29.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

2006a *An Archaeological Monitoring Report For Kūhiō Avenue (Kalākaua to Ka‘iulani), Waikīkī Ahupua‘a, Kona District, O‘ahu TMK: [1] 2-6-015 to 022: various parcels.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

2006b *An Archaeological Monitoring Report For Kūhiō Avenue (Ka‘iulani to Kapahulu), Waikīkī Ahupua‘a, Kona District, O‘ahu TMK: [1] 2-6-015 to 022: various parcels.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Foote, D.E., E.L. Hill, S. Nakamura, and F. Stephens
1972 *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii.* U.S. Department of Agriculture, Soil Conservation Service, Government Printing Office, Washington, D.C.

Fornander, Abraham
1919 *Collection of Hawaiian Antiquities and Folklore*. T.G. Thrum, editor. Memoirs of the Bernice Pauahi Bishop Museum (Vol. VI, Part II). Bishop Museum Press, Honolulu.

Google Earth
2013 Aerial photographs of Hawai‘i. Google Inc., Mountain View, Calif., 94043. Available online at www.google.com/earth.html.

Grant, Glen
1996 *Waikīkī Yesteryear*. Mutual Publishing, Honolulu.

Green, Laura C.S. and Mary Kawena Pukui
1936 *The Legend of Kawelo and other Hawaiian Folk Tales.* Martha Warren Beckwith, Honolulu.

Griffin, Agnes
1987 *Kalakaua Avenue Gas Pipe Excavation Burial Recovery, Waikīkī, C. Honolulu, O‘ahu (TMK: 2-6-01:12).* State Medical Officer’s office memorandum to Department of Land and Natural Resources, Honolulu.

Groza, Randy, Douglas F. Borthwick, and Hallett H. Hammatt
2007 *Literature Review and Field Check Due Diligence for the Waikiki Marriot Project, Waikīkī Ahupua‘a, Honolulu (Kona) District, Island of O‘ahu TMK: [1]-2-6-026:009.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Hammatt, Hallett H., Constance O’Hare, and David W. Shideler
2012 *Archaeological Inventory Survey Report for the International Market Place Re-Development Project, Waikīkī Ahupua‘a, Kona District, O‘ahu TMK: [1] 2-6-022: 036, 037, 038, 039 and 043.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Hammatt, Hallett H. and David W. Shideler
2007 *Archaeological Monitoring Report for a Grease Interceptor at the Sheraton Moana Surfrider Hotel, Waikīkī Ahupua‘a, Kona District, O‘ahu TMK: [1] 2-6-001:012.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Havel, BreAnna and Robert L. Spear
2004 *Archaeological Monitoring Report for ABC Store No. 21 Waikīkī, Waikīkī Ahupua‘a, Honolulu District, O‘ahu Island, Hawai‘i [TMK 2-6-21:101]*. Scientific Consultant Services, Inc., Honolulu.

Hawai‘i TMK Service
Tax Map Key [1] 2-6-023. Hawai‘i TMK Service, Honolulu.

Hazlett Alex, Rodney Chiogioji, Douglas Borthwick, and Hallett H. Hammatt
2008 *Archaeological Monitoring Report for a 1-Acre Parcel, 2284 Kalākaua Avenue, Waikīkī Ahupua‘a, Honolulu District, Island of O‘ahu TMK: [1]- 2-6-22:009.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Hazlett Alex, Kelly Esh, and Hallett H. Hammatt
2008 *Monitoring Report for the Royal Hawaiian Shopping Center Parcel, Waikīkī Ahupua‘a, Kona District, O‘ahu, TMK: [1] 2-6-002:018.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Hibbard, Don and David Franzen
1986 *The View from Diamond: Head Royal Residence to Urban Resort.* Editions Limited, Honolulu.

HSS (Hawaii and South Seas Curio Company)
n.d. *Scene in Ainahau, Near Honolulu* [postcard]. Available at CardCow.com, http://www.cardcow.com/123009/scene-ainahau-honolulu-hawaii/ (accessed December 2013).

‘Ī‘ī John Papa
1959 *Fragments of Hawaiian History as Recorded by John Papa ‘Ī‘ī.* Bishop Museum Press, Honolulu.

Inglis, Douglas, Andrea Kay, and Matt McDermott
2014 *Archaeological Inventory Survey Report for the 133 Ka‘iulani Project, Waikīkī Ahupua‘a, Honolulu (Kona) District, O‘ahu TMK: [1] 2-6-023:029, 037, and 076.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Johnson, Donald D.
1991 *The City and County of Honolulu: A Governmental Chronicle.* University of Hawaii Press, Honolulu.

Kailihiwa, Solomon III and Paul L. Cleghorn
2003 *Archaeological Monitoring of Waikīkī Water System Improvements, (Parts IV, Units 1 and 2) on Portions of Lau‘ula Street, Waikolu Way, and Royal Hawaiian Avenue, Waikīkī, Island of O‘ahu, TMK: [1] 2-6-018, 019, 022.* Pacific Legacy, Inc., Kailua, Hawai‘i.

Kamakau, Samuel Mānaiakalani
1964 *Ruling Chiefs of Hawai‘i.* Kamehameha Schools Press. Honolulu.
1991 *Tales and Traditions of the People of Old, Nā Mo‘olelo a Ka Po‘e Kahiko.* Bishop Museum Special Publication 51. Bishop Museum Press, Honolulu.

Kanahele, George S.
1995 *Waikīkī 100 B.C. to 1900 A.D. An Untold Story.* The Queen Emma Foundation Honolulu.

Kahahane, Elizabeth L. and Paul L. Cleghorn
2009 *Archaeological Monitoring for the Waikīkī Water System Improvements, Part V on Nohonani Street, Nahua Street, Walina Street, and Lili‘uokalani Avenue Within the Ahupua‘a of Waikīkī, District of Kona, Island of O‘ahu, TMK: [1]2-6-021 and 024.* Pacific Legacy, Inc., Kailua, Hawai‘i.

Kennedy, Joseph

1991 *Archaeological Monitoring Report for the Proposed IMAX Theater Project.* Archaeological Consultants Hawai‘i, Hale‘iwa, Hawai‘i.

Kirch, Patrick Vinton

2010 *How Chiefs Became Kings: Divine Kingship and the Rise of Archaic States in Ancient Hawai‘i.* University of California Press, Oakland, California.

McDermott, Matthew, Rodney Chiogioji, and Hallett Hammatt

1996 *An Archaeological Inventory Survey of Two Lots (TMK 2-6-24:65-68 and 80-83 and TMK 2-6-24:34-40 and 42-45) in Waikīkī Ahupua‘a, O‘ahu, Hawai‘i.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Mann, Melanie and Hallett H. Hammatt

2002 *Archaeological Monitoring Report for the Installation of 12- and 8-inch Water Mains on Lili‘uokalani Avenue and Uluniu Avenue, Waikīkī Ahupua‘a, Kona District, Island of O‘ahu (TMK 2-6-023, 24, and 26).* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Menzies, Archibald

1920 *Hawaii Nei, 128 Years Ago: Journal of Archibald Menzies, Kept During His Three Visits to the Sandwich or Hawaiian Islands When Acting as Surgeon and Naturalist on Board H.M.S Discovery*. William F. Wilson, editor. New Freedom Press, Honolulu.

Newton, Ronald V.

1938 Waikiki Seen as Area of Active New Development. *Honolulu Star-Bulletin* 26 March:10.

O’Leary, Owen, Rodney Chiogioji, Douglas F. Borthwick, and Hallett H. Hammatt

2005 *Archaeological Inventory Survey of a 1-Acre Parcel, 2284 Kalākaua Avenue, Waikīkī, Kona District, Island of O‘ahu*. Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Office of Hawaiian Affairs

2014 *Papakilo Database.* Office of Hawaiian Affairs cultural and historical database. Electronic document, http://papakilodatabase.com/main/index.php.

Paglinawan, Richard

1997 *Some Notes on the Nā Pohaku ‘Ola Kapaemahu a Kapuni Restoration Project.* Queen Emma Foundation, Honolulu.

Pammer, Michelle and Hallett H. Hammatt

2007 *Archaeological Monitoring Report for the Perry’s Smorgy Restaurant Project Waikīkī Ahupua‘a, Honolulu District, Island of O‘ahu TMK: [1] 2-6-021:114.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Perzinski, Mary, David W. Shideler, John Winieski, and Hallett H. Hammatt
2000 *Burial Findings During the Excavation of a 16th Watermain on an Approximately 915 Meter (3,000 Ft.) Long portion of Kalākaua Avenue Between Ka‘iulani and Monsarrat Avenues Associated with the Kūhiō Beach Extension/Kalākaua Promenade Project, Waikīkī Ahupua‘a, Kona District, Island of O‘ahu, (TMK 2-6-1, 2-6-22, 2-6-23, 2-6-26, 2-6-27, and 3-1-43).* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Pukui, Mary Kawena
1983 *‘Ōlelo No‘eau: Hawaiian Proverbs & Poetical Sayings.* Bishop Museum Special Publication No. 71. Bishop Museum Press Honolulu.

Pukui, Mary Kawena and Caroline Curtis
1994 *The Water of Kāne and Other Legends of the Hawaiian Islands*. Revised edition. Kamehameha Schools Press, Honolulu.

Pukui, Mary Kawena and Samuel H. Elbert
1986 *Hawaiian Dictionary*. University of Hawaii Press, Honolulu.

Pukui, Mary K., Samuel H. Elbert, and Esther Mookini
1974 *Place Names of Hawaii.* University of Hawaii Press, Honolulu.

Runyon, Rosanna, Constance R. O’Hare, David W. Shideler, and Hallett H. Hammatt
2008 *Archaeological Assessment Report for Improvements to the Royal Hawaiian and Sheraton Hotels Waikīkī, Kona District, O‘ahu TMK: [1] 2-6-002: 005 & 006*. Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Runyon, Rosanna, David W. Shideler, and Hallett H. Hammatt
2010 *Archaeological Monitoring Report for the Moana Surfrider Hotel Wedding Chapel, Waikīkī Ahupua‘a, Kona District, O‘ahu, TMK: [1] 2-6-001:012 por.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Runyon, Rosanna, Trevor Yucha, David W. Shideler, and Hallett H. Hammatt
2010 *Archaeological Inventory Survey Report for the Princess Ka‘iulani Redevelopment Project, Waikīkī Ahupua‘a, Kona District, O‘ahu, TMK: [1] 2-6-022:001 and 041*. Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Sanborn Map Company
1956 Sanborn Fire Insurance Map for 1956. On file at Sanborn Map Company, New York. Available at the Hamilton Library, University of Hawai‘i at Mānoa, Honolulu.

Siddall, John William
1917 *Men of Hawaii: Being a Biographical Reference Library, Complete and Authentic, of the Men of Note and Substantial Achievement in the Hawaiian Islands,* Vol. 1. Honolulu Star-Bulletin, Ltd., Honolulu.

Simons, Jeannette A., S. Antonio-Miller, D. Trembly, and L. Somer
1991 *Archaeological Monitoring and Data Recovery at the Moana Hotel Historical Rehabilitation Project, O‘ahu, Waikīkī.* Applied Research Group, Bernice Pauahi Bishop Museum, Honolulu.

Stassen-McLaughlin, Marilyn

1986 Ainahau: A Paradise for a Princess. *Honolulu Magazine*, November 1986, pp. 122-129. Reprinted in *Hawai‘i Chronicles: Island History from the Pages of Honolulu Magazine*, edited by Bob Dye, 1996, pp.173-183. Mutual Publishing, Honolulu.

Sterling, Elspeth P. and Catherine C. Summers

1978 *Sites of Oahu*. Bernice Pauahi Bishop Museum, Honolulu.

Stokes, John F.G.

1991 *Heiau of the Island of Hawai‘i.* Tom Dye, editor. Bishop Museum Press, Honolulu.

Thurman, Doug and Hallett H, Hammatt

2008 *Archaeological Monitoring Report for Geotechnical Testing at the Royal Hawaiian and Sheraton Waikiki Hotels Waikīkī, Kona District, O‘ahu TMK: [1] 2-6-002:005, 006 & 026.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Thurman, Douglas, Constance R. O’Hare, Rosanna Runyon, David W. Shideler, and Hallett H. Hammatt

2009 *Archaeological Inventory Survey Report for the Proposed Diamond Head Tower Redevelopment Project, Waikīkī Ahupua‘a, Kona District, O‘ahu TMK: [1] 2-6-001:012 por.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Thrum, Thomas G.

1903 *Hawaiian Almanac and Annual for 1904.* Thomas G. Thrum, Honolulu.

1907 *Hawaiian Almanac and Annual for 1908.* Thomas G. Thrum, Honolulu.

1927 Hotel Inaugural. *Hawaiian Almanac and Annual for 1928*. Thos. G. Thrum, Honolulu.

Tome, Guerin and Michael Dega

2003 *Archaeological Monitoring Report for Construction Work at the Waikīkī Marriot, Waikīkī, Manoa Ahupua‘a, Honolulu District, O‘ahu Island, Hawai‘i.* Scientific Consultant Services, Honolulu.

Tulchin, Jon and Hallett H. Hammatt

2007 *Archaeological Data Recovery Report for SIHP No. 50-80-09-6707, located at the Tusitala Vista Elderly Apartments, Waikīkī Ahupua‘a, located at the Tusitala Vista Elderly Apartments, Waikīkī Ahupua‘a, Kona District, O‘ahu Island, TMK: [1] 2-6-024: 070, 071, & 89.* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

U.S. Army Corps of Engineers

1910-1917 U.S. Army Corp of Engineers Map of Waikīkī. Copies available from U.S. Army Corp Engineers Building 230, Fort Shafter, Hawai‘i.

U.S. Army War Department

1919 Fire Control Map, Honolulu Quadrangle. USGS Information Services, Denver, Colorado.

1933 Fire Control Map, Honolulu Quadrangle. USGS Information Services, Denver, Colorado.

1943 U.S. War Department 7.5-minute topographic map, Honolulu and Diamond Head Quads. USGS Information Services, Denver, Colorado.

U.S. Department of Agriculture

2001 Soil Survey Geographic (SSURGO) database. U.S. Department of Agriculture, Natural Resources Conservation Service. Fort Worth, Texas. http://www.ncgc.nrcs.usda.gov/products/datasets/ssurgo/.

U.S. Geological Survey

1978 USGS Orthoimagery, Honolulu Quadrangle (aerial photograph). USGS Information Services, Denver, Colorado.

1998 Honolulu USGS 7.5-minute topographic quadrangle. USGS Information Services, Denver, Colorado.

Vancouver, George

1798 *A Voyage of Discovery to the North Pacific Ocean, and Round the World . . . Performed in the years 1790-1795.* Robinsons and Edwards, London.

Waihona ‘Aina

2000 *The Māhele Database.* Electronic document, http://waihona.com.

Wall, Walter E.

1893 Hawaiian Government Survey Map of O‘ahu. Registered Map 1690. Hawai‘i Land Survey Division, Department of Accounting and General Services, Honolulu.

Winieski, John P. and Hallett H. Hammatt

2001 *Archaeological Monitoring Report for the Public Baths Waste Water Pumping Station Force Main Replacement, Waikīkī, Honolulu, O‘ahu, Hawai‘i (TMK 2-6-25, 26, & 27, and 3-1-31, 43).* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Winieski, John, Mary Perzinski, David Shideler, and Hallett H. Hammatt

2002 *Archaeological Monitoring Report for the Installation of a 16-Inch Water Main on an Approximately 915 Meter (3,000 Ft) Long Portion of Kalākaua Avenue Between Ka‘iulani and Monsarrat Avenues Associated with the Kūhiō Beach Extension/Kalākaua Promenade Project, Waikīkī Ahupua‘a, Kona District, Island of O‘ahu (TMK 2-6-1-, 2-6-22, 2-6-23, 2-6-26, 2-6-27, 3-1-43).* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Winieski, John, Mary Perzinski, Kehaulani Souza, and Hallett H. Hammatt

2001 *Archaeological Monitoring Report, the Kūhiō Beach Extension/Kalākaua Promenade Project, Waikīkī Ahupua‘a, Kona District, Island of O‘ahu (TMK 2-6-1-, 2-6-22, 2-6-23, 2-6-26, 2-6-27, 3-1-43).* Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Yucha, Trevor M. and Josephine, and Hallett H. Hammatt

2013 *Archaeological Inventory Survey for the St. Augustine-by-the Sea Master Plan Project, Waikīkī Ahupua‘a, Honolulu (Kona) District, Island of O‘ahu TMK: [1]-2-6-026:012 & 015.* Cultural Surveys Hawaii, Inc., Kailua, Hawai‘i.

Appendix A Land Commission Awards

LCA 104 F.L., Kekuanaoa

Kekuanaoa, Haliimaile, 3 December 1851 N.R. 765-766v3

The Honorable William L. Lee, Greetings: I hereby present my claim in some ‘*Ilis* in Honolulu and in Waikīkī in the lands of the Fort which I am caring for. Here are the names:

[Following discussion of Honolulu *‘Ili* lands omitted]

Here are my claims at Waikīkī:

2 *lo‘i* at Kalia, ‘Ili in Waikīkī.

5 fishponds at Kalia in Waikīkī.

1 *muliwai* of Piinaio, in Waikīkī.

Those are my claims which I have thought of. There is one cocoanut grove. Makalii, also at Kalia. That is what I state to you. Farewell to you. M. KEKUANAOA

N.T. 390v10 No. 104 F.L. M. Kekuanaoa (from page 320) for 17 August 1854, Victoria Kamamalu L. Kukoa, sworn, I have seen his house site in Kapuni, Waikīkī, Kona, O‘ahu.

Mauka, Road

Waialae, Hamohamo boundary

Makai, beach

Honolulu, a meeting house.

This place was received from Kinau in 1839. She had received it from her mother.

Mahuka, sworn, the statements above are correct and I have seen his other claims. 2 ponds named Paweo, also Kaipuni, Pau, Kaihikapu, Manolepa and Kaohai in Waikīkī, Kona, O‘ahu.

He had received the land from Kinau in 1839. She had received it from Kaahumanu in 1832. No objections.

[Award 104 F.L.; R.P. 4492 (Kaihikapu Puuiki)& 4493; Kalia Waikīkī Kona; 1 ap.; 1.49 Acs; Kuhimana Honolulu Kona; 1 ap.; 2 Acs; no R.P. ; Kamanolepa Waikīkī Kona; 1 ap.; 2.06 Acs; R.P. 4492; Kapuni Waikīkī Kona; 1 ap.; 31 Acs; R.P. 4492; Uluniu Waikīkī Kona; 1 ap.; 31 Acs; R.P. 4493; Uluniu Waikīkī Kona; 1 ap.; 71.7 Acs]

LCA 1506

No. 1506, Waikiki /Female/
N.R. 138v3

To the Land Commissioners, Greetings: I, the undersigned, hereby tell of my land claim for two rows of hills /of taro/ in the lo`i of Hohe in Waikīkī, also a small *kula* and also a house lot. That is what I have to tell you.
WAIKĪKĪ /Female/
Ulukou at Waikīkī, December 4, 1847

F.T. 67v3
Cl. 1506, Waikīkī, *wahine*, December 27, 1848

Kamae, sworn, I know this land. It is in Hohe, Waititi, consisting of *kalo* land, and in Uluko of House lot.

1. House lot. Claimant has 1 house, partly fenced:
Mauka is Government land
Waialae is Opupahoa
Makai, sea
Honolulu is Keawe.

2. Two rows of kalo in a large patched owned by many.
Mauka by my kalo ground
Waialae is Paku
Makai is my land separated by water course
Honolulu, Kaluahinenui.

Claimant had these two lots from Ka‘ahumanu I, and then held them from Kinau & now under Victoria, and never had them disputed.

Second witness.

N.T. 393v3
No. 1506, Waikīkī (Female), December 27, 1848

Kanae, sworn, I have seen Waikīkī's (Female) land at Hohe in Waikiki. There is one patch and a house lot at Ulukou. One house is there and one side of the property has been enclosed.

[No.] 1.
Mauka is a government pasture
Waialae, Opupahaa's place
Makai, the sea

Honolulu, Keawe's land.

2. Two rows of taro at Hohe where:
Mauka are my taro rows
Waialae, Paku's land
Makai, my land
Honolulu here, Kaluahinenui's land.

Waikīkī's land and house site are from Ka‘ahumanu I. After her death, the land was under Kinau and at his death, it is now under V. Kamamalu.

Postponed until a witness has been summoned.

[Award 1506; R.P. 4723; Ulukou Waikīkī; 1 ap.; .16 Ac.]

LCA 2006

No. 2006, Male

N.R. 321v3

I, the one whose name is below, hereby state my claim for four *lo`i* in Kalokoeli in Waikīkī, the banks of two separate irrigation ditches, a house lot which has not been completely fenced, and some coconut trees within my lot. I pay my landlord four times a year /There is/ a pool for fish fry in the stream. -
MALE X His mark
Waikīkī, O‘ahu, 23 December 1847

F.T. 238-239v3

Cl. 2006, Male
Kaaha, sworn, I know the land of the claimant. It is in the ‘*ili* of Kalokoeli, Waikīkī, O‘ahu. It consists of five *lo‘i* in one piece and a house lot on the sea beach, but he has no title to this sea beach, except that of residing there at suffrance.

There *lo‘i* are bounded:
Mauka by Kauhao's land
Waialae by Kamakahonu's land
Makai by Kalia's land
Honolulu by Kalaimoku's land.

The claimant received this land from Waiaania, the *konohiki* in the days of Ka‘ahumanu I, and his title has never been disputed.
Kamakahiki, sworn, I know the land of Male, and what Kaaha testified concerning it is correct.

N.T. 575v3

No. 2006, Male, December 28, 1848

Kaaha, sworn, I have seen his place at Kalokoeli in Waikīkī.

5 taro patches in one section together:
Mauka, Kauhao's land
Waialae, Kamakahonu's land
Makai, Kalia's land
Honolulu, Kalaimoku's land.

Waiaania, the konohiki, had given him his land during the time of Ka‘ahumanu I and he has lived comfortably; no one has ever objected.
Makahiki, sworn, We both have known alike; no ne has objected.

[Award 2006, R.P. 5066; Kalokoeli Waikīkī Kona; 2 ap.; .98 Ac.; Kamoomuku Waikīkī Kona; 1 ap.; .27 Ac.]

LCA 2079

N.R. 349v3

I, the one whose name is below, hereby state my claim for my 7 lo`i, however, 3 are for my keiki. They are at Kiki, an `ili in Waikiki. There is also a house lot. There are some other lo`is at a place for my kane, at Mookahi, a mo`o auwai /path between irrigation ditches/, a row* at Hohe and with it a section of irrigation ditch. Some other lo`is are at Kawalaala, and 2 kula, a house lot, and one small kiopua.** Some lauhala trees of the mat variety are in a kula of mine. These are my claims which I hereby tell.

KAUHOLA X, her mark

Waikiki, 23 December 1847

/*a row of taro/
/** pool for raising fish fry/
F.T. 23-24v3

Cl. 2079, Kauhola, wahine, October 16 [1848]

Paele, sworn, This land is in the ilis of Makiki and Mookahi, Waititi, consisting of 7 kalo patches in Makiki, 2 in Mookahi, 1 line of kalo and 1 kahawai of kalo in Hohe, 4 kalo patches in Kawaiaala and 1 kula land in Kaluahole.

1. Seven kalo ptaches in Makiki

    Mauka & makai is "Kahia"
    Waialae by aupuni kalo patches
    Honolulu by Alex. Adams' land.

2. Two kalo patches in Mokahi

    Mauka & Honolulu is "Kalia"
    Waialae and Makai si Kanaina's.

3. One line (lolani) of kalo and Kahawai in Hohe:

    Mauka and Waialae is Kanealoa's
    Makai, Mahuka's
    Honolulu, "Kaloa."

4. Four kalo patches in Kawaiaala:

    Mauka is Nalaweha's
    Waialae, Government kalo land
    Makai, "Kalia"
    Honolulu, A. Adams.

5. Kula land in Kaluahole is included in the last described boundaries.

These lands were given to claimant in time of Kaahumanu 1 by Kamaukoli and she has occupied them ever since in peace. She has a husband named Kiku.

N.T. 349-350v3

No. 2079, Kauhola, October 16, 1848

Paele, sworn, I have seen Kauhola's land of 7 patches at Kiki. There are 2 patches at Mookahi, a row of taro at Hohe, also a ditch and a stream, four patches at Kawaiaala and a pasture in the ili of Kaluahole.

1. Seven patches at Kiki:

Mauka is Kalia
Waialae is Friday patches
Makai is Kalia
Honolulu is Alika's land.

2. Two patches at Mookahi:

Mauka is Kalia
Waialae and makai is Kanaina's land
Honolulu is Kalia.

3. A row at Hohe:

Mauka and Waialae by Kaneloa's land
Makai by Mahuka's land
Honolulu by Kalia.

4. Four patches at Kawaiaala:

Mauka is Nalaweha's land
Waialae is Tuesday patches
Makai is Kalia
Honolulu is Alika's land.

5. 1 pasture at Kaluahole: The boundaries are not known.

Kamaukoli had given Kauhola land and this land had been from Kaahumanu received during the time of Kaahumanu. She has lived there in peace and both she and her husband, Kiha, are taking care of this land. See page 104. Vol. 10

N.T. 204v10

No. 2079, Kauhala (from page 349, volume 3), 4 March 1852

Kamaukoli, sworn, I have seen this house lot. It is in Kalia, Waikiki in one section.

Mauka and Honlulu, Kanaina's land

Makai and Waialae, konohiki's land.

Land from Kamaukoli at the time of Kaahumanu I. Peaceful living.

[Award 2079; R.P. 723; Waikiki Kona; 2 ap.; 7.25 Acs]

LCA 2082

No. 2082, Kuene
N.R. 350v3

I, the one whose name is below, hereby state my claim for four lo`i and an edge of an irrigation ditch. There is also a house lot which has been enclosed with fence, and with two houses in it. There are four coconut trees in my lot with which I pay my annual tax. This place is at Mookahi, Waikīkī.
I am, with thanks,
KUENE X, his mark
Waikīkī, O‘ahu 23 December 1847

N.T. 637-638v3
No. 2082, Kuene, July 3, 1850

Haumalu, sworn, I have seen his land at Mookahi in Waikīkī - 2 land sections.

1. 4 taro patches and stream:
Mauka, Kihewa
Waialae, Kamakahonu
Makai, my land
Honolulu, land of Makoli.

2. House lot:
Mauka, Kaluahinenui
Waialae and *Makai*, Keohokalole
Honolulu, Kanaina.

Kuene received section 1 from Kuluehu in 1829; section 2 was an idle land on which he had worked before the death of Kinau in 1837 and he has lived comfortably to this time. No one has objected.

Ku, sworn, We have known similarly; the report above is true.

[Award 2082; R.P. 2418; Kalia Waikīkī Kona; 2 ap.; .90 Ac.]

LCA 2084

No. 2084, Keohokahina

N.R. 350-351v3

I hereby state my claim to you for two small *lo`i*, at Kalokoeli; also a row /of taro/ at Hohe, and my house lot at Ulukou. *Mauka* and to the east of my lot is an unused place, *makai* is Male, towards Hono-lulu is a stream.
KEOHOKAHINA X, his mark
Waikīkī, O‘ahu, 23 December 1847

N.T. 638-639v3
No. 2084, Keohokahina, July 3, 1850

Kaniho, sworn, I have seen his sections of land in Waikīkī as follows:

Section 1 - house lot in the ‘*ili* of Hamohamo.
Section 2 - 1 patch and ditch in Kalokoele ‘ili.
Section 3 - 1 patch, 1 ditch in Kalokoeli ‘ili.

He had received sections 2, & 3 in 1830 from Male. Male had received his interest from Kana, the konohiki; Section 1, an idle land in 1833 and he has lived in peace on these lands to the present time. No one has objected.

[Award 2084; R.P. 3640; Kalokoeli Waikīkī Kona; 1 ap.; .25 Ac.; Kamookahi Waikīkī Kona; 1 ap.; .38 Ac.; Ulukou Waikīkī Kona; 1 ap.; .53 Ac.]

Appendix D

CULTURAL IMPACT ASSESSMENT

Cultural Impact Assessment for the Hyatt Waikīkī Redevelopment Project, Waikīkī Ahupuaʻa, Honolulu (Kona) District, Oʻahu TMKs: [1] 2-6-023:009–012, 077, 078, 080 (por.)

Prepared for
BRE Waikiki Owner, LLC

Prepared by
Nicole Ishihara, B.A.,
Mahealani Liborio, B.A.,
and
Hallett H. Hammatt, Ph.D.

Cultural Surveys Hawaiʻi, Inc.
Kailua, Hawaiʻi
(Job Code: WAIKĪKĪ 138)

August 2014

Oʻahu Office
P.O. Box 1114
Kailua, Hawaiʻi 96734
Ph.: (808) 262-9972
Fax: (808) 262-4950

www.culturalsurveys.com

Maui Office
1860 Main St.
Wailuku, Hawaiʻi 96793
Ph: (808) 242-9882
Fax: (808) 244-1994

Management Summary

Reference	Cultural Impact Assessment for the Hyatt Waikīkī Redevelopment Project, Waikīkī Ahupua‘a, Honolulu (Kona) District, O‘ahu TMKs: [1] 2-6-023:009–012, 077, 078, and 080 (por.)
Date	August 2014
Project Number (s)	CSH (Cultural Surveys Hawai‘i) Job Code: WAIKIKI 138
Agencies	State of Hawai‘i Department of Health/Office of Environmental Quality Control (DOH/OEQC)
Project Location	Hyatt Regency Waikīkī Beach Resort and Spa
Project Description	The Hyatt Regency Waikīkī Beach Resort and Spa is planning to both improve retail shop facilities, and construct new additions to the front entry façade, the second floor, and third floor areas. The Hyatt Regency is located in the historic center of Waikīkī bounded by the Princess Ka‘iulani Hotel to the north, the current Hyatt Hotel parking garage to the south, the Kings Village Shopping Center to the east *mauka* (towards the mountains), and the Moana Surf Rider to the west *makai* (toward the ocean) of the project area. The new construction involves a reconfiguration of spaces within the hotel and retail podium, all of which are currently within the Hyatt Regency Waikīkī Beach Resort and Spa property. The project includes improved pedestrian circulation and improvements to the existing retail facilities. The retail development portion of the project will not increase total floor area at the hotel. Parking is still available via the hotel basement and south of the hotel. The project construction will include the addition of a new *porte cochere* (a covered entrance) on Koa Avenue and the inclusion of a second floor *lānai* (porch, veranda) shopping arcade, as well as new elevators at the *porte cochere* that will take visitors and guests directly to the hotel lobby and upper floors. The project also proposes a new pool deck for the hotel located on the third floor.
Project Acreage	The total project acreage is approximately 2.4 acres.
Area of Potential Effect (APE)	The APE is defined as the approximately 2.4 acres in total. While this investigation focuses on the project APE, this study considered the whole *ahupua‘a* (land division) of Waikīkī.
Document Purpose	This CIA was prepared to comply with the State of Hawai‘i’s environmental review process under Hawai‘i Revised Statutes (HRS) §343, which requires consideration of the proposed project’s potential effect on cultural beliefs, practices, and resources. Through document research and cultural consultation efforts, this report provides information compiled to date pertinent to the assessment of the proposed project’s potential impacts to cultural beliefs, practices, and resources (pursuant to the Office of Environmental Quality Control’s *Guidelines*

	for Assessing Cultural Impacts) which may include Traditional Cultural Properties (TCPs). These TCPs may be significant historic properties under State of Hawai‘i significance criterion “e,” pursuant to Hawai‘i Administrative Rules (HAR) §13-275-6 and §13-284-6. Significance criterion “e” refers to historic properties that “have an important value to the native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts—these associations being important to the group’s history and cultural identity” (HAR §13-275-6 and §13-284-6). The document will likely also support the project’s historic preservation review under HRS §6E and HAR §13-275 and §13-284. The document is intended to support the project’s environmental review and may also serve to support the project’s historic preservation review under HRS §6E-8 and HAR §13-284.
Results of Background Research	Background research for this study yielded the following results which are presented in approximate chronological order: The project area is located within the *‘ili* (land section within an *ahupua‘a*) of Kapuni and Uluniu in the modern day *ahupua‘a* (land division extending from the mountain to the sea) of Waikīkī in the area known as Waikīkī Kai. The name Waikīkī translates as “water spurting from many sources,” and reveals the character of the intact watershed system of Waikīkī prior to Western Contact, where water from the valleys of Mānoa and Pālolo gushed forth from underground. A vast system of irrigated taro fields was constructed across the littoral plain from Waikīkī Kai to the lower valleys of Mānoa and Pālolo in approximately AD 1400. This, in combination with coconut groves and fishponds along the shoreline, enabled the growth of a sizeable population, including the coastal village of Waikīkī, which most likely centered around the mouth of ‘Āpuakēhau Stream in the vicinity of the project area. Numerous *wahi pana* (storied place), *‘ōlelo no‘eau* (proverb), *‘oli* (chant), and *mo‘olelo* (story) are associated with Waikīkī, which attests to the historical significance of the *ahupua‘a*, abundance of natural resources, and the presence of a viable Native Hawaiian population. These include *mo‘olelo* such as Ka-lua-‘Ōlohe, the *heiau* of Papa‘ena‘ena and ‘Āpuakēhau, the high priest of Ka‘opulupulu, the warrior Kawelo, and the life-giving stones of Kapaemahu and Kapuni. At least seven other religious sites were located in Waikīkī Kai, including Helumoa Heiau (also called ‘Āpuakēhau Heiau) (Thrum 1907a:44) and Nā Pōhaku ‘Ola Kapaemahu a Kupuni (commonly known as the Wizard Stones) (Paglinawan 1997; Thrum 1907b:139-141) in the

	vicinity of the project area. These sites are connected through *mo‘olelo* to ‘Āpuakēhau Stream, which once flowed to the north of the project area. Four of these *heiau* (pre-Christian place of worship) were associated with human sacrifice, including Helumoa Heiau (Thrum 1907a:44). Sacrificial drowning of *kauwā* (outcast) also took place in Waikīkī (*Ka Loea Kālai‘āina* 1899, translation in Sterling and Summers 1978:33). Waikīkī Kai was a place of royal residence, starting with Mā‘ilikūkahi in approximately AD 1490 (Kamakau n.d. in McAllister 1933:74) and extending through Kamehameha (‘Ī‘ī 1959:17). The *‘ili* of Kaluaokau and of Helumoa, adjacent to the *‘ili* of the project area, were places of previous royal residence. During the Māhele, there were 437 land claims in Waikīkī Ahupua‘a, of which only 243 were awarded. Within the project area, only two LCAs were awarded: LCA 1506, Wahine Waikīkī; and LCA 2082, John Neddles Kuene. LCA 1506 consisted of two *‘āpana* (parcel) which included a partially fenced house lot and two rows of *kalo* (taro; *Colocasia esculenta*) in a community patch. LCA 2082 consisted of three *‘āpana*, which included three *lo‘i* (irrigated terrace), a portion of an *‘auwai* (ditch), a fishpond in Kalokoeli, a *loko* (pond) in Kamookahi, a house lot, and *kula* (plain) in Ulukou. Oral histories indicate early twentieth century gathering practices of several varieties of *limu* (seaweed) and *wana* (sea urchin; *Diadema paucispinium* and *Echinothrix diadema*) along the Waikīkī coast, and the catching of *manini* (convict tang; *Acanthurus triostegus*) in the near shore waters. *Moi* (threadfish; *Polydactylus sexfilis*), shrimp, *‘oama* (young goat fish; *Mullidae*), mullet, *‘a‘awa* (wrasse; *Bodianus bilunulatus*), *āholehole* (Hawaiian flagtail; *Kuhlia sandvicensis*), *papio* (young crevalle; *Caranx hippos*), and *‘o‘opu* (general name for fishes in the families *Eleotridae*, *Gobiidae*, and *Blennidae*) in ‘Āpuakēhau. Oral histories indicate the Waikīkī School, the Kawaiha‘o Church Waikīkī Branch, and its associated cemetery were located in the vicinity of the project area directly across Kalākaua Avenue from the Moana Hotel. The Waikīkī Theater was also in close proximity. The theater opened in 1936.
Results of Community Consultation	CSH attempted to contact Hawaiian organizations, agencies, and community members as well as cultural descendants of Waikīkī in order to identify individuals with cultural expertise and/or knowledge of the project area and vicinity. Community outreach letters were sent to a total of 55 individuals or groups; two responded, and one of these *kama‘āina* (native born) and/or *kūpuna* (elder) met with CSH for a more in-depth interview. This community consultation indicates the following: Ms. Paulette Ka‘anohi Kaleikini, State of Hawai‘i recognized lineal descendant, shared memories of her mother sitting and watching the

	demolition of the Biltmore Hotel, the hotel constructed prior to the Hyatt Regency Waikīkī Hotel. Workers allowed Ms. Kaleikini's mother on the property to gather *iwi* or burials that were found during the demolition of the hotel. Ms. Kaleikini's mother would consult with her brother who would then take the *iwi* and reinter the burials at an undisclosed location. Ms. Kaleikini shared a *mo‘olelo* of Kahekilinuiahumanu. Kaheikili's mother was from a Hawai‘i lineage of chiefs while his father came from a Maui lineage of chiefs. When Kahekili died on O‘ahu, both sides of his family wanted his *iwi*. When the Hawai‘i chiefs came to O‘ahu to retrieve Kahekili's *iwi*, unbeknownst to them, they were given the remains of someone else. Ms. Kaleikini shared that her*‘ohana* (family) was *pilikoko*, close blood relatives, to Kahekili. Kahekili's remains were already buried in the *‘ili* of Ulukou where he resided in Waikīkī until his death. Ms. Kaleikini and her mother both believe Kahekili's remains are still in Ulukou ‘Ili. Ms. Dwynn Kamai, treasurer for the Waikīkī Hawaiian Civic Club, shared her memories of Waikīkī and the vicinity of the project area. King's Alley, the former name for King's Village, was once a place of employment for Ms. Kamai. She recalled cultural demonstrations such as *lei* (garland) making, coconut frond weaving, and *hula* performances by *kumu hula* (hula teacher) Aloha Dalire and her *hālau* (group). In 1972, Bishop Museum opened the Heritage Theater at King's Alley. According to Ms. Kamai, an exhibit pertaining to the Hawaiian Monarchy in Waikīkī was on display. Double decker buses provided transportation between Bishop Museum in Kalihi, the *Falls of Clyde* ship at Aloha Tower, and the Heritage Theater in Waikīkī. The theater was open for many years before downsizing to a bookstore and gift shop. Unsure of the exact location, Ms. Kamai recalled the ‘Āinahau Estate to be in the vicinity of the project area. ‘Āinahau was the estate of Archibald Cleghorn and his wife Princess Miriam Likelike. Their daughter Princess Ka‘iulani played as a child at the estate with her beloved pet peacocks. Ms. Kamai added that famed waterman, Duke Kahanamoku, surfed and swam in the ocean fronting the Moana Surfrider Hotel, which is also in the vicinity of the project area. The land of Waikīkī Kai was comprised of a vast agricultural system including *lo‘i* and fishponds. The great-great-great grandfather of Mr. Clarence Medeiros Jr. was conveyed LCA 1268 via Nakai. The 1.60-acre parcel consisted of *lo‘i*. Mr. Medeiros' maternal great-great grandfather, Zen Man Sing, arrived in Hawai‘i from China in 1888. Shortly after his arrival he worked in Waikīkī with relatives planting rice and taro.

Impacts and Recommendations	Based on the information gathered for the cultural and historic background and community consultation detailed in this CIA report, the proposed project may potentially impact the following: The proposed project will be a redevelopment of the existing retail area. There will not be any grading or excavations during construction; construction will not exceed the depth of the existing parking garage floor. For this reason no undisturbed sediments will be impacted. However, should any unforeseen circumstances arise where previously undisturbed sediments are encountered it should be anticipated that there is a possibility *iwi kūpuna* (ancestral bones) may be encountered within those sediments. Personnel involved in the construction activities should exercise caution. The area surrounding the project contains Jaucas sand deposits, a common sediment for interment of the dead. In addition, a community participant indicated her family found burials within the project area, and they were reinterred at that location. However, the precise location of the reinterment(s) has not been disclosed in accord with custom. Personnel involved in the construction activities of the project should be informed of the possibility of inadvertent cultural finds, including human remains. Should burials (or other cultural finds) be encountered during any unanticipated ground disturbance, the construction contractor should immediately cease all work and the appropriate agencies should be notified pursuant to applicable law. If any *iwi kūpuna* or other inadvertent cultural finds are found, BRE Waikiki Owner LLC should consult with lineal and cultural descendants of Waikīkī to develop a reinterment plan and cultural preservation plan in the event that any human remains or cultural sites or artifacts are uncovered during construction or long-term maintenance for the project.

Table of Contents

Management Summary ..... **i**

Section 1 Introduction **1**

1.1 Project Background 1
1.2 Document Purpose 1
1.3 Scope of Work 8
1.4 Natural Environment 8
1.5 Built Environment 8

Section 2 Methods **12**

2.1 Archival Research 12
2.2 Community Consultation 12
2.2.1 Sampling and Recruitment 12
2.2.2 Informed Consent Protocol 13
2.2.3 Interview Techniques 13
2.2.4 Study Limitations 14
2.3 Compensation and Contributions to Community 15

Section 3 Traditional Background **16**

3.1 Land Divisions 16
3.1.1 Kona Moku 16
3.1.2 Waikīkī Ahupua‘a 16
3.2 Wahi Pana 17
3.3 *Mo‘olelo* (Stories) 23
3.3.1 Ka-lua-‘Ōlohe 23
3.3.2 Helumoa ‘Ili, ‘Āpuakēhau Heiau, and Ka‘opulupulu 23
3.3.3 The *Mo‘olelo* of Kawelo 24

Section 4 Historical Background **26**

4.1 Pre-Contact to Early Post-Contact Period 26
4.1.1 Helumoa Heiau 29
4.1.2 Kapaemāhū Stones 29
4.2 The Mid-Nineteenth Century to Present 31
4.2.1 The Māhele (1848) 31
4.2.2 Latter Half of the Nineteenth Century 35
4.2.3 ‘Āinahau 38
4.3 Twentieth Century to Present 40
4.3.1 Hotel Development 40
4.3.2 The Ala Wai Canal 44
4.3.3 World War II 47
4.3.4 Post-World War II 47
4.3.5 Historic Maps 47
4.4 Previous Oral History Research 60
4.4.1 Sadao Hikida 60
4.4.2 Joseph Akana 61
4.4.3 John C. Ernstberg 63
4.4.4 Wilbur Craw 63

4.4.5 Lemon “Rusty” Holt 64

Section 5 Community Consultation 66

5.1 Response from Paulette Ka‘anohi Kaleikini 70
5.2 Response from Dwynn Kamai 71

Section 6 Interviews 73

6.1 Clarence Medeiros Jr. 73

Section 7 Cultural Landscape 78

7.1 Hawaiian Habitation 78
7.2 *Wahi Pana* and *Mo‘olelo* 78
7.3 Agriculture 78
7.4 Marine and Freshwater Resources 79
7.5 Burials 79

Section 8 Summary and Recommendations 80

8.1 Results of Background Research 80
8.2 Results of Community Consultations 81
8.3 Recommendations 82

Section 9 References Cited 83

Appendix A Authorization and Release Form 89

List of Figures

Figure 1. Portion of 1998 Honolulu USGS Topographic Quadrangle, depicting Waikīkī and the project area 2
Figure 2. Aerial photograph (Google Earth 2013) depicting project area 3
Figure 3. Tax Map Key (TMK) [1] 2-6-23 showing project area 4
Figure 4. Client supplied construction plans of the ground floor (BRE Waikiki Owner, LLC) 5
Figure 5. Client supplied construction plans of the second floor of the Hyatt Regency Waikīkī Beach Resort and Spa (BRE Waikīkī Owner, LLC) 6
Figure 6. Client supplied construction plans of the third floor (BRE Waikīkī Owner, LLC) 7
Figure 7. Aerial photograph (Google Earth 2013) showing the project area with soil overlay (Foote et al. 1972) 10
Figure 8. Client supplied photo of the Hyatt Regency Waikīkī Beach Resort and Spa construction, circa 1970s; note the basement to the right foreground (BRE Waikīkī Owner, LLC) 11
Figure 9. Portion of 1998 Honolulu USGS Topographic Quadrangle with overlay of *‘ili* names, *heiau*, *loko i‘a* (fishponds), and streams within Waikīkī Ahupua‘a 20
Figure 10. Photo of Helumoa ca. 1863, the summer residence of King Kamehameha V (Kamehameha Schools Archive 1863) 27
Figure 11. Photograph of Nā Pōhaku ‘Ola Kapaemāhū a Kapuni, commonly known as the Wizard Stones (Hawai‘i State Archives) 30
Figure 12. 1881 Bishop map of Waikīkī depicting Land Commission Awards in the vicinity of the project area 34
Figure 13. Photograph of Diamond Head from Helumoa Grove ca. 1859 (Hawai‘i State Archives) 36
Figure 14. Photograph of Diamond Head across rice fields ca. 1900 (University of Hawai‘i at Mānoa Digital Collection) 36
Figure 15. Kalākaua Road with trolley tracks (right) and Diamond Head (background), ca. 1890 (Hawaiian Historical Society Collection) 37
Figure 16. Photograph of ‘Āinahau ca. 1915 (Hawai‘i State Archives) 39
Figure 17. Photograph of the ‘Āinahau Banyan Tree ca. 1920 (Hawai‘i State Archives) 39
Figure 18. Photograph of the opening day for the Moana Hotel in 1901 (Hawai‘i State Archives) 43
Figure 19. Aerial photograph of the Moana Hotel ca. 1929 (University of Mānoa Digital Collection) 43
Figure 20. Aerial photograph of the Royal Hawaiian Hotel ca. 1928 (Hawai‘i Aviation Museum) 45
Figure 21. Photograph of the dredging of the Ala Wai Canal, n.d. (Hawai‘i State Archives) 46
Figure 22. Photograph of fisherman in the Ala Wai Canal, ca. 1931 (Hawai‘i State Archives) 46
Figure 23. Portion of 1881 Bishop map of Waikīkī showing the project area 48
Figure 24. Portion of 1893 W.A. Wall map of Waikīkī showing the project area 49
Figure 25. Portion of 1910 U.S. Army Engineers map of Waikīkī showing the project area and the surrounding undeveloped land 50
Figure 26. 1917 Bishop Museum Government Survey map showing the project area and the ‘Āpuakēhau Stream 51

Figure 27. Portion of 1919 U.S. Army War Development Fire Control map, Honolulu Quadrangle showing the project area....52
Figure 28. 1927 Sanborn Fire Insurance map, Honolulu Sheet 385 showing the project area....54
Figure 29. Portion of 1933 U.S. Army War Department Fire Control map, Honolulu Quadrangle showing the project area and a completed Ala Wai Canal....55
Figure 30. Portion of 1943 U.S. Army War Department Terrain map, Diamond Head and Honolulu Quadrangles showing the project area and the Ala Wai Canal....56
Figure 31. Portion of 1953 Honolulu USGS Topographic Quadrangle of Waikīkī showing the project area....57
Figure 32. 1956 Sanborn Insurance Map, Honolulu Sheet 385 showing the project area....58
Figure 33. 1978 USGS Orthophotoquad Aerial Photograph, Honolulu Quadrangle showing the project area....59

List of Tables

Table 1. *Wahi Pana* in Waikīkī Ahupua‘a....21
Table 2. LCAs within and in the Vicinity of the Project Area....32
Table 3. Results of Community Consultation....67

Section 1 Introduction

1.1 Project Background

At the request of BRE Waikiki Owner LLC, Cultural Surveys Hawai‘i Inc. (CSH) is conducting a cultural impact assessment (CIA) for the proposed project located at 2424 Kalākaua Avenue, Waikīkī Ahupua‘a, Honolulu (Kona) District, O‘ahu TMKs: [1] 2-6-023:009, 010, 011, 012, 077, 078, 080 (por.). The project area is depicted in a U.S. Geological Survey (USGS) quadrangle map (Figure 1), an aerial image (Figure 2), and a tax map plat (Figure 3). The proposed project area covers approximately 2.4 acres.

The Hyatt Regency Waikīkī Beach Resort and Spa is planning to both improve retail shop facilities and construct new additions to the front entry façade, the second floor, and third floor areas. The Hyatt Regency is located in the historic center of Waikīkī bounded by the Princess Kaiulani Hotel to the north, the current Hyatt Hotel parking garage to the south, the Kings Village Shopping Center to the east *mauka* (towards the mountains), and the Moana Surf Rider to the west *makai* (toward the ocean) of the project area.

The construction involves a reconfiguration of spaces within the hotel and retail podium, all of which are currently within the Hyatt Regency Waikīkī Beach Resort and Spa property. The project includes improved pedestrian circulation and improvements to the existing retail facilities. The retail development portion of the project will not increase total floor area at the hotel. Parking is still available via the hotel basement and south of the hotel. The project construction will include the addition of a new *porte cochere* (a covered entrance) on Koa Avenue and the inclusion of a second floor *lānai* (porch, veranda) shopping arcade, as well as new elevators at the *porte cochere* that will take visitors and guests directly to the hotel lobby and upper floors. The project also proposes a new pool deck for the hotel located on the third floor (Figure 4 to Figure 6).

1.2 Document Purpose

This CIA was prepared to comply with the State of Hawai‘i’s environmental review process under Hawai‘i Revised Statutes (HRS) §343, which requires consideration of the proposed project’s potential effect on cultural beliefs, practices, and resources. Through document research and cultural consultation efforts, this report provides information compiled to date pertinent to the assessment of the proposed project’s potential impacts to cultural beliefs, practices, and resources (pursuant to the Office of Environmental Quality Control’s *Guidelines for Assessing Cultural Impacts*) which may include Traditional Cultural Properties (TCPs). These TCPs may be significant historic properties under State of Hawai‘i significance criterion “e,” pursuant to Hawai‘i Administrative rules (HAR) §13-275-6 and §13-284-6. Significance criterion “e” refers to historic properties that “have an important value to the native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts—these associations being important to the group’s history and cultural identity” (HAR §13-275-6 and §13-284-6). The document will likely also support the project’s historic preservation review under HRS §6E and HAR §13-275 and §13-284. The document is intended to support the project’s environmental review and may also serve to support the project’s historic preservation review under HRS §6E-8 and HAR §13-284.

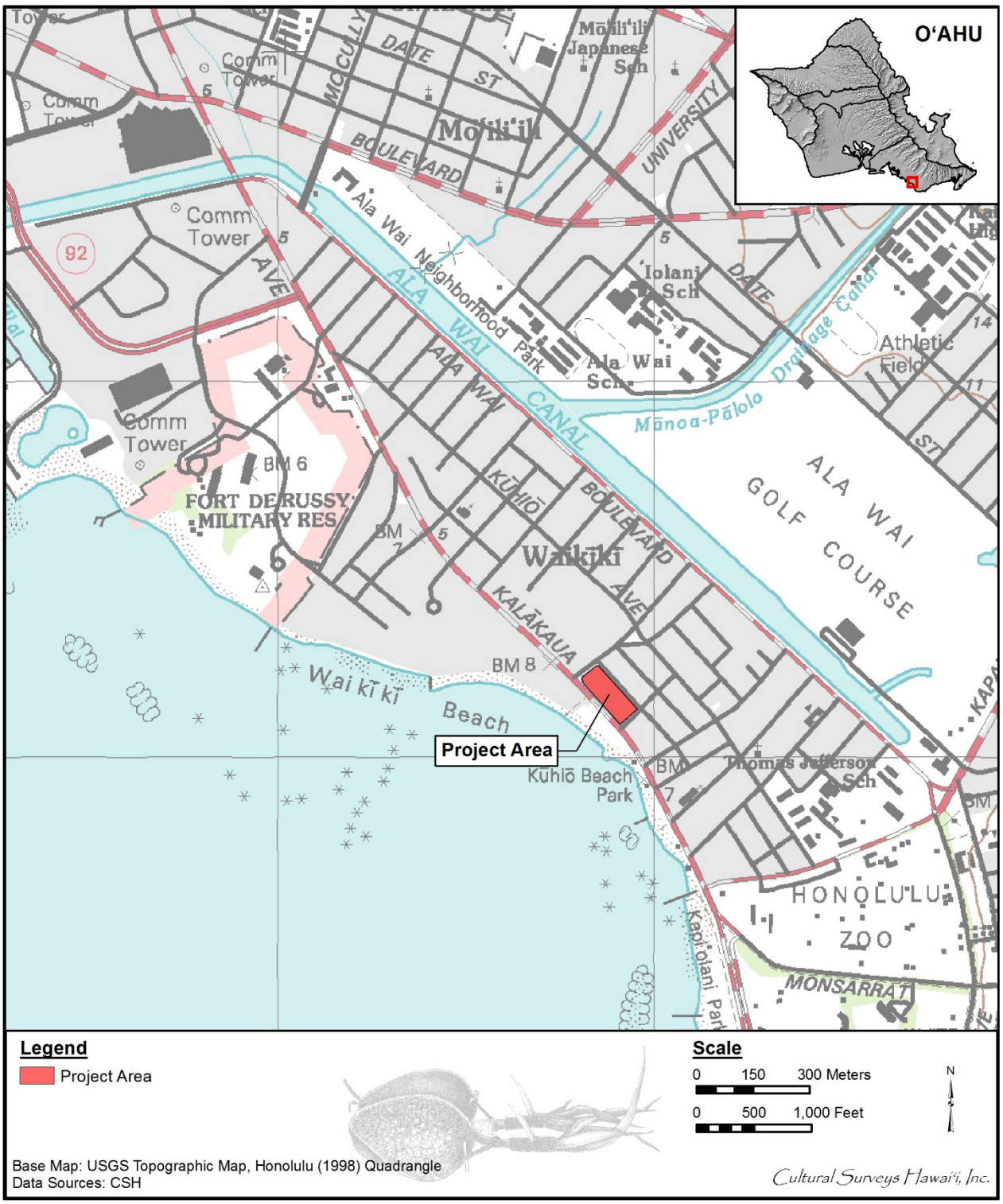


Figure 1. Portion of 1998 Honolulu USGS Topographic Quadrangle, depicting Waikīkī and the project area

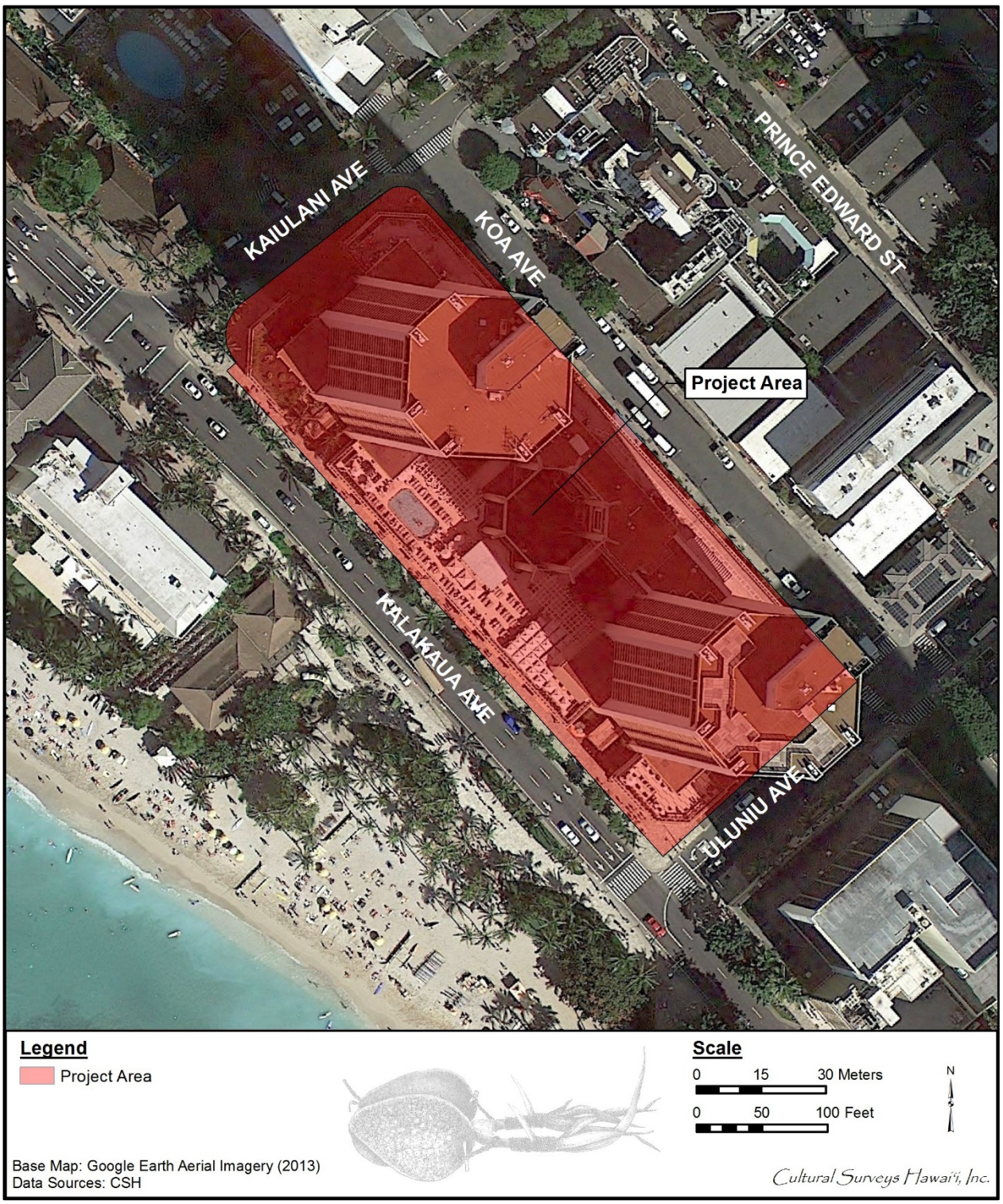


Figure 2. Aerial photograph (Google Earth 2013) depicting project area

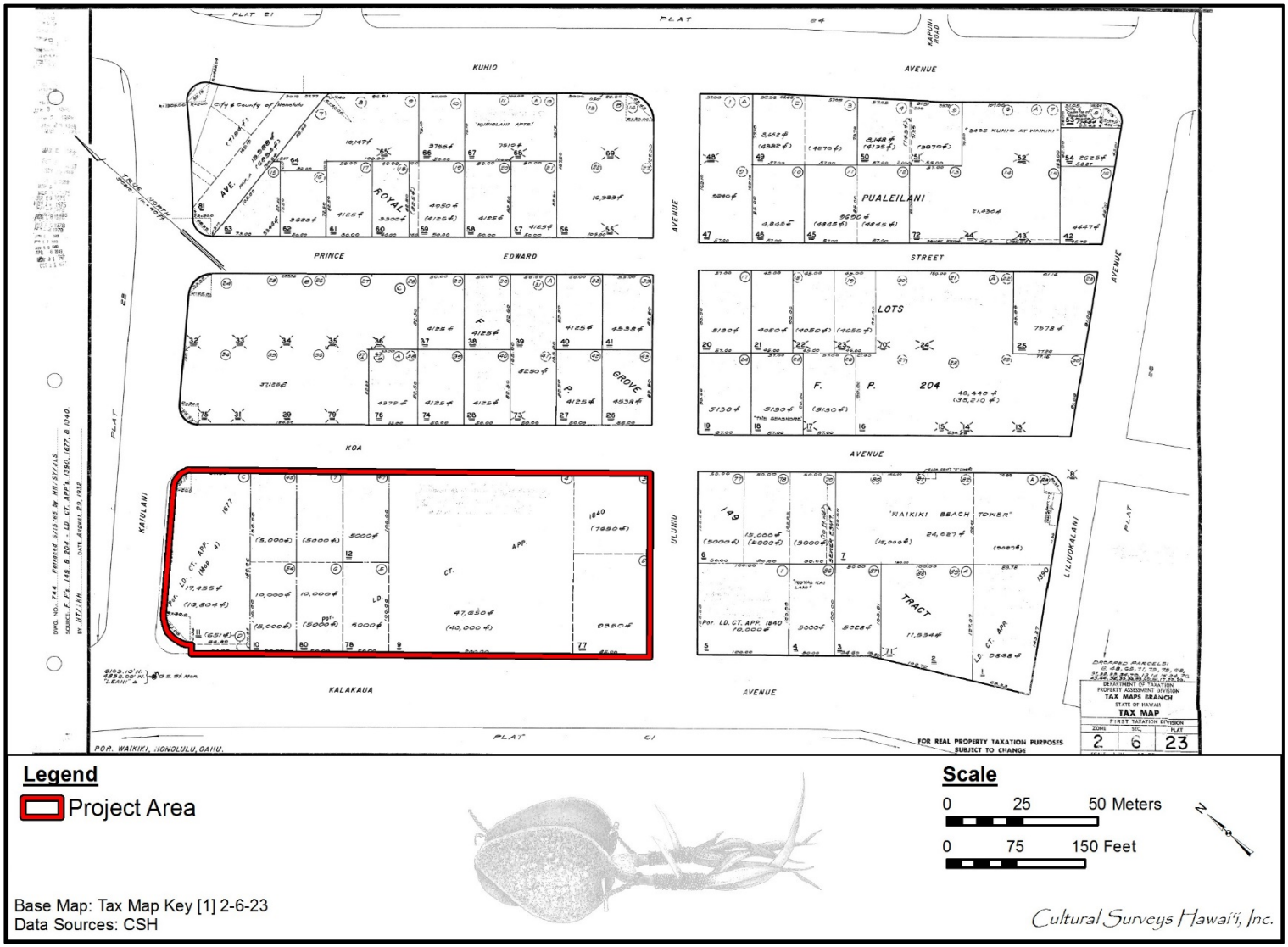


Figure 3. Tax Map Key (TMK) [1] 2-6-23 showing project area

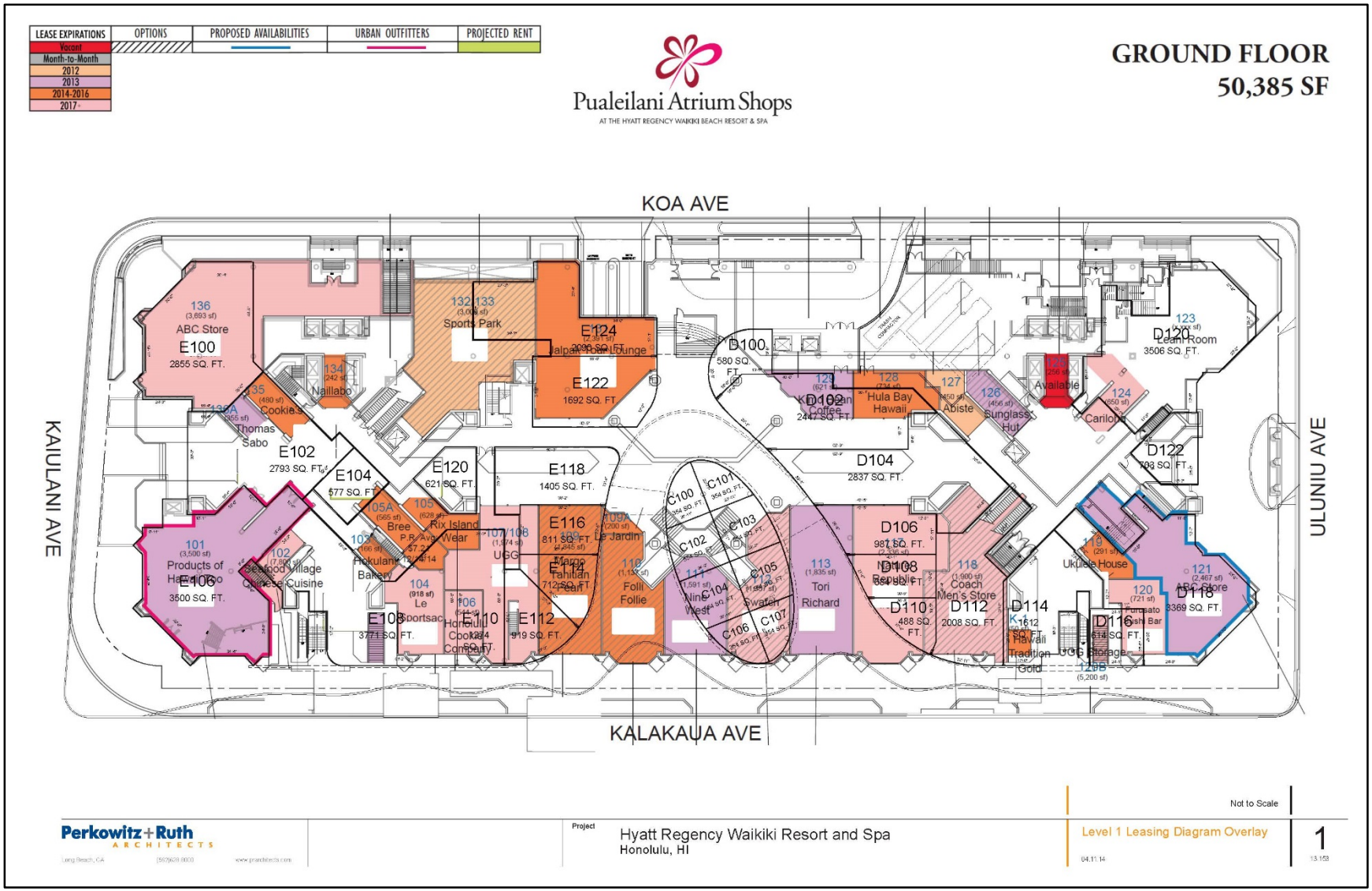


Figure 4. Client supplied construction plans of the ground floor (BRE Waikiki Owner, LLC)

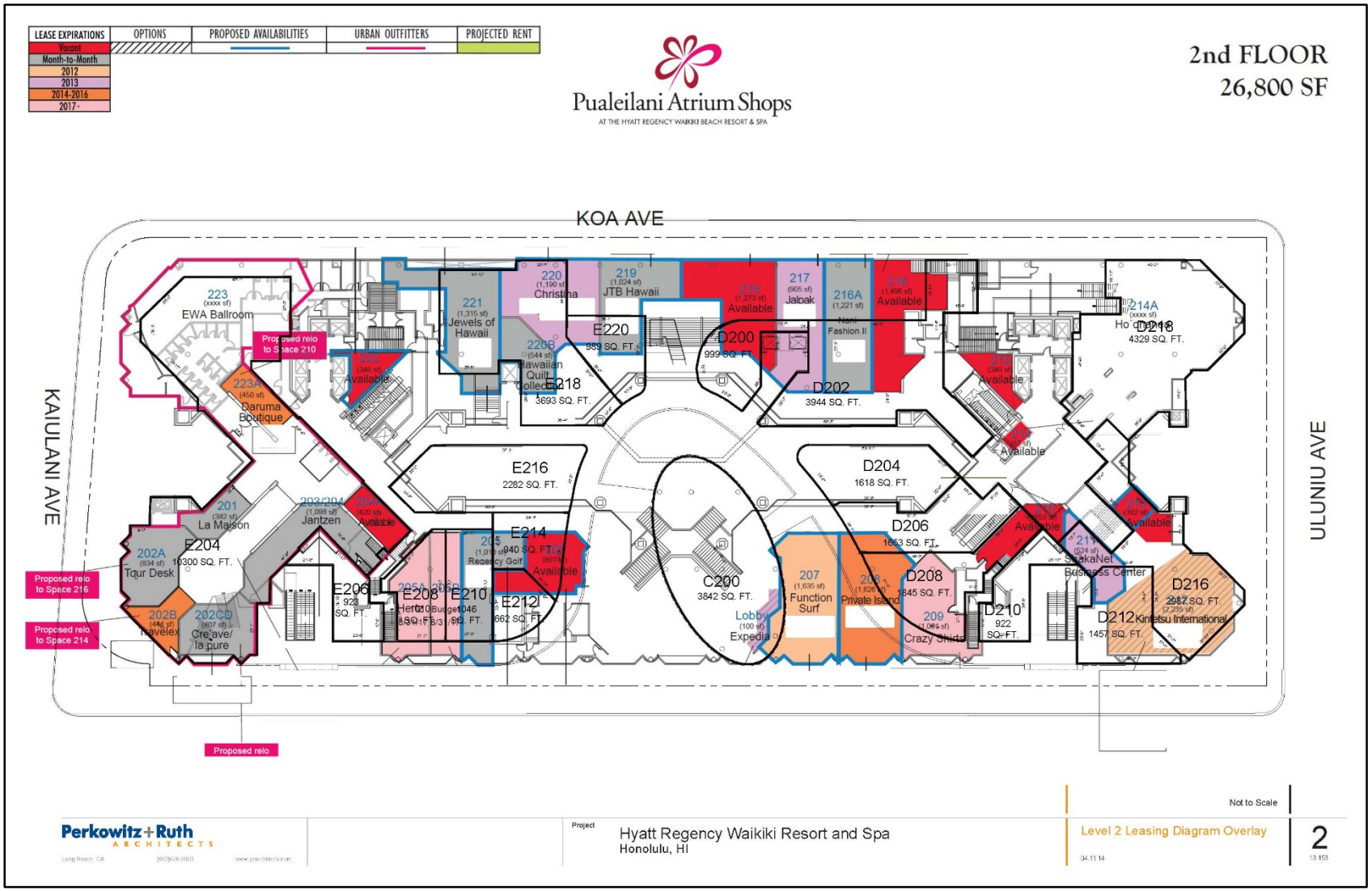


Figure 5. Client supplied construction plans of the second floor of the Hyatt Regency Waikīkī Beach Resort and Spa (BRE Waikīkī Owner, LLC)

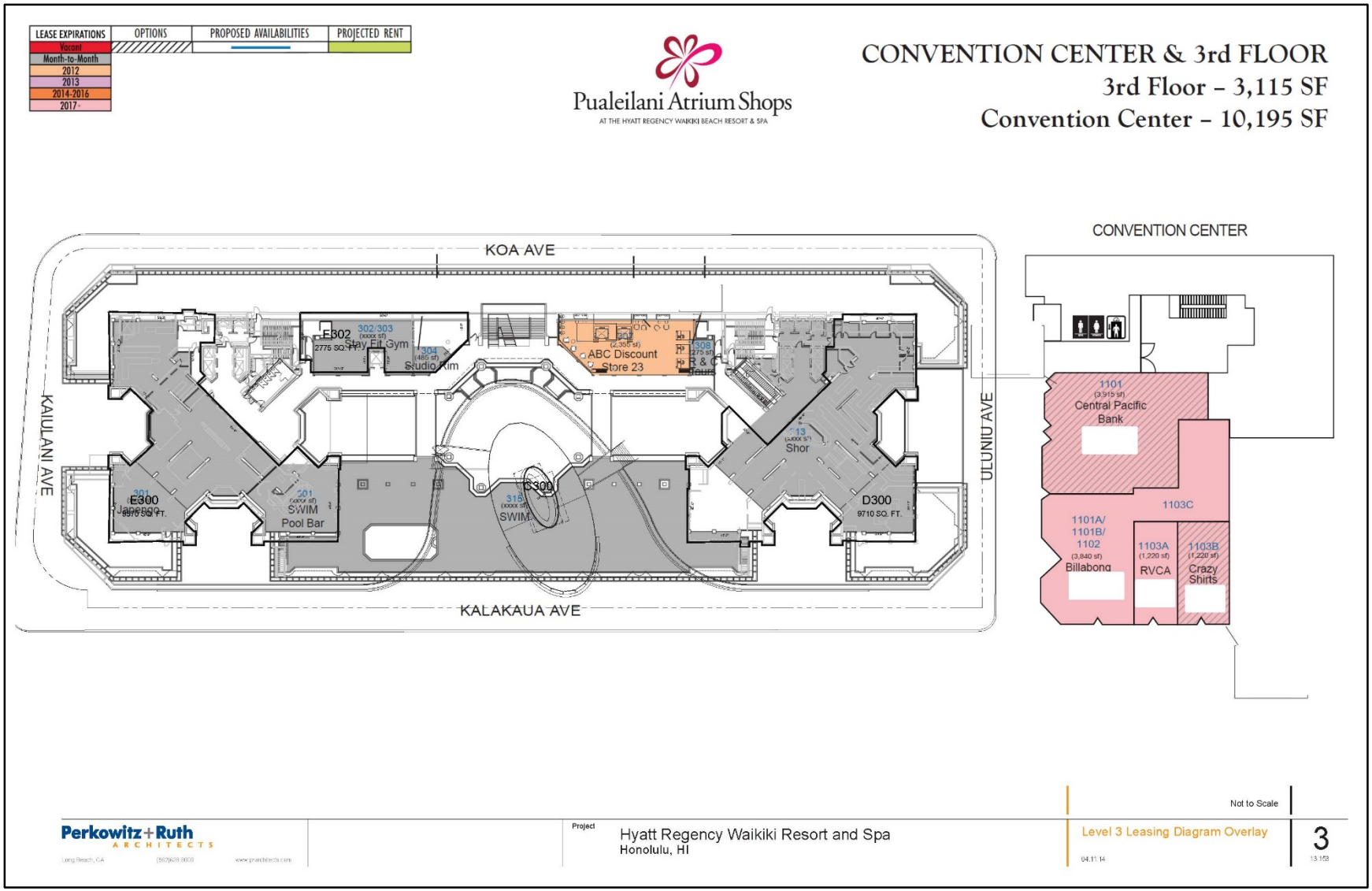


Figure 6. Client supplied construction plans of the third floor (BRE Waikīkī Owner, LLC)

1.3 Scope of Work

The scope of work for this CIA includes the following:

1. Examination of cultural and historical resources, including Land Commission documents, historic maps, and previous research reports with the specific purpose of identifying traditional Hawaiian activities including gathering of plant, animal, and other resources or agricultural pursuits as may be indicated in the historic record.
2. Review of previous archaeological work at and near the subject parcel that may be relevant to reconstructions of traditional land use activities; and to the identification and description of cultural resources, practices, and beliefs associated with the parcel.
3. Consultation and interviews with knowledgeable parties regarding cultural and natural resources and practices at or near the parcel; present and past uses of the parcel; and/or other practices, uses, or traditions associated with the parcel and environs.
4. Preparation of a report that summarizes the results of these research activities and provides recommendations based on findings.

1.4 Natural Environment

The project area is situated on the level, low-lying coastal area of Waikīkī, and is approximately 2 m, or 6 ft above mean sea level (AMSL). The water table is typically observed at 1.3 to 2.0 m below the current land surface. The average rainfall in this coastal area of Waikīkī is between 20-30 inches per year, with temperatures ranging from 60 to 85 degrees Fahrenheit (Armstrong 1973:56).

Although the area has been altered by construction, the natural soil deposit was Jaucas sand (JaC), calcareous soils developed in wind, and water deposited sand from coral and seashells (Figure 7). The slope range of this soil is 0 to 15%, but in most places, the slope does not exceed 7%. The soil is single grain, pale brown to very pale brown, sandy, and more than 60 inches deep. In many places, the surface layer is dark brown as a result of accumulation of organic matter and alluvium. The soil is neutral to moderately alkaline throughout the profile (Foote et al. 1972:48). Generally, vegetation in the Waikīkī area today includes mainly introduced exotics such as banyan, MacArthur palm, Brassaia, coconut, plumeria, Alexander palm, Manila palm, date palm, fern, monkey pod, tulip wood, opium trees, and a variety of grasses.

The project area stands adjacent to the famous Waikīkī Beach (BS), composed of mainly light-colored sand resulting from the degradation of coral and seashells. The beach is composed of “sandy, gravelly, or cobbly” surfaces constantly washed by the ocean waves (Foote et al. 1972:28). The beach area has no agricultural value, therefore recreational and resort developments are the most appropriate uses for this expanse.

1.5 Built Environment

The project area is located in the historic center of Waikīkī Beach and is surrounded by modern urban development including high-rise condominiums, apartments and hotels, streets, sidewalks, and utility infrastructure. The current project area includes the Hyatt Regency Waikīkī Beach Resort and Spa, which is a mixed use resort featuring retail, restaurants, and 1,230 guest rooms. The Waikīkī area has been heavily developed and urbanized since the early twentieth century and the project area is currently surrounded by hotels and infrastructure to support the prevalent tourist

industry in Waikīkī. Immediately to the north along Kaiulani Road is the Princess Ka‘iulani Hotel. Across Kalākaua Avenue and *makai* from the project area is the Waikīkī Beach Police Station and the Moana Surf Rider Hotel, which is situated adjacent to the Outrigger Hotel. Koa Avenue is *mauka* of the project area and contains the King’s Village shopping center, other hotels, apartments, and restaurants. The Hyatt Regency property opened in 1976 and has undergone numerous renovations in the last four decades (Figure 8).

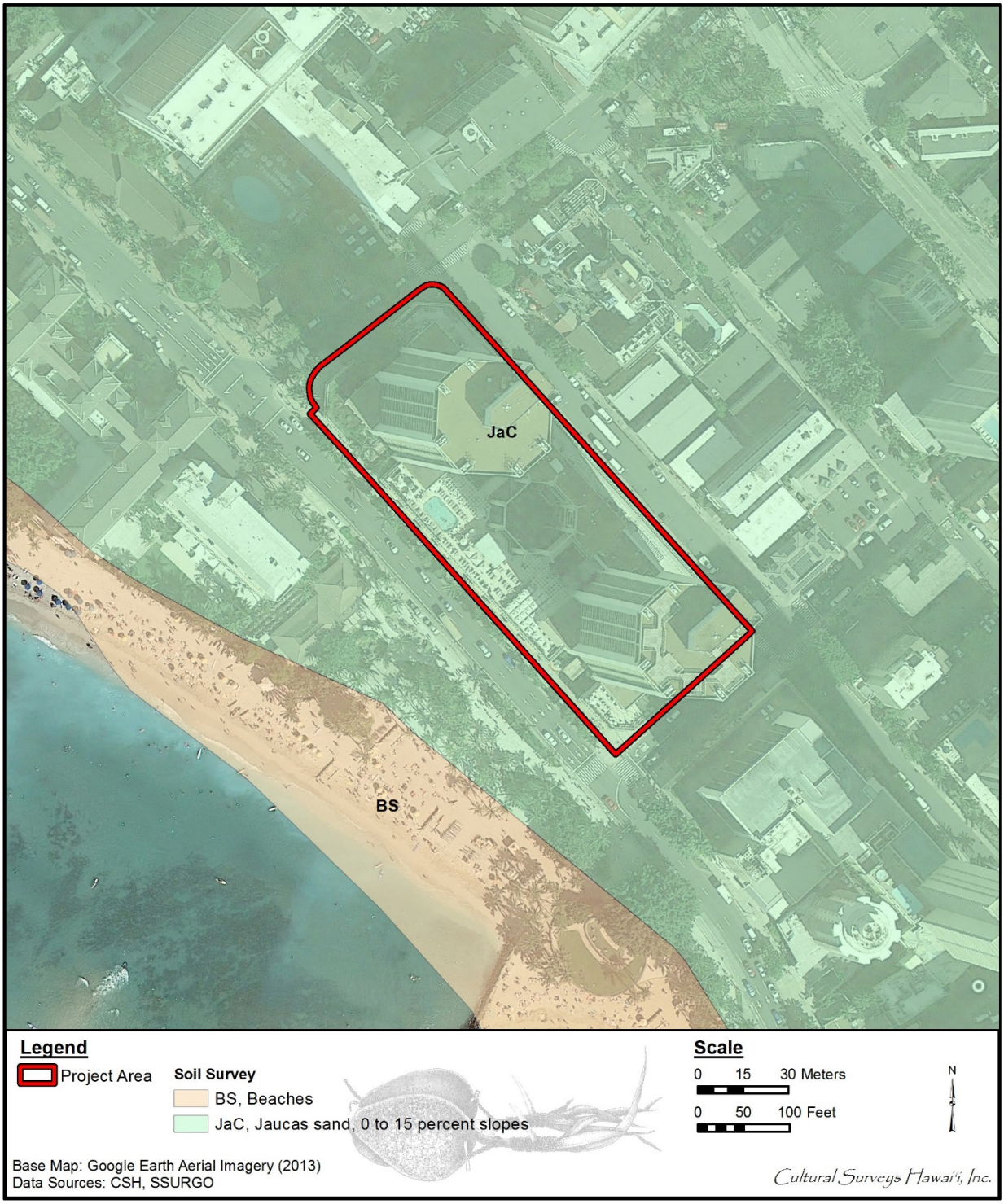


Figure 7. Aerial photograph (Google Earth 2013) showing the project area with soil overlay (Foote et al. 1972)

Figure 8. Client supplied photo of the Hyatt Regency Waikīkī Beach Resort and Spa construction, circa 1970s; note the basement to the right foreground (BRE Waikīkī Owner, LLC)

Section 2 Methods

2.1 Archival Research

Historical documents, maps, and existing archaeological information pertaining to the project area were researched at the CSH library and other archives including the University of Hawai‘i at Mānoa’s Hamilton Library, the State Historic Preservation Division (SHPD) library, the Hawai‘i State Archives, the State Land Survey Division, and the Bishop Museum Archives. Previous archaeological reports for the area were reviewed, as were historic maps and photographs and primary and secondary historical sources. Information on Land Commission Awards (LCAs) was accessed through Waihona ‘Aina Corporation’s Māhele database (Waihona ‘Aina 2000) and the Office of Hawaiian Affairs (OHA) Papakilo database (Office of Hawaiian Affairs 2014) as well as a selection of CSH library references.

For cultural studies, research for the Traditional Background centered on Hawaiian activities including religious and ceremonial knowledge and practices, traditional subsistence land use and settlement patterns, gathering practices and agricultural pursuits, as well as Hawaiian place names, *mo‘olelo* (story), *mele* (songs), *oli* (chant), *‘ōlelo no‘eau* (proverb), and more. For the Historic Background section, research focuses on land transformation, development, and population changes beginning in the early post–Westerm Contact era to the present day (see Scope of Work above).

2.2 Community Consultation

2.2.1 Sampling and Recruitment

A combination of qualitative methods including purposive, snowball, and expert (or judgment) sampling, were used to identify and invite potential participants to the study. These methods are used for intensive case studies, such as CIAs, to recruit people who are hard to identify, or are members of elite groups (Bernard 2006:190). Our purpose is not to establish a representative or random sample. It is to “identify specific groups of people who either possess characteristics or live in circumstances relevant to the social phenomenon being studied . . . This approach to sampling allows the researcher deliberately to include a wide range of types of informants and also to select key informants with access to important sources of knowledge” (Mays and Pope 1995:110).

We began with purposive sampling informed by referrals from known specialists and relevant agencies. For example, we contacted the SHPD, OHA, O‘ahu Island Burial Council (OIBC), and community and cultural organizations in the Honolulu (Kona) District for their brief response/review of the project and to identify potentially knowledgeable individuals with cultural expertise and/or knowledge of the study area and vicinity, cultural and lineal descendants of the study area, and other appropriate community representatives and members. Based on their in-depth knowledge and experiences, these key respondents then referred CSH to additional potential participants who were added to the pool of invited participants. This is snowball sampling, a chain referral method that entails asking a few key individuals (including agency and organization representatives) to provide their comments and referrals to other locally recognized experts or stakeholders who would be likely candidates for the study (Bernard 2006:192). CSH also employs

expert or judgment sampling which involves assembling a group of people with recognized experience and expertise in a specific area (Bernard 2006:189–191). CSH maintains a database that draws on over two decades of established relationships with community consultants. These are cultural practitioners and specialists, community representatives and cultural and lineal descendants. The names of new potential contacts were also provided by colleagues at CSH and from the researchers' familiarity with people who live in or around the study area. Researchers often attend public forums (e.g., Neighborhood Board, Burial Council, and Civic Club meetings) in (or near) the study area to locate potential participants. Please refer to Table 3, Section 5 for a complete list of individuals and organizations contacted for this CIA.

CSH focuses on obtaining in-depth information with a high level of validity from a targeted group of relevant stakeholders and local experts. Our qualitative methods do not aim to survey an entire population or subgroup. A depth of understanding about complex issues cannot be gained through comprehensive surveying. Our qualitative methodologies do not include quantitative (statistical) analyses, yet they are recognized as rigorous and thorough. Bernard (2006:25) describes the qualitative methods as "a kind of measurement, an integral part of the complex whole that comprises scientific research." Depending on the size and complexity of the project, CSH reports include in-depth contributions from about one-third of all participating respondents. Typically this means three to 12 interviews.

2.2.2 Informed Consent Protocol

An informed consent process was conducted as follows: 1) before beginning the interview the CSH researcher explained to the participant how the consent process works, the project purpose, the intent of the study, and how his/her information will be used; 2) the researcher gave him/her a copy of the Authorization and Release Form to read and sign (Appendix A); 3) if the person agreed to participate by way of signing the consent form or providing oral consent, the researcher started the interview; 4) the interviewee received a copy of the Authorization and Release Form for his/her records, while the original was stored at CSH; 5) after the interview was summarized at CSH (and possibly transcribed in full), the study participant was afforded an opportunity to review the interview notes (or transcription) and summary and to make any corrections, deletions or additions to the substance of their testimony/oral history interview (accomplished either via phone, post or email or through a follow-up visit with the participant); 6) the participant received the final approved interview and any photographs taken for the study for their records. If the participant was interested in receiving a copy of the full transcript of the interview (if there is one, as not all interviews are audio-recorded and transcribed), a copy was provided. Participants were also given information on how to view the report on the OEQC website and were offered a hardcopy of the report once the report is a public document.

If an interviewee agreed to participate on the condition that his/her name is withheld, procedures were taken to maintain his/her confidentiality (see Section 2.2.3 below).

2.2.3 Interview Techniques

To assist in discussion of natural and cultural resources and cultural practices specific to the study area, CSH initiated semi-structured interviews (as described by Bernard 2006), asking questions from the following broad categories: gathering practices and *mauka* and *makai* resources, burials, trails, historic properties, and *wahi pana* (storied places). The interview protocol

is tailored to the specific natural and cultural features of the landscape in the study area, identified through archival research and community consultation. For example, for this study fishing, *ala hele* (trails), and salt gathering were emphasized over other categories less salient to the project area. These interviews and oral histories supplement and provide depth to consultations with government agencies and community organizations that may provide brief responses, reviews and/or referrals gathered via phone, email, and occasional face-to-face commentary.

2.2.3.1 In-depth Interviews and Oral Histories

Interviews were conducted initially at a place of the study participant’s choosing (usually at the participant’s home or at a public meeting place) and/or—whenever feasible—during site visits to the project area. Generally, CSH’s preference is to interview a participant individually or in small groups (two–four); occasionally participants are interviewed in focus groups (six–eight). Following the consent protocol outlined above, interviews may be recorded on tape and in handwritten notes, and the participant photographed. The interview typically lasts one to four hours, and records the who, what, when, and where of the interview. In addition to questions outlined above, the interviewee is asked to provide biographical information (e.g., connection to the study area, genealogy, professional and volunteer affiliations, etc.).

2.2.3.2 Field Interviews

Field interviews are conducted with individuals or in focus groups comprised of *kūpuna* (elders) and *kama‘āina* (native born) who have a similar experience or background (e.g., the members of an area club, elders, fishermen, *hula* [dancers]) who are physically able and interested in visiting the project area. In some cases, field visits are preceded with an off-site interview to gather basic biographical, affiliation, and other information about the participant. Initially, CSH researchers usually visit the project area to become familiar with the land and recognized (or potential) cultural places and historic properties in preparation for field interviews. All field activities are performed in a manner to minimize impact to the natural and cultural environment in the project area. Where appropriate, Hawaiian protocol may be used before going on to the study area and may include the *ho‘okupu* (offering) of *pule* (blessing), and *oli* (chant). All participants on field visits are asked to respect the integrity of natural and cultural features of the landscape and not remove any cultural artifacts or other resources from the area.

2.2.4 Study Limitations

Cultural impact assessments are limited by the time frame and costs of the study as well as community participation. Often, researchers have little control over the time frame or budget available for a project but may have more discretion over study design and the methodologies employed to illicit public participation. Various factors may affect participation, such as the availability of contact information for community members during the recruitment process, the interest of the community in the project, and the commitment of participants through several phases of the interview process. For example, once an interview is scheduled and conducted, CSH engages the interviewee at least one more time (in person or by email or phone call) to gain their approval of the interview transcript or summary and to incorporate any changes they make. The voluntary nature of community participation in this process, combined with restraints on time and costs, often limits the number of interviews and the depth of information gathered during the interviews.

2.3 Compensation and Contributions to Community

Many individuals and communities have generously worked with CSH over the years to identify and document the rich natural and cultural resources of these Islands for cultural impact, ethno-historical and, more recently, TCP studies. CSH makes every effort to provide some form of compensation to individuals and communities who contribute to cultural studies. This is done in a variety of ways. Individual interview participants are compensated for their time in the form of a small honorarium and/or other *makana* (gift). Community organization representatives (who may not be allowed to receive a gift) are asked if they would like a donation to a Hawaiian charter school or nonprofit of their choice to be made anonymously or in the name of the individual or organization participating in the study. Contributors are provided their transcripts, interview summaries, photographs and—when possible—a copy of the CIA report; CSH is working to identify a public repository for all cultural studies that will allow easy access to current and past reports. CSH staff do volunteer work for community initiatives that serve to preserve and protect historic and cultural resources (for example on Lāna‘i and Kaho‘olawe). Generally our goal is to provide educational opportunities to students through internships and sharing our knowledge of historic preservation and cultural resources and the State and Federal laws that guide the historic preservation process, and through involvement with an ongoing working group of public and private stakeholders collaborating to improve and strengthen the §343 environmental review process.

Section 3 Traditional Background

This section of the report focuses on the traditional background of the study area located on the Hawaiian Island of O‘ahu, in the *moku* (district) of Kona (Honolulu), in the *ahupua‘a* (land division usually from the mountain to the ocean) of Waikīkī within the *‘ili* (smaller land division) of Waikīkī Kai. This broad overview of Hawaiian history introduces key concepts and terms used throughout the report and leads to a general history of the *moku* of Kona on the island of O‘ahu. The report then narrows to the *ahupua‘a* of Waikīkī regarding the earliest known settlement and subsistence patterns and a compilation of place names and other *wahi pana* (storied place).

3.1 Land Divisions

3.1.1 Kona Moku

In approximately AD 1310 (a time estimate based on an average length of generational intervals in chiefly genealogies), Māweke partitioned O‘ahu into three districts: the Kona district; the ‘Ewa, Wai‘anae, and Waialua district; and the windward Ko‘olau district. Then, in approximately AD 1490, the *‘aha ali‘i* (council of chiefs) chose Mā‘ilikūkahi, an *ali‘i kapu* (sacred chief) who was born at the sacred site of Kūkaniloko in the uplands of Waialua to be the new *ali‘i nui* (paramount chief) of O‘ahu. After the symbols of his status were installed at the *heiau* (pre-Christian place of worship) of Kapukapuākea in central Waialua, Mā‘ilikūkahi instituted an explicit land division and administration structure. O‘ahu was divided into six *moku*—Kona, ‘Ewa, Wai‘anae, Waialua, Ko‘olauloa, and Ko‘olaupoko—that were further divided into 86 *ahupua‘a* and smaller territorial units, such as *‘ili* or land section (Kirch 2010:84–90). Upon his ascent to *ali‘i nui*, Mā‘ilikūkahi shifted his residence from Waialua to Waikīkī, which may have initiated the pattern of royal residence at Waikīkī (Kamakau n.d. in McAllister 1933:74).

3.1.2 Waikīkī Ahupua‘a

The *ahupua‘a* of southeastern O‘ahu within the traditional *moku* of Kona once extended from the Ko‘olau mountain range on the *mauka* side to the shoreline on the *makai* side. The ancient *ahupua’a* of Waikīkī once extended from the land called Kou (Honolulu) to Maunalua (Hawai‘i Kai), which was originally an *‘ili kūpono* (a nearly independent *‘ili* within an *ahupua‘a*, paying tribute to the ruling chief and not to the chief of the *ahupua‘a*) of Waimānalo that was integrated into Honolulu District in 1859 as an *ahupua‘a* (King 1935:223). On modern maps, the ancient *ahupua‘a* of Waikīkī is bounded in the west by Pi‘ikoi and Sheridan Streets, to the east by Maunalua, *mauka* by the Ko‘olau mountain range, and *makai* by the ocean.

Due to the growth of the settlements of Honolulu and Waikīkī following Western Contact in 1778, the seaward sections of many *ahupua‘a* were cut off from the sea. The government later subdivided sections of Honolulu and Waikīkī into neighborhoods or districts. In modern times, the area identified as Waikīkī is generally bounded on the west by Kalākaua Avenue, on the east by Diamond Head, *mauka* by King Street/Wai‘alae Avenue, and *makai* by the ocean. A distinction is sometimes made between Waikīkī Kai, the coastal area on the *makai* side of the Ala Wai Canal, and Waikīkī Waena (middle), the *mauka* lands between King Street/Wai‘alae Avenue and Ala Wai Boulevard.

The scale of the ancient *ahupua‘a* of Waikīkī was vast, including the modern *ahupua‘a* designations of Mānoa, Pālolo, Wai‘alae Nui, Wai‘alae Iki, Wailupe, Niu, and Kuli‘ou‘ou, and the marshland of Waikīkī, which was four times the size of Waikīkī today (Kanahele 1995:6). This report focuses on the coastal strip of Waikīkī—the modern *ahupua‘a* boundary of Waikīkī, or Waikīkī Kai. This area includes the Waikīkī Plain, which encompasses Kapi‘olani Park and the project area which is located in the *‘ili* of Kapuni and Uluniu.

3.2 Wahi Pana

A Hawaiian *wahi pana*, also referred to as a place name, “physically and poetically describes an area while revealing its historical or legendary significance” (Landgraf 1994:v). *Wahi pana* can refer to natural geographic locations such as streams, peaks, rock formations, ridges, and offshore islands and reefs, or they can refer to Hawaiian divisions, such as *ahupua‘a*, *‘ili*, and man-made structures such as fishponds. In this way, the *wahi pana* of Waikīkī and the study area tangibly link the *kama‘āina* of Waikīkī to their past.

Many place names in this section appear in the online database compiled by Lloyd Soehren (2010) of Hawaiian Place Names. Soehren compiled all names from mid-nineteenth century land documents such as Land Commission Awards (LCA) and Boundary Commission Testimony (BCT) reports. The BCT lists boundary points for many of the *ahupua‘a*. The names of *‘ili ‘āina* (land units within an *ahupua‘a*) and *‘ili kū* (land units rewarded separately from a specific *ahupua‘a*) are compiled from the testimony in Māhele Land Commission Awards, both from awards successfully claimed and those rejected. Place names found by the authors on USGS maps and Hawai‘i Survey Registered Maps (HSRM) were also added to the database. The Soehren database includes place name meanings from the definitive book on Hawaiian place names, *Place Names of Hawaii* (Pukui et al. 1974). For cases in which Pukui et al. (1974) did not provide a meaning, Soehren suggested meanings for simple names from the *Hawaiian Dictionary* (Pukui and Elbert 1986). Thomas Thrum (1922) also compiled a list of place names in the 1922 edition of Lorrin Andrews’s *A Dictionary of the Hawaiian Language*, although these meanings are considered less reliable than those from Pukui et al. 1974.

The name Waikīkī translates as “water spurting from many sources,” and reveals the character of the intact watershed system of Waikīkī prior to Western Contact, where water from the valleys of Mānoa and Pālolo gushed forth from underground. Before the construction of the Ala Wai Canal, these streams did not merge until deep within Waikīkī. As they entered the flat plain of Waikīkī, the names of the streams changed; Mānoa Stream became Kālia Stream and Pālolo Stream became Pāhoa Stream. They joined in the *‘ili* of Hamohamo (“rub gently” [as the sea on the beach]) and then divided into three new streams that flowed into the sea—Kuekaunahi, ‘Āpuakēhau, and Pi‘inaio. The land between these three streams was called Waikolu, meaning “three waters” (Kanahele 1995:7–8).

Waikīkī Kai was once divided into smaller *‘ili* lands, Kālia (“waited for”), Pau (“finished”), Niukukahi (“coconut standing alone”), Loko Moo, Keōmuku (“the shortened sand”), Helumoa (“chicken scratch”), Ulukou (“*kou* tree grove”), Mookahi, Kaluaokau, Auaukai, Hamohamo, Uluniu (“coconut grove”), Kapuni (“the surrounding”), Kekio, Kāneloa (“tall Kāne”), Kapua (“the flower”), and Kaluahole (“the *āhole* fish cavern”) (Bishop 1881; ‘Ī‘ī 1959:92–94). The project area is within the *‘ili* of Uluniu and Kapuni.

Kapua ‘Ili, located in the eastern section of Waikīkī at the base of Lē‘ahi (Diamond Head Crater), was an ancient surfing area, now filled in and part of Kapi‘olani Park (Finney and Housten 1966:28). In 1809, Kamehameha put to death his nephew, Kanihonui, who committed adultery with Ka‘ahumanu, and placed his remains at a *heiau* on the western slope of Lē‘ahi, most likely Papa‘ena‘ena Heiau. As Ka‘ahumanu’s “wrath was aroused,” she began to make plans to take the kingdom from Kamehameha by force when she pronounced a surfing holiday at Kapua, since “the surf was rolling fine then” (‘Ī‘ī 1959:51). Other *mo‘olelo* describe how a shark called ‘Unihokahi, a “one-toothed” shark, would bite the *ali‘i* (chief) as a warning that enemies were approaching by sea (Kamakau 1964:74). Kapua was also a site where “bone-breaking wrestlers” engaged in their sport (Kamakau 1992:72).

Kaluaokau ‘Ili, located in the central area of Waikīkī, has several possible meanings depending on pronunciation and combination of root words. Henry Kekahuna, a Hawaiian ethnologist, pronounced Kaluaokau as ka-lu‘a-o-ka‘u, which Thrum (1922:641) translated as “the grave of Ka‘u” (*lu‘a* means “heap, pile or grave”). Edith Kawelohea McKinzie (2005), drawing from the Hawaiian dictionaries by Pukui and Elbert (1986) and Andrews (1974), provides several other translations of Kaluaokau that suggest a place deeply connected to the *mana* (supernatural or divine power) of the Waikīkī *ali‘i* as indicated by interpretations of human sacrifice.

The term Kaluaokau can be divided as ka-lua-o-Kau, which literally translates as *ka* (the) *lua* (pit) *o* (of) Kau (a personal name), or “the pit of Kau” (McKinzie 2005:24). While others have similarly defined Kaluaokau without additional interpretation (Feesing 2006:90), McKinzie suggests Kaluaokau may be an epithet commemorating the burning sacrifice of Kauhi-a-Kama at ‘Āpuakēhau Heiau (McKinzie 2005:25–26). McKinzie elaborates that sacrifices were offered in a variety of ways, including the burning or baking of a person in an underground oven, a process called *kālua*, which is similar in phrasing to *ka-lua* (the pit). Since Kau may be a shortened name of Kauhi-a-Kama, the place name Kaluaokau may refer to “the pit of Kauhi-a-Kama” (Ka-lua-o-Kauhi-a-Kama) or, with the inclusion of a *kahakō*, Kāluaokau may refer to the “baking of Kauhi-a-Kama” (Kālua-o-Kauhi-a-Kama) (McKinzie 2005:25–26). (McKinzie does not make use of the *kahakō* [diacritical] in his text, which is added here).

Alternatively, Kaluaokau may be connected to human sacrifice through other meanings of the terms *lua* and *kau* (McKinzie 2005:27–28). *Lua* can refer to a type of dangerous hand-to-hand combat in which the fighters typically broke bones, dislocated bones at the joints, and inflicted severe pain by pressing on nerve centers, and *kau* can also mean to hang or crucify a criminal. Kaluaokau can thus be translated as “strike *lua* of *kau* [hanging]” (*ka-lua-o-kau*), which may refer to a strike or blow (*ka*) of a certain (*o*) fighting stroke (*lua*) similar to hanging (*kau*) (McKinzie 2005:27), i.e., a “*lua* fighting stroke of *kau* [hanging]” (Paglinawan 2008:8). McKinzie explains that “noosing” was a particular technique of *lua* fighting used for execution. To procure victims for sacrifice or to execute those who had broken *kapu* (taboo) laws, *mū* (public executioners) utilized basic cordage or a *ka‘ane* (special strangling cord) consisting of a short handle and a cord loop to “noose” or strangle people to death in a manner similar to hanging (McKinzie 2005:27–28).

Helumoa ‘Ili, located in the central *makai* section of Waikīkī, translates as “chicken scratch,” a reference to *mo‘olelo* about the bodies of sacrificial victims being pecked over for maggots (see Section 3.4.3 for expanded *mo‘olelo* of Helumoa ‘Ili). Two foci of chiefly residence were at places

called Helumoa, now the site of the Royal Hawaiian Hotel, and Ulukou, now the site of the Moana Hotel (Hibbard and Franzen 1986:2).

‘Āpuakēhau Stream, literally “basket [of] dew” and possibly named for a rain (Pukui et al. 1974), emptied into the ocean between these two centers. The project area is located directly south of this stream. Kawehewehe, sometimes synonymous with the mouth of ‘Āpuakēhau Stream and also the name of the reef entrance and channel at what is known today as Grey’s Beach just east of the contemporary Halekūlani Hotel, translates as “the removal,” which appears to refer to the water’s famous healing powers for removing sickness and forgiving of sins (Pukui et al. 1974:99). A famous surfing spot called Kalehuawehe was located at the mouth of ‘Āpuakēhau Stream (Hibbard and Franzen 1986:2).

Kālia ‘Ili, located in the western section of Waikīkī, is a name used for the central portion of Mānoa Stream and the name of the coastal area where the Pi‘inaio Stream emptied into the ocean. The exact meaning of Pi‘inaio is unknown, but *pi‘ina* means “climb or ascend” (Pukui and Elbert 1986:327). The stream’s mouth was on the western end of the Waikīkī coast, where the Ala Moana Shopping Center is now located.

While many other place names in Waikīkī have been lost to antiquity, a song composed by Kawelo during the reign of Kākuhihewa provides a glimpse into other place names of Waikīkī and the emotions they once evoked. After Kawelo surfed and participated in wrestling matches at the coconut grove of Helumoa, he sang the following love song for Kou, his sweetheart from Waikīkī, upon his departure to his homeland of Kaua‘i:

Aloha Kou e, Aloha Kou,	Farewell to thee, farewell Kou,
Ke aloha mai nei Kou ia‘u	The love of Kou is within me,
Ka hoa hele i ka makani,	My companion of the windy days
I ka ‘āpa‘apa‘a anu o Ahulu nei.	And the cold of Ahulu.
E ualo mai ana ia‘u nā niu o Pai,	The coconut trees of Pai are calling me back,
E ‘ena‘ena mai ana i ku‘u maka,	They appear as raging fire to my eyes,
Ke a‘ā o Kuamānu‘unu‘u,	Like the volcanic rocks at Kuamānu‘unu‘u
‘I‘iau e ki‘i, e kui, a lei—e	I am tempted to get them, to string them, and to wear them,
Nā ‘ākulikuli papa o Huia nei la,	The ‘ākulikuli blossoms there at Huia
E ualo mai ana ia‘u—e	For they are calling me back there
	[Hibbard and Franzen 1986:7]

Place names of Waikīkī are also listed below in Table 1 which shows the place name, its meaning, a description, and the source from which the information was obtained. Figure 9 depicts the boundaries and locations of these *wahi pana*.

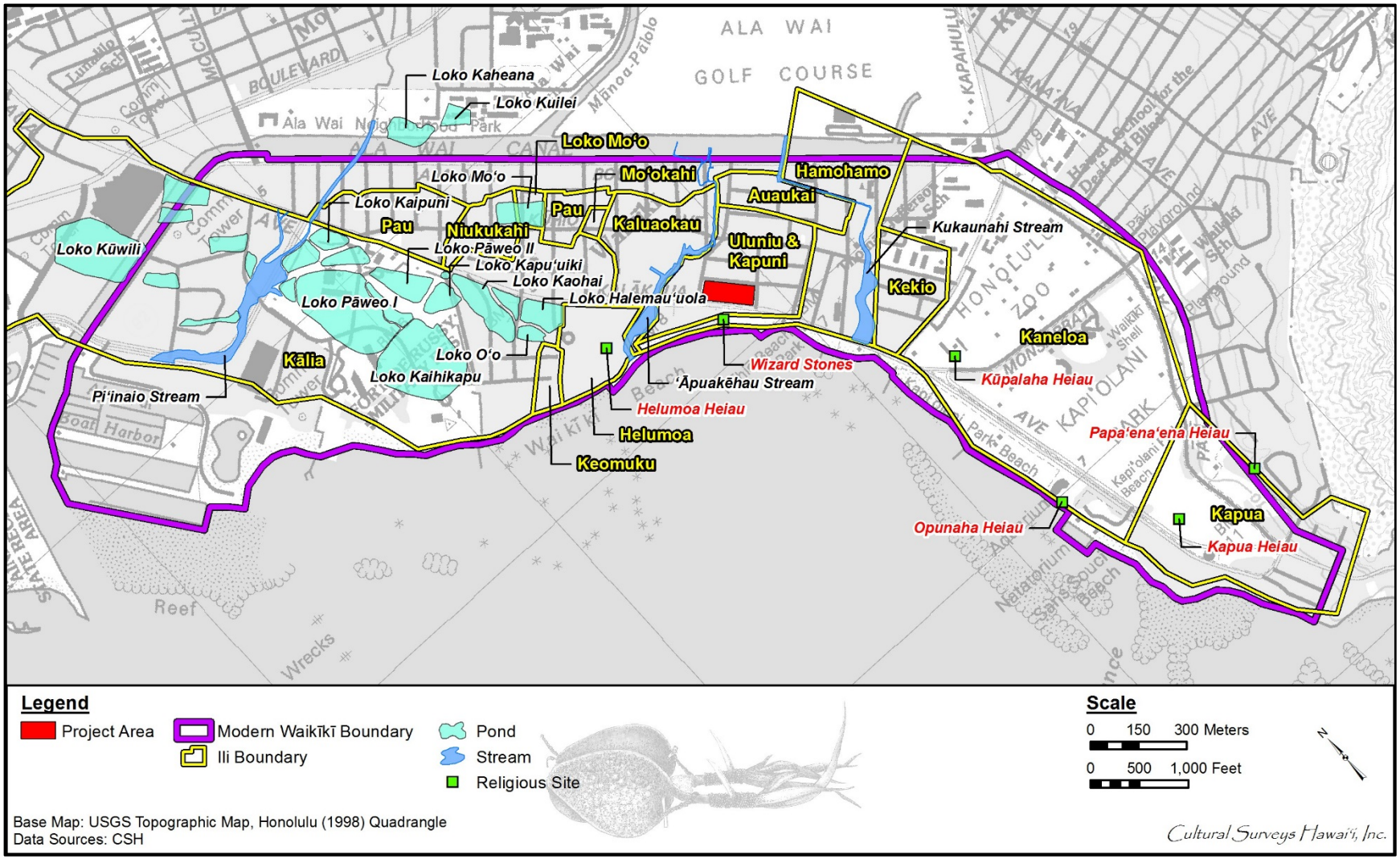


Figure 9. Portion of 1998 Honolulu USGS Topographic Quadrangle with overlay of *‘ili* names, *heiau*, *loko i‘a* (fishponds), and streams within Waikīkī Ahupua‘a

Table 1. *Wahi Pana* in Waikīkī Ahupua‘a

Place Name	Meaning	Description	Source
‘Āpuakēhau Stream	Basket [of] dew	Stream entered the ocean at Helumoa (between the Royal Hawaiian and Moana Hotels), probably named for a rain; also called Ulukou	Kanahele 1995:7; Pukui et al. 1974
‘Au‘aukai	(undocumented)	*‘Ili*	Bishop 1881
Hamohamo	Rub gently (as the sea on the beach)	*‘Ili* where Kālia and Pāhoa streams joined and then divided to form Kuekaunahi, ‘Āpuakēhau, and Pi‘inaio streams	Kanahele 1995:7
Helumoa	Chicken scratch	*‘Ili* and site of a *heiau* where Kahanana was sacrificed, named in reference to *mo‘olelo* about the bodies of sacrificial victims pecked over for maggots	Pukui et al. 1974
Kālia	Waited for	*‘Ili*; a stream in the Waikīkī Plain that came from Mānoa	Kanahele 1995:7
Kalehuawehe	The removed *lehua lei*	An ancient surfing area, now called Castle’s	Finney and Housten 1966:38
Kaluahole	The *āhole* fish cavern	*‘Ili*; coast between Waikīkī and Black Point	‘Ī‘ī 1959:92; Pukui et al. 1974
Kaluaokau	(undocumented)	*‘Ili*	Bishop 1881
Kāneloa	Tall Kāne	*‘Ili*	Bishop 1881
Kapaemāhū Pōhako	Wizard Stones	*Pōhaku*, a set of four stones placed to commemorate four healers from Kahiki (the ancestral homeland of the Hawaiians)	Paglinawan 1997
Kapua	The flower	*‘Ili*; ancient surfing area, now filled in and part of Kapi‘olani Park	Finney and Housten 1966:28; Lyons 1876
Kapuni	The surrounding	*‘Ili*; ancient surfing area	Finney and Housten 1966:28
Kawehewehe	The removal	Name of the mouth of ‘Āpuakēhau Stream and also the name of the reef entrance and channel at what is known today as Gray’s Beach; the water had healing powers for removing sickness	Pukui et al. 1974:99
Kekio	(undocumented)	*‘Ili*	Bishop 1881

Place Name	Meaning	Description	Source
Keōmuku	The shortened sand	*‘Ili*	Bishop 1881
Kuekaunahi Stream	(undocumented)	Stream entered the ocean at Hamohamo (near intersection of ‘Ohua Ave and Kalākaua Ave)	Kanahele 1995:7
Lē‘ahi	(undocumented)	The highest peak in Diamond Head; variant for Lae-‘ahi	Pukui et al. 1974
Loko Mo‘o	(undocumented)	*‘Ili*	Bishop 1881
Mo‘okahi	(undocumented)	*‘Ili*	Bishop 1881
Niukūkahi	Coconut standing alone	*‘Ili*; ancient surfing area	Finney and Housten 1996:28
Pae-ki‘i	(undocumented)	Stones marking a site where strangers suspected of initiating war or searching for human sacrifices were drowned, a type of death called *kai he‘e kai*	Beckwith 1970:89
Pāhoa Stream	(undocumented)	Stream in the Waikīkī Plain that came from Pālolo	Kanahele 1995:7
Pau	Finished	*‘Ili*	Bishop 1881
Pi‘inaio Stream	(undocumented)	Stream entered the ocean at Kālia, becoming a large delta	Kanahele 1995:8
Ulukou	Kou tree grove	*‘Ili*; another name for ‘Āpuakēhau	Bishop 1881; Pukui et al. 1974
Uluniu	Coconut grove	*‘Ili*	Bishop 1881
Waikīkī	Water spurting from many sources	*Ahupua‘a*	Pukui et al. 1974
Waikolu	Three waters	The land between Kuekaunahi, ‘Āpuakēhau, and Pi‘inaio streams	Kanahele 1995

3.3 *Mo‘olelo* (Stories)

Various *mo‘olelo* are associated with Waikīkī Ahupua‘a suggesting this area was settled by a significant Native Hawaiian population. The following section describes in detail these *mo‘oleo* associated with the study area.

3.3.1 Ka-lua-‘Ōlohe

Mo‘olelo describe how ‘Ōlohe was a cruel chief master of *lua* wrestling, a type of dangerous hand-to-hand fighting in which the fighters break and dislocate bones. The defeat of this chief involved a battle in Kapi‘olani Park and led to the naming of an area in Pālolo as Ka-lua-‘Ōlohe, or “the *lua* fighting of ‘Ōlohe”:

> Loheloa came from Waipio on a huge log. He came first to Makapuu and then to Keauau Point, now called Leahi. He saw a strange glow like a ball of fire there. He asked for the chief Olohe and was told that the light was his.
>
> He saw some fishermen who told him to go away for he was scaring the fish. He called to Ku and Hina to bring them a school of fish which they did. The natives were grateful. He lifted his huge canoe and rested one end at Haula and the other at Namahana, against the hill. He told the people that he wanted to wrestle with their chief Olohe, a dogman who lived at Apuakehau, Waikiki. A messenger came to tell the chief who accepted the challenge. In the meantime the men were busy catching fish brought to them by Loheloa. A messenger was sent to bring Loheloa to the chief and Loheloa suggested that they wrestle in the open where they can be seen. He would bet his bones and his canoe on himself.
>
> Olohe and Loheloa fought on the field now known as Kapiolani Park. Olohe punched and raised a gale that flattened the ilima bushes. Loheloa slapped his ear hard enough to throw him in the air. The place he fell is called Kalua-Olohe (Olohe’s pit) to this day. Loheloa won and the people shouted with joy over the defeat and death of their cruel chief. [Hainakolo, *Hawaii Holomua*, 21 July 1912 in Sterling and Summers 1978:279]

3.3.2 Helumoa ‘Ili, ‘Āpuakēhau Heiau, and Ka‘opulupulu

Thrum (1998:203–214) recounts the *mo‘olelo* of the *kahuna nui* (highest priest) of O‘ahu, Ka‘opulupulu, whose curse upon his death resulted in *ke one ‘ai ali‘i o* Kakuhihewa (the chief devouring sand of Kakuhihewa). Ka‘opulupulu had a son named Kahulupu‘e, who he taught all the traditions and rituals of the priestly caste. At this time, the *ali‘i aimoku* (ruler) of O‘ahu was Kumuhana, a cruel chief who terrorized his people and would not listen to the counsel of his priest, Kahulupu‘e. Kumuhana was finally driven off the island by the people and the lesser chiefs. When Kahekili, the king of Maui, heard this news, he sent his foster son, Kahāhana (brother of Kumuhana), to rule O‘ahu in Kumuhana’s place (ca. 1773). Kahāhana chose a grove of coconut and *kou* (*Cordia subcordata*) trees called Ulukou, located on the Waikīkī coast, as his place of residence and many *ali‘i* gathered in that place around him. One day, Kahāhana sent a messenger to Ka‘opulupulu asking that he attend him at Ulukou; Ka‘opulupulu traveled from his home in Waimea and was greeted by the retainers of the king when he reached the mouth of the stream ‘Āpuakēhau. At first Kahāhana valued the wisdom of the priest, but after several years, Kahāhana

began to be as cruel to the people as his predecessor, Kumuhana. In protest, the priest Ka‘opulupulu left Waikīkī to return to his home in Waimea where he tattooed his knees, a sign that Kahāhana had turned a deaf ear to his advice. This angered the king, who sent messengers to order Ka‘opulupulu and his son, Kahulupu‘e, to come to Wai‘anae, where Kahāhana then resided.

At Wai‘anae, Ka‘opulupulu and his son were placed in a special grass hut, one tied to the end post and one tied to the corner post. The next day, Kahāhana ordered his men to torture the son, stabbing his eyes and stoning him while his father watched. When Ka‘opulupulu saw this, he commanded his son to flee into the sea, saying these words, which contained a prophecy:

E nui ke aho, e ku‘u keiki,	Take a deep breath, my son, and
a moe i ke kai, no ke kai la	lay yourself in the sea, for then
ho‘i ka ‘āina.	the land shall belong to the sea. [Pukui 1983:44]

Ka‘opulupulu was taken by the soldiers to Pu‘uloa (Pearl Harbor) at ‘Ewa and slain before the king. His body was put into a canoe and taken to Waikīkī, where it was placed high in the coconut trees at Kukaeunahi at the *heiau* of Helumoa so that the flesh would decompose and fall to the sand (Thrum 1998:214). According to one *mo‘olelo*, the meaning of Helumoa, “chicken scratch,” refers to chickens scratching to find the maggots that fell from victims placed in the trees who were human sacrifices at the *heiau* of ‘Āpuakēhau (Pukui et al. 1974:44). When the king of Maui, Kahekili, heard this news he grieved for Ka‘opulupulu and turned against his foster son. With his warriors, he set out over the sea for Waikīkī to take back the rulership of O‘ahu under his own authority. This fulfilled the prophecy of Ka‘opulupulu. According to S.M. Kamakau and David Malo, this saying was also in keeping with a prophecy by Kekiopilo presaging the arrival in the Islands of foreigners, which would lead to “the foreigners possess[ing] the land” (Thrum 1998:214).

The sands of Ulukou were known as “Ke One ‘Ai Ali‘i o Kākuhihewa” because of the curse placed by the prophet Ka‘opulupulu. When Ka‘opulupulu was brought with his son, Kahulupu‘e, to be executed at Waikīkī, he cursed the place where his body-grease (*hinu*) would drip upon the sand, as well as the chiefs and the people (Hibbard and Franzen 1986:5). This curse continued to have an effect for the descendants of Kamehameha. Kamehameha II died in England. From the warning of this curse by the *kahuna* (priest), Luau-nui-a-lepokapo, after the death of Kamehameha II, Kamehameha III (Kauikeaouli) transferred the seat of the government from O‘ahu to Lahaina in 1838. He later reconsidered moving back to O‘ahu against the counsel of his *kahuna*:

> ‘O chief! This land of Oahu of Lua is made bitter by the fat of the man of god and his words lie like a squirming maggot for Kakuhihewa. If you listen to those who ask that the government be taken back to Oahu, it will become a maggot which will consume your race.’ [Green and Pukui 1936:123]

However, Kauikeaouli ignored the advice, and the prophecy was fulfilled with the smallpox epidemic of 1852–1853 (Thrum 1998:214).

3.3.3 The *Mo‘olelo* of Kawelo

In the “Legend of Kawelo,” two boys are born on the same day, Kawelo-lei-makua, called Kawelo, the great nephew of the king of Kaua‘i, and Kawelo-aikanaka, called ‘Aikanaka, the grandson of the king. Kawelo’s older brothers and his parents soon moved from Kaua‘i to live at

Waikīkī on O‘ahu near the ruling chief of O‘ahu, Kākuhihewa. The older brothers of Kawelo often challenged a famous wrestler living with Kākuhihewa, but they could never beat him.

The brothers of Kawelo were great surf riders, and they often went to ride the surf at Kalehuawehe (near the present Seaside Hotel in Waikīkī). After the surf ride they would go to the stream of ‘Āpuakēhau and wash, and from there they would go to the shed where the wrestling bouts were held and test their skill with Kākuhihewa’s strong man; but in all their trials they never once were able to throw him (Fornander 1918:4).

When the king of Kaua‘i died, ‘Aikanaka became the new king. The grandparents, who longed to see their other children, traveled with Kawelo to O‘ahu, to Ulukou in Waikīkī, near the mouth of the stream ‘Āpuakēhau, where his elder brother and parents had been living. His grandparents later took him just inland of the coast. While Kawelo was working in the fields, he heard some shouting from the beach, and asked his grandparents, “What is that shouting down yonder?” (Fornander 1918:5). The grandparents answered that his older brothers had just finished surfing and must have challenged the king’s strong man. The shouting indicated one of them must have been thrown. Next day, Kawelo went down to the beach, went surfing with his brothers, and then bathed in the freshwater stream of ‘Āpuakēhau. He challenged the strong man to a match, even though his brothers mocked him, saying “Are you strong enough to meet that man? If we whose bones are older cannot throw him, how much less are the chances of yourself, a mere youngster?” (Fornander 1918:6). The strong man, impressed by Kawelo’s courage, said:

> ‘Ina wau e kahea penei, “Kahewahewa, he ua!” alaila, kulai kaua.’ Hai aku la no hoi o Kawelo i kana olelo hooulu, penei: ‘Kanepuaa! Ke nahu nei! Alia! Alia i oki ka aina o Kahewahewa, he ua!’
>
> ‘If I should call out “Kahewahewa, it is raining,” then we begin.’ Kawelo then replied in a mocking way: ‘Kanepuaa, he is biting, wait awhile, wait awhile. Don’t cut the land of Kahewahewa, it is raining.’ [Fornander 1918:6]

Kawelo won the match, shaming his older brothers so much that they returned to Kaua‘i. In another version (Thrum 1923:154), the strong man was from Halemano (central O‘ahu), and was killed by a mighty blow from Kawelo. The man’s body was given to the king of O‘ahu, and was carried as a sacrifice to the gods to a *heiau* in Lualualei, Wai‘anae.

Section 4 Historical Background

The following section provides a summary of the historical events that transpired in Waikīkī Ahupua‘a. Focusing on geographic and temporal scales, this section then traces the exploration of the Pacific Ocean and the subsequent discovery, settlement, and expansion into the Hawaiian archipelago. The historical background illustrates the changes to Waikīkī Ahupua‘a from the time of the arrival of Captain Cook in 1778, the first Western explorer to visit Hawai‘i, through to the present era.

4.1 Pre-Contact to Early Post-Contact Period

During the late eighteenth century by the time of the arrival of the first Europeans in the Hawaiian Islands, Waikīkī had long been a center of population and political power on O‘ahu. Martha Beckwith (1970) writes that by the end of the fourteenth century, Waikīkī had become “the ruling seat of the chiefs of O‘ahu.” The preeminence of Waikīkī continued into the eighteenth century, betokened by Kamehameha’s decision to reside there after winning control of O‘ahu by defeating the island’s chief, Kalanikūpule. The nineteenth century Hawaiian historian John Papa ‘Ī‘ī, himself a member of the *ali‘i*, describes the king’s Waikīkī residence:

> Kamehameha’s houses were at Puaaliilii, makai of the old road, and extended as far as the west side of the sands of Apuakehau. Within it was Helumoa, where Kaahumanu ma went to while away the time. The king built a stone house there, enclosed by a fence . . . [‘Ī‘ī 1959:17]

‘Ī‘ī (1959:17) further notes the “place had long been a residence of chiefs. It is said that it had been Kekuapoi’s home, through her husband Kahahana, since the time of Kahekili.”

Chiefly residences, however, were only one element of a complex of features which were able to sustain the large population that characterized Waikīkī up through the pre-Contact period (Figure 10). Beginning in the fifteenth century, a vast system of irrigated taro fields was constructed, extending across the littoral plain from Waikīkī to lower Mānoa and Pālolo valleys. This field system—an impressive feat of engineering traditionally attributed to the chief Kalamakua—took advantage of streams descending from Makiki, Mānoa, and Pālolo valleys that also provided ample fresh water for Hawaiians living in the *ahupua‘a* (Kanehele 1995:55), Water was also available from springs in nearby Mō‘ili‘ili and Punahou. Closer to the Waikīkī shoreline, coconut groves and fishponds dotted the landscape. A sizeable population developed amidst this Hawaiian-engineered abundance. Captain George Vancouver, arriving at “Whyteete” in 1792, captured something of this profusion in his journals:

> On shore, the villages appeared numerous, large, and in good repair; and the surrounding country pleasingly interspersed with deep, though not extensive valleys; which, with the plains near the sea-side, presented a high degree of cultivation and fertility.
>
> [Our] guides led us to the northward through the village, to an exceedingly well-made causeway, about twelve feet broad, with a ditch on each side.

Figure 10. Photo of Helumoa ca. 1863, the summer residence of King Kamehameha V (Kamehameha Schools Archive 1863)

> This opened our view to a spacious plain, which, in the immediate vicinity of the village, had the appearance of the open common fields in England; but, on advancing, the major part appeared to be divided into fields of irregular shape and figure, which were separated from each other by low stone walls, and were in a very high state of cultivation. These several portions of land were planted with the eddo or *taro* root, in different stages of inundation; none being perfectly dry, and some from three to six or seven inches under water. The causeway led us near a mile from the beach, at the end of which was the water we were in quest of. It was a rivulet five or six feet wide, and about two or three feet deep, well banked up, and nearly motionless; some small rills only, finding a passage through the dams that checked the sluggish stream, by which a constant supply was afforded to the taro plantations.
>
> [We] found the plain in a high state of cultivation, mostly under immediate crops of *taro*; and abounding with a variety of wild fowl, chiefly of the duck kind . . . The sides of the hills, which were at some distance, seemed rocky and barren; the intermediate vallies, which were all inhabited, produced some large trees, and made a pleasing appearance. The plain, however, if we may judge from the labour bestowed on their cultivation, seemed to afford the principal proportion of the different vegetable productions on which the inhabitants depend for their subsistence. [Vancouver 1798:161–164]

Further details of the exuberant life of the time are given by Archibald Menzies, a naturalist accompanying Vancouver’s expedition:

> The verge of the shore was planted with a large grove of coconut palms, affording a delightful shade to the scattered habitations of the natives. Some of those near the beach were raised a few feet from the ground upon a kind of stage, so as to admit the surf to wash underneath them. We pursued a pleasing path back to the plantation, which was nearly level and very extensive, and laid out with great neatness into little fields planted with taro, yams, sweet potatoes and the cloth plant. These, in many cases, were divided by little banks on which grew the sugar cane and a species of *Draecena* [*Dracaena*, “Ti” or “Ki”] without the aid of much cultivation, and the whole was watered in a most ingenious manner by dividing the general stream into little aqueducts leading in various directions so as to be able to supply the most distant fields at pleasure, and the soil seemed to repay the labour and industry of these people by the luxuriancy of its productions. Here and there we met with ponds of considerable size, and besides being well stocked with fish, they swarmed with water fowl of various kinds such as ducks, coots, water hens, bitterns, plovers and curlews. [Menzies 1920:23–24]

However, the traditional Hawaiian focus on Waikīkī as a center of chiefly and agricultural activities on southeastern O‘ahu was soon to change, disrupted by Euro-American Contact. The *ahupua‘a* of Honolulu became the center for trade with visiting foreign vessels, drawing increasing numbers of Hawaiians away from their traditional environments. The shift in preeminence is illustrated by the fact that Kamehameha moved his residence from Waikīkī to Honolulu. By 1828, Levi Chamberlain described a journey into Waikīkī and noted the following:

> Our path led us along the borders of extensive plats of marshy ground, having raised banks on one or more sides, and which were once filled with water, and replenished abundantly with esculent fish; but now overgrown with tall rushes waving in the wind. The land all around for several miles has the appearance of having once been under cultivation. I entered into conversation with the natives respecting this present neglected state. They ascribed it to the decrease of population. [Chamberlain 1957:26]

Tragically, the depopulation of Waikīkī was not simply a result of the attractions of Honolulu (where, by the 1820s, the population was estimated at 6,000 to 7,000) but also of the Western diseases that had devastating effects upon the Hawaiian populace (Chamberlain 1957:26).

4.1.1 Helumoa Heiau

Helumoa Heiau, also known as ‘Āpuakēhau Heiau, was located in central Waikīkī near the *muliwai* (river mouth) of ‘Āpuakēhau Stream in the vicinity of the project area. This *heiau* of the *po‘okanaka* (sacrificial) class, was the site of the sacrifice of Kauhi-a-Kama, a defeated *mō‘ī* (king, sovereign) of Maui, during his attempted conquest of O‘ahu about 1610 (Thrum 1907a:44). This sacrificial *heiau* was also where Ka‘opulupulu—the last O‘ahu-born Kahuna Nui of O‘ahu—was laid after being slain in Wai‘anae by Kahāhana (Thrum 1904:112–113). The memory of Kauhi-a-Kama’s death and desecration of his remains at ‘Āpuakēhau Heiau may have inspired his descendant, Kahekili, to massacre the O‘ahu chiefs and sacrifice Kahāhana at ‘Āpuakēhau Heiau (Fornander 1878:2:208). Portions the Royal Hawaiian Hotel are built on the former site of ‘Āpuakēhau Heiau. An athletic field for *ali‘i* was also formerly built at the site of the Royal Hawaiian Hotel, as excavations for the hotel uncovered *‘ulumaika* (game) stones (Thrum 1907a:79).

4.1.2 Kapaemāhū Stones

Another religious site in Waikīkī is Nā Pōhaku ‘Ola Kapaemahu a Kapuni, commonly referred to as the Wizard Stones of Kapaemāhū (Figure 11). These stones were unearthed in the late 1800s on the Waikīkī premises of the Cleghorn family (Governor A. Cleghorn, his wife Princess Likelike, and their daughter Princess Ka‘iulani). According to a *mo‘olelo* gathered by Thrum (1907b:139–141), four soothsayers from the court of a Tahitian king came to Hawai‘i and helped heal many people. Four large stones were gathered from the vicinity of a “bell rock” in Kaimukī and erected in Waikīkī to commemorate them, two at their habitation and two at their bathing place in the sea. The chief of the wizards, Kapaemāhū, named his stone after himself, and a virtuous young chiefess was sacrificed and placed beneath the stone. Today they are located at Kūhiō Beach Park (Thrum 1907b:139–141).

Richard Paglinawan summarizes the history of Nā Pōhaku ‘Ola Kapaemahu a Kapuni, or the Life-giving Stones of Kapaemāhū and Kapuni, commonly referred to as the Wizard Stones (Paglinawan 1997:1). According to Mr. Paglinawan’s summary of various *mo‘olelo*, four healers gifted in medicinal practices once came from Kahiki, most likely the sacred land of Raiatea. While some sources claim that they were homosexuals, Tutu Mary Kawena Pukui asserts they were gender neutral. The wizards included Kapaemāhū, who, due to his neutral gender, could examine and heal both men and women, Kahoe, a diagnostician who could determine illness just by visual assessment, Kahaloa, who was able to breathe life into ill patients, and Kapuni, who could

envelope his patients with his *mana* (power, authority) to overcome their illness (Paglinawan 1997:1).

When the four healers returned to Kahiki, they had stones placed to commemorate their existence. They were most likely quarried from a site in Kaimukī near the present-day intersection of Wai‘alae Avenue and 5th Avenue, and then transported to Waikīkī. The coastal and inland region of Waikīkī was dominated by *lo‘i*, which would have made the movement of these *pōhaku* difficult but, according to Dr. George S. Kanahele, the stones may have been moved on a 12-ft wide causeway that extended between Mānoa and Waikīkī., observed by George Vancouver in 1792 (Paglinawan 1997:3-4).

Two of the commemorative stones were placed at the healers’ residences, and two were placed in their bathing place in the sea. The Honorable A.S. Cleghorn unearthed an 8-ton stone at his residence close to the Moana Hotel in 1905. Another stone weighing 10 tons was uncovered by Mr. Lutted, and two more were excavated in a straight line with the others. Underneath the 10-ton stone Mr. Cleghorn uncovered a female jaw bone and some crude images, which he later cemented onto the stone. In 1941, the Waikiki Bowling Alley was constructed with the stones serving as part of the foundation, but they were then uncovered in 1958 when the building was razed. In 1963 the stones were located together on the beach, and in 1980 they were relocated to their present site near the police substation. The location of Mr. Cleghorn’s cement casings indicated the stones had been positioned incorrectly; however, a decision was reached to leave them as they had been placed (Paglinawan 1997:5-6).

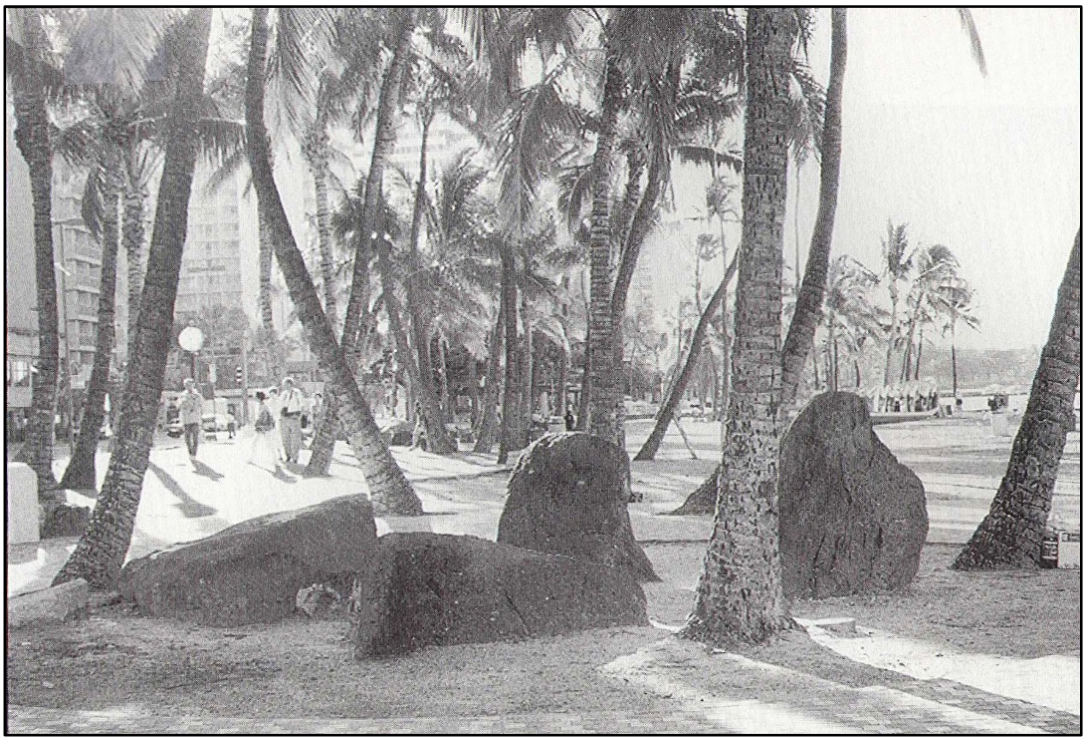


Figure 11. Photograph of Nā Pōhaku ‘Ola Kapaemāhū a Kapuni, commonly known as the Wizard Stones (Hawai‘i State Archives)

4.2 The Mid-Nineteenth Century to Present

4.2.1 The Māhele (1848)

Prior to 1848, all land in Hawai‘i belonged to *nā akua* (the gods), held in trust for them by the *ali‘i* and managed by *konohiki* (land managers, subordinate chiefs). In the mid-1800s, Kamehameha III decreed a division of lands called the Māhele, which divided land in Hawai‘i for private land ownership (Chinen 1958). In 1848, lands were divided into three portions, crown lands, government lands, and lands set aside for the chiefs. Individual plots, called *kuleana* (Native Hawaiian land rights) awards, were granted within these divided lands to native inhabitants who lived on and farmed these plots and who came forward to claim them. The *ali‘i* and *konohiki* were required to pay a commutation fee for their lands, usually about one-third the value of any unimproved lands. Awardees usually “returned” a portion of the lands awarded to pay the commutation fee for the lands they “retained.” The returned lands usually became government lands (Chinen 1958:13).

The Kuleana Act was legislated in 1850 allowing *maka‘āinana* (commoners) to own land parcels which they were currently and actively cultivating and/or using as a residence. In theory, this “set aside” hundreds of thousands of acres as potential *kuleana* parcels; in reality about 10,000 claimants obtained approximately 30,000 acres. The *konohiki*, 252 chiefs, divided up about a million acres. Many Hawaiians were disenfranchised by these acts (Cordy et al. 1991).

In the *ahupua‘a* of Waikīkī, there were 437 land claims of which only 243 were awarded. Within the project area, three LCA parcels were awarded (LCA 104FL, LCA 2082, and LCA 1506) (Table 2). LCA 104FL belonged to M. Kekuanaoa and Victoria Kamāmalu who had multiple *‘āpana* in various *‘ili*. Their lands in Waikīkī consisted of two *lo‘i* and five fishponds in Kālia ‘Ili, a *muliwai* in Piinaio, and a house lot in a coconut grove. The claimant of LCA 1506 was recorded as Wahine Waikīkī; she owned two *‘āpana* (land segments), one with a home partially fenced and the other produced two rows of *kalo* (taro; *Colocasia esculenta*). The second, LCA 2082, was awarded to John Neddles Kuene; his property contained two *‘āpana*, one containing *kalo* and a *‘auwai* (ditch, canal), and the other containing a home in Kālia ‘Ili. As shown in Figure 12, these LCA parcels were large and include the project area.

Table 2. LCAs within and in the Vicinity of the Project Area

LCA Number	Claimant	*‘Ili*	Notes
LCAs within the Immediate Project Area			
104FL	Kekuanaoa, M./Victoria Kamamalu	Kaukahoku, Kuhimana, Alewa, Kunawai, Kuwili, Kālia, Piinaio, Kapuni, Kamanolepo	Two *lo‘i* and five fishponds in Kālia, one *muliwai* in Piinaio, and house lot in a coconut grove
1506	Waikiki (w)	Ulukou, Hohe	*‘Āpana* 1: House lot, partially fenced *‘Āpana* 2: Two rows of *kalo* in a large community patch
2082	Kuene (John Neddles)	Kālia, Kamookahi	*‘Āpana* 1: *Mo‘o* (narrow strip of land) of *kalo* and *‘auwai* in Kamookahi *‘Āpana* 2: House lot in Kālia
LCAs in the Vicinity of the Project Area			
5FL	Kapilimanu	Kālia, Pahupahuapuaa	*‘Āpana* 1: House lot *‘Āpana* 2: House lot *‘Āpana* 3: *Loko* (fishpond) *‘Āpana* 4: *Paukū kahawai* (section of a stream) *‘Āpana* 5: *Paukū kahawai*
1433	Kaluhi	Kanukukahi/Niukukahi, Kiki	*‘Āpana* 1: Four *lo‘i* *‘Āpana* 2: House lot with *kula* (plain)
1437	Kaohulenui	Pahupahuapuaa 1, Kālia, Hamohamo	*‘Āpana* 1: House lot in Hamohamo *‘Āpana* 2: *Kula* in Pahupahuapuaa *‘Āpana* 3: Three *lo‘i* and an *‘auwai* in Kālia
1459	Kuihewa	Kamookahi, Hamohamo	*‘Āpana* 1: House lot in Hamohamo *‘Āpana* 2: Two *lo‘i*, half *‘auwai* in Kamookahi
1468	Kaiahopuwale	Pahupahuapuaa, Hamohamo	*‘Āpana* 1: One *lo‘i* in Pahpahuapuaa *‘Āpana* 2: House lot in Hamohamo
2006	Male	Kalokoeli, Kamoomuku	Five *lo‘i* and house lot on the beach
2027	Palaualelo	Mookahi, Hamohamo, Pau	House lot and fishpond in Hamohamo
2079	Kauhola (w)	Makiki, Mokahi, Hohe, Kawaiaala, Kaluahole, Kālia	*‘Āpana* 1: Seven *kalo* patches in Maikiki *‘Āpana* 2: Two *kalo* patches in Mokahi *‘Āpana* 3: One line of *kalo* in Hohe *‘Āpana* 4: Four *kalo* patches in Kawaiaala *‘Āpana* 5: *Kula* lands in Kaluahole

LCA Number	**Claimant**	***‘Ili***	**Notes**
2082	Kuene (John Neddles)	Kālia, Kamookahi	*‘Āpana* 1: *Mo‘o* (narrow strip of land) of *kalo* and *‘auwai* in Kamookahi *‘Āpana* 2: House lot in Kālia
2084	Keohokahina	Kalokoeli, Kamookahi, Ulukou	*‘Āpana* 1: One *lo‘i* and a portion of an *‘auwai* and fishpond in Kalokoeli *‘Āpana* 2: Two *lo‘i* and a *loko* in Kamookahi *‘Āpana* 3: House lot with *kula* in Ulukou
6324	Kameheu	Auaukai	*‘Āpana* 1: One *lo‘i* *‘Āpana* 2: One *lo‘i* *‘Āpana* 3: One *lo‘i* *‘Āpana* 4: House lot
7597	Kamaukoli, Anederea	Auaukai, Kālia, Nanapua	*‘Āpana* 1: One *lo‘i* in Auaukai *‘Āpana* 2: *Lo‘i*, *kula*, and a section of a stream in Auaukai and Kālia *‘Āpana* 3: House lot in Kālia
8616	Kamole	Kahapuupuu	Not awarded; no information available

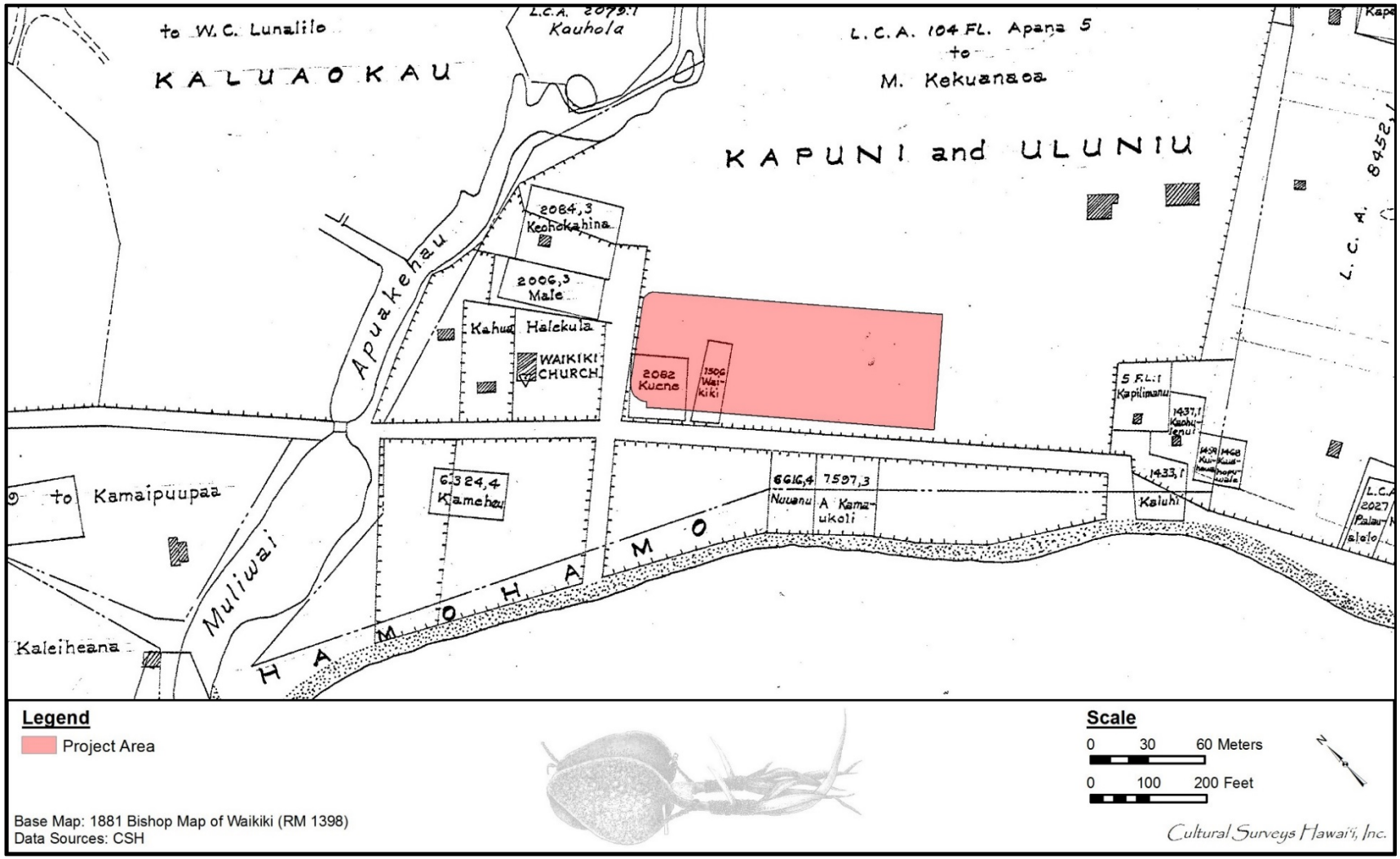


Figure 12. 1881 Bishop map of Waikīkī depicting Land Commission Awards in the vicinity of the project area

4.2.2 Latter Half of the Nineteenth Century

Waikīkī became a popular site among foreigners who had settled on O‘ahu throughout the course of the nineteenth century. Figure 13 depicts Waikīkī looking towards Diamond Head in 1859, and shows the coconut groves of Waikīkī. The area continued to be popular with the *ali‘i* and several notables had residences there. William Root Bliss traveled to O‘ahu in 1873 to escape from the northern winters; he describes Waikīkī as “a hamlet of plain cottages, stretching along the seashore, in the edge of a grove of cocoanut-palms, whither the white people of Honolulu go to revel in bathing-clothes, mosquitoes, and solitude, at odd times of the year” (Bliss 1873:195) (Figure 14).

Several developments during the second half of the nineteenth century dramatically impacted and altered the landscape of Waikīkī during the twentieth century. These included improvement of the road connecting Waikīkī to Honolulu (present day Kalākaua Avenue, Beretania Street, Kapi‘olani Boulevard, and Ala Moana Boulevard) (Figure 15); the building of a tram line between the two areas; and the opening of Kapi‘olani Park on 11 June 1877. Traditional land uses in Waikīkī were abandoned or modified. By the end of the nineteenth century most of the fishponds that had previously proliferated had been neglected and allowed to deteriorate.The remaining taro fields were planted in rice to supply the growing numbers of immigrant laborers imported from China and Japan, and for shipment to the west coast of the United States (Coulter and Chun 1937).

As the sugar industry throughout the Hawaiian kingdom expanded in the second half of the nineteenth century, the need for increased numbers of field laborers prompted passage of contract labor laws. In 1852, the first Chinese contract laborers arrived in the Islands. Upon completion of their contracts, a number of the immigrants remained in the Islands, many becoming merchants or rice farmers. As was happening in other locales in the 1880s, groups of Chinese began leasing and buying (from the Hawaiians of Waikīkī) former taro lands for conversion to rice farming (Coulter and Chun 1937). By 1892, Waikīkī had 542 acres planted in rice, representing almost 12% of the total 4,659 acres planted in rice on O‘ahu.

In the late nineteenth century, the Waikīkī beach area in Ulukou and Kahaloa was dotted with small cottages and some bathing houses. These “bathing houses,” placed strategically near the beach, were places where people could change into their bathing suits, rent towels, and walk directly into the ocean. One of the first of these bathhouses was the “Long Branch Baths,” named after a popular New Jersey resort. This long wooden shed was built near the edge of ‘Āpuakēhau Stream by James Dodd in 1881 at the former residence of Kākuhihewa (Scott 1968).

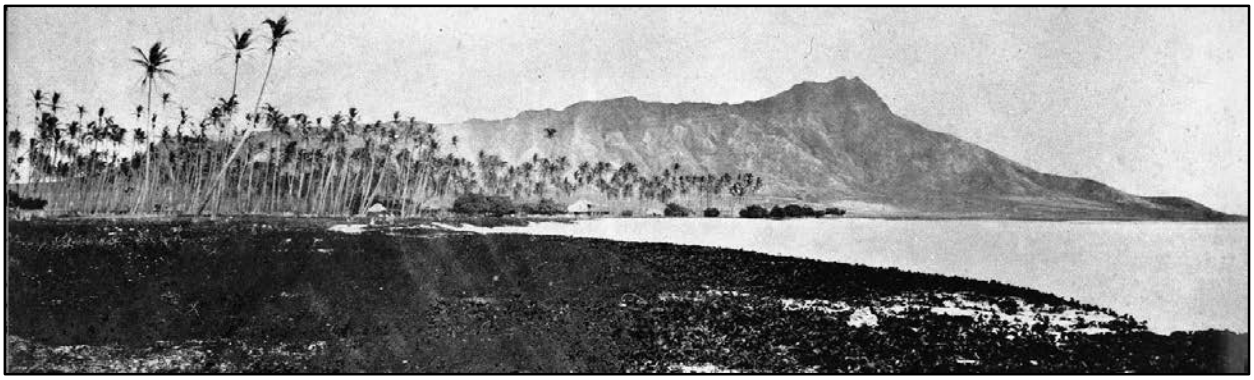


Figure 13. Photograph of Diamond Head from Helumoa Grove ca. 1859 (Hawai‘i State Archives)

Figure 14. Photograph of Diamond Head across rice fields ca. 1900 (University of Hawai‘i at Mānoa Digital Collection)

Figure 15. Kalākaua Road with trolley tracks (right) and Diamond Head (background), ca. 1890 (Hawaiian Historical Society Collection)

4.2.3 ‘Āinahau

Historic maps identify the present project area as adjacent to a portion of ‘Āinahau, the Waikīkī estate of Archibald Cleghorn (1835-1910), his wife Princess Miriam Likelike (1851-1887), and their daughter Princess Ka‘iulani (1875-1899)—all significant personages in the history of Hawai‘i. This estate began when Princess Likelike and her husband purchased 6 acres of land in the *‘ili* of ‘Au‘aukai from Ma‘aua and Koihala in 1872. Additional land came to the property in 1875, when 3.9 acres was given to Princess Ka‘iulani at her christening by her aunt and godmother Ruth Ke‘elikōlani, who inherited the land from her father, Mataio Kekūanaō‘a. Princess Ruth gave an additional 1.3 acres to Ka‘iulani later, creating a total estate of 12 acres (Kanahele 1995:133-134, 137). The estate was called ‘Āinahau—*āina* (land) *hau* (beach hibiscus; *Hibiscus tiliaceus*)—named for the many *hau* trees that grew along ‘Āpuakēhau Stream (Pukui et al. 1974:7).

The property in 1872 had several native grass huts, which Cleghorn removed, and replaced with a neo-Hawaiian-style bungalow. He later built a new, large two-story Victorian style house, designed by the famous Honolulu architect, Clinton B. Ripley (Figure 16).

> Cleghorn not only beautified Waikīkī through his work at Kapi‘olani Park [he had been instrumental in the park’s creation and design], but also at his estate, ‘Āinahau, which he had purchased in 1872 for $300. Inheriting a love of horticulture from his father, Cleghorn lavishly landscaped this parcel, making it ‘the most beautiful private estate in the Hawaiian Islands.’ [Hibbard and Franzen 1986:12][Figure 17]

The current project area appears to be adjacent to (southeast of) the westernmost corner of the ‘Āinahau estate, which, based on historic maps, contained no structures and was likely the location of the access drive from Kalākaua Avenue. In his book on the Princess Ka‘iulani Hotel, Cohen notes the following:

> The site for the hotel [Princess Ka‘iulani] fronts the old Waikiki Road, now Waikiki’s main thoroughfare, Kalakaua Avenue. The hotel’s Porte Cochere on Ka‘iulani Avenue is at the approximate southern entrance driveway to Ainahau. The rest of the original estate lies to the north fronting Ala Wai Boulevard. The entrance to the hotel’s parking lot marks the approximate spot of the trellised arch entrance to the beautiful Ainahau garden, where Governor Cleghorn, assembled flora from throughout the islands and abroad. The princess’ private driveway entered from Waikīkī through that arch and wound gracefully through rows of stately palms to the white house set deep within the grounds. [Cohen 1997:48-49]

When Princess Likelike died in February of 1887, her daughter, Princess Ka‘iulani, was named heir apparent to the throne. By all accounts, Princess Ka‘iulani was a beautiful and charming young woman who spent much time wandering the estate grounds. Robert Louis Stevenson visited the estate in 1889 when Princess Ka‘iulani was 13 years old.

> He] was so impressed with the young girl that he spent many afternoons with her, sitting under the great banyan tree, telling her stories. When he learned she was going to go to school in Scotland, he wrote her a little poem in her red-plush album to keep her company on her travels. [Grant 1996:24]

The poem reads as follows:

Figure 16. Photograph of ‘Āinahau ca. 1915 (Hawai‘i State Archives)

Figure 17. Photograph of the ‘Āinahau Banyan Tree ca. 1920 (Hawai‘i State Archives)

Forth from her land to mine she goes,
The island maid, the island rose,
Light of heart and bright of face.

The daughter of a double race.
Her islands here, in Southern sun,
Shall mourn their Kaiulani gone,
And I, in her dear banyan shade,
Look vainly for my little maid.

But our Scots island far away
Shall glitter with unwonted day,
And cast for once their tempests by
To smile in Kaiulani’s eye.

After her return to ‘Āinahau from Scotland, the Princess’ health began to fail and in 1899 she passed away at just 24 years of age. According to Grant:

> The night she died, her beloved peacocks screeched wildly. Since her favorite flower had been the Chinese jasmine, Hawaiians called the flower ‘pikake’ or peacock, in honor of the Princess. [Grant 1996:24]

Cleghorn himself continued to reside at ‘Āinahau until his death in 1910. After his death, the house was used as a hotel and then as a rental property until 1921, when it was claimed by a fire.

> One August night in 1921, W.T. Aldrich, the ‘movie picture man,’ was having dinner when his wife yelled ‘Fire!’ He ran to the room where the gas heater stood and saw flames. Neighbors tried to help by beating them out with cloths. A fire truck was summoned from Kaimuki, but the pin holding together the steering gear fell out and the truck crashed into a fence. By the time help arrived, the building could not be saved and the Cleghorn house burned to the ground. [Stassen-McLaughlin 1986:182]

4.3 Twentieth Century to Present

4.3.1 Hotel Development

4.3.1.1 4.4.1.1 The Moana Hotel

W.C. Peacock, a wealthy Honolulu landowner, had a seaside cottage in Waikīkī, east of ‘Āpuakēhau Stream and directly *makai* of the project area. He tore down his cottage and built the Moana Hotel, which opened on 11 March 1901 (Figure 18 and Figure 19). The first hotel building had 75 rooms, each with its own private bath and telephone, an unheard of luxury. In 1905,

Peacock sold the hotel to Alexander Young, who had an interest in several other Hawai‘i hotels. Young’s estate managed the hotel until 1928, when it was purchased by the Matson Steamship Company to cater to the new steamship tourists who were flocking to Hawai‘i as a vacation spot. Under the title of the Territorial Hotel Company, Ltd., Matson operated a number of hotels in Hawai‘i, including the Moana, the Royal Hawaiian, and its predecessor the Seaside Hotel.

The Center for Oral History, Social Science Research Institute located at the University of Hawai‘i at Mānoa (UHCOH) interviewed various *kūpuna* including Mr. Joseph Akana (for an expanded version see Section 4.4.2). Mr. Akana lived and grew up in Waikīkī in the 1920s. He shared his memories of the Moana Hotel and the area directly *makai* of the project area. He also pointed out that he went to Waikīkī School located right across the street from the Moana Hotel which was a Hawaiian church with a cemetery.

The Seaside Hotel was built in 1906, and consisted of a 10-acre parcel west of ‘Āpuakēhau Stream and west of the Moana Hotel. Scattered on the grounds were bungalows and tent houses for guests. Many famous people came to stay at the hotel, including Alice Roosevelt Longworth, the daughter of the Theodore Roosevelt, and Jack London, who wrote several of his South Pacific stories at the hotel during his stay (Scott 1968).

By 1928, the Matson Steampship Company owned the Moana Hotel and held the lease for the Seaside Hotel. In 1925, they began to move many of the bungalows and cottages from the Seaside Hotel beach area to the *mauka* side of Kalākaua Avenue to clear the ground for construction of the new Royal Hawaiian Hotel. UHCOH interviewee Beatrice Tominagam, who lived in the Moana Hotel employee housing area east of Ka‘iulani Street from 1919 to 1925, shared memories of life in this area when she was just a young girl:

> Oh, when we were there when I was a little girl, this was an empty lot. Just empty, nothing was on it. When I was living there, we watched them build these four big beautiful buildings (and a small two-bedroom cottage). They were beautiful (and painted white). They were two stories and they had a chimney on each one of them, and a big yard. The hotel called it the Moana Hotel Annex. And then, this part, ‘Āinahau Court, had many two-bedroom cottages and lot of date trees over here. We used to pick dates when they fell on the ground. [University of Hawai‘i Center for Oral History 1985:4:1986]

Mrs. Tominagam remembered that many of the buildings on the *mauka* side of Kalākaua Avenue were used for hotel guests; not all the buildings were used for hotel employees. The small cottages *mauka* of the Moana Annex, in the ‘Āinahau Court, were also for visitors. She noted, “Ainahau Court, were [for] Mainland people who rented those cottages and they lived there for many years.” She described the area where the current International Market place is located, north of the nearby project area:

> Oh, this area right here where the International Market [Place] is now was the Seaside Hotel cottages that they moved from Kālia Road to make room for the Royal Hawaiian Hotel. They moved them here and they were over here. They were cottages, you see. After the war [World War II] they got rid of those cottages. And in the middle 1950s they built the International Market Place. [University of Hawai‘i Center for Oral History 1985:4:1987]

Stan Cohen (1997:42), in his book on the Princess Ka‘iulani Hotel, recounts, “In 1920 cottages and an expansive lawn were built across Kalākaua Avenue at the former site of ‘Āinahau.” These generally refer to a number of small rectangular cottages directly opposite the Moana Hotel on the *mauka* side of Kalākaua Avenue, east of Ka‘iulani Avenue.

Figure 18. Photograph of the opening day for the Moana Hotel in 1901 (Hawai‘i State Archives)

Figure 19. Aerial photograph of the Moana Hotel ca. 1929 (University of Mānoa Digital Collection)

4.3.1.2 The Royal Hawaiian Hotel

The Royal Hawaiian Hotel, also known as the “Pink Palace of the Pacific,” opened on the 1 February 1927 at an estimated cost of $4 million (Figure 20). Construction began in 1925 and at the time, it was the biggest construction project in the Pacific. Notable visitors to the Royal Hawaiian Hotel included the Rockefellers, the Beatles, and Marilyn Monroe. During World War II, the hotel closed its doors after Pearl Harbor was attacked. Subsequently, the United States Navy used the hotel as a rest and recreation center for enlisted sailors. The Navy vacated the hotel shortly after the end of World War II and it reopened in January 1947 (Fischer n.d.:1–2).

4.3.2 The Ala Wai Canal

During the 1920s, the Waikīkī landscape was transformed by construction of the Ala Wai Drainage Canal—begun in 1921 and completed in 1928—which resulted in the draining and filling in of the remaining ponds and irrigated fields of Waikīkī (Figure 21 and Figure 22). The canal was one element of a plan to urbanize Waikīkī and the surrounding districts:

> The [Honolulu city] planning commission began by submitting street layout plans for a Waikiki reclamation district. In January 1922 a Waikiki improvement commission resubmitted these plans to the board of supervisors, which, in turn, approved them a year later. From this grew a wider plan that eventually reached the

Figure 20. Aerial photograph of the Royal Hawaiian Hotel ca. 1928 (Hawai‘i Aviation Museum)

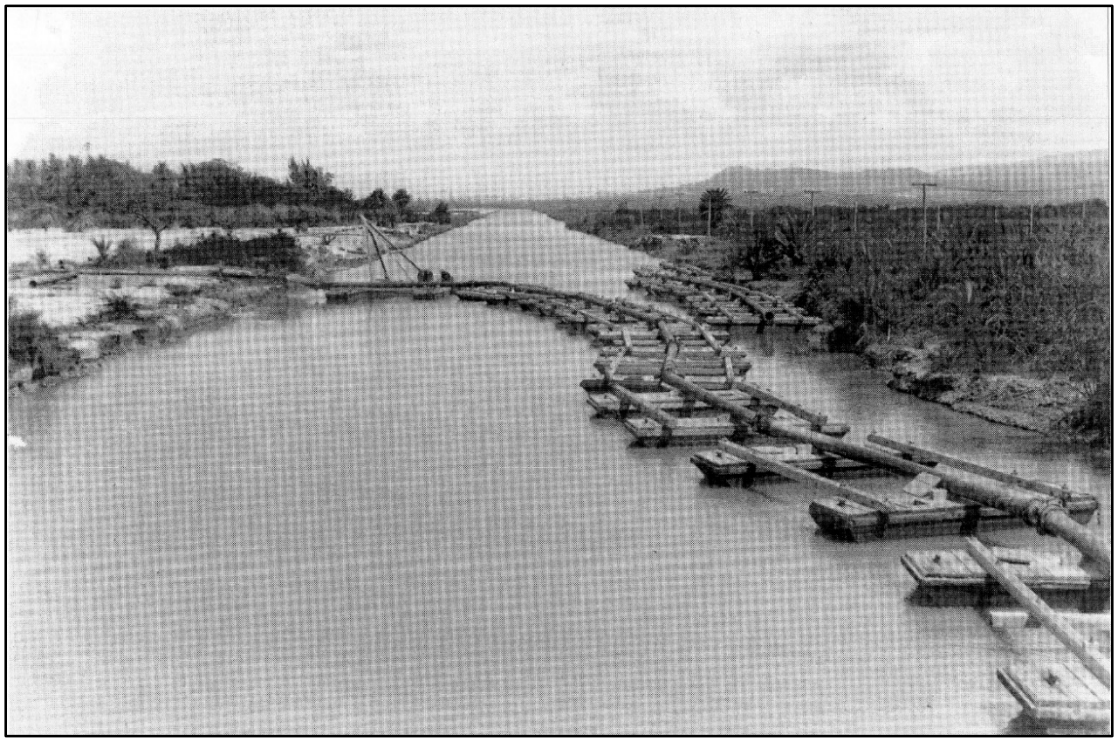


Figure 21. Photograph of the dredging of the Ala Wai Canal, n.d. (Hawai‘i State Archives)

Figure 22. Photograph of fisherman in the Ala Wai Canal, ca. 1931 (Hawai‘i State Archives)

> Kapahulu, Moiliili, and McCully districts, as well as lower Makiki and Manoa. The standard plan for new neighborhoods, with allowances for local terrain, was to be that of a grid, with 80-foot-wide streets crossing 70-foot-wide avenues at right angles so as to leave blocks of house lots about 260 by 620 feet. Allowing for a 10-foot-wide sidewalk and a 10-foot right-of-way [alley] down the center of each block, there would be twenty house lots, each about 60 by 120 feet, in each block. [Johnson 1991:311]

4.3.3 World War II

The Japanese bombing of Pearl Harbor on the 7th of December 1941, put a hold on development plans for Waikīkī as a tourist destination. The tourist trade was non-existent while the war was still on—“the Navy controlled travel to and from Hawai‘i and did not allow pleasure trips” (Brown 1989:141). During the war, Waikīkī was used as a recreation area for military personnel.

It was not the same Waikīkī as before the war, barbed wire barricades now lined its sands, and there were other changes too. Fort DeRussy became a huge recreation center, with a dance hall called Maluhia that attracted thousands of men at a time. The Moana Hotel continued to function, but many other establishments and private homes in the area were taken over by the military (Brown 1989:141).

4.3.4 Post-World War II

The war ended in 1945 and by the mid-1950s there were more than 50 hotels and apartment buildings from the Kālia area to the Diamond Head end of Kapi‘olani Park. The Waikīkī population at that time was not limited to transient tourists but included 11,000 permanent residents living in 4,000 single dwellings and apartments in stucco or frame buildings.

Development of hotel properties in Waikīkī during the 1950s raised concern over public rights-of-way for access to the Waikīkī beach which, like all of Hawai‘i’s beaches, is public from the ocean to the high water mark. An article in the *Honolulu Star-Bulletin* from the 16 January 1957 noted there were no public right-of-ways to the beach for “nearly a half mile strip in the heart of Waikiki” from “the Diamond Head side of the Surf Rider Hotel to the Ewa side of the Halekulani Hotel.”

4.3.5 Historic Maps

A series of historic maps illustrate the dramatic changes that occurred within the project area as Western commercial interests supplanted the traditional Native Hawaiian way of life.

An 1881 map (Figure 23) depicts the Māhele-era awarded LCAs and the ‘Āpuakēhau Stream, which ran into the ocean just west of the project area and featured a bridge visible in Figure 23 through Figure 27 until the Ala Wai was constructed in 1928 and the stream was permanently rerouted. Northwest of the project area on the corner a lot reads “Halekula” and “Waikiki Church.” This church was one of ten *‘āpana*, or branches, of the Kawaiaha‘o Church (Damon 1945:123).

An 1893 map by W.A. Wall (Figure 24) shows the project area in an uncultivated region surrounded by cultivated fields *mauka* of the project area. Dwellings are shown *makai* of the project area and sporadically placed around the project area. Although no houses are shown in the project area on this map, this does not mean there was no cottage on the property. Early surveyors

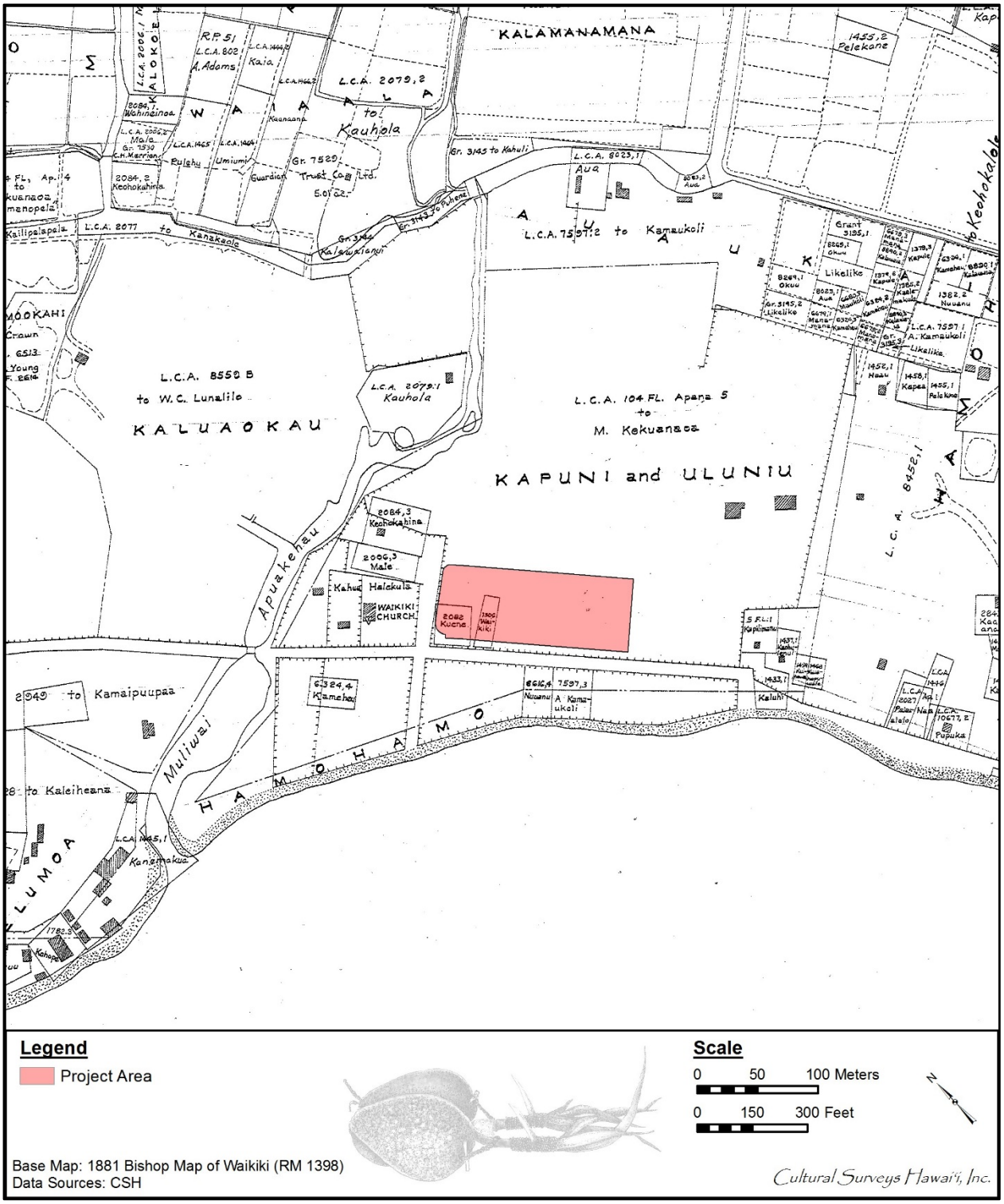


Figure 23. Portion of 1881 Bishop map of Waikīkī showing the project area

.

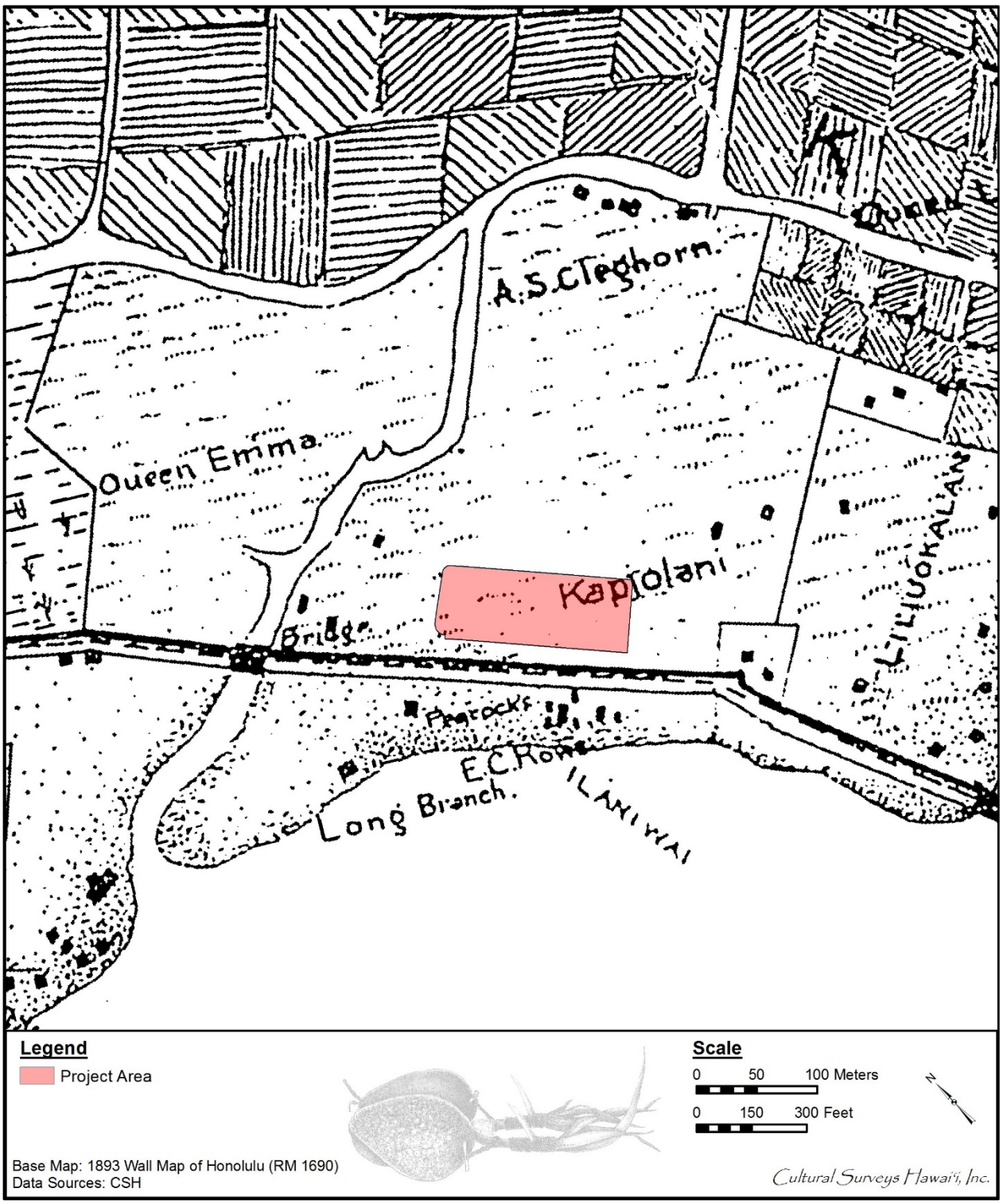


Figure 24. Portion of 1893 W.A. Wall map of Waikīkī showing the project area

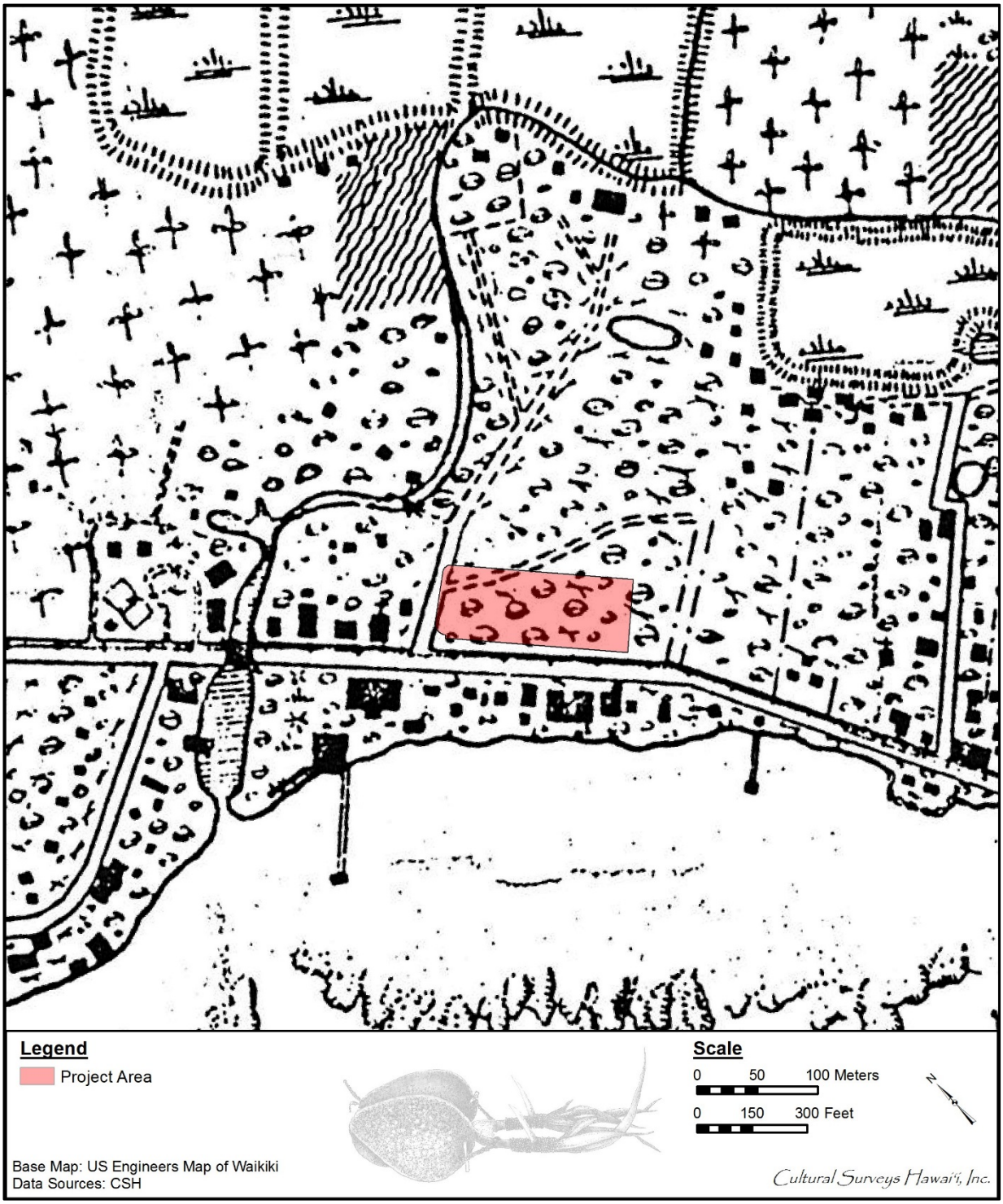


Figure 25. Portion of 1910 U.S. Army Engineers map of Waikīkī showing the project area and the surrounding undeveloped land

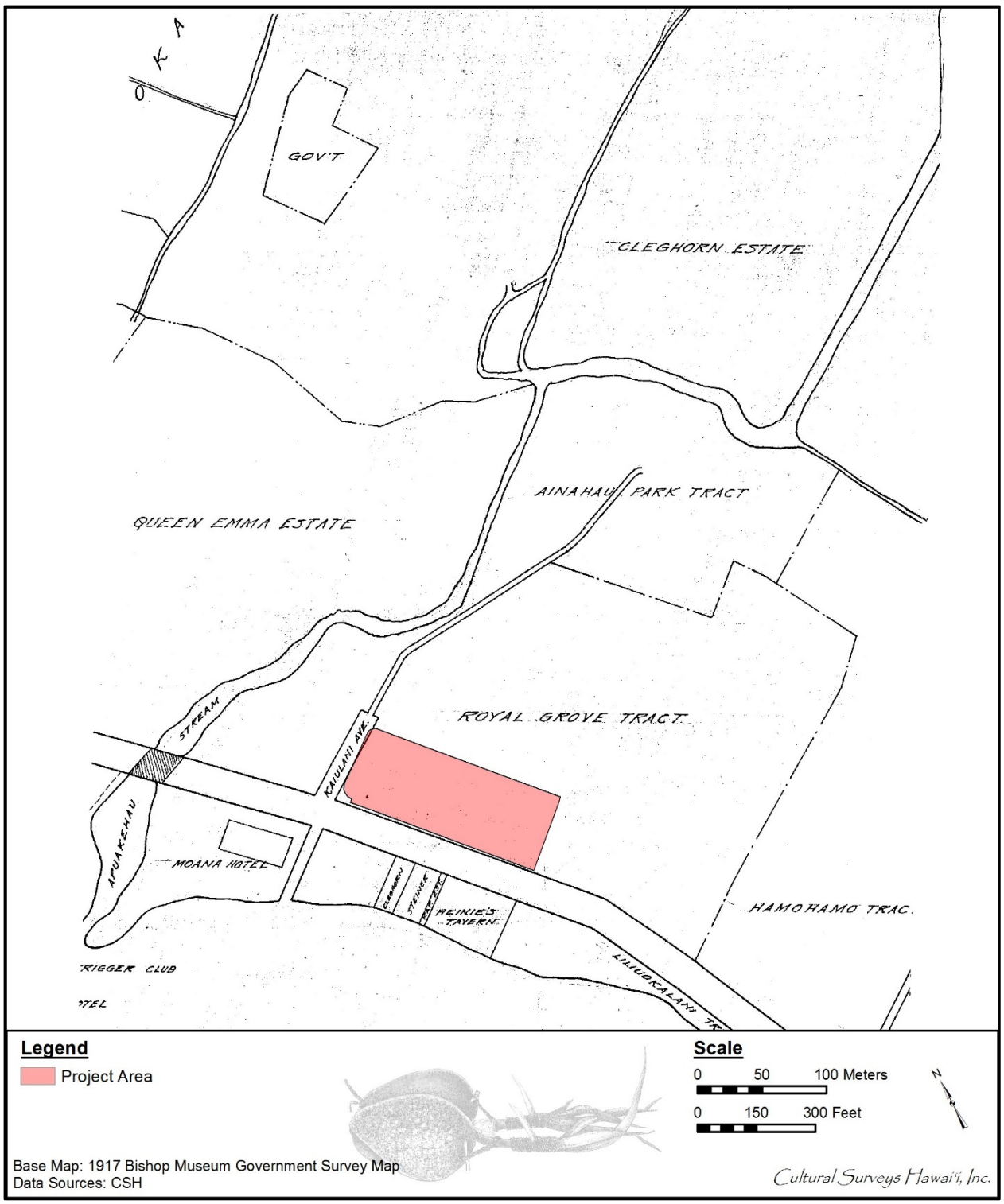


Figure 26. 1917 Bishop Museum Government Survey map showing the project area and the ‘Āpuakēhau Stream

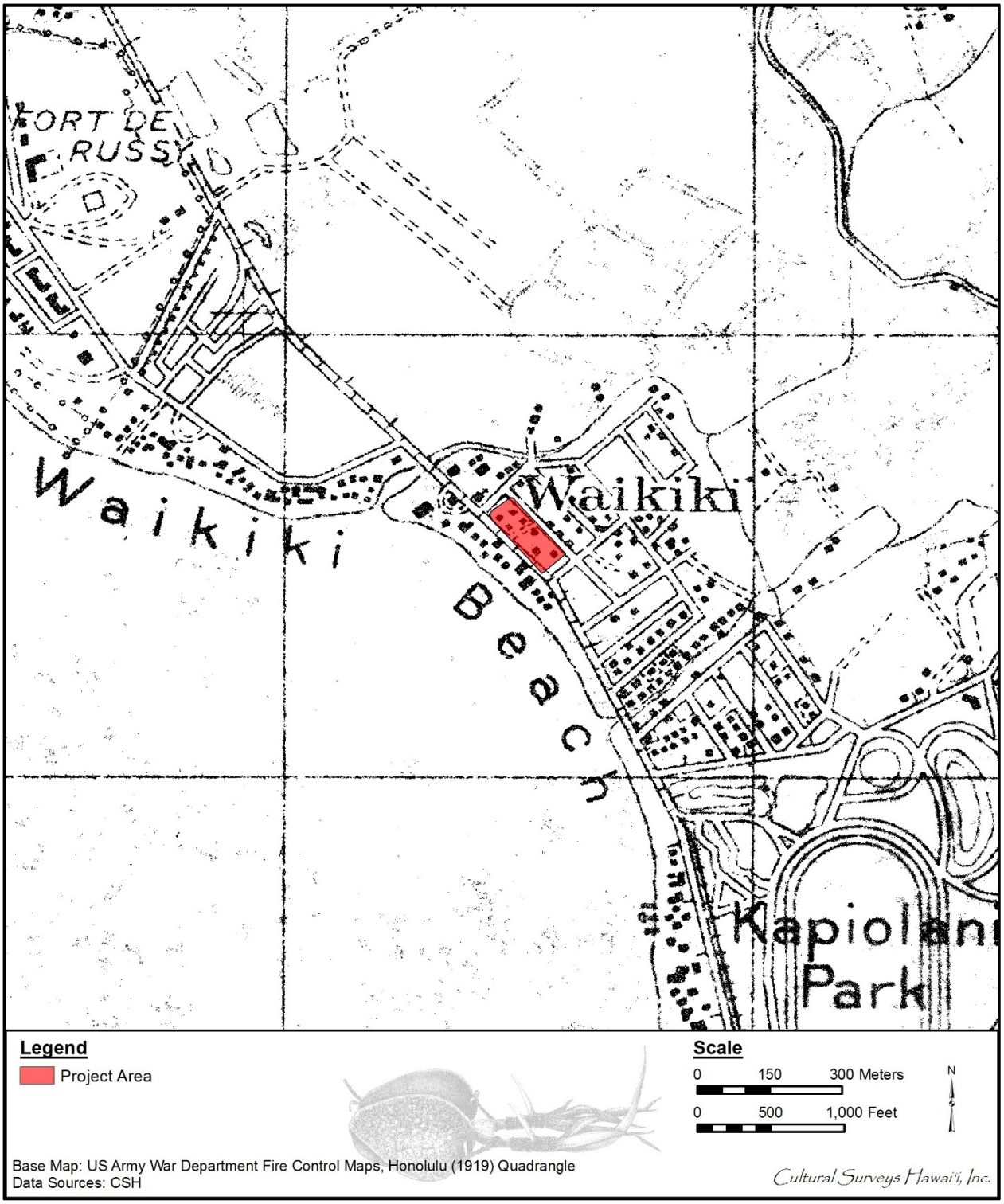


Figure 27. Portion of 1919 U.S. Army War Development Fire Control map, Honolulu Quadrangle showing the project area

mapped only what they considered substantial “permanent” structures, not grass houses or “beach cottages.”

A 1910 U.S. Engineers map (Figure 25) shows the project area on undeveloped land and overlapping what looks like a road off of the main Kalākaua Avenue. Two large rectangular structures are shown—a structure oriented diagonally to ‘Āpuakēhau Stream and a structure south and oriented parallel to the stream, which is possibly the Moana Hotel and pier.

A 1917 Bishop Museum Government Survey map (Figure 26) depicts Ka‘iulani Avenue north of the project area and the Moana Hotel located south of ‘Āpuakēhau Stream.

On a 1919 U.S. Army War Development Fire Control map (Figure 27), a church is present on the corner of what is now Kalākaua Avenue and Ka‘iulani Avenue *makai* of the project area. The church was the site of the former Kawaiha‘o Waikīkī Branch Church and Cemetery. The pier that extended from the Moana Hotel is not depicted in the map and much more development is evident in Waikīkī. ‘Āpuakēhau Stream is still present at this time.

A 1927 Sanborn Fire Insurance map (Figure 28) shows the project area within an urban city block, about two buildings wide and about nine buildings long. A total of 20 buildings were all constructed within the project area. The Moana Hotel also had their Annex Rooms located on the corner of Kalākaua Avenue and Ka‘iulani Avenue. There are three property plots that remain undeveloped.

A 1933 U.S. Army War Department Fire Control Map (Figure 29) and a 1943 U.S. Army War Department Terrain Map (Figure 30) illustrate that ‘Āpuakēhau Stream has now been filled in, after the Ala Wai canal dredging project was completed in 1928. An H-shaped structure *makai* of the project area is the Moana Hotel. More development is present within Waikīkī and the project area. The Kawaiha‘o Waikīkī Branch Church and Cemetery is no longer present. The project area remains mostly unchanged aside from the addition of one building on the southern side of the project area.

A 1953 USGS Topographic Quadrangle (Figure 31) shows the Waikīkī Hotels, schools, and churches. The Honolulu Zoo, Ala Wai Golf Couse, ‘Iolani School, and Fort DeRussy are also included.

A 1956 Sanborn Fire Insurance map (Figure 32) illustrates the hotel preceding the Hyatt Regency, the historic Waikīkī Biltmore Hotel, which was completed the previous year in 1955. *Makai* of the project area were the Waikīkī Bowling Alley, Waikīkī Tavern, and the Waikīkī Inn (Hotel).

A 1978 USGS Orthophotoquad aerial photograph (Figure 33) shows the contemporary image of Waikīkī and the project area. By 1976, the Hyatt Regency Waikīkī Hotel construction was completed.

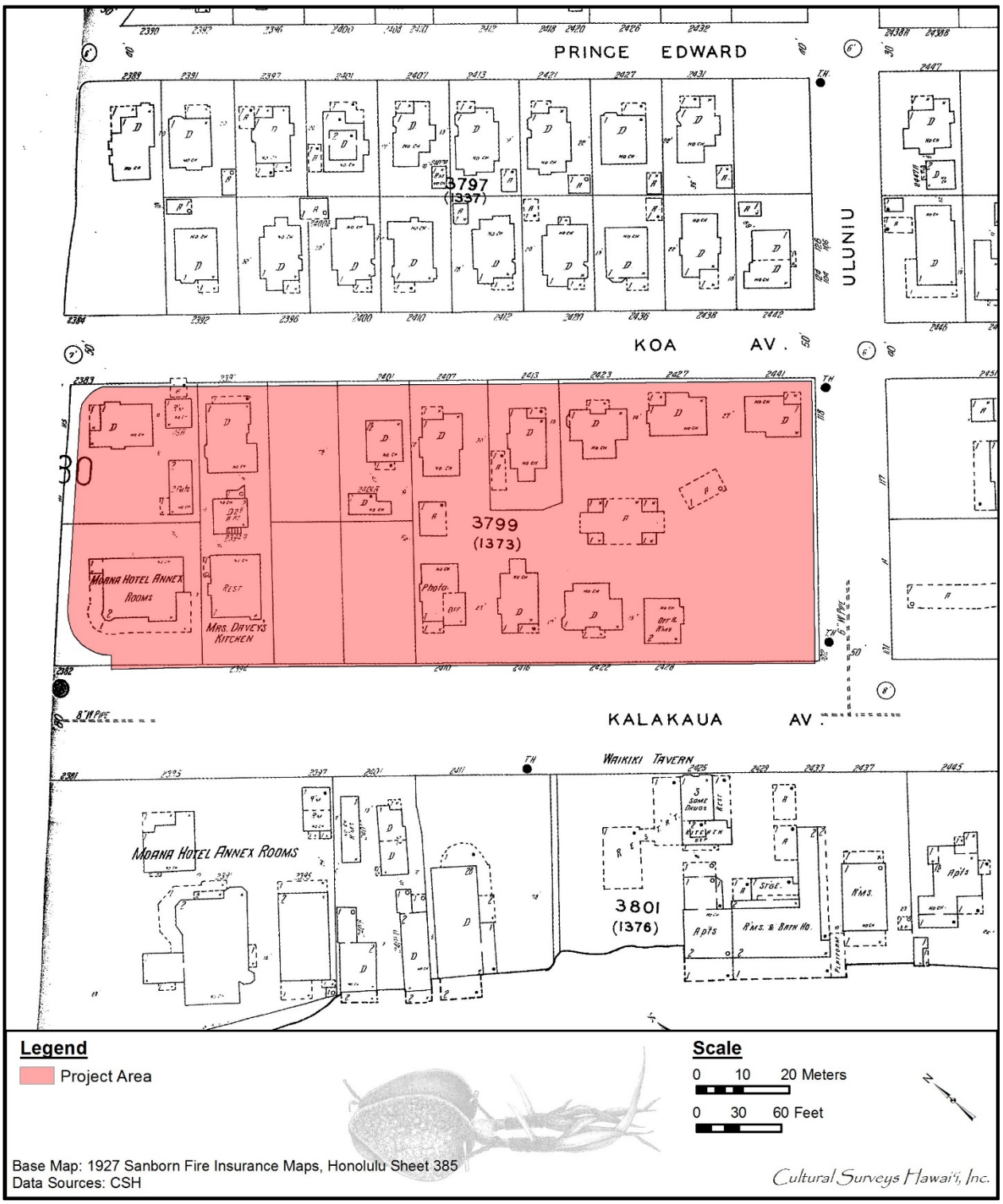


Figure 28. 1927 Sanborn Fire Insurance map, Honolulu Sheet 385 showing the project area

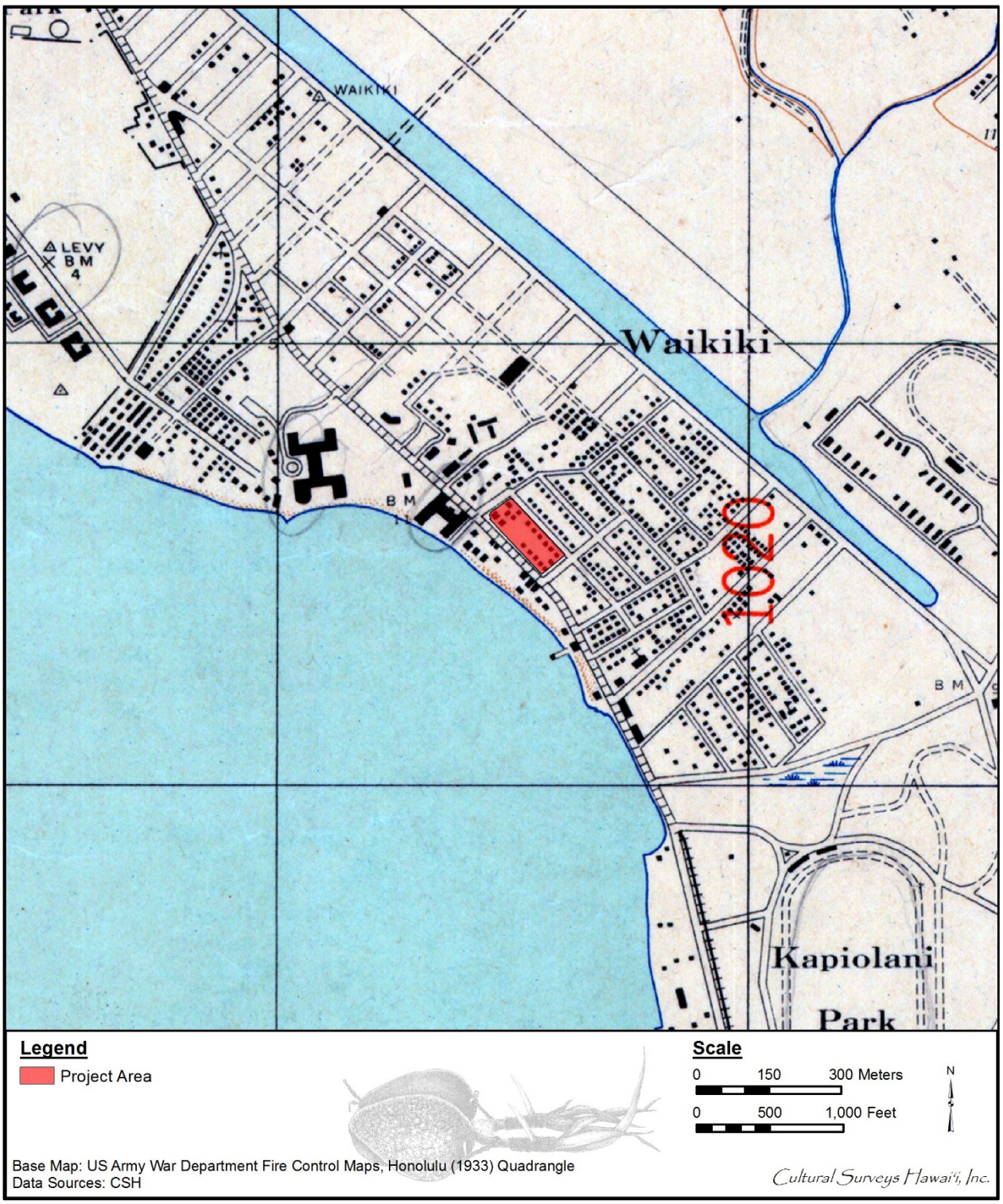


Figure 29. Portion of 1933 U.S. Army War Department Fire Control map, Honolulu Quadrangle showing the project area and a completed Ala Wai Canal

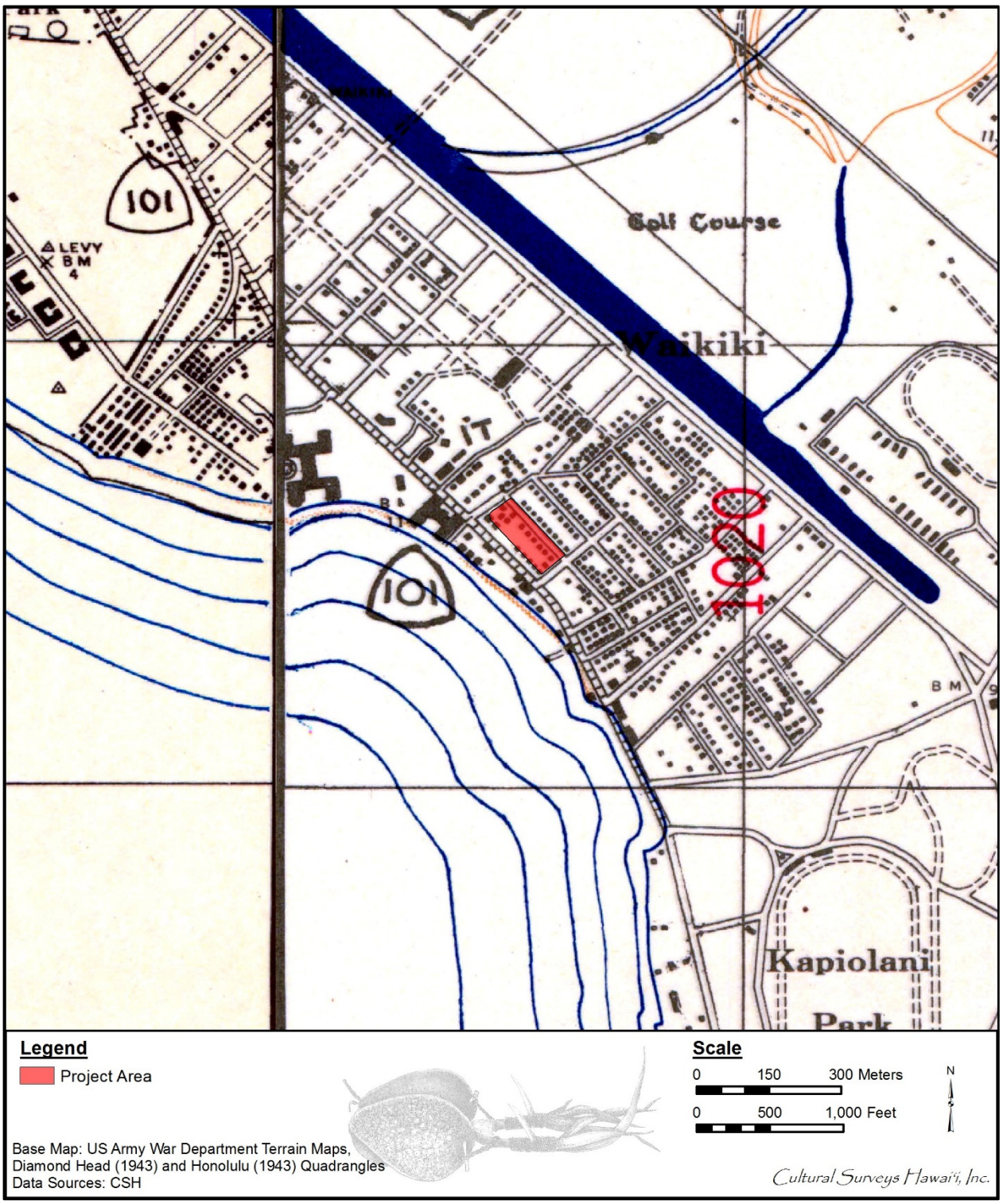


Figure 30. Portion of 1943 U.S. Army War Department Terrain map, Diamond Head and Honolulu Quadrangles showing the project area and the Ala Wai Canal

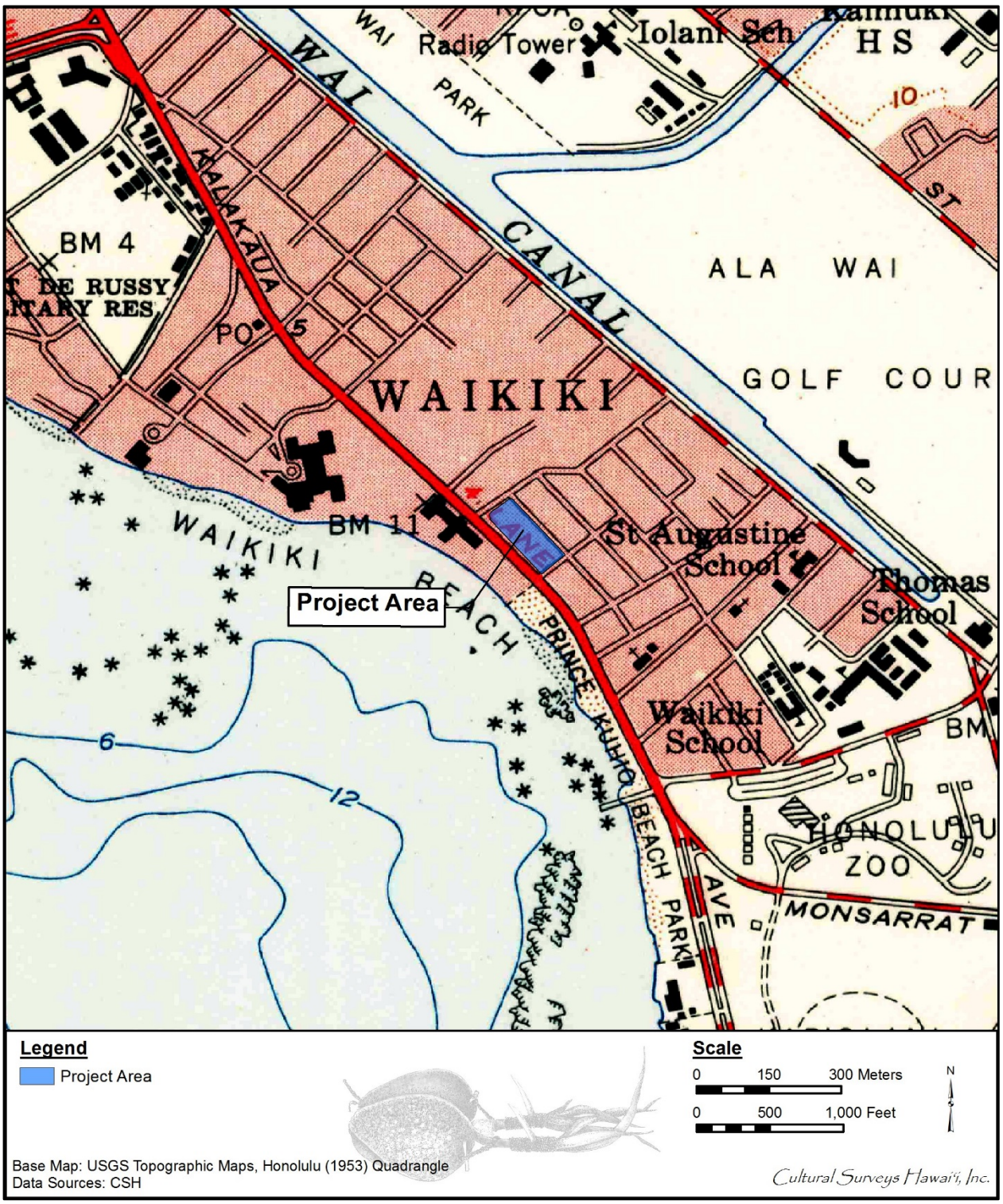


Figure 31. Portion of 1953 Honolulu USGS Topographic Quadrangle of Waikīkī showing the project area

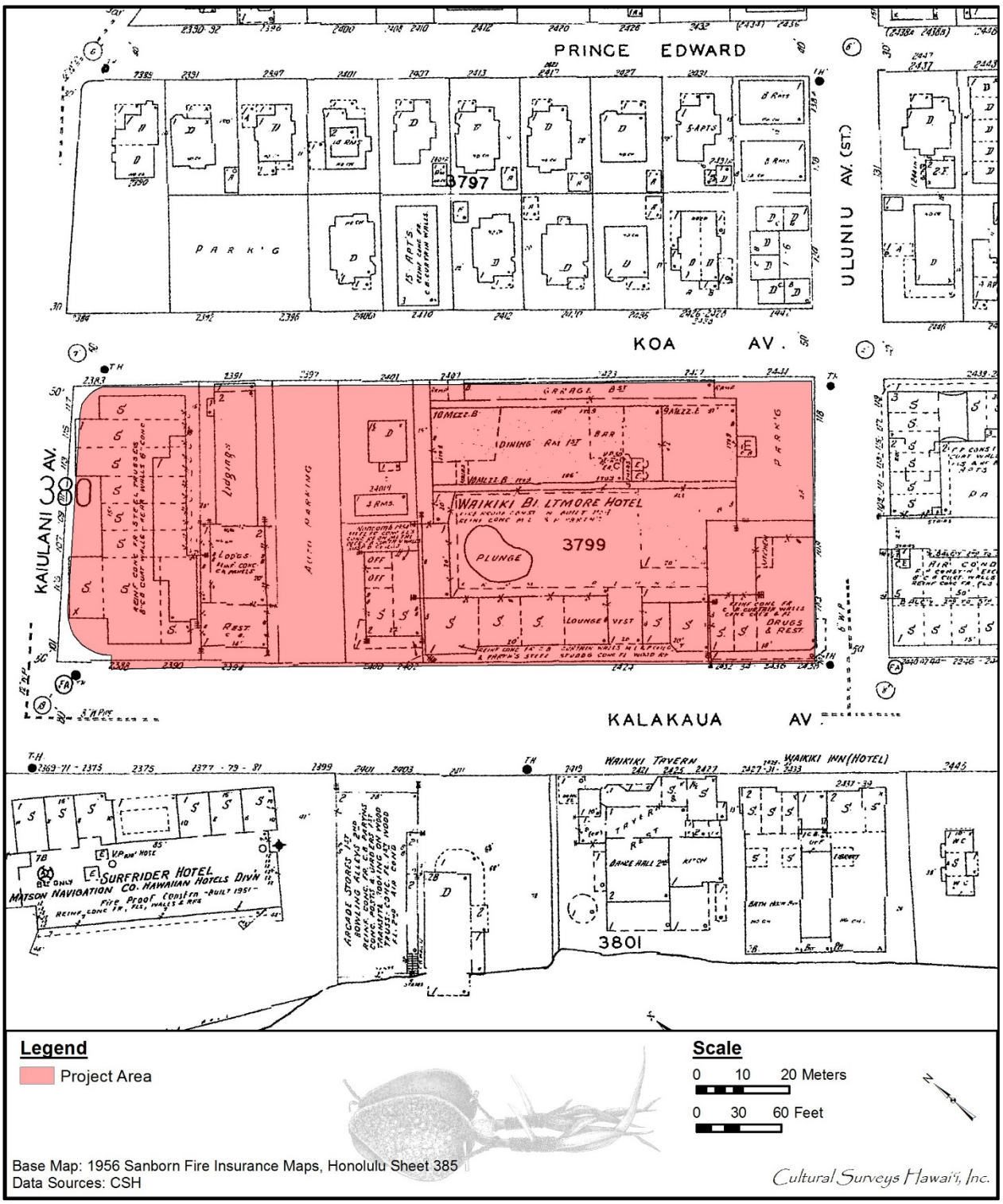


Figure 32. 1956 Sanborn Insurance Map, Honolulu Sheet 385 showing the project area

Figure 33. 1978 USGS Orthophotoquad Aerial Photograph, Honolulu Quadrangle showing the project area

4.4 Previous Oral History Research

This section draws from previous oral history research conducted by the University of Hawai‘i’s Center for Oral History in 1985 to highlight the voices of several people who had deep knowledge of the culture and history of the *ahupua‘a* of Waikīkī. Their *mo‘olelo* color the cultural and historical background with nuanced recollections and add depth to the information provided by *kūpuna* and *kama‘āina* who were interviewed for this CIA (Section 6). Summaries and excerpts from this collection of oral histories are presented below.

4.4.1 Sadao Hikida

The UHCOH documented the autobiography of Mr. Sadao Hikida on 18 December 1986. Mr. Hikida was born in 1914 and raised in Waikīkī and is a *nisei* (second generation) Japanese. He was a caretaker for ‘Āinahau, the former home of Princess Ka‘iulani, and a night watchmen for the Moana Hotel. In his autobiographical recollections recorded by UHCOH, Mr. Hikida shared his childhood memories of Kapi‘olani Park:

> The Kapi‘olani Park and zoo, as I remember in my childhood days, had many little islands, with tiny bridges to cross over, that were planted with palm trees, hibiscus, crotons, and willows. There also were picnic areas and many lily ponds, some with goldfishes and ducks swimming in them. When the lilies were in bloom it was a beautiful sight to see various hues matching the colorful colors of the goldfishes . . . Monsarrat and Kapahulu Avenues was mostly marshland with bulrushes and other swamp grass inhabited by mosquito fish and shrimp. The roads were mostly dirt roads lined with many date palms. I used to climb those date trees, trim the thorns and pick the delicious fruit to eat.
>
> In the early 1920s the park’s ponds, streams and marshlands were filled with the dredging material of coral and mud from the Ala Wai Canal. The park also had a sports arena where they had polo matches, horse racing, and buggy cart and auto racing.
>
> I would like to mention three wonderful and unforgettable memories. 1) Daisy the elephant, we used to ride on her back with the caretaker walking her around in a wide circle. 2) The blimp (balloon airship) which hovered over the tree tops anchored by a long rope to the ground. 3) The chimpanzee who was set free to roam although tied to a tree by a long chain. Other activities I recall are the tennis tournaments, family outings, school and club outings, hanamatsuri, etc. [University of Hawai‘i Center for Oral History 1985:2:975]

Mr. Hikida shared a story about ‘Āpuakēhau Stream:

> The ‘Āpuakēhau Stream flowed past our back and front yards and emptied into the ocean between the Moana Hotel and the Outrigger Canoe Club. The banks of the river were lined with hau groves and palm trees. The river was abundant with shrimp and fishes such as mullet, ‘a‘awa [wrasse; *Bodianus bilunulatus*], āholehole [young stage of *āhole*, or Hawaiian flagtail; *Kuhlia Sandvicensis*], pāpio [young stage of *ulua*; *Caranx hippos*], manini [reef surgeonfish; *Acanthurus triostegus*] and ‘o‘opu [general name for fishes included in the families Eleotridae, Gobiddae,

> and Blennidae]. I spent many happy relaxing hours fishing from the banks of the river or from the bridge which spanned the river. There was also a pond by our home which was connected to the ‘Āpuakēhau Stream. It was filled with shrimps and small fishes. And it was where we raised our ducks. [University of Hawai‘i Center for Oral History 1985:2:967]

Mr. Hikida also discussed the Ala Wai Canal project during his youth in the 1920s:

> The dredging of Ala Wai Canal started about 1920 and was completed around 1926. The canal is about two and a half miles long, ending at Makee Road. It is about 150 feet wide and about 10 to 20 feet deep. This solved the flooding problem of Waikīkī. The dredged material of mud and coral was used to fill up hundreds of acres of pond fields and marshland in Waikīkī, Mō‘ili‘ili, McCully, Kapahulu and Kapi‘olani Park. They also filled up the ‘Āpuakēhau, the Kukaunahi and other small streams. While the ‘Āpuakēhau Stream was being filled, thousands of mullet and other fishes and shrimps were being smothered by the land fill. [University of Hawai‘i Center for Oral History 1985:2:970]

4.4.2 Joseph Akana

The UHCOH interviewed Joe Akana on 22 March 1985 in his Hawai‘i Kai home. Mr. Akana was born and raised on ‘Ōhua Lane in Waikīkī, and he grew up and worked in Waikīkī as a beach boy during the summer and winter months. Mr. Akana described the area of Waikīkī known as Long Branch:

> Yeah, included the Seaside—the street, Seaside Avenue; where the school was; and down towards the Seaside Hotel which was on the water side, beside, across the street. Both sides of Kalakaua Avenue was the Seaside Hotel. It included that Waikīkī Theater [area]. I think it went as far as Lewers Street. And in the area there where the Waikīkī Theater is, there were banana patches. Of course wherever there was banana, we always went to steal bananas. [University of Hawai‘i Center for Oral History 1985:1:6]

He also recalled Waikīkī School and the Kawaiha‘o Waikīkī Branch Church and Cemetery, which was located north of the project area at the current location of the Princess Ka‘iulani Hotel:

> There was a cemetery there. I can’t say exactly what year. Let’s see, could be about 1909 or 1910. (JA clarifies to after 1915.) I mention those years because the Waikīkī School moved then between Hamohamo [Road] and Kaneloa [Road]. Waikīkī School. I don’t know what year it moved to the present site [3710 Lē‘ahi Avenue] . . . I think the church went down and they disinterred the (remains for burial elsewhere). Even those years, I think, they did things properly, you know. They removed the bones and whatnot. I don’t know where to. [University of Hawai‘i Center for Oral History 1985:1:6]

Mr. Akana remembered the Waikīkī Theater and the dredging of the Ala Wai Canal:

> The Waikīkī Theater didn’t go up until about . . . I could get it pretty close. (Pause) About the middle ‘20s. [Waikīkī Theater opened in 1936.] You know why? That late? It was because the dredging of the canal didn’t occur till about the early ‘20s.

> And then, of course, where the Waikīkī Theater is now is filled-in property. All coral. It was all coral that came in from the canal. The dredger had pumps that pumped the drainage, whatever, the coral and what not that were dug out. That's the first time in my life I noticed suction—dredging by suction. Before that, they used to have big clam shells that went down and grabbed the coral, lifted it up, swung it across, and put ‘em in trucks, and the trucks hauled ‘em away. The dredger would grind coral, and they had big pipes close by. They suck the coral right into a big pipeline. Pipes about this big (twenty or twenty-four inches in diameter. Spiked grinders loosened coral that was spontaneously sucked and forced through pipes and spilled to designated areas. [University of Hawai‘i Center for Oral History 1985:1:7]

Mr. Akana also discussed the politics surrounding the dredging of the Ala Wai Canal and pointed out that Ala Moana Park used to be the city dump:

> You see, the Dillinghams [Hawaiian Dredging] engaged in a contract with the State [Territory of Hawai‘i] that they [the Territorial government] would provide all the money necessary to dredge the canal, but with the proposition that certain areas that they filled—don't know what the acreage would be—that they [the Territory] could keep. And the [Ala Moana] Shopping Center was one of them. And where the [Ala Moana] Park is now used to be a dump, the city dump . . . Yeah, city dump. So they filled that in and gave it to the City. (Actually, the City already owned the property. Dillingham filled the dump and surrounding swamp area to create the park.) So they had a pretty good agreement going. Everything went fine. There were no big squawks. Of course, they were responsible for a lot of Ala Moana Boulevard, you know. That's all coral. What they dredged. [University of Hawai‘i Center for Oral History 1985:1:7]

Mr. Akana also explained the streetcars that travelled around Waikīkī:

> Well, the streetcar used to travel on Kalakaua [Avenue] and it made a turn up to King Street on elevated tracks. You know how trains do. They build elevated banks so that they could lay the rails and the train [streetcar] would ride on these rails. Well, the same thing happened at McCully. It was the McCully area, they called it. And everybody who rode streetcars could see the ducks, white ducks. You could see eggs in the islets, you know. Chinn Ho lived in that area. And it was a fact that the duck ponds did not have—people who lived there didn't have water lines, fresh water, drinking water. There was no line for drinking water. So, Chinn Ho, after school—you remember the old days when they used to carry the five-gallon tanks? Kerosene cans, they were. One here, one here [one on each side of the body], and they have a stick [on the shoulder]? You know. They still do that in the Orient, I guess. He went across the street and ask the people for water, brought it home daily. I believe he had a newspaper route, too, later on. He was older than me. [University of Hawai‘i Center for Oral History 1985:1:5]

4.4.3 John C. Ernstberg

The UHCOH interviewed John C. Ernstberg on 15 March 1985 at his home in Waikīkī. Mr. Ernstberg was born in 1910 in Kahului, Maui and is a former Waikīkī beach boy, musician, and a retired Honolulu City and County lifeguard. In his interview with UHCOH, Mr. Ernstberg described the various ocean resources in Waikīkī during his youth:

> The limu [seaweed] was there. You want limu. You need limu now. All the Hawaiian[s] do. I do. My wife needs limu because she’s got goiter, in that for the throat and things like that. Before all the limu, all the lipoa and everything I can get here manauea, lipoa, wawae‘iole and eh, everything you like. All kinds of limu. You like lipoa?
>
> You like manini? I love manini, one, two manini. I go out there, see, I go on the reef over there when the tide coming up. You go out there with your net, walk outside on the reef, flat reef, you wait over there. Soon as the tide starts coming up, you see the manini. All big schools come up. They go on top of the reef. When the wave break, you can see them—all that green. You stay up there. You wait, wait, wait, wait till they all come on the flat one time. Throw. You look, you see the all green and spiral. You go in there and pick ‘em up little by little now. Go pick up, put ‘em all in your bag. You look—full, ‘nough. Going home. [University of Hawai‘i Center for Oral History 1985:1:125]

4.4.4 Wilbur Craw

The UHCOH interviewed Mr. Wilbur Craw on 11 April 1985 at his home in Ka‘a‘awa on the island of O‘ahu. Mr. Craw is a former Waikīkī beach boy and founded a food brokerage company along with his brother. In his interview with UHCOH, Mr. Craw described his experiences with ‘Āpuakēhau Stream in Waikīkī:

> When we first got down there, the old Outrigger [Canoe Club] was built on the banks of the [‘Āpuakēhau] stream that came into the water between the Moana Hotel and the Seaside Hotel which is now the present site of the Royal Hawaiian [Hotel].
>
> (Across) that stream, (a) bridge was built across Kalākaua Avenue, a low concrete bridge, almost flat on the road, then the stream went up into the duck ponds. We used to paddle surfboards up there, small kids, go (up) and (explore) at the duck ponds, the rice paddies, the taro patches and we’d paddle along and look around. Now and then you’d see duck eggs, (and) swipe the duck eggs, (don’t) know what the hell for. Used to kinda be adventurous, you know, all these waterways going up all around (and) which is all built now in highrises.
>
> Then when we would get back down we would go fishing in the stream. They had lots of little baby fish, I guess, you might call them ‘mosquito fish.’ Or when the stream would open up and the water would come in, it would be moi [threadfish; *Polydactylus sexfilis*] season or ‘oama [young of the *weke*, or goatfish; *Mullidae*] season, some of these fish would go up in there. Actually, some of the regular fish like manini and stuff, they became acclimated to the water. You’d see these damn

> manini swimming around in the fresh water! [University of Hawai‘i Center for Oral History 1985:1:334–335]

Mr. Craw also stated that the area in front of the Royal Hawaiian Hotel, where ‘Āpuakēhau Stream entered the ocean, was once abundant with various types of limu:

> They had a lot of limu there . . . Manauea and limu līpoa. Waikīkī was very famous for its limu. It had līpoa, they had manauea. They had huluhuluwaena. They had, some spots there, wāwae‘iole. Only thing that you couldn’t find too much of and wasn’t a good place for it, was lipēpē [limu līpēpē]. It’s crunchy, when it grows flat looks like a Christmas tree. It’s very crunchy, and real good tasting. Oh, boy! There’s some out here but it’s scrubby stuff.
>
> Oh, limu-kala is broader leaf than the other limu līpoa. It is a coarser limu. It has almost the same taste but it is a wide coarse limu, and for that reason, the Hawaiians don’t particularly care for it. They call it limu-kala. It is the līpoa that has the fine (leaf). It’s about half or one-third the width of the limu-kala, and that is the preferred limu [līpoa]. [University of Hawai‘i Center for Oral History 1985:1:335–336]

Mr. Craw shared a recipe that he used for limu gathered from the shores of Waikīkī:

> . . . it’s that red manauea . . . if you want to make namasu-style [pickled]; you gotta clean out the fine (green) limu that grows in with it every now and then. You have to clean that out, chop it up, blanch it and then run it under cold water so it doesn’t cook because when it gets too cooked it gets soft and mushy. But just so you blanch it, and then you make your vinegar, sugar, ginger, (sauce) namasu-style, put it in.
>
> Otherwise, you would chop it up, mix it with say wāwae‘iole, a good mix is līpoa, wāwae‘iole, lipēpē and manauea. Mix ‘em all together, put it together. Whew! [University of Hawai‘i Center for Oral History 1985:1:336]

4.4.5 Lemon “Rusty” Holt

The UHCOH interviewed Mr. Lemon “Rusty” Holt on 15 March 1985 at his home in Wilhemina Rise in Honolulu. Mr. Holt was born in 1904 and raised in Waikīkī. Mr. Holt graduated from Kamehameha Schools in 1928 and later from the University of Hawai‘i. Later he became a postmaster, personnel department head, and store and apartment manager. In his interview with UHCOH, Mr. Holt described his experiences with the dangers of gathering *wana* (sea urchin; *Diadema paucispinum*) in Waikīkī during his youth:

> The best wana grounds is at where Queen’s Surf is. There’s a little channel, and right next to the channel is a reef. Wana growing underneath running water or (white) waves breaking is supposed to be fat. Good wana. Worthwhile getting and eating. You pick them in the month of October. They’re fatter then.
>
> Well, one day we went out, and (who was) steering, I forget. I was in the middle. We had gotten what wana we wanted—three or four gunny sack bags, filled up. They were in the front of me, at the bow was my sister Dawn Kinney, who just recently passed away. So in coming in, we caught a wave, a good sized wave. We shouldn’t have. We shouldn’t have, but we did. I can’t remember now who was steering. Anyway, we caught the wave and as we came in, it ran into white water.

The spray, came into the boat. My sister, who was sitting at the bow, when the spray came in, leaned back. When she leaned back, she leaned back onto the wana, into the spears. Those spears are deadly because they break off. You can’t get them out unless you use tweezers right away. I don’t know how many hours it took for somebody to pick out all they could find.

Years later, quite a few years later, I can’t remember how many years later, my sister complained of her big toe hurting. So somebody got a razor and started to scrape around where she said it was hurting because they could feel it was hard. Then somebody got a pair of tweezers, and they opened it up a little bit, and they pulled out the tip of one of those wana spears . . .

After all those years, one of them came out in her big toe. It was white in color, being in the stream, the bloodstream, all that time. But they could see, they could tell that it was still in the shape of the wana point. [University of Hawai‘i Center for Oral History 1985:2:808–809]

Section 5 Community Consultation

Throughout the course of this assessment, an effort was made to contact and consult with Hawaiian organizations, agencies, and community members including cultural descendants of Waikīkī, in order to identify individuals with cultural expertise and/or knowledge of the *ahupua‘a* of Waikīkī. CSH initiated the outreach effort in June and July 2014 through letters, email, telephone calls, and in-person contact. CSH completed the community consultation in July 2014. In the majority of cases, letters along with a map and an aerial photograph of the project were mailed with the following text:

> At the request of BRE Waikiki Owner LLC, Cultural Surveys Hawai‘i Inc. (CSH) is conducting a Cultural Impact Assessment (CIA) for the proposed 2424 Kalākaua Project, Waikīkī Ahupua‘a, Kona (Honolulu) District, O‘ahu Island, Tax Map Keys (TMK) [1] 2-6-023:009, 010, 011, 012, 077, 078, 080 (por.). The project area is approximately 2.4 acres.
>
> The proposed project entails proposing a reconfiguration of spaces within the hotel and retail podium at the Hyatt Regency Waikiki Beach Resort and Spa, The project will include improvements to the existing retail facilities, the addition of a new porte cochere (a covered entrance) along Koa Avenue; improved pedestrian circulation and the inclusion of a second floor lanai shopping arcade. The project will also include new elevators at the porte cochere that will take visitors and guests directly to the hotel lobby and upper floors; as well as a new pool deck for the hotel located on the third floor. The retail development portion of the project will not increase total floor area at the hotel. Parking is still available via the hotel basement and east of the hotel.
>
> The purpose of the CIA is to gather information about the project area and its surroundings through research and interviews with individuals that are knowledgeable about this area. The research and interviews assist us when assessing potential impacts to the cultural resources, cultural practices, and beliefs identified as a result of the planned project. We are seeking your kōkua (assistance) and guidance regarding the following aspects of our study:
>
> - **General history and present and past land use of the project area.**
> - **Knowledge of cultural sites – for example, historic sites, archaeological sites, and burials.**
> - **Knowledge of traditional gathering practices in the project area, both past and ongoing.**
> - **Cultural associations of the project area, such as legends and traditional uses.**
> - **Referrals of kūpuna or elders and kama‘āina who might be willing to share their cultural knowledge of the project area and the surrounding ahupua‘a lands.**

- **Any other cultural concerns the community might have related to Hawaiian cultural practices within or in the vicinity of the project area.**

In most cases, two or three attempts were made to contact individuals, organizations, and agencies. Community outreach letters were sent to a total of 55 individuals or groups; two responded, and one of these *kama‘āina* and/or *kūpuna* met with CSH for a more in-depth interview. The results of the community consultation process are presented in Table 3. The interview summaries are presented in Section 6.

Table 3. Results of Community Consultation

Name	Affiliation	Comments
Agard, Louis “Buzzy”	Resident, *kūpuna*	Letter and figures sent via email 7 July 2014 Letter and figures returned via email 7 July 2014 Second letter and figures sent via mail 18 July 2014
Apaka, Jeff	Waikīkī Community Center	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Ayau, Halealoha	Hui Mālama I Nā Kūpuna ‘O Hawai‘i Nei	Letter and figures sent via email 8 July 2014 Second letter and figures sent via email 18 July 2014
Crabbe, Kamana‘opono	CEO, OHA	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
DaMate, Leimana	Executive Director, Aha Moku Advisory Committee, DLNR	Letter and figures sent via email 8 July 2014 Second letter and figures sent via mail 18 July 2014
Gomes, Phoebe	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Gomes, Robin	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Grace, Nadine	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Harris, Cy	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Kaleikini, Ali‘ikaua	Lineal descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Kaleikini, Haloa	Lineal descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Kaleikini, Kala	Lineal descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Kaleikini, Moehonua	Lineal descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Kaleikini, Paulette Ka‘anohi	Lineal descendant	Letter and figures sent via email 8 July 2014 Second letter and figures sent via mail 18 July 2014

Name	Affiliation	Comments
		Ms. Kaleikini responded via email to CSH on 20 July 2014 CSH replied to Ms. Kaleikini on 20 July 2014 asking permission to include her response in the report Ms. Kaleikini responded to CSH on 21 July 2014 giving her consent to include her response Ms. Kaleikini emailed CSH on 23 July 2014 with additions to original response See Section 5.1 for an expanded version of her response
Kaleikini, No‘eau	Lineal descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Kamai, Dwynn	Former employee of King’s Village, *kama‘āina*	Letter and figures sent via email 7 July 2014 Ms. Kamai emailed CSH on 16 July 2014 with a response Second letter and figures sent via email 18 July 2014 See Section 5.2 for an expanded version of her response
Keana‘āina, Kīhei	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Keana‘āina, Luther	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Keana‘āina, Regina	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Keana‘āina, Vicky	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Kekaula, Ashford	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Kekaula, Mary	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Keli‘inoi, Kalahikiola	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Keli‘inoi, Kilinahe	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Keli‘inoi, Moani	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Keli‘ipa‘akaua, Chase	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Keli‘ipa‘akaua, Justin	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014

Name	Affiliation	Comments
Keohokālole, Dennis	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Keohokālole, Ema	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Keohokālole, Jeanine	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Keohokālole, Joseph	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Keohokālole, Lori	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Kini, Debbie	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Kini, Nalani	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Lew, Haumea	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Lopes, Leina‘ala	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Luka, Alika	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Mamac, Violet	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Medeiros Jr., Clarence	Cultural descendant	Letter and figures sent via email 8 July 2014 CSH called Mr. Medeiros on 8, 17, 18, 19, 24, and 25 July 2014 Mr. Medeiros approved his interview summary on 24 July 2014
Nobrega, Malia	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Norman, Carolyn	Cultural descendant	Letter and figures sent via email 8 July 2014 Second letter and figures sent via mail 18 July 2014
Norman, Eileen	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Norman, Kaleo	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Norman, Keli‘inui	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Norman, Theodore	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014

Name	Affiliation	Comments
Papa, Richard	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Pascua, Bruce	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Rash, Regina	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Rodrigues, Hinano	Interim History and Culture Branch Chief, SHPD	Letter and figures sent via email 7 July 2014 Second letter and figures sent via mail 18 July 2014
Roy, Corbett	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Soares, Moani	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Spinney, Charles	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Takaki, Miles	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014
Yokooji, Dayleen	Cultural descendant	Letter and figures sent via mail 8 July 2014 Second letter and figures sent via mail 18 July 2014

5.1 Response from Paulette Ka‘anohi Kaleikini

CSH contacted Paulette Ka‘anohi Kaleikini, a State of Hawai‘i recognized lineal descendant, on 8 July 2014 via email. A second letter and figures of the project area were sent to Ms. Kaleikini via mail on 18 July 2014. Ms. Kaleikini responded to CSH via email on 20 and 23 July 2014. Below is her statement via email on 20 July 2014:

> I am familiar with this project site and I vividly remember some events while the Biltmore was being torn down.
>
> My mother used to sit and watch from across the street while demolition and construction was occurring. At times, the workers would allow her onto the property. My mother gathered iwi that were being found by workers. She consulted with my uncle (her brother) who took the iwi and re-interred them. I used to wonder where he took the iwi; my mother told me years later. I don’t know how many iwi she retrieved from Ulukou. But she spent a lot of time there. I accompanied her, but I hung out at the beach across the street, surfing and canoeing most of the time. Malama iwi was not yet my full fledged kuleana. I should have been more attentive.
>
> She often spoke of Kahekili in regards to that area. Kahekilinuiahumanu. His mother was of the Hawaii lineage of chiefs. When Kahekili died on Oahu, the Hawaii chiefs wanted his iwi. The Maui chiefs (the lineage of his father) wanted his iwi on Maui. When the Hawaii chiefs came to Oahu to get the iwi of Kahekili,

> the moolelo my mother knew was that the ‘ohana who were pilikoko (close blood relatives) to him, gave the Hawaii chiefs the iwi of someone else. His iwi was already buried at Ulukou where he resided in Waikiki until his death. My mother strived on believing that his iwi was at Ulukou. I believe it as well.
>
> This is all I know about that particular area in Waikiki.

Ms. Kaleikini asked CSH if she could also include the following statement via email on 23 July 2014:

> Can you also add, or let the project components know, that I wish to participate in the AIS planning for this project, when they get to that stage, and at least before they complete an AIS. I imagine they are heading in this direction?
>
> As the Supreme Court held in my case regarding the rail project:
>
> Specifically, HAR chapters 13-275 and 13-284 provide for a ‘consultation process’ at various points in the historic preservation review. See, e.g., HAR §§ 13-275-5(e) and 13-284-5(e) (requiring, in certain circumstances, a consultation in relation to an archaeological inventory survey); HAR §§13-275-8(a)(3)(C) and 13-284-8(a)(3)(C) (requiring a consultation regarding mitigation commitments for historic property that has ‘an important value to the native Hawaiian people or to another ethnic group of the state’). Additionally, HAR chapter 13-276 (2002), which governs the scope of AISs, requires that an AIS describe the ‘consultation process with knowledgeable individuals.’ HAR § 13-276-5(a). Accordingly, the rules provide Kaleikini a procedural right to consult in the historic preservation review process.
>
> ‘Consultation process’ means ‘notifying interested organizations and individuals that a project could affect historic properties of interest to them; seeking their views on the identification, significance evaluations, and mitigation treatment of these properties; and considering their views in a good faith and appropriate manner during the review process.’ HAR § 13-275-2; see also HAR § 13-284-2.
>
> ‘Interested persons’ is defined as ‘those organizations and individuals that are concerned with the effect of a project on historic properties.’ HAR § 13-275-2.

5.2 Response from Dwynn Kamai

CSH contacted Ms. Dwynn Kamai on 7 and 18 July 2014. Ms. Kamai is the *pu‘uku* (treasurer) for the Waikīkī Hawaiian Civic Club. She is also the daughter of Winona Kamai, *alaka‘i* (director) of the Waikīkī Hawaiian Civic Club. The statement is a composite of several interviews from 2013 and 2014.

Ms. Kamai once worked at King’s Village which is directly *mauka* of the project area. She recalls hula shows, the changing of the guards, *mo‘olelo* shared at the Heritage Theater, as well as the delicious dishes from restaurants within King’s Alley, the former name of King’s Village. Every Saturday, *kumu hula* (hula teacher) Aloha Dalire and her *hālau* (group) would perform in the courtyard. In addition, Ms. Dalire’s husband taught fire knife dancing and would have his *haumāna* (students) demonstrate their talents.

She noted that the changing of the guard was “always spectacular.” Twice a day the guards at King’s Alley would change shifts dressed in their regalia of a helmet with tassel, regal guard long-sleeve shirt, white slacks, and white shoes. Their performance included the twirling of mock rifles, throwing them back and forth to each other in a synchronized formation. Ms. Kamai compared the guard’s wardrobe to the guards at ‘Iolani Palace.

In 1972, the Heritage Theater of the Bishop Museum was opened at King’s Alley (Creutz 1978). A number of exhibits pertaining to the Hawaiian monarchy in Waikīkī were on display. The theater presented a daily program on a variety of cultural arts run by Pele Suganuma and Uncle George Holokai. Double decker buses provided transportation between Bishop Museum in Kalihi Ahupua‘a, the *Falls of Clyde* ship at Aloha Tower, and the Heritage Theater in Waikīkī. The theater was open for many years but was later downsized to a bookstore and a gift shop. Ms. Kamai recalled an *‘uhane* (spirit) named Charlie who frequented the Heritage Theater. She stated he was a *kolohe* (mischievous, naughty) ghost who “pulled fun antics” often leaving water puddles and playing with the curtains in the theater.

She added that she is unsure of the exact location, but knows this is the vicinity of ‘Āinahau, the Waikīkī estate of Archibald Cleghorn and his wife Princess Miriam Likelike. Their daughter was Princess Ka‘iulani. Ms. Kamai stated that ‘Āinahau was where Princess Ka‘iulani played as a child with her beloved pet peacocks. Famed waterman Duke Kahanamoku surfed and swam in front of the Moana Surfrider Hotel which is also in the vicinity of the project area.

Section 6 Interviews

The authors and researchers of this report extend our deep appreciation to everyone who took time to speak and share their *mana‘o* (thoughts, ideas) with CSH whether in interviews or brief consultation, including contacts who opted not to contribute to the current cultural impact assessment, but nevertheless spent time explaining their position on the proposed project. We request that if these interviews are used in future documents, the words of contributors are reproduced accurately and in no way altered, and that if large excerpts from interviews are used, report preparers obtain the express written consent of the interviewee/s.

6.1 Clarence Medeiros Jr.

CSH contacted Mr. Clarence Medeiros Jr. via telephone and email on 8, 17, 18, 19, 24, and 25 July 2014 regarding the proposed reconfiguration of spaces within the hotel and retail podium at the Hyatt Regency Waikiki Beach Resort and Spa. On 24 July 2014, Mr. Medeiros approved the use of previous interviews which document his four genealogical connections to Waikīkī. For this specific project as well as for the others in the past, Mr. Medeiros emphasized that cultural and historic resources be preserved in the project area. The following statement is a composite of several interviews from 2010 to 2012.

Mr. Medeiros was born in 1952 in South Kona to Clarence Medeiros Sr. and Pansy Hua Kalalahua. He served in the United States Army from 1969 to 1972, including a tour of duty in Vietnam. Mr. Medeiros has been married to his wife Nellie for 43 years and they tend to a coffee, taro, and macadamia nut farm on Hawai‘i Island. They have two children: Jacob, 39, and Kareen, 41.

An active Hawaiian cultural practitioner, Mr. Medeiros remains passionate about the preservation of Hawaiian culture and researching his genealogy. He discussed the importance of Hawaiian genealogy to traditional Hawaiians and how for *kanaka maoli* (Native Hawaiians), ancestors’ names had *mana*. As a young boy, his interest in genealogy began when he came across a picture of his grandmother, Violet Leihulu Mokuohai Parker. Grandma Violet was tall, fair and had green eyes. Inside, however, she was pure Hawaiian.

As he grew up, Mr. Medeiros learned about his grandmother through stories from his parents, *kūpuna*, and from his grand-uncle, the famed canoe carver Charles Mokuohai Parker, the brother of Grandma Violet. Grand-uncle Charles made canoes for canoe clubs throughout the Hawaiian Islands. By the time Mr. Medeiros was in his 20s, he had spent many hours documenting his family connections. He outlined four connections to Waikīkī using oral history, Mormon genealogical records, and scholarly works.

In his 27 May 2010 interview, he showed CSH a map of Waikīkī in 1874 and noted that “Mānoa, Makiki, and Pauoa Ahupua‘a all take care of the Waikīkī area” and that Kamehameha IV owned many large portions.

Stating that he has Hawaiian, Portuguese, English, Scottish, Spanish, and Chinese in his background, Mr. Medeiros explained that his first connection to Waikīkī is through his great-great-great grandfather, Samuel Puhalahua. He documented that LC Award 1268 was awarded to Nakai and it involved 1.60 acres and 23/100 acres in Waikīkī *waena* (in the middle), not at the beach area

of Waikīkī. The land consisted of a *lo‘i*. Nakai conveyed the land to William Smith who later conveyed it to Naomi Nakuapa Puhalahua, the wife of Kuwalu Puhalahua. Kuwalu, the father of Samuel Puhalahua, was Mr. Medeiros' great-great-great-great grandfather.

Samuel Puhalahua married Kanika and they had a son named John Mokuohai Puhalahua, the great-great-grandfather of Mr. Medeiros. Mr. Puhalahua married a half-English, half-Hawaiian woman named Kaehamalaole Elemakule Clark. They had one child, Abigail Mokuohai, who is the great-grandmother of Mr. Medeiros. Abigail married William Parker Jr. and they had two children, one of them was Violet Leihulu Mokuohai Parker, who was the grandmother of Mr. Medeiros and whose picture first inspired his genealogical interest when he was a young boy.

As for the second connection to Waikīkī, Mr. Medeiros described his great-grandfather, Zen Man Sing, (also known as "Zane Man Sing"), who is connected to Mr. Medeiros' maternal side. His great-grandfather was Chinese and arrived in Hawai‘i in 1888. Shortly after his arrival, Mr. Medeiros' great-grandfather worked in Waikīkī with relatives planting rice and taro and working in the Sun/Soong stores owned by his mother's family. Mr. Medeiros stated the following:

> It was all water, swampland. Waikīkī was all *lo‘i* kind of land around 1890s. Life was kind of hard then. But they [great-grandfather and family] are Chinese; they are business-minded. They are looking to get better. After five years of planting rice, great-grandpa came to Kona, hearing stories that coffee would make money. He went to Ho‘okena where he met my great-grandmother, Kaaumoana Niau. They got married and ended up in Kalahiki. Then he moved back to O‘ahu. All his kids were raised in Kalahiki as well as O‘ahu. Now they are all over Honolulu.

From this union, Mr. Medeiros' grandma, Annie, was born in Waiea, South Kona. Her full name was Annie Man Sing Zen, and she did not follow her parents and siblings when they later moved to Honolulu. Instead, she stayed behind and lived with different family members in Ki‘ilae, Honaunau, Kēōkea, and Kalahiki. Grandma Annie married her first husband, Charles Hua, the grandfather of Mr. Medeiros. After his death, Annie married Charles Weeks.

In 1975, Mr. Medeiros went to a family reunion and spent time with his grandma Annie and other relatives.

> My grandma was still alive at that time. In her 90s, and also one of her brothers. We got to talk about their life in Kalahiki and O‘ahu . . . They remembered going to school in Kalahiki and Ho‘okena; [they] walked to school, fished, worked in the farm and picked coffee. When they moved to O‘ahu, they worked in a hotel. The older ones liked the old-time life, fishing, hunting which they could do in Kalihiki, but not in O‘ahu.

Regarding the third connection to Waikīkī, Mr. Medeiros explained that his grand-aunt Miriam Peleuli Crowingburg Amalu owned several parcels of choice land in Waikīki. She and Mr. Medeiros share the same bloodline through a relative named Kameeiamoku. Miriam was a close friend and relative of Queen Lili‘uokalani and often visited the palace to see the queen. She later had her properties auctioned off and conveyed to others. It was from Miriam's grandson that some properties were conveyed to Mr. Medeiros. These properties included 1¼ of an acre in Ho‘okena Beach and 300-plus acres in Waiea on Hawai‘i Island.

His fourth connection to the *ahupua‘a* of Waikīkī is from the Portuguese side of his family. When Mr. Medeiros was around seven years old, he attended school on O‘ahu. He first lived with his great-grandmother Mary Costa Pimental. Mr. Medeiros' great-grandma Mary's maiden name was "Pacheco" and she came from a Portuguese-Italian background. During the year he visited and lived with them in their home on Birch Street, Mr. Medeiros would watch his great-grandpa by marriage, Frank Pimental, play *bocci* (ancient game stemming from the Roman Empire which resembled bowling) along with other elderly men. He and great-grandma Mary would bake bread every Thursday. All the great-aunts would converge to help with the baking of bread and *malasadas* (sweet doughnuts originating from a Portuguese colony), and they would hug and squeeze their eight-year-old great-nephew until he was blue.

His great-grandma Mary was married three times. Her first marriage was to Marion Medeiros, whose son was Frank Medeiros. Frank Medeiros had married Grandma Violet, who was a direct descendant of Samuel Puhalahua who owned land in the middle part of Waikīkī (see above).

While his father worked for the Wilson Tunnel survey, Mr. Medeiros went to Lanakila School in Kalihi. His father also worked part-time for former Mayor Frank Fasi as a truck driver. Mr. Medeiros recalled old landmarks of Honolulu during his time there, like the old Honolulu Stadium and Fort DeRussy where his great-grandpa played *bocci*. In Kalihi, there was a wigwam store that is no longer there. The remaining eight months of that year, Mr. Medeiros lived with his father's half-sister who was also named Violet. Her neighbors were relatives of Mr. Medeiros' mother. Kalihi had a river, and there he used to catch tilapia with relatives and friends.

In addition to these connections to the project area, Mr. Medeiros also mentioned familial ties to nearby areas. From his father's side, he noted that his great-great-grandparents, William Sr. and Rose Parker, lived in Pauoa Valley in the 1880s to the1890s. One of their neighbors was the Akaka family. Mr. Medeiros shared that Senator Akaka later went on to serve in the army with Clarence Sr., and his father and future senator were good friends.

Regarding Fort DeRussy in Waikīkī, Mr. Medeiros singled out the five *‘ōhi‘a ki‘i* (statues) standing prominently at the entrance. According to him, these *ki‘i* were carved by Rocky Jensen and represent ancient Hawaiian soldiers. The *‘ōhi‘a* (*Metrosideros macropus, M. collina subsp. Polymorpha*) logs that were used to make the *ki‘i* were donated by his family and Mr. Medeiros assisted in bringing the logs down from the Honokua forests above the *kuleana* belonging to the Medeiros family.

In previous interviews for various Waikīkī projects, Mr. Medeiros discussed with CSH his view of what happens if burials are found in a project area. He shared his dissatisfaction with the current process and with the State Historic Preservation Division. He shared a letter written by the United States' Department of Interior and addressed to Department of Land and Natural Resources, highlighting some of the issues that Mr. Medeiros thinks should be addressed. He stated the following:

> During the 1890s, when my family was helping build the city, if no one came forward to claim burials, everything would be inadvertent finds . . . If they find something, what should they do? Consult descendants and other entities. What happens to *iwi* [bones] can be determined by family. [But] in the end, historic preservation has the final decision. The system now, it ends up pitting Hawaiians

> against each other. It seems like the descendants have the say, but it’s actually the SHPD.

What concerns Mr. Medeiros is the protection of Hawaiian culture and the land, as well as to prevent something like the Ke‘eaumoku Walmart case from happening again, where 64 *iwi kūpuna* (bones of ancestors) were unearthed in 2003 and kept for six years in a refrigerated container.

> I’m glad that the developers are working ahead of the trouble…to see if somebody finds something, they will look for it. Now is the time to say something. That is good. But SHPD doesn’t work this way. They are dysfunctional and a waste of time. I am glad that Kamehameha Schools is doing this in advance. This comment is not just for this project, but for others. For virgin lands, the regulating [of] who is overlooking. In some cases, no action is taken, whether it is favoritism or whatever, mostly regarding virgin lands. What we lose is the culture.

Mr. Medeiros called for the SHPD to hire what he described as “regulatory people who will do a professional job of reviewing claimants,” to make sure what the claimants are saying is being investigated. Archaeological reports should not be swayed in favor of the developer, and the claimants should also be unbiased.

In conducting studies of undeveloped land, such landowners as Kamehameha Schools or Bishop Estate start on the right path, stated Mr. Medeiros. He added the following:

> Bottom line is: SHPD has last say, and courts will follow. On virgin land, we start right. Save the trails, save the burials. It is hard to do with things already there [cites example of the Walmart in Ke‘eaumoku] . . . If Kamehameha Schools or Bishop Estate looks at it, and sees that if virgin lands are being assessed, they should really take a look at what the claimants are really saying, so future problems don’t come up. We need a state-level investigation through legislature, not just federal, to investigate the Historic Preservation Division. Do it right the first time.

Mr. Medeiros mentioned that he would like to share his *mana‘o* in other projects that involve the following lands:

> I would like to be consulted on any future development projects that involve the following lands: 25 parcels of land on the island of O‘ahu that were once owned by Nakuapa Puhalahua, wife of Kuwalu Puhalahua.

Listed below for clarification are the 25 parcels of land.

Waikele, ‘Ewa

Lot on the corner of King and Maunakea Street

Lot on the corner of Queen Street

Lot on the corner of Queen and Maunakea Street

Lot on Fort Street

3 lots in Kahehuna

Lot in Waikīkī-*waena*

Lot in ‘Ālewa, Liliha Street

Lot in Kaaleo, adjoining Nu‘uanu Cemetary

Lot in Kaaleo

Lot in Kaaleo, *makai* of Judd Street

‘Ili ‘āina of Kawānanakoa

Lot on Wyllie Street

4 lots in Kaolu

3 lots in Kawānanakoa

Lot in Palikea

Lot in Haimilo, Kailua

Land in Pū‘iwa, Kāne‘ohe

Waimea Valley

Lands on Maui and Hawai‘i Island

He is a direct descendant of the Parker/Hiller/Medeiros *‘ohana* (family) that once owned or resided at Pauoa Valley, Miller Street and Punchbowl. As a direct descendant of the Pacheco/Santos family, Mr. Medeiros also has historical interests in Kaka‘ako and Magellan Avenue where they once owned or resided. In addition, he is also a direct descendant of Don Francisco de Paula Marin who once owned Ford Island, Vineyard Street, and Maunakea Street.

Mr. Medeiros has knowledge/documentation that his *‘ohana* once owned/resided in these areas so he would like to provide comments if future developments occur in these areas.

Section 7 Cultural Landscape

Discussion of specific aspects of traditional Hawaiian culture as they may relate to the project area are presented below. This section integrates information from Sections 3–6 in examining cultural resources and practices identified within or in proximity to the project area in the broader context of the encompassing Waikīkī landscape. Excerpts from interview sessions from past and present cultural studies are incorporated throughout this section where applicable.

7.1 Hawaiian Habitation

While the surface archaeological record of Waikīkī has been extensively disturbed, obscured, and in some cases destroyed over the past two centuries, pioneering efforts in the early twentieth century to document sites based on the recollections of early and territorial surveys of Hawaiian residents (McAllister 1933), combined with *mo‘olelo* and recent archaeological research and cultural resource management work, offer a window into the ancient past. Importantly, there was a close spatial association between major *heiau* and intensive agriculture for the entire island of O‘ahu, and residential sites, cultivation and irrigation, trails, burials, and monumental structures and other cultural sites derived from archaeology, ethnography, and historical records illuminate ancient settlement patterns, part of the overall cultural landscape. Reconstructing patterns of ancient settlement draws heavily from *wahi pana*.

The project area is located within the *‘ili* of Kapuni and Uluniu in the modern day *ahupua‘a* of Waikīkī in the area known as Waikīkī Kai. However, the cultural landscape of Waikīkī extends from the coastal strip and plain of Waikīkī Kai to Waikīkī Waena from there to the *mauka* lands of Mānoa and Wa‘ahila.

7.2 *Wahi Pana* and *Mo‘olelo*

Numerous *wahi pana*, *‘ōlelo no‘eau*, *oli*, and *mo‘olelo* are associated with Waikīkī and document the historical significance of the *ahupua‘a*, abundance of natural resources, and the presence of a viable Native Hawaiian population. These include *mo‘olelo* of Ka-lua-‘Ōlohe, the *heiau* of Papa‘ena‘ena and ‘Āpuakēhau, the high priest Ka‘opulupulu, the warrior Kawelo, and the life giving stones of Kapaemahu and Kapuni.

Community participant and State recognized lineal descendant, Ms. Paulette Ka‘anohi Kaleikini, recalled *mo‘oleo* her mother shared in regards to the project area. Kaheikilinuiahumanu’s mother was from the Hawai‘i lineage of chiefs and his father was from the Maui lineage of chiefs. When Kahekili died on O‘ahu, the Hawai‘i chiefs as well as the Maui chiefs wanted his *iwi*. The Hawai‘i chiefs traveled to O‘ahu to retrieve Kahekili’s *iwi*. However, because the *‘ohana* were *pilikoko* or close blood relatives to Kahekili, a set of *iwi* that belonged to someone else was given to the Hawai‘i chiefs. Kahekili’s *iwi* were already buried in the *‘ili* of Ulukou where he resided in Waikīkī until his death. Ms. Kaleikini and her mother both state that they believe Kahekili’s *iwi* are still located in the *‘ili* of Ulukou to this day.

7.3 Agriculture

A vast system of irrigated taro fields was constructed across the littoral plain from Waikīkī Kai to the lower valleys of Mānoa and Pālolo in approximately AD 1400. This field system was an

impressive feat of engineering, using a design traditionally attributed to the chief Kalamakua. It took advantage of streams descending from the valleys of Makiki, Mānoa, and Pālolo. The *lo‘i kalo*, in combination with coconut groves and numerous fishponds along the Waikīkī shoreline, enabled the growth of a sizeable population.

Community participant Mr. Clarence Medeiros Jr. indicated that LCA 1268 awarded to Nakai was later conveyed to his great-great-great grandfather, Samuel Puhalahua. The 1.60-acre parcel in Waikīkī Waena consisted of *lo‘i*. His maternal great-grandfather, Zen Man Sing, arrived in Hawai‘i in 1888. Zen Man Sing worked in Waikīkī with relatives planting rice and taro for firve years before moving to Kona to work in the coffee industry.

7.4 Marine and Freshwater Resources

Historic maps and images depict numerous *loko i‘a* in Waikīkī. Historic documents describe Waikīkī having several hundred artificial freshwater ponds that extended a mile inland from the shoreline. UHCOH interviewee Mr. Sadao Hikida indicated ‘Āpuahkēhau Stream, once located *makai* of the project area, was at one time abundant with shrimp, mullet, *‘a‘awa*, *āholehole*, *pāpio*, *manini*, and *‘o‘opu*. Another UHCOH interviewee, Mr. John C. Ernstberg, recalled gathering various ocean resources during his youth in Waikīkī. He described *limu* being readily available for food and medicinal purposes. Varieties such as *manauea*, *līpoa*, and *wāwae‘iole* were available on the shores of Waikīkī. Fish such as *manini* were available on the reef and could be caught when the tide was rising. Mr. Lemon “Rusty” Holt who also participated in the UHCOH project recalled a surfing break called Queen’s Surf being the best *wana* picking grounds. Mr. Wilbur Craw, another UHCOH interviewee, stated the area were ‘Āpuakēhau Stream entered the ocean was abundant with various types of *limu* including the *huluhuluwaena* and *lipēpē* varieties.

7.5 Burials

Waikīkī Kai was home to four *heiau* of *po‘okanaka* class associated with human sacrifice including Papa‘ena‘ena Heiau, Kapua Heiau, Helumoa Heiau, and Kūpalaha Heiau. In addition, sacrificial drowning of *kauwā*, an outcast caste, took place at several sites on O‘ahu including Kawailumaluma‘i, Kewalo, Kualoa, and Waikīkī. According to Mary Kawena Pukui, a row of rocks called Pae-ki‘i marks the sites were strangers suspected of initiating war or searching for human sacrifices were drowned. This cause of death was called *kai he‘e kai* (Beckwith 1970:89).

Ms. Paulette Kaleikini shared her memories of her mother gathering *iwi* from construction workers at the Biltmore Hotel while it was being torn down. The Biltmore Hotel was the previous hotel located within the current project area (see Figure 32). Ms. Kaleikini recalled construction workers allowing her onto the Biltmore property where she gathered *iwi* that were being found by the workers. Ms. Kaleikini’s mother then consulted with her brother who took the *iwi* and reinterred them at an undisclosed location. Although she is unsure of how many burials were reinterred from the *‘ili* of Ulukou, she emphasized that her mother did spend a lot of time there.

Section 8 Summary and Recommendations

CSH undertook this CIA at the request of BRE Waikiki Owner LLC. The research broadly covered the entire *ahupua‘a* of Waikīkī, including the 2.4-acre project area.

8.1 Results of Background Research

Background research for this study yielded the following results which are presented in approximate chronological order:

1. The project area is located within the *‘ili* of Kapuni and Uluniu in the modern day *ahupua‘a* of Waikīkī in the area known as Waikīkī Kai. The name Waikīkī translates as “water spurting from many sources,” and reveals the character of the intact watershed system of Waikīkī prior to Western Contact, where water from the valleys of Mānoa and Pālolo gushed forth from underground.
2. A vast system of irrigated taro fields was constructed across the littoral plain from Waikīkī Kai to the lower valleys of Mānoa and Pālolo in approximately AD 1400. This, in combination with coconut groves and fishponds along the shoreline, enabled the growth of a sizeable population, including the coastal village of Waikīkī, which most likely centered around the mouth of ‘Āpuakēhau Stream in the vicinity of the project area.
3. Numerous *wahi pana*, *‘ōlelo no‘eau*, *‘oli*, and *mo‘olelo* are associated with Waikīkī which attests to the historical significance of the *ahupua‘a*, abundance of natural resources, and the presence of a viable Native Hawaiian population. These include *mo‘olelo* such as Ka-lua-‘Ōlohe, the *heiau* of Papa‘ena‘ena and ‘Āpuakēhau, the high priest of Ka‘opulupulu, the warrior Kawelo, and the life-giving stones of Kapaemahu and Kapuni.
4. At least seven religious sites were located in Waikīkī Kai, including Helumoa Heiau (also called ‘Āpuakēhau Heiau (Thrum 1907a:44) and Nā Pōhaku ‘Ola Kapaemahu a Kupuni (commonly known as the Wizard Stones) (Paglinawan 1997; Thrum 1907b:139-141) in the vicinity of the project area. These sites are connected through *mo‘olelo* to ‘Āpuakēhau Stream, which once flowed to the north of the project area.
5. Four of these *heiau* were associated with human sacrifice, including Helumoa Heiau (Thrum 1907a:44). Sacrificial drowning of *kauwā* also took place in Waikīkī (*Ka Loea Kālai‘āina* 1899, translation in Sterling and Summers 1978:33).
6. Waikīkī Kai was a place of royal residence, starting with Mā‘ilikūkahi in approximately AD 1490 (Kamakau n.d. in McAllister 1933:74) and extending through Kamehameha (‘Ī‘ī 1959:17). The *‘ili* of Kaluaokau and of Helumoa, adjacent to the *‘ili* of the project area, were places of previous royal residence.
7. During the Māhele, there were 437 land claims in Waikīkī Ahupua‘a of which only 243 were awarded. Within the project area, only two LCAs were awarded: LCA 1506, Wahine Waikīkī; and LCA 2082, John Neddles Kuene. LCA 1506 consisted of two *‘āpana* which included a partially fenced house lot and two rows of *kalo* in a community patch. LCA 2082 consisted of three *‘āpana* which included three *lo‘i*, a portion of an *‘auwai*, a fishpond in Kalokoeli, a *loko* in Kamookahi, a house lot, and *kula* in Ulukou.
8. Oral histories indicate early twentieth century gathering practices of several varieties of *limu* and *wana* along the Waikīkī coast, and the catching of *manini* in the near shore waters.

Moi, shrimp, *‘oama*, mullet, *‘a‘awa*, *āholehole*, *pāpio*, and *‘o‘opu* were found in ‘Āpuakēhau Stream.

9. Oral histories indicate the Waikīkī School, the Kawaiha‘o Church Waikīkī Branch, and its associated cemetery were located in the vicinity of the project area directly across Kalākaua Avenue from the Moana Hotel. The Waikīkī Theater was also in close proximity. The theater opened in 1936.

8.2 Results of Community Consultations

CSH attempted to contact Hawaiian organizations, agencies, and community members as well as cultural and lineal descendants of Waikīkī in order to identify individuals with cultural expertise and/or knowledge of the project area and vicinity. Community outreach letters were sent to a total of 55 individuals or groups; two responded, and one of these *kama‘āina* and/or *kūpuna* met with CSH for more in-depth interview. CSH is still awaiting written responses from SHPD and OHA. This community consultation gathered the following information:

1. Ms. Paulette Ka‘anohi Kaleikini, State of Hawai‘i recognized lineal descendant, shared memories of her mother sitting and watching the demolition of the Biltmore Hotel, the hotel constructed prior to the Hyatt Regency Waikīkī Hotel. Workers allowed Ms. Kaleikini’s mother on the property to gather *iwi* or burials found during the demolition of the hotel. Ms. Kaleikini’s mother would consult with her brother who would then take the *iwi* and reinter the burials at an undisclosed location.
2. Ms. Kaleikini shared a *mo‘olelo* of Kahekilinuiahumanu. Kaheikili’s mother was from a Hawai‘i lineage of chiefs while his father came from a Maui lineage of chiefs. When Kahekili died on O‘ahu, both sides of his family wanted his *iwi*. When the Hawai‘i chiefs came to O‘ahu to retrieve Kahekili’s *iwi*, unbeknownst to them, they were given the remains of someone else. Ms. Kaleikini shared that her *‘ohana* was *pilikoko*, close blood relatives, to Kahekili. Kahekili’s remains were already buried in the *‘ili* of Ulukou where he resided in Waikīkī until his death. Ms. Kaleikini and her mother both believe Kahekili’s remains are still in Ulukou ‘Ili.
3. Ms. Dwynn Kamai, treasurer for the Waikīkī Hawaiian Civic Club, shared her memories of Waikīkī and the vicinity of the project area. King’s Alley, the former name for King’s Village, was once a place of employment for Ms. Kamai. She recalled cultural demonstrations such as *lei* making, coconut frond weaving, and *hula* performances by *kumu hula* Aloha Dalire and her *hālau*.
4. In 1972, Bishop Museum opened the Heritage Theater at King’s Alley. According to Ms. Kamai, an exhibit pertaining to the Hawaiian monarchy in Waikīkī was on display. Double decker buses provided transportation between Bishop Museum in Kalihi, the *Falls of Clyde* ship at Aloha Tower, and the Heritage Theater in Waikīkī. The theater was open for many years before downsizing to a bookstore and gift shop.
5. Unsure of the exact location, Ms. Kamai recalled the ‘Āinahau Estate to be in the vicinity of the project area. ‘Āinahau was the estate of Archibald Cleghorn and his wife Princess Miriam Likelike. Their daughter Princess Ka‘iulani played as a child at the estate with her beloved pet peacocks.
6. Ms. Kamai added that famed waterman Duke Kahanamoku surfed and swam in the ocean fronting the Moana Surfrider Hotel, which is also in the vicinity of the project area.

7. The land of Waikīkī Kai was comprised of a vast agricultural system including *lo‘i* and fishponds. LCA 1268 to Nakai was later conveyed to the great-great-great grandfather of Mr. Clarence Medeiros Jr. The 1.60-acre parcel consisted of *lo‘i*. Mr. Medeiros' maternal great-great grandfather, Zen Man Sing, arrived in Hawai‘i from China in 1888. Shortly after his arrival he worked in Waikīkī with relatives planting rice and taro.

8.3 Recommendations

Based on information gathered for the cultural and historic background and community consultation detailed in this CIA report, the proposed project may potentially impact Native Hawaiian burials and subsurface cultural layers. CSH identifies below these potential impacts and makes the following recommendations:

1. The proposed project will be a redevelopment of the existing retail area. There will not be any grading or excavations during construction; construction will not exceed the depth of the existing parking garage floor. For this reason no undisturbed sediments will be impacted.
2. However, should any unforeseen circumstances arise where previously undisturbed sediments are encountered it should be anticipated that there is a possibility *iwi kūpuna* (ancestral bones) may be encountered within those sediments. Personnel involved in the construction activities should exercise caution. The area surrounding the project contains Jaucas sand deposits, a common sediment for interment of the dead. In addition, a community participant indicated her family found burials within the project area, and they were reinterred at that location. However, the precise location of the reinterment(s) has not been disclosed in accord with custom.
3. Personnel involved in the construction activities of the project should be informed of the possibility of inadvertent cultural finds, including human remains. Should burials (or other cultural finds) be encountered during any unanticipated ground disturbance, the construction contractor should immediately cease all work and the appropriate agencies should be notified pursuant to applicable law.
4. If any *iwi kūpuna* or other inadvertent cultural finds are found, BRE Waikiki Owner LLC should consult with lineal and cultural descendants of Waikīkī to develop a reinterment plan and cultural preservation plan in the event that any human remains or cultural sites or artifacts are uncovered during construction or long-term maintenance for the project.

Section 9 References Cited

Andrews, Lorrin
1974 *A Dictionary of the Hawaiian Language.* Tuttle, Rutland, Vermont.

Armstrong, R. Warwick
1973 *Atlas of Hawai‘i*. University of Hawaii Press, Honolulu.

Beckwith, M.W.
1970 *Hawaiian Mythology*. University of Hawaii Press, Honolulu.

Bernard, H. Russell
2006 *Research Methods in Anthropology: Qualitative and Quantitative Approaches.* Fourth edition. Rowman Altamira, Lanham, Maryland.

Bishop Museum
1917 Bishop Museum Government Survey map. Bishop Museum, Honolulu.

Bishop, S.E.
1881 *Waikīkī*. Survey and map by S.E. Bishop. [Map]. Registered Map 1398. of Hawai‘i Department of Accounting and General Services, Land Survey Division, Honolulu.

Bliss, William R.
1873 *Paradise in the Pacific*. Sheldon & Company, New York.

Brown, DeSoto
1989 *Aloha Waikīkī . 100 Years of Pictures from Hawaii‘s Most Famous Beach.* Editions Limited, Honolulu.

Chamberlain, Levi
1957 Tour Around O‘ahu: 1828. In *Sixty-fifth Annual Report of the Hawaiian Historical Society for the Year 1956.* Hawaiian Historical Society, Honolulu.

Chinen, Jon J.
1958 *The Great Māhele, Hawai‘i’s Land Division of 1848.* University of Hawaii Press, Honolulu.

Cohen, Stan
1997 *Princess Kaiulani and the Princess Kaiulani Hotel in Waikīkī.* Pictorial Histories Publishing Company, Inc. Missoula, Montana.

Cordy, Ross, Joseph Tainter, Robert Renger, and Robert Hitchcock
1991 *The 1971 Archaeological Work at Kaloko Ahupua‘a, North Kona, Hawai‘i Island.* National Park Service, Hawai‘i State Office, Honolulu.

Coulter, John W. and Chee K. Chun
1937 *Chinese Rice Farmers in Hawai‘i*. UH Research Publications Number 16. University of Hawai‘i, Honolulu.

Creutz, Edward C.
1978 *The Role of the Bishop Museum in the Pacific.* Electronic document, http://scholarspace.manoa.hawaii.edu/bitstream/handle/10125/15430/OP14-13-23.pdf?sequence=1 (accessed 20 January 2014).

Damon, Ethel M.

1945 *The Stone Church at Kawaiahao, 1820–1944*. Trustees of Kawaiahao Church, Honolulu Star-Bulletin Press, Honolulu.

Feesing, Andrea

2006 *Waikīkī: A History of Forgetting and Remembering.* University of Hawai‘i Press, Honolulu.

Finney, B. and James D. Housten

1966 *Surfing: The Sport of Hawaiian Kings*. Charles E. Tuttle Company, Rutland, Vermont.

Fischer, John

n.d. *History of the Royal Hawaiian Hotel*. Electronic document, http//www.about.com (accessed 2 September 2010).

Foote, Donald E., Elmer L. Hill, Sakuichi Nakamura, and Floyd Stephens

1972 *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii*. U.S. Department of Agriculture, Soil Conservation Service, Government Printing Office, Washington, D.C.

Fornander, Abraham

1878 *An Account of the Polynesian Race, its Origins and Migrations.* 3 vols. Trübner & Company, London.

1918 *Fornander Collection of Hawaiian Antiquities and Folklore*. T.G. Thrum, editor. Memoirs of the Bernice Pauahi Bishop Museum (Vol. V, Part I). Bishop Museum Press, Honolulu.

Google Earth

2013 Aerial image. Electronic document, http://www.google.com (accessed 11 January 2013).

Grant, Glen

1996 *Waikīkī Yesteryear*. Mutual Publishing, Honolulu.

Green Laura C.S. and Mary K. Pukui

1936 *The Legend of Kawelo and other Hawaiian Folk Tales*. Territory of Hawaii, Honolulu.

Hainakolo

1912 Oahu Place Names. *Hawaii Holomua*, 21 July.

Hawai‘i Aviation Museum

1928 Photo of the Royal Hawaiian Hotel ca. 5 December. Electronic document, http://hawaii.gov/hawaiiaviation/ (accessed 7 July 2014).

Hawai‘i TMK Service

2014 Tax Map Key [1] 2-6-023. Hawai‘i TMK Service, Honolulu.

Hawai‘i State Archives

n.d. Photograph of the dredging of the Ala Wai Canal. Original photograph available at the Hawai‘i State Archives, Honolulu.

n.d. Photograph of Nā Pōhaku ‘Ola Kapaemahu a Kapuni, more commonly known as the Wizard Stones. Original photograph available at the Hawai‘i State Archives, Honolulu.

1859 Photograph of Diamond Head from Helumoa Grove. Original photograph available at the Hawai‘i State Archives, Honolulu.

1901 Photograph of the Moana Hotel on its opening day. Original photograph available at the Hawai‘i State Archives, Honolulu.

1915 Photograph of ‘Āinahau. Original photograph available at the Hawai‘i State Archives, Honolulu.

1920 Photograph of the ‘Āinahau Banyan Tree ca. 1920. Original photograph available at the Hawai‘i State Archives, Honolulu.

1931 Photograph of fishermen in the Ala Wai Canal. Original photograph available at the Hawai‘i State Archives, Honolulu.

Hawaiian Historical Society

1890 Photo of Kalākaua Road with trolley tracks and Diamond Head. Original photograph available at Hawaiian Historical Society, Honolulu.

Hibbard, Don and David Franzen

1986 *The View from Diamond Head: Royal Residence to Urban Resort.* Editions Limited, Honolulu.

Honolulu Star-Bulletin

1957 Article, 16 January:10.

‘Ī‘ī, John Papa

1959 *Fragments of Hawaiian History as Recorded by John Papa ‘Ī‘ī.* Bishop Museum Press, Honolulu.

Johnson, Donald D.

1991 *The City and County of Honolulu: A Governmental Chronicle.* University of Hawaii Press, Honolulu.

Ka Loea Kālai‘āina

1899 Article, 8 July.

Kamehameha Schools Archive

1863 Photograph of Helumoa. Baker Collection, Kamehameha Schools Archives, Honolulu.

Kamakau, Samuel M.

n.d. *Extracts from Kuakoa*. T.G. Thrum, translator. Bernice Pauahi Bishop Museum, Honolulu.

1964 *Ka Po‘e Kahiko: The People of Old.* Bishop Museum Special Publication 51. Bishop Museum Press, Honolulu.

1992 *Ruling Chiefs of Hawai‘i.* Revised edition. Kamehameha Schools Press, Honolulu.

Kanahele, George S.
1995 *Waikīkī 100 B.C. to 1900 A.D. An Untold Story*. Queen Emma Foundation, Honolulu.

King, Robert D.
1935 Districts in the Hawaiian Islands. In *A Gazetteer of the Territory of Hawaii.* J.W. Coulter, compiler. University of Hawai‘i Research Publication 11. University of Hawai‘i, Honolulu.

Kirch, Patrick Vinton
2010 *How Chiefs Became Kings: Divine Kingship and the Rise of Archaic States in Ancient Hawai‘i.* University of California Press, Berkeley, Los Angeles, and London.

Landgraf, Anne Kapulani
1994 *Nā Wahi Pana ‘o Ko‘olau Poko*. University of Hawai‘i Press, Honolulu.

Lyons, Curtis J.
1875–1877 Waikiki-Diamond Head. Map by C.J. Lyons [Map]. Registered Map 727. On file at the State of Hawaii Department of Accounting and General Services Land Survey Division, Honolulu.

Mays, Nicholas and Catherine Pope
1995 Rigour and qualitative research. *British Medical Journal* 311:109–112.

McAllister, Gilbert J.
1933 *Archaeology of Oahu*. Bernice Pauahi Bishop Museum, Honolulu.

McKinzie, Edith Kawelohea
2005 *La-Lua-O-Kau: A Royal Lineage*. Queen Emma Foundation, Honolulu.

Menzies, Archibald
1920 *Hawai‘i Nei 128 Years Ago*. New Freedom, Honolulu.

Office of Hawaiian Affairs
2014 *Papakilo Database*. Office of Hawaiian Affairs cultural and historical database. Electronic document, http://papakilodatabase.com/main/index.php (accessed 16 January 2014).

Paglinawan, Richard
1997 *Some Notes on the Nā Pohaku ‘Ola Kapaemahu a Kapuni Restoration Project.* Queen Emma Foundation, Honolulu.

2008 *Waikīkī Then and Waikīkī Now*. Queen Emma Foundation, Honolulu.

Pukui, Mary K.
1983 *‘Ōlelo No‘eau, Hawaiian Proverbs & Poetical Sayings.* Bishop Museum Special Publication No. 71. Bishop Museum Press, Honolulu.

Pukui, Mary K. and Samuel H. Elbert
1986 *Hawaiian Dictionary*. Second edition, University of Hawaii Press, Honolulu.

Pukui, Mary K., Samuel H. Elbert, and Esther Mookini
1974 *Place Names of Hawaii*. University of Hawaii Press, Honolulu.

Sanborn Map Company

1927 Fire Insurance Map for 1927. On file at Sanborn Map Company, New York. Available at the Hamilton Library, University of Hawai‘i at Mānoa, Honolulu.

1956 Fire Insurance Map for 1956. On file at Sanborn Map Company, New York. Available at the Hamilton Library, University of Hawai‘i at Mānoa, Honolulu.

Scott, Edward B.

1968 *The Saga of the Sandwich Islands*. Volume 1. Sierra-Tahoe Publishing Company, Crystal Bay, Lake Tahoe, Nevada.

Soehren, Lloyd

2010 *A Catalog of Hawaiian Place Names*. Compiled from the Records of the Boundary Commission and the Board Commissioners to Quiet Land Titles of the Kingdom of Hawai‘i. Electronic document, http://ulukau.org/cgi-bin/hpn?l=en

Stassen-McLaughlin, Marilyn

1986 Ainahau: A Paradise for a Princess. *Honolulu Magazine*, November 1986, pp. 122-129. Reprinted in *Hawai‘i Chronicles: Island History from the Pages of Honolulu Magazine*, edited by Bob Dye, 1996, pp.173-183, University of Hawai‘i Press, Honolulu.

Sterling, Elspeth P. and Catherine C. Summers

1978 *Sites of O‘ahu*. Department of Anthropology, Bishop Museum. Bishop Museum Press, Honolulu.

Thrum, Thomas G.

1904 *Hawaiian Almanac and Annual for 1904.* Thomas G. Thrum Publishing, Honolulu.

1907a *Hawaiian Almanac and Annual for 1907.* Thomas G. Thrum Publishing, Honolulu.

1907b *Hawaiian Folk Tales*. A.C. McClurg & Company, Chicago.

1922 Hawaiian Place Names. In *A Dictionary of the Hawaiian Language*, by Lorrin Andrews. Honolulu.

1923 *More Hawaiian Folk Tales. A Collection of Native Legends and Traditions*. A.C. McClurg & Company, Chicago.

1998 *Hawaiian Folk Tales, A Collection of Native Legends*. Mutual Publishing, Honolulu.

University of Hawai‘i at Mānoa Digital Collection

1900 Photo of Diamond Head across taro fields. Original photograph available at University of Hawai‘i at Mānoa, Honolulu.

1929 Photo of the Moana Hotel. Original photograph available at University of Hawai‘i at Mānoa, Honolulu.

University of Hawai‘i Center for Oral History (UHCOH)

1985 *Waikīkī, 1900 – 1985: Oral Histories*. University of Hawai‘i at Mānoa, Honolulu.

U. S. Army Engineers

1910 Map of O‘ahu. Available at U.S. Army Museum, Fort DeRussy, Honolulu.

U.S. Geological Survey

1953 Map of Honolulu. Available at U.S. Army Museum, Fort DeRussy, Honolulu.

U.S. Army Map Service

1953 U.S. Army Map Service map, Honolulu quadrangle. USGS Information Services, Denver, Colorado.

U.S. Army War Department

1919 U.S. War Department map, Honolulu quadrangle. USGS Information Services, Denver, Colorado.

1933 U.S. Army War Department Fire Control map, Honolulu quadrangle. USGS Information Services, Denver, Colorado.

1943 U.S. War Department terrain map, Diamond Head and Honolulu quadrangles. USGS Information Services, Denver, Colorado.

U.S. Geological Survey

1978 USGS Orthophotoquad, Honolulu Quadrangle. USGS Information Services, Denver, Colorado.

1998 Honolulu USGS 7.5-Minute Series Topographic Quadrangle. USGS Information Services, Denver, Colorado.

Vancouver, George

1798 *A Voyage of Discovery to the North Pacific Ocean, and Round the World Performed in the years 1790-1795.* Robinsons and Edwards, London.

Waihona ‘Aina

2000 *The Māhele Database*. Electronic document, http://www.waihona.com (accessed 7 July 2014).

Wall, W.A.

1893 Honolulu and Vicinity. Map by W.A. Wall. Registered Map 1690. State of Hawai‘i Department of Accounting and General Services, Land Survey Division, Honolulu.

Appendix A Authorization and Release Form

Cultural Surveys Hawai‘i, Inc.
Archaeological and Cultural Impact Studies
Hallett H. Hammatt, Ph.D., President

P.O. Box 1114 Kailua, Hawai‘i 96734 Ph: (808) 262-9972 Fax: (808) 262-4950

Job code: WAIKIKI 138 nishihara@culturalsurveys.com www.culturalsurveys.com

AUTHORIZATION AND RELEASE FORM

Cultural Surveys Hawai‘i (CSH) appreciates the generosity of the *kūpuna* and *kama‘āina* who are sharing their knowledge of cultural and historic properties, and experiences of past and present cultural practices for the proposed 2424 Kalākaua Project, Waikīkī Ahupua‘a, Kona (Honolulu) District, O‘ahu Island, Tax Map Keys (TMK) [1] 2-6-023:009, 010, 011, 012, 077, 078, 080 (por.).

We understand our responsibility in respecting the wishes and concerns of the interviewees participating in our study. Here are the procedures we promise to follow:

1. The interview will not be tape-recorded without your knowledge and explicit permission.
2. If recorded, you will have the opportunity to review the written transcript of our interview with you. At that time you may make any additions, deletions or corrections you wish.
3. If recorded, you will be given a copy of the interview notes for your records.
4. You will be given a copy of this release form for your records.
5. You will be given any photographs taken of you during the interview.

For your protection, we need your written confirmation that:

1. You consent to the use of the complete transcript and/or interview quotes for reports on cultural sites and practices, historic documentation, and/or academic purposes.
2. You agree that the interview shall be made available to the public.
3. If a photograph is taken during the interview, you consent to the photograph being included in any report/s or publication/s generated by this cultural study.

I, _____, agree to the procedures outlined above and, by my
(Please print your name here)
signature, give my consent and release for this interview to be used as specified.

_____
(Signature)

_____
(Date)