FILE COPY

JUN - 8 2021

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

RICK BLANGIARDI
MAYOR

DEAN UCHIDA
DIRECTOR

DAWN TAKEUCHI APUNA
DEPUTY DIRECTOR

EUGENE H. TAKAHASHI
DEPUTY DIRECTOR

May 27, 2021

2021/ED-1 (JML)

Mr. Keith Kawaoka, Acting Director
State of Hawaii
Department of Health
Office of Environmental Quality Control
235 South Beretania Street, Room 702
Honolulu, Hawaii 96813

Dear Mr. Kawaoka:

| | |
|---|---|
| SUBJECT: | Chapter 343, Hawaii Revised Statutes<br>Draft Environmental Assessment (DEA) |
| Project: | Hale Lauula |
| Applicant: | Waikiki Bazaar Inc. |
| Agent: | R. M. Towill Corporation (Keith Kurahashi) |
| Location: | 2154 Lauula Street - Waikiki |
| Tax Map Key: | 2-6-018: 049 |

With this letter, the Department of Planning and Permitting hereby transmits the DEA and anticipated finding of no significant impact for the Hale Lauula Project at 2154 Lauula Street in Waikiki (Tax Map Key 2-6-018: 049), on the island of Oahu, for publication in the next edition of "*The Environmental Notice*" on **June 8, 2021**.

Enclosed, please find a completed publication form and a digital copy of the DEA.

Should you have any questions, please contact Janet Meinke-Lau, of our staff, at (808) 768-8033, or j.meinkelau@honolulu.gov.

Very truly yours,

for Dean Uchida
Director Designate

Enclosures

21-167

**From:** webmaster@hawaii.gov
**To:** HI Office of Environmental Quality Control
**Subject:** New online submission for The Environmental Notice
**Date:** Friday, May 28, 2021 10:40:07 AM

---

**Action Name**

Hale Lauula

**Type of Document/Determination**

Draft environmental assessment and anticipated finding of no significant impact (DEA-AFNSI)

**HRS §343-5(a) Trigger(s)**

- (5) Propose any use within the Waikīkī area of Oʻahu

**Judicial district**

Honolulu, Oʻahu

**Tax Map Key(s) (TMK(s))**

(1) 2-6-018:049

**Action type**

Applicant

**Other required permits and approvals**

Numerous

**Discretionary consent required**

Waikiki Special District Permit (Major) and Conditional Use Permit

**Approving agency**

Department of Planning and Permitting

**Agency contact name**

Janet Meinke-Lau

**Agency contact email (for info about the action)**

j.meinkelau@honolulu.gov

**Agency contact phone**

(808) 768-8033

**Agency address**

650 South King Street
7th Floor
Honolulu, HI 96813
United States
Map It

**Applicant**

Waikiki Bazaar Inc.

**Applicant contact name**

John Shimizu

**Applicant contact email**

jbs@vcshawaii.com

**Applicant contact phone**

(808) 599-3800

**Applicant address**

1288 Kapiolani Boulevard
Apt. I-4603
Honolulu, HI 96814
United States
Map It

**Was this submittal prepared by a consultant?**

Yes

**Consultant**

R.M. Towill Corporation

**Consultant contact name**

Keith Kurahashi

**Consultant contact email**

keithk@rmtowill.com

**Consultant contact phone**

(808) 842-1133

**Consultant address**

2024 North King Street
Suite 200
Honolulu, HI 96819
United States
Map It

**Action summary**

Waikiki Bazaar Inc. (WB) proposes to develop Hale Lauula, a six-story structure with a 16-unit, 28-bed boutique hotel or apartment building, on Tax Map Key: (1) 2-6-018: 049, a 5,355 square feet parcel. The Project Site is approximately 120-feet deep and 50-feet wide.

WB will replace the existing surface commercial parking lot with a six-story, 16-unit, 28-bed boutique hotel or apartment building. The first level includes the lobby, vehicle parking stalls, bicycle racks, loading spaces, and landscaping. Level 2 will include a
Prep-Kitchen, indoor and outdoor seating, a lounge area, mailboxes, front desk, unisex bathroom, vending machines, office, laundry room, janitor's closet, storage, mechanical room, two decks, and a landscaped recreation area. Level 3-6 will include 4-units per floor for a total of 16-units.

**Reasons supporting determination**

The proposed action will not:

- Irrevocably commit a natural, cultural, or historic resource;
- Curtail the range of beneficial use of the environment;
- Conflict with the State's environmental policies or long-term environmental goals established by law;
- Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community or state;
- Have a substantial adverse effect on public health;
- Involve substantial secondary impacts, such as population changes or effects on public facilities;
- Involve a substantial degradation of environmental quality;
- Be individually limited but cumulatively have substantial adverse effect upon the environment or involve a commitment for larger actions;
- Have a substantial adverse effect on rare, threatened, or endangered species, or its habitat;
- Have a substantial adverse effect on air or water quality or ambient noise levels;
- Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;
- Have a substantial adverse effect on scenic vistas and view planes, during day or night, identified in county or state plans or studies; and
- Require substantial energy consumption or emit substantial greenhouse gases.

**Attached documents (signed agency letter & EA/EIS)**

- CD-Report-DEA-Hale-Lauula-Final.pdf
- DPP-Letter-to-OEQC.pdf

**Authorized individual**

Janet Meinke-Lau

**Authorization**

- The above named authorized individual hereby certifies that he/she has the authority to make this submission.

**Draft Environmental Assessment**

*Prepared in Accordance with Hawai'i Revised Statutes Chapter 343, and*

*Hawai'i Administrative Rules Title 11 Chapter 200.1*

# Hale Lau'ula

Located at 2154 Lau'ula Street
Honolulu, Waikīkī, Island of O'ahu, State of Hawai'i
Tax Map Key: (1) 2-6-018: 049

**May 2021**

*Applicant:*
Waikīkī Bazaar Inc.
1288 Kapi'olani Boulevard, Apt. I-4603
Honolulu, Hawai'i 96814-2888

*Approving Agency:*
City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, Hawai'i 96813

**Draft Environmental Assessment**

*Prepared in Accordance with Hawai'i Revised Statutes Chapter 343, and*

*Hawai'i Administrative Rules Title 11 Chapter 200.1*

# Hale Lau'ula

Located at 2154 Lau'ula Street
Honolulu, Waikīkī, Island of O'ahu, State of Hawai'i
Tax Map Key: (1) 2-6-018:049

**May2021**

*Developer/Applicant:*

Waikīkī Bazaar Inc.
1288 Kapi'olani Boulevard, Apt. I-4603
Honolulu, Hawai'i 96814-2888

*Approving Agency:*

City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, Hawai'i 96813

*Prepared By:*

R.M. Towill Corporation
2024 North King Street, Suite 200
Honolulu, Hawai'i 96819-3494
(808) 842-1133

# Table of Contents

**Table of Contents** ..... i

**List of Figures** ..... iv

**List of Tables** ..... v

**List of Appendices** ..... vi

**Acronyms and Abbreviations** ..... vii

**Section 1 Introduction** ..... 1-1

1.1 Purpose of Environmental Assessment ..... 1-1

1.2 Project Information Summary ..... 1-1

**Section 2 Project Description** ..... 2-11

2.1 Description of Proposed Action ..... 2-11

2.2 Project Location ..... 2-11

2.3 Existing and Surrounding Uses ..... 2-11

2.4 Land Ownership ..... 2-11

2.5 Purpose and Need for the Project ..... 2-11

2.6 Estimated Costs and Schedule ..... 2-12

2.7 Required Permits and Approvals ..... 2-12

2.7.1 State of Hawai'i ..... 2-12

2.7.2 City and County of Honolulu ..... 2-12

2.8 Alternatives Considered ..... 2-12

2.8.1 No Action Alternative ..... 2-12

2.8.2 Alternative II: Lau'ula Street Automated Parking Garage ..... 2-12

2.8.3 Alternative III: One-Story Commercial Loft Development ..... 2-13

2.8.4 Alternative IV: Two-Story Commercial Building ..... 2-13

2.8.5 Alternative V: Three-Story Commercial Loft Development ..... 2-13

2.8.6 Alternative VI: Six-Story Boutique Hotel or Apartment Development – Preferred Alternative ..... 2-13

**Section 3 Existing Environment, Project Impacts, & Mitigation Measures** ..... 3-1

3.1 Climate ..... 3-1

3.2 Air Quality ..... 3-2

3.3 Flora and Fauna ..... 3-4

3.3.1 Flora ..... 3-4

3.3.2 Fauna ..... 3-4

3.4 Topography and Soils ..... 3-5

3.5 Water Resources and Hydrology ..... 3-9

3.5.1 Groundwater ..... 3-9

3.5.2 Surface Waters ..... 3-9
3.5.3 Wetlands ..... 3-10
3.6 Natural Hazards (Floods, Climate Change and Sea Level Rise, Tsunamis, Seismic Hazards, Hurricanes and High Winds) ..... 3-14
3.6.1 Flood Zones ..... 3-14
3.6.2 Climate Change and Sea Level Rise ..... 3-14
3.6.3 Tsunami ..... 3-16
3.6.4 Hurricanes and High Winds ..... 3-17
3.6.5 Seismic Hazards ..... 3-17
3.7 Noise ..... 3-23
3.8 Historic, Archaeological, and Cultural Resources ..... 3-23
3.9 Visual Resources ..... 3-26
3.10 Transportation Network and Traffic ..... 3-29
3.10.1 Roads ..... 3-29
3.10.2 Bus Service, Pedestrian and Bicycle Access ..... 3-29
3.11 Wastewater ..... 3-32
3.12 Potable Water ..... 3-32
3.13 Storm Drainage and Storm Water Quality ..... 3-32
3.13.1 Storm Drainage ..... 3-32
3.13.2 Storm Water Quality ..... 3-33
3.14 Power and Communications Facilities ..... 3-33
3.15 Police, Fire, and Medical Facilities ..... 3-34
3.15.1 Police ..... 3-34
3.15.2 Fire ..... 3-34
3.15.3 Medical Facilities ..... 3-34
3.16 Education Facilities ..... 3-36
3.17 Community Parks and Recreational Resources ..... 3-38
3.18 Socio-economic Environment ..... 3-40
3.19 Potential Cumulative and Secondary Impacts ..... 3-41
**Section 4 Conformance with Land Use Plans, Policies and Controls ..... 4-1**
4.1 Hawai'i State Plan ..... 4-1
4.2 Hawai'i State Land Use Law ..... 4-22
4.3 Hawai'i Coastal Zone Management Program ..... 4-25
4.3.1 Recreational Resources ..... 4-25
4.3.2 Historic Resources ..... 4-26
4.3.3 Scenic and Open Space Resources ..... 4-26
4.3.4 Coastal Ecosystems ..... 4-27
4.3.5 Economic Uses ..... 4-27
4.3.6 Coastal Hazards ..... 4-28
4.3.7 Managing Development ..... 4-28
4.3.8 Public Participation ..... 4-29

4.3.9 Beach Protection ..... 4-29
4.3.10 Marine Resources ..... 4-30
4.4 City and County of Honolulu General Plan ..... 4-30
4.4.1 Part II: The Economy ..... 4-31
4.4.2 Part III. Natural Environment and Resource Stewardship ..... 4-31
4.4.3 Part VII. Physical Development and Urban Design ..... 4-32
4.4.4 Part VII. Public Safety and Community Resilience ..... 4-33
4.5 City and County of Honolulu Primary Urban Center Development Plan ..... 4-33
4.5.1 Chapter 2. The Vision for the PUC's Future ..... 4-34
4.5.2 Chapter 3. Land Use and Transportation ..... 4-34
4.6 City and County of Honolulu Land Use Ordinance ..... 4-38
4.6.1 Off-Street Vehicle Parking ..... 4-38
4.6.2 Off-Street Loading Stalls ..... 4-38
4.6.3 Bicycle Parking ..... 4-38
4.7 City and County of Honolulu Waikīkī Special District ..... 4-41
4.7.1 Hawaiian Sense of Place ..... 4-41
4.7.2 Building Design ..... 4-42
4.7.3 Urban Design Controls ..... 4-45
4.8 City and County of Honolulu O'ahu Bike Plan: A Bicycle Master Plan ..... 4-48
4.9 City and County of Honolulu Special Management Area ..... 4-50
**Section 5 Agencies, Organizations, and Individuals Consulted ..... 5-1**
5.1 Pre-Assessment Consultation ..... 5-2
5.2 Waikīkī Neighborhood Board No. 9 Meeting ..... 5-2
5.3 Comments Received during the 30-day Public Comment Period for the Draft Environmental Assessment ..... 5-2
**Section 6 Summary of Findings and Preliminary Determination ..... 6-1**
6.1 Findings ..... 6-1
**Section 7 References ..... 7-1**

# List of Figures


Figure 1: Regional Map ..... 1-3
Figure 2: Location Map ..... 1-4
Figure 3: Close-Up Map ..... 1-5
Figure 4: Tax Map Key Map ..... 1-6
Figure 5: Tax Map Key Plat ..... 1-7
Figure 6: Existing Site – Street View ..... 1-8
Figure 7: Site Plan ..... 2-14
Figure 8: Building Floor Plans Levels 1-3 ..... 2-15
Figure 9: Building Floor Plans Levels 4-6 ..... 2-16
Figure 10: Topography Map ..... 3-7
Figure 11: Soils Map ..... 3-8
Figure 12: Oʻahu Groundwater ..... 3-11
Figure 13: Oʻahu Freshwater ..... 3-12
Figure 14: Hydrologic Units ..... 3-12
Figure 15: Water Quality Standards Map ..... 3-13
Figure 16: State of Hawaiʻi Seismicity ..... 3-18
Figure 17: Flood Zones ..... 3-19
Figure 18: PACIOOS Sea Level Rise Exposure Area (SLR-XA) - 3.2 feet ..... 3-20
Figure 19: NOAA Sea Level Rise Viewer – 3-6 feet ..... 3-21
Figure 20: Tsunami Evacuation Zone ..... 3-22
Figure 21: Development Plan Significant Panoramic Views ..... 3-28
Figure 22: Bus Stop and Route Map ..... 3-31
Figure 23: Police, Fire, and Medical Facility Map ..... 3-35
Figure 24: Public Schools and Public/Private University Map ..... 3-37
Figure 25: Community Park Map ..... 3-39
Figure 26: State Land Use Map ..... 4-24
Figure 27: Primary Urban Center Development Plan Land Use Map ..... 4-36
Figure 28: Primary Urban Center Public Infrastructure Map ..... 4-37
Figure 29: Primary Urban Center Public Infrastructure Map (Supplemental Map) ..... 4-37
Figure 30: City and County of Honolulu Zoning Map ..... 4-40
Figure 31: Waikīkī Special District Zoning Precincts ..... 4-46
Figure 32: Waikīkī Special District Urban Design Controls ..... 4-47
Figure 33: Oʻahu Bikeway Network (Downtown to Waikīkī) Map ..... 4-49
Figure 34: City and County of Honolulu Special Management Area Map ..... 4-51

# List of Tables

Table 1: Selected Population and Housing Characteristics ..... 3-40
Table 2: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies ..... 4-1
Table 3: Hawai'i State Plan Part 3. Priority Guidelines ..... 4-16
Table 4: Number of Loading Stalls- LUO Required vs. Project Proposed ..... 4-38
Table 5: Number of Bicycle Stalls- LUO Required vs. Project Proposed ..... 4-38
Table 6: Resort Mixed Use Precinct Development Standards ..... 4-41

# List of Appendices


| | |
|---|---|
| Appendix A. | Drawings |
| Appendix B. | Pre-Consultation Responses |
| Appendix C. | Waikīkī Neighborhood Board No. 9 Minutes, January 14, 2020 |
| Appendix D. | *2154 Lauʻula Street Development – Traffic Assessment*, Wilson Okamoto Corporation, October 2019 |
| Appendix E. | *Draft Cultural Impact Assessment Report for the 2154 Lauʻula Street Development*, Honua Consulting, January 2020 |
| Appendix F. | *Archaeological Literature Review and Field Inspection for Construction of a Commercial Loft at 2154 Lauʻula Street, Waikīkī Ahupuaʻa, Kona (Honolulu) District, Oʻahu Island, TMK: [1[ 2-6-018: 049* |
| Appendix G. | Topographic Survey |

# Acronyms and Abbreviations

| Acronym | Meaning |
|---|---|
| **ACHP** | Advisory Council on Historic Preservation |
| **ADA** | Americans with Disabilities Act |
| **ADAAG** | Americans with Disabilities Act Accessibility Guidelines |
| **AIS** | Archaeological Inventory Survey |
| **ANSI** | American National Standards Institute |
| **APE** | Area of Potential Effect |
| **BMPs** | Best Management Practices |
| **BPH** | Bike Plan Hawai'i |
| **CAA** | Federal Clean Air Act |
| **CIAR** | Cultural Impact Assessment Report |
| **City, CCH** | City and County of Honolulu |
| **CFR** | Code of Federal Regulations |
| **CWA** | Clean Water Act of 1972, as amended |
| **CWB** | Clean Water Branch, DOH |
| **CWRM** | Commission on Water Resource Management, DLNR |
| **CZM** | Coastal Zone Management |
| **CZMA** | Coastal Zone Management Act |
| **CZMP** | Coastal Zone Management Program |
| **DAR** | Division of Aquatic Resources, DLNR |
| **dB** | Decibel |
| **DBEDT** | State of Hawai'i, Department of Business, Economic Development & Tourism |
| **DEA** | Draft Environmental Assessment |
| **DLNR** | State Department of Land and Natural Resources |
| **DOE** | State Department of Education |
| **DOFAW** | Division of Forestry and Wildlife, DLNR |
| **DOH** | Department of Health, State |
| **DP** | Development Plan (of the City, DPP) |
| **DPP** | Department of Planning and Permitting, City |
| **DPR** | Department of Parks and Recreation, City |
| **DTS** | Department of Transportation Services, City |
| **EA** | Environmental Assessment |
| **ESCP** | Erosion and Sediment Control Plan |
| **EIS** | Environmental Impact Statement |
| **EO** | Executive Order |
| **EPA** | Environmental Protection Agency |
| **ESA** | Endangered Species Act |
| **F** | Fahrenheit |
| **FEA** | Final Environmental Assessment |
| **FEMA** | Federal Emergency Management Agency |

| Acronym | Meaning |
|---|---|
| **FIRM** | Flood Insurance Rate Map |
| **FHWA** | Federal Highway Administration |
| **FONSI** | Finding of No Significant Impact |
| **GHG** | Greenhouse Gas |
| **GP** | General Plan |
| **HAR** | Hawai'i Administrative Rules |
| **HART** | Honolulu Authority for Rapid Transit |
| **HDOT** | State Department of Transportation |
| **HECO** | Hawaiian Electric Company |
| **HHFDC** | Hawai'i Housing Finance Development Corporation |
| **HPD** | Honolulu Police Department |
| **HRS** | Hawai'i Revised Statutes |
| **HSTP** | Hawai'i Statewide Transportation Plan |
| **IBC** | International Building Code |
| **ICAC** | Interagency Climate Adaptation Committee |
| **LID** | Low Impact Development |
| **LUO** | Land Use Ordinance |
| **LOS** | Level of Service |
| **LRFD** | Load Resistance Factor Design |
| **LRFI** | Literature Review and Field Inspection |
| **MOA** | Memorandum of Agreement |
| **mph** | Miles Per Hour |
| **msl** | Mean Sea Level |
| **NAAQS** | National Ambient Air Quality Standards |
| **NEPA** | National Environmental Policy Act |
| **NHO** | Native Hawaiian Organization |
| **NHPA** | National Historic Preservation Act |
| **NOAA** | National Oceanic and Atmospheric Administration |
| **NPDES** | National Pollutant Discharge Elimination System |
| **NRHP** | National Register of Historic Places |
| **OEQC** | Office of Environmental Quality Control |
| **OMPO** | O'ahu Metropolitan Planning Organization |
| **OP** | Office of Planning, State |
| **OTS** | O'ahu Transit Services, City |
| **PUC** | Primary Urban Center |
| **RMTC** | R. M. Towill Corporation |
| **ROH** | Revised Ordinances of Honolulu |
| **ROW** | Right-of-Way |
| **SCA** | Sewer Connection Application |
| **SCP** | Sustainable Communities Plan (of the City, DPP) |
| **SHPD** | State Historic Preservation Division, DLNR |
| **SHPO** | State Historic Preservation Officer, DLNR |

| Acronym | Meaning |
|---|---|
| **SIHP** | State Inventory of Historic Places |
| **SLH** | Session Laws of Hawai'i |
| **SLR** | Sea Level Rise |
| **SLUD** | State Land Use District |
| **SMA** | Special Management Area |
| **SOBA** | Southern O'ahu Basal Aquifer |
| **SOEST** | School of Ocean and Earth Science and Technology, University of Hawai'i |
| **SSA** | Shoreline Setback Area |
| **SWQ** | Stormwater Quality |
| **TMK** | Tax Map Key |
| **TOD** | Transit-Oriented Development |
| **UH** | University of Hawai'i |
| **USACE** | U. S. Army Corps of Engineers |
| **USDA** | U. S. Department of Agriculture |
| **USFWS** | U. S. Fish and Wildlife Service |
| **USGS** | U. S. Geological Survey |
| **vph** | Vehicles per hour |
| **WOUS** | Waters of the United States |

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## Section 1

# Introduction

# Section 1 Introduction

## 1.1 Purpose of Environmental Assessment

The purpose of this Draft Environmental Assessment (DEA) is to comply with the Hawai'i Environmental Review process. It is prepared in accordance with Hawai'i Revised Statues (HRS) Chapter 343, Environmental Impact Statements and Hawai'i Administrative Rules (HAR) 11-200.1 Environmental Impact Statement Rules.

Pursuant to HRS, Chapter 343, Section 343-5, *Applicability and Requirements*, an environmental assessment is required for actions that, "propose any use within the Waikīkī area of O'ahu". Thus, the proposed project triggers the requirements of Chapter 343, HRS.

The Applicant, Waikīkī Bazaar Inc. (WB), intends to process approvals and entitlements for the proposed project under ROH, Chapter 21, *Land Use Ordinance* (LUO), which requires that all development within special districts obtain a Special District Permit. The proposed project is within the Waikīkī Special District (WSD). Therefore, in addition to satisfying the requirements of Chapter 343, the Draft EA also serves as the ROH, Chapter 21 application agency/public comment document.

## 1.2 Project Information Summary

| | |
|---|---|
| **Type of Document:** | Environmental Assessment |
| **Project Name:** | Hale Lau'ula |
| **Applicant:** | Waikīkī Bazaar Inc.<br>1288 Kapi'olani Boulevard, Apt. I-4603<br>Honolulu, Hawai'i 96814-2888 |
| **Landowner:** | Waikīkī Bazaar Inc.<br>1288 Kapi'olani Boulevard, Apt. I-4603<br>Honolulu, Hawai'i 96814-2888 |
| **Approving Agency:** | Department of Planning & Permitting<br>City and County of Honolulu<br>650 South King Street, 7th Floor<br>Honolulu, Hawai'i 96813 |
| **Agent:** | R.M. Towill Corporation<br>Keith Kurahashi, Principal Planner<br>2024 North King Street, Suite 200<br>Honolulu, Hawai'i 96819-3494<br>Phone (808) 748-7480 |

| | |
|---|---|
| **Location:** | 2154 Lau'ula Street<br>Honolulu, HI 96815<br>(Figure 1-3) |
| **Tax Map Key:** | (1) 2-6-018: 049 (**Figure 5**) |
| **Lot Area:** | 5,355 square feet |
| **State Land Use Classification:** | Urban (**Figure 25**) |
| **City and County of Honolulu:** | |
| **Zoning:** | Resort Mixed Use Precinct (**Figure 29**) |
| **Special District:** | Waikīkī Special District (**Figure 30**) |
| **Development Plan:** | Primary Urban Center |
| **Land Use Map:** | Resort (**Figure 26**) |
| **Height Limit:** | 280-feet |
| **Special Management Area (SMA):** | Not within SMA (**Figure 33**) |
| **Flood Zone:** | Zone AO (**Figure 17**) |
| **Tsunami Zone:** | Within Tsunami Evacuation Zone (**Figure 19**) |
| **Existing Use:** | Paid public parking lot |
| **Proposed Action:** | WB will replace the existing parking lot with a six-story, 16-unit, 28-bed boutique hotel or apartment building. |
| **Agencies Consulted Prior To Preparation of Draft Environmental Assessment:** | See **Section 5.1** |

**Figure 1: Regional Map**

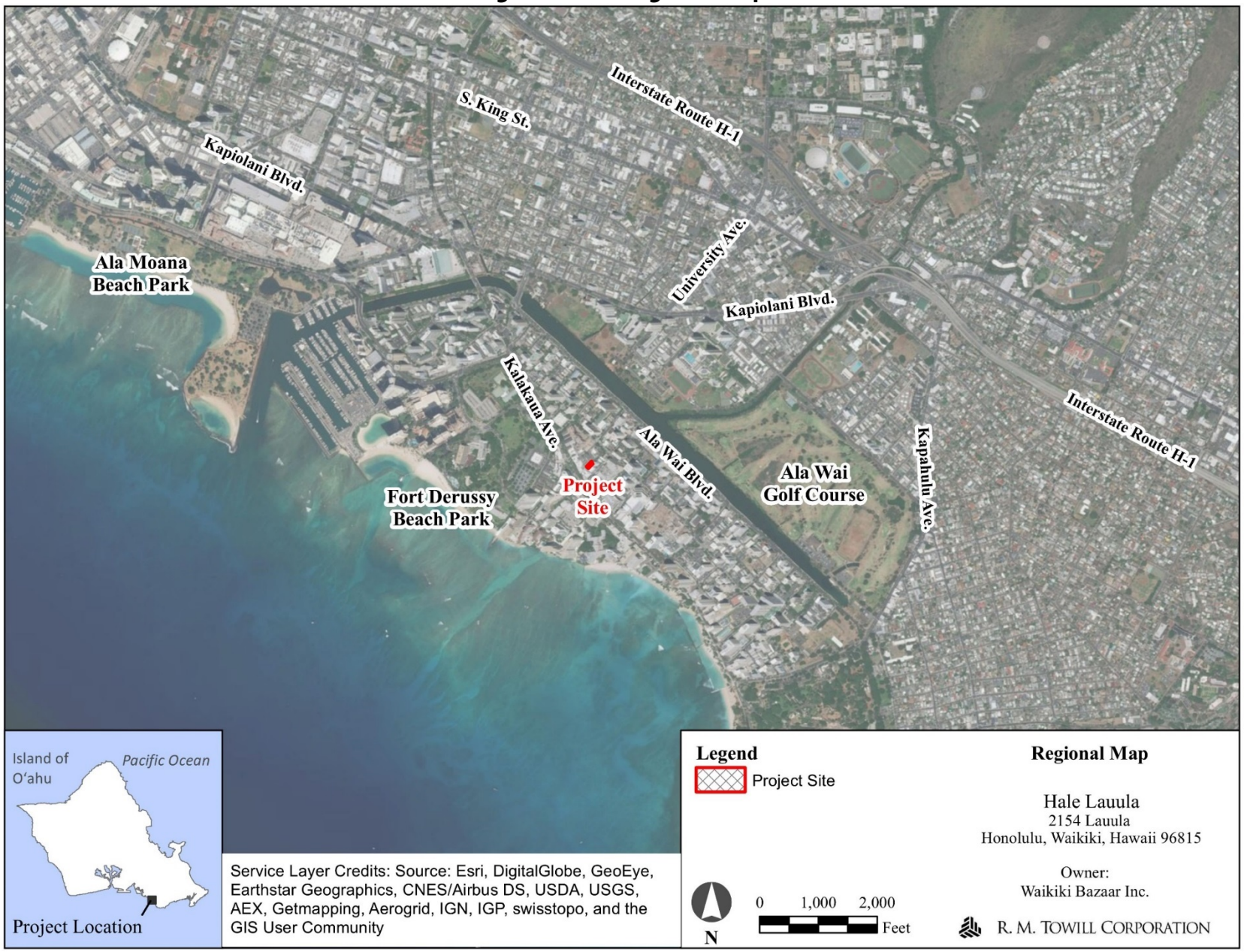

**Figure 2: Location Map**

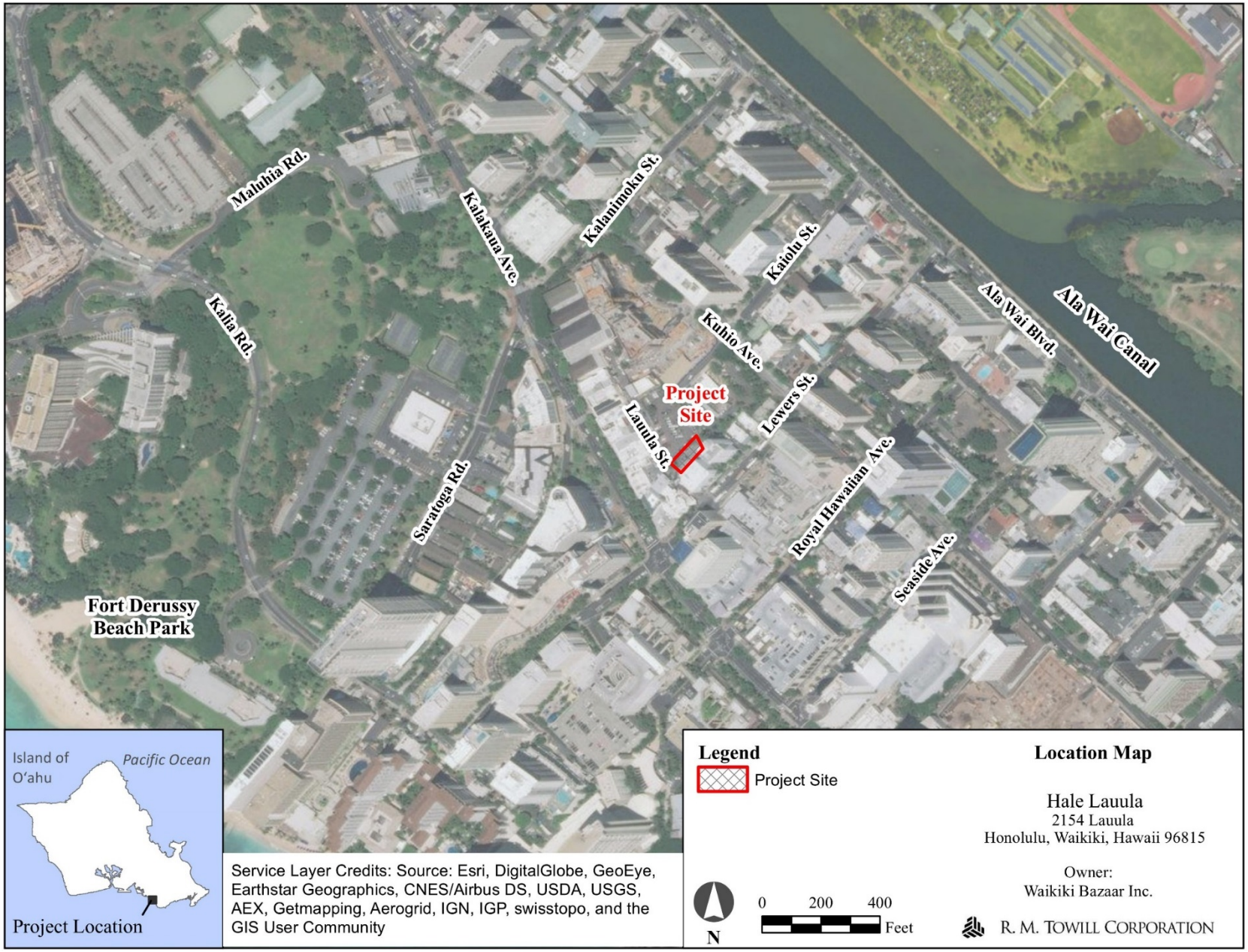

**Figure 3: Close-Up Map**

**Figure 4: Tax Map Key Map**

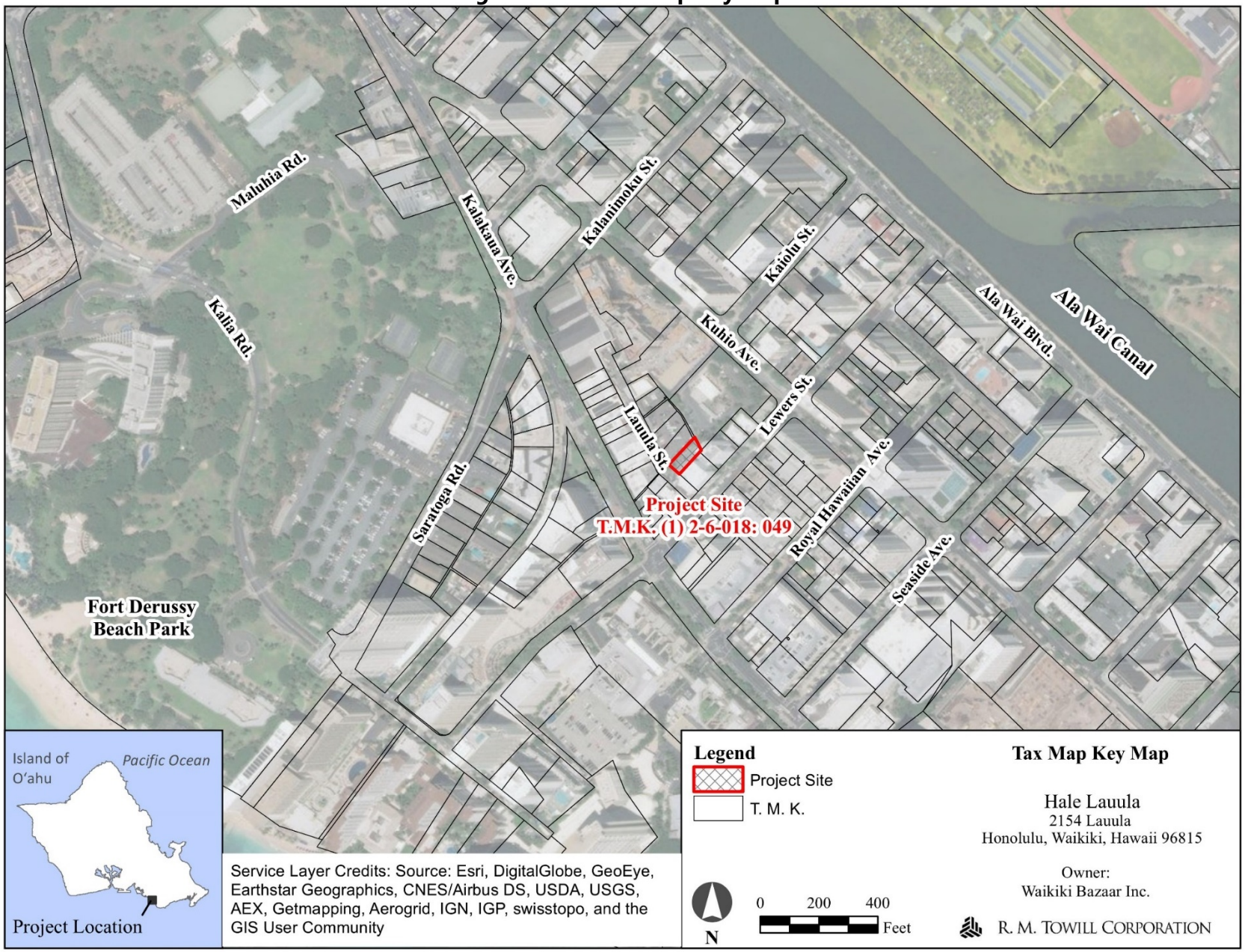

**Figure 5: Tax Map Key Plat**

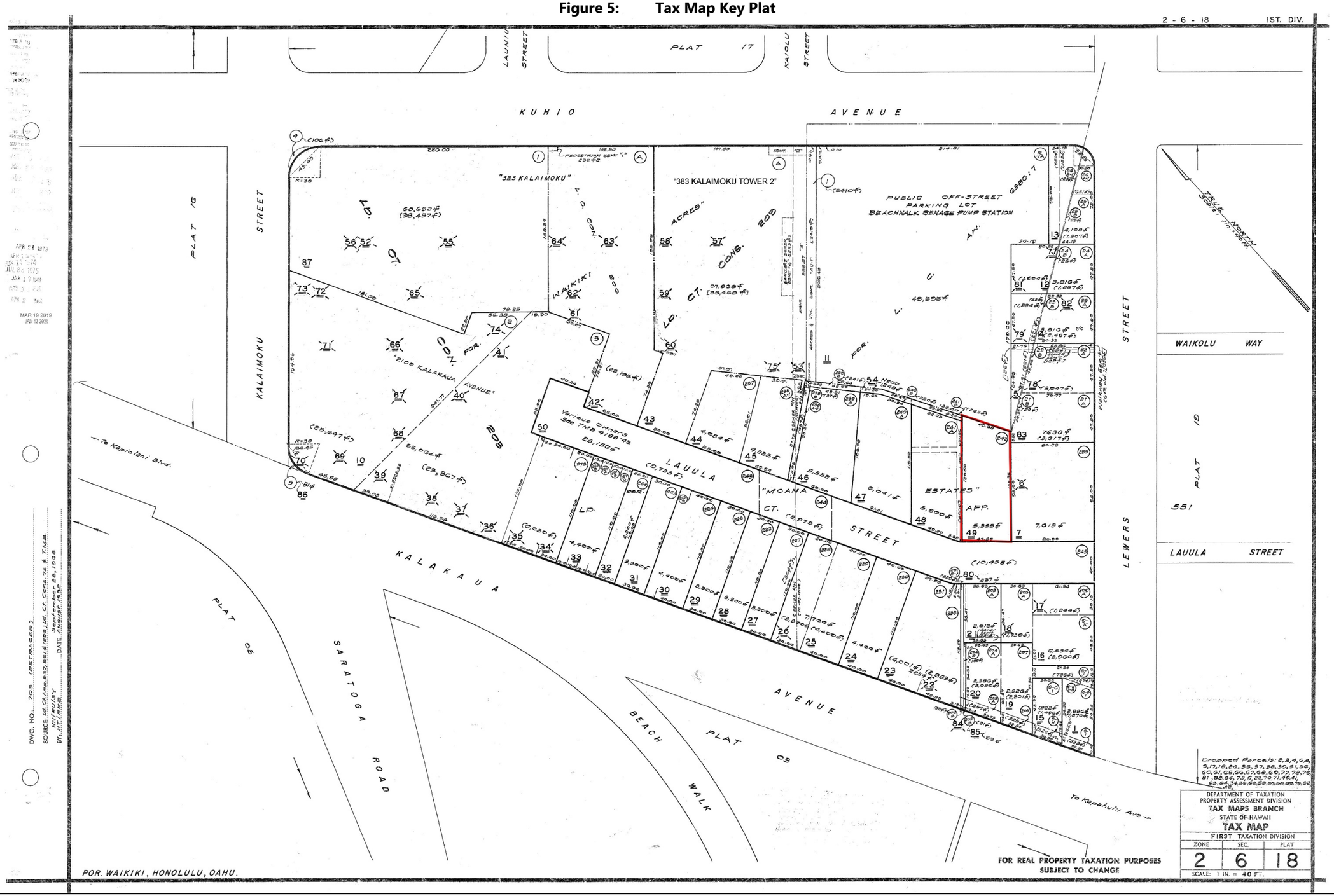

**Figure 6: Existing Site – Street View**

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## Section 2

# Project Description

# Section 2 Project Description

## 2.1 Description of Proposed Action

WB proposes to develop Hale Lauʻula (the "Project"), a 6-story structure with a 16-unit, 28-bed boutique hotel or apartment building, on Tax Map Key: (1) 2-6-018: 049 (the "Project Site"), a 5,355 square feet parcel. The Project Site is approximately 120-feet deep and 50-feet wide.

WB will replace the existing surface commercial parking lot with a six-story, 16-unit, 28-bed boutique hotel or apartment building. The first level includes the lobby, vehicle parking stalls, bicycle racks, loading spaces, and landscaping. Level 2 will include a Prep-Kitchen, indoor and outdoor seating, a lounge area, mailboxes, front desk, unisex bathroom, vending machines, office, laundry room, janitor's closet, storage, mechanical room, two decks, and a landscaped recreation area. Level 3-6 will include 4-units per floor for a total of 16-units.

## 2.2 Project Location

The Project Site is located in Waikīkī on the Island of Oʻahu, at the address 2154 Lauʻula Street, Honolulu, Hawaiʻi 96815. The Project Site is bounded by Lauʻula Street to the Southwest, the Ritz Carlton (Phase II) to the northwest, the City and County of Honolulu Sewage Pump Station and Municipal Parking Lot to the northeast and Aqua Oasis Hotel to the southeast. Directly across Lauʻula Street from the Project Site are buildings with primarily commercial uses. The Project Site is accessed by a driveway on Lauʻula Street. See **Figure 1-3** for location maps.

## 2.3 Existing and Surrounding Uses

The Project Site is comprised of a small surface parking space of 13 parking stalls and a covered pay station. The parking lot is owned by Waikīkī Bazaar Inc. There is an existing Minor Conditional Use Permit for Off-site parking (DPP File No. 2004/CUP-4) for the Project Site. See **Figure 6** for a Google Earth Street View image of the existing site.

## 2.4 Land Ownership

The Project Site is owned by Waikīkī Bazaar Inc. Lauʻula Street is a privately-owned street with various owners.

## 2.5 Purpose and Need for the Project

The proposed Project is needed to better utilize the property and bring it up to its highest and best use. The owner, Waikīkī Bazaar Inc., has operated a 13-stall surface parking lot for over 20 years and felt it was time to redevelop the property , to better address the City's plans and objectives for the Waikīkī District. The Project would effectively utilize the limited space that is anticipated to result in the support of the local economy and improvements to the Lauʻula Street corridor.

The proposed action would fulfill the City's objectives and plans to be consistent with the land

use and improve the Lauʻula streetscape for a more vibrant and livable Waikīkī. The new hotel or apartment building will support economic opportunities and promote an interest to residents and visitors.

## 2.6 Estimated Costs and Schedule

The construction of the Project is anticipated to begin in 2022 after receipt of all required permits and approvals. Construction is estimated to be completed in approximately 16 months. The total project costs are estimated to be $7,000,000.00.

## 2.7 Required Permits and Approvals

The following is a list of permits and approvals that may be required:

### 2.7.1 State of Hawaiʻi

- Department of Health: Construction Noise Permit; Archaeological Inventory Survey (AIS); Burial Treatment Plan (if needed); and, National Pollutant Discharge Elimination System (NPDES) permit for construction activities and storm water discharge

### 2.7.2 City and County of Honolulu

- Department of Planning and Permitting: Chapter 343, HRS; WSD Permit, Major, Conditional Use Permit, Major, Surface Encroachment Variance; Subdivision for Pedestrian Easement; Sidewalk Variance; Building Permits; Trenching Permit; Grading Permit; Drain Connection Permit; Street Usage Permit; Sign Master Plan (Zoning Adjustment); Sewer Connection Application; and Construction Plan Approval.
- Honolulu Board of Water Supply: Water Connection
- Honolulu Fire Department: Plan Review

## 2.8 Alternatives Considered

### 2.8.1 No Action Alternative

The "No Action" alternative would involve no further effort to redevelop the small parking lot in Waikīkī. The possibility of taking no action would fail to achieve the property's highest and best use. The current Project Site is only used for a limited amount of parking space, which underutilizes the space that could be better used to improve the Project Site in accordance with City and State plans. Under the "No Action" alternative, potential environmental impacts, such as changes to the landscape would be averted, and natural resources, human resources, and development costs would be avoided. However, the "No Action" alternative would fail to address the City's objectives to support the economic activity and growth in Hawaiʻi by managing and enhancing the income-generating potential of the lands within the Waikīkī District.

### 2.8.2 Alternative II: Lauʻula Street Automated Parking Garage

Alternative II design was to develop a 15-tier parking structure including the electrical machine hoist. The parking structure would be approximately 115 feet tall with a parking capacity of 84

stalls. This alternative would greatly increase the parking capacity for the Waikīkī community. This option would not be pursued further due to the zoning variance setback requirements. The zoning variance for structures after 40 feet would need to have a 1 to 10 ratio setback. The setback would require the building to be angled and require major changes to the design of the automated parking garage.

### 2.8.3 Alternative III: One-Story Commercial Loft Development

Alternative III, was to develop a retail development in a one-story commercial building of about 3,680 square feet within a 5,355-square foot lot in Waikīkī. The commercial building was designed to be approximately 33 feet tall and includes a screened trash enclosure and a small loading stall. The 15-foot front yard includes an electrical transformer, a driveway and landscaping, along with stairs and an Americans with Disabilities Act (ADA) accessible ramp from the new sidewalk leading to the elevated entryway of the retail structure. Commercial outlets in Waikīkī are dependent on foot traffic and Lauula Street with no significant destinations has limited foot traffic near the Project Site.

### 2.8.4 Alternative IV: Two-Story Commercial Building

Alternative IV was to develop a retail development of a two-story commercial building of about 7,660 gross square feet within a 5,355-square foot lot in Waikīkī. The commercial building will be approximately 40 feet tall. The first floor consisted of a lobby, bike racks, and parking and loading stalls. The second floor was designated for the loft with an outdoor lanai. The 15-foot front yard will include an electrical transformer, a driveway and landscaping, along with stairs and an Americans with Disabilities Act ("ADA") ramp from the new sidewalk leading to the elevated entryway of the retail structure. Commercial outlets in Waikīkī are dependent on foot traffic and Lauula Street with no significant destinations has limited foot traffic near the Project Site. Second floor commercial space is difficult to market, unless connected to a ground floor commercial use.

### 2.8.5 Alternative V: Three-Story Commercial Loft Development

Alternative V, three-story commercial loft development was planned to be approximately 3,000 square feet that included first floor parking, a rear automated parking structure, outdoor dining area, and the two commercial loft floors. This option was not pursued due to the WB's withdrawal of the request and variance requirements. Commercial outlets in Waikīkī are dependent on foot traffic and Lauula Street with no significant destinations has limited foot traffic near the Project Site. Second and third floor commercial space is difficult to market, unless connected to a ground floor commercial use.

### 2.8.6 Alternative VI: Six-Story Boutique Hotel or Apartment Development – Preferred Alternative

Alternative VI, the "Preferred Alternative" is to develop a six-story structure with a 16-unit, 28-boutique hotel or apartment building within a 5,355 square feet lot in Waikīkī. The "preferred alternative" is described further in Section **2.1 Description of Proposed Action**.

The Preferred Alternative will provide improved utilization of the parcel in Waikīkī that meets the City and State plans for Waikīkī development.

**Figure 7: Site Plan**

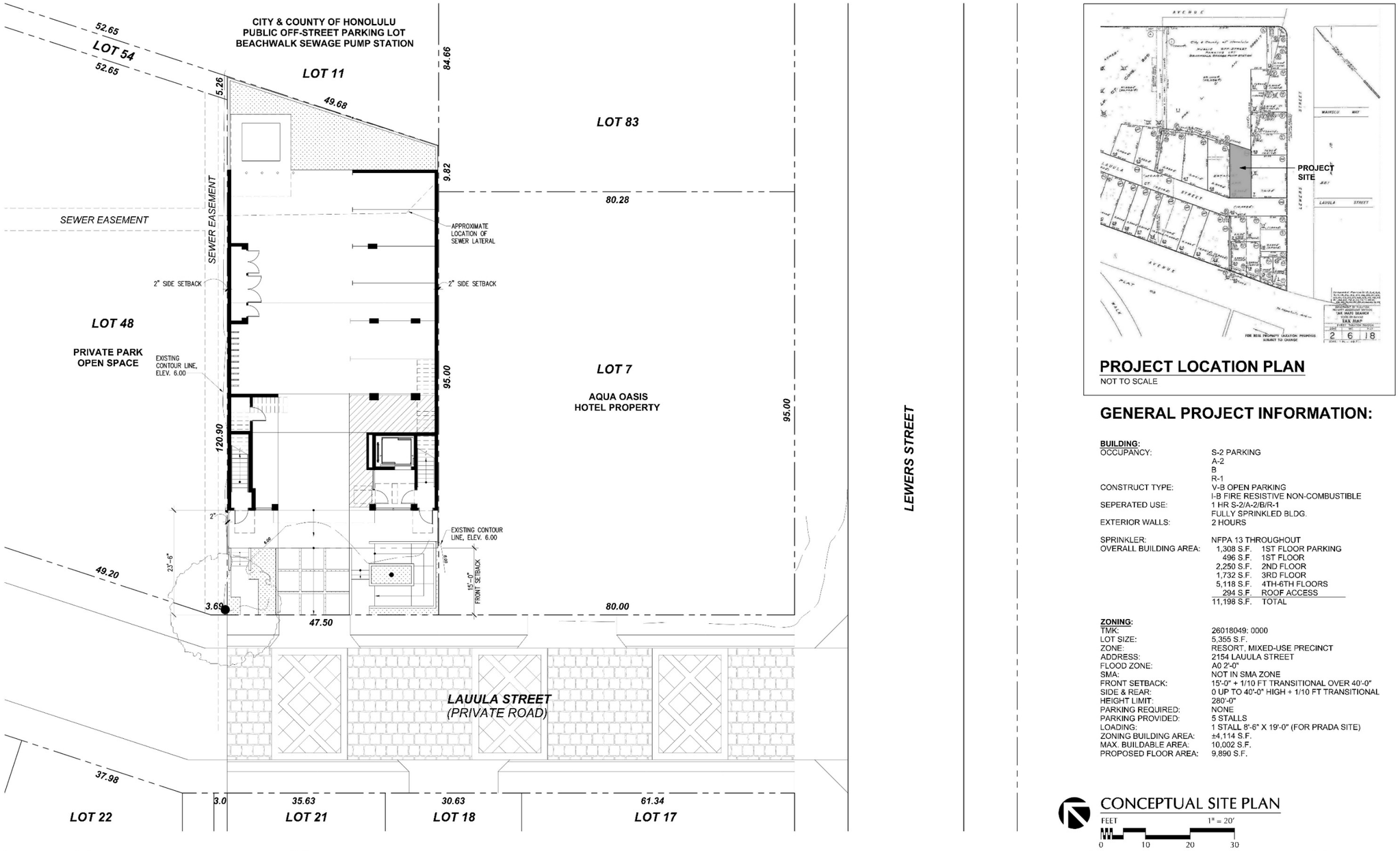
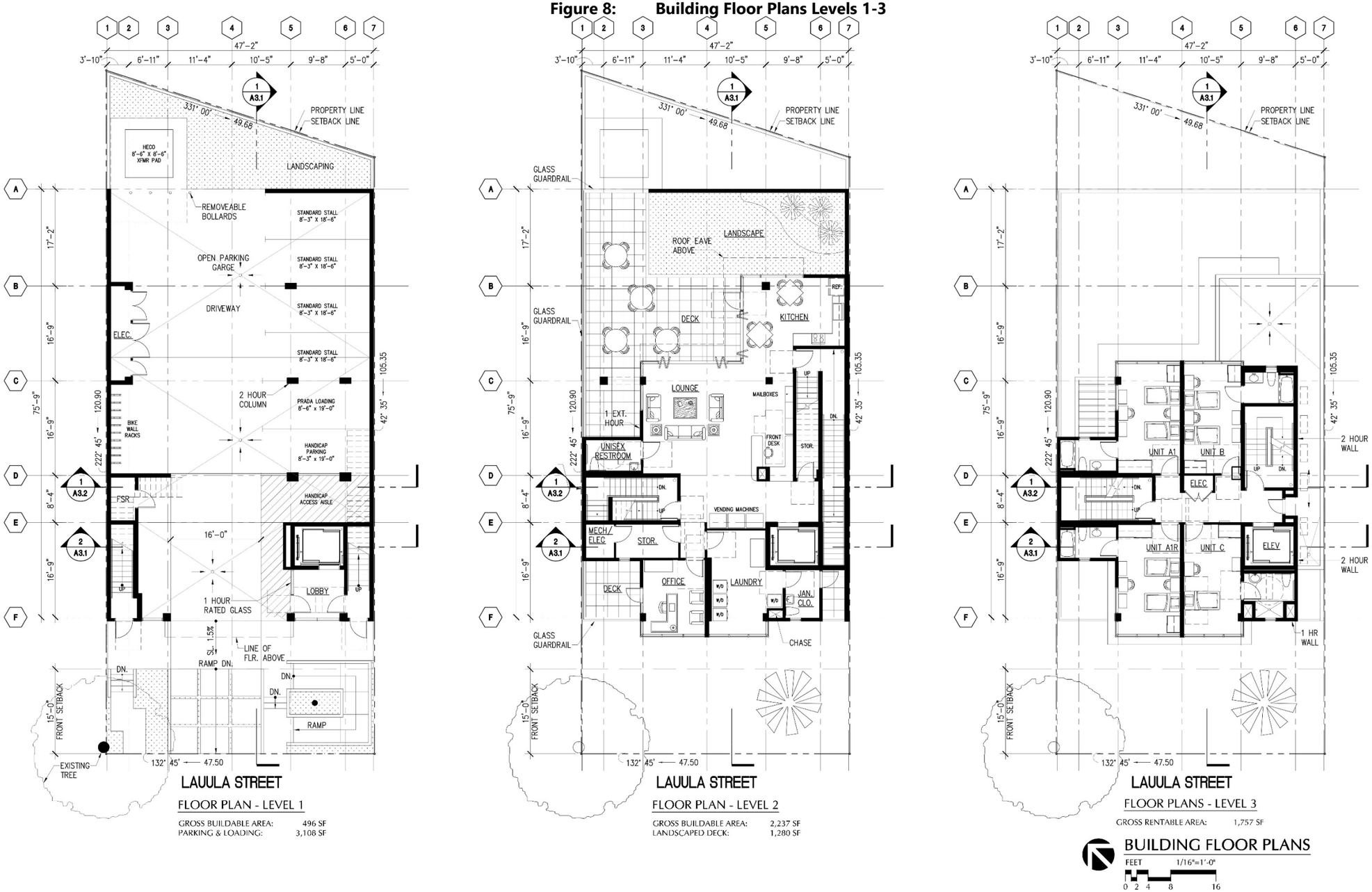


**Figure 8: Building Floor Plans Levels 1-3**




Conceptual Design

HALE LAUULA
2154 Lauula Street
Honolulu, Hawaii 96815

KY International Inc.
Architects and Planners
1100 Alakea Street, Suite 1988
Honolulu, Hawaii 96813
Telephone 808-524-1268
Facsimile 808-599-8881

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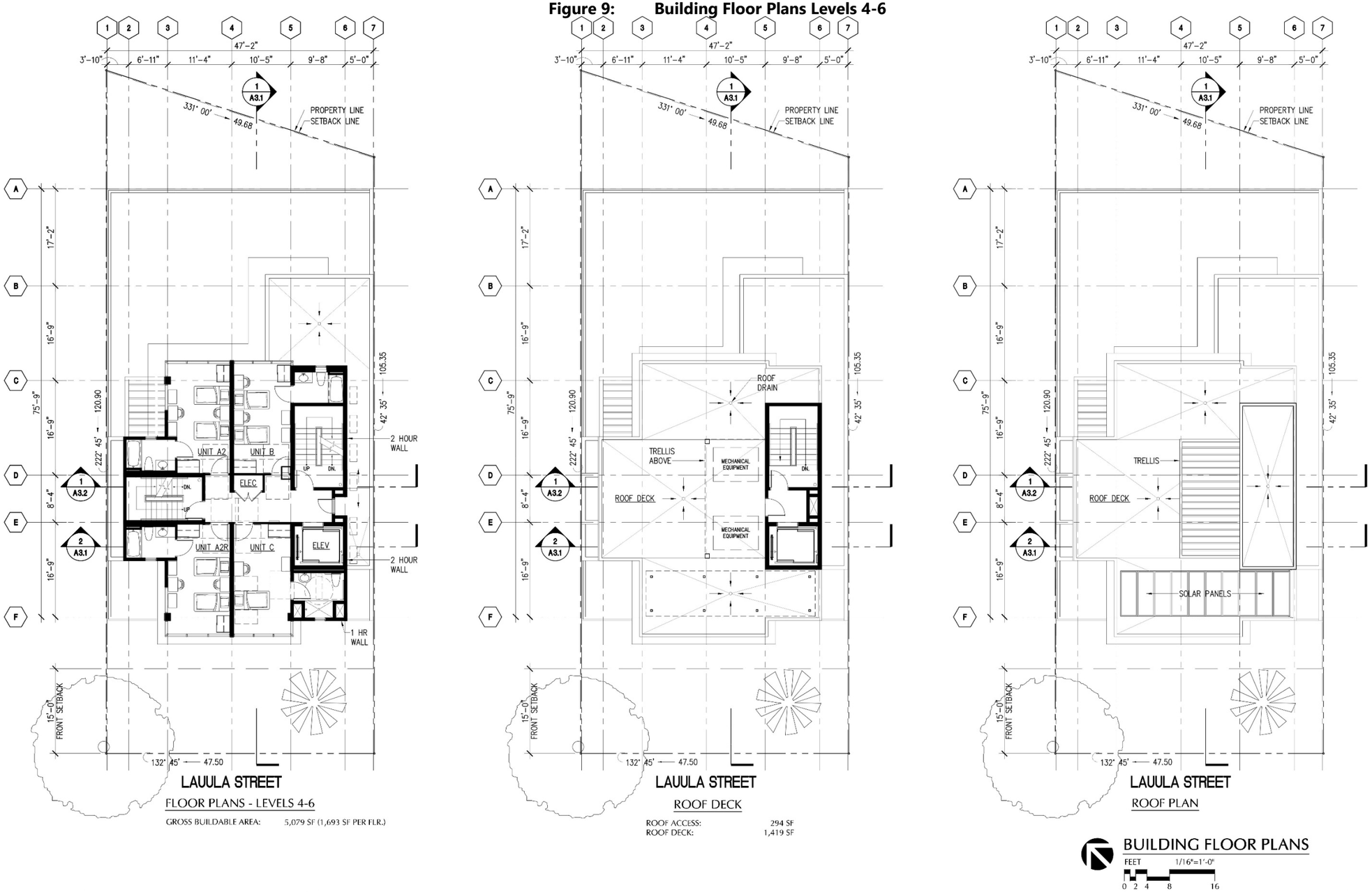
**Figure 9: Building Floor Plans Levels 4-6**

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2154 Lauula Street
Honolulu, Hawaii 96815

KY International Inc.
Architects and Planners
1100 Alakea Street, Suite 1988
Honolulu, Hawaii 96813
Telephone 808-524-1268
Facsimile 808-599-8881

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## Section 3

# Existing Environment, Project Impacts, & Mitigation Measures

# Section 3 Existing Environment, Project Impacts, & Mitigation Measures

## 3.1 Climate

The climate of the Honolulu District is typically warm and dry. Prevailing trade winds arrive from the northeast. According to the National Weather Service Honolulu Office, over a period of 30 years, normal monthly high temperatures range from 80 degrees Fahrenheit (F) in January to a high of 89 degrees F in August for an annual average of 84 degrees F. Normal month low temperatures range from a low of 65 degrees F in February and a high of 74 degrees F in August for a monthly average of 70 degrees F. Precipitation typically ranges from 0.44 inches in August to a high of 3.8 inches in December. The annual average rainfall in Honolulu is 70 inches per year.

According to findings by researchers at the University of Hawai'i (IPRC, 2013, var.), the effects of climate change are increasingly evident in Hawai'i: air temperature has risen; rain intensity has increased while total rainfall has decreased; stream flows have decreased; sea surface temperatures and sea levels have increased; and the ocean is becoming more acidic (SB No. 2745, 2012). Research is also in agreement that greenhouse gas (GHG) emissions, including carbon dioxide, methane, nitrous oxide, and fluorinated gases, are a key contributor to the unprecedented increases in global atmospheric warming over the past century (USEPA, 2011 and IPRC, 2013). These trends are projected to continue to increase in the future posing unique and considerable challenges to Hawai'i. Research at the University of Hawai'i, School of Ocean and Earth Science and Technology (SOEST) indicates that sea level has risen in Hawai'i by approximately 0.6 inches per decade (1.5 millimeter per year) over the past century (SOEST, 2012). The estimates point to a potential aggregate rise of 1.3 feet (40 centimeter) by the year 2060 and a rise of 3.3 feet (100 centimeter) by 2110. See **Section 3.6.2** for further discussion on climate change and it's impacts on sea level rise.

**Project Impacts and Mitigation**

During construction, trade winds and windy weather conditions have the potential to carry some dust from the Project Site to surrounding properties. Construction Best Management Practices (BMPs) as outlined in **Section 3.2 Air Quality** to control dust will be employed.

On the long-term, the proposed project is not anticipated to result nor constitute a source of impact to rainfall resources or the climate of the project area or region. The proposed project would result in an increase of residents to the area, which would result in a potential increase in vehicles thereby increasing the generation of GHGs. However, it is expected that residents would be local or already living on the island and would therefore not constitute a new generation of GHG emissions. Mitigation measures to minimize long-term impacts of the project on climate include the implementation of low impact development (LID) stormwater measures such as roof gardens and a green belt and landscaping such as street

trees, shrubs, and ground cover to minimize heat gain and terracing of graded areas to prevent erosion from storm events. The use of drought-tolerant plants will be encouraged to minimize the use of potable water for irrigation.

## 3.2 Air Quality

The Federal Clean Air Act (CAA), as amended, is the primary federal law that governs air quality, while the Hawai'i Air Pollution Control Act is its companion state law. These laws and related regulations by the United States Environmental Protection Agency (EPA) and the Hawai'i DOH, Clean Air Branch, set the standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and State ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide ($NO_2$) ozone ($O_3$), particulate matter (PM), which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM) and particles of 2.5 micrometers and smaller (PM2.5), and sulfur dioxide ($SO_2$). The NAAQS and State standards are set at levels that protect public health with a margin of safety and are subject to periodic review and revision. Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under NEPA.

O'ahu is in attainment of both Federal and State air quality standards. Readings at the Honolulu monitoring station operated by the State of Hawai'i DOH, located approximately 2.5 miles north of the Project Site, show that criteria pollutants were below state and federal ambient air quality standards. Air quality in the vicinity of the Project presently is mostly affected by emissions from vehicular sources which emit carbon monoxide, nitrogen oxides, hydrocarbons, and other air pollutants.

**Project Impacts and Mitigation**

Potential short-term direct and indirect impacts on air quality could occur during Project construction activities. There are two potential types of air pollution emissions that could directly result in short-term air quality impacts during Project demolition and construction phases: (1) fugitive dust from building demolition, soil excavation, aggregate processing and vehicle movement; and (2) exhaust emissions from on-site construction equipment. There are also indirect, short-term air quality impacts from the disruption of traffic on nearby roadways, from slow moving construction equipment traveling to and from the Project Site, and from a temporary increase in local traffic caused by commuting construction workers.

Fugitive dust, or airborne particulate matter, can be generated from exposed soils and construction traffic on unpaved surfaces. Fugitive dust emissions from demolition and construction activities are difficult to estimate accurately because of their elusive nature of emission and because the potential for dust generation varies greatly depending upon the type of soil at the construction site, the amount and type of dirt-disturbing activity taking place, the moisture content of exposed soil in work areas, and the wind speed. The U.S. EPA has provided a rough estimate for uncontrolled fugitive dust emissions from construction activity of 1.2 tons per acre per month under conditions of "medium" activity, moderate soil

silt content (30%), and precipitation/evaporation (P/E) index of 50. Uncontrolled fugitive dust emissions from Project demolition and construction work would likely be somewhere near this level. State DOH air pollution control regulations require that there be no visible fugitive dust emissions at the project boundary. Therefore, an effective dust control plan will be implemented by the project contractor to ensure compliance with state regulations. Fugitive dust emissions will be controlled to a large extent by watering of active work areas, using dust screens, keeping adjacent paved roads clean, and by covering open-bodied trucks. Adequate fugitive dust control can usually be accomplished by the establishment of a frequent watering program to keep bare-dirt surfaces in active construction areas from becoming significant sources of dust. On days without rainfall, construction areas will be watered at least twice during the workday to help keep dust to a minimum. Control regulations will further stipulate that open-bodied trucks be covered at all times when in motion if they are transporting materials likely to give rise to airborne dust. Haul trucks tracking dirt onto paved streets from unpaved areas are oftentimes a significant source of dust in construction areas. Some means to alleviate this problem, such as tire washing or road cleaning, may be appropriate. Dust monitoring will be considered as a means to quantitatively evaluate the effectiveness of dust control measures.

In addition to fugitive dust, short-term effects due to exhaust emissions from stationary and mobile heavy construction equipment, land clearing, excavation, and roadway paving activities may also affect air quality during the period of construction. The largest of this equipment is usually diesel-powered. Nitrogen oxides emissions from diesel engines can be relatively high compared to gasoline powered equipment, but the standards for nitrogen dioxide are set on an annual basis and are not likely to be violated by short term construction equipment emissions. Also, the short-term (1- hour) standard for nitrogen dioxide is based on a three-year average; thus it is unlikely that relatively short-term construction emissions would exceed the standard. Carbon monoxide emissions from diesel engines, on the other hand, are low and should be relatively insignificant compared to vehicular emissions on nearby roadways. Indirectly, slow-moving construction vehicles on roadways leading to and from the Project Site could obstruct the normal flow of traffic to such an extent that overall vehicular emissions increase. Exhaust emissions will be mitigated by ensuring that project contractors properly maintain their internal combustion engines and comply with DOH Rules Title 11, Chapter 59 and 60, regarding Air Pollution Control. Additionally, the contractor would move heavy construction equipment during periods of low traffic volume. Likewise, the schedules of commuting construction workers may be adjusted as needed to avoid peak hours in the Project vicinity.

Long-term impacts on air quality from motor vehicle exhausts can potentially occur at or near locations that attract large volumes of motor vehicle traffic. Carbon monoxide emissions, especially at public areas near traffic-congested intersections, are of particular concern. The proposed Project will be accessed from a driveway off of Lau'ula Street, a private road that connects to Lewers Street. The Project Traffic Assessment prepared for the project by Wilson Okamoto Corporation October 2019 was conducted to identify and assess the potential traffic impacts resulting from the Project. The traffic assessment is further discussed in **Section 3.10** and is provided in its entirety in **Appendix D**. Traffic volumes are

projected to increase less than 1 percent during peak periods at the Kalākaua Avenue and Kūhiō Avenue intersections. The proposed Project is not expected to have a significant impact on traffic operations in the project vicinity; therefore, the Project should not cause any significant impacts to air quality.

After construction, any long-term impacts on air quality from motor vehicle traffic related to this Project will likely be negligible. The new residential project will not, in and of itself, result in increased long-term air quality impacts such as increased 'greenhouse' gases that result in increase in global temperature rise. Due to the predicted minimal impact of the project, further mitigation of any potential long-term impacts is not anticipated to be required.

## 3.3 Flora and Fauna

A *Draft Cultural Impact Assessment Report (CIAR) for the 2154 Lauʻula Street Development Waikīkī Ahupuaʻa, Kona District, Oʻahu Island* was prepared by Honua Consulting in January 2020, and is provided in **Appendix E**. The document was designed to determine the cultural history of Waikīkī, the modern history of the area, the biocultural environment and cultural landscape, and impact assessment. The CIAR studies the flora and fauna at the Project Site as described in the following sections.

### 3.3.1 Flora

The CIAR states:

"*No endemic or indigenous species are present in the project area, due to the extensive development of the parcel within Waikīkī's commercial district. Exotic trees such as Banyan (Ficus benghalensis), MacArthur Palm (Ptychosperma macarthuri), Alexander Palm (Ptychosterma elegans), Manila Palm (Adonidia sp.), Date Palm (Phoenix dactylifera), Plumeria (Plumeria rubra), and Opiuma (Pithecellobium dulce) may be found in the vicinity of the project area; these trees are all foreign species. The proposed project will not have an impact on any species of cultural or environmental concern*."

"*Due to the extensive development of the project area and its vicinity, native plant species no longer flourish within the Waikīkī commercial district. The project area is overrun with weeds and invasive plant species. The project is not expected to impact any native, indigenous, or endangered plant species."*

### 3.3.2 Fauna

The CIAR states:

"*There is unlikely to be any impacts to candidate, threatened, or endangered fauna over the course of this project based on the lack of suitable vegetation for bird species nesting or roosting for the endangered ʻōpeʻapeʻa.*"

Furthermore, the report indicates the following:

- No suitable nesting habitat for endangered endemic waterbirds or the Kolea (Pacific

golden-plover)
- No suitable habitat for the endangered Pueo (Hawaiian short-eared owl) to forage or nest.
- Lack of suitable vegetation for roosting of the endangered ʻoeʻapeʻa (Hawaiian hoary bat)

**Project Impacts and Mitigation**

The Project is not likely to have any long-term adverse impacts on any state or federally listed threatened or endangered species or species of cultural or environmental concern.

## 3.4 Topography and Soils

The Project Site is relatively flat, with elevations ranging from 5.7 feet above mean sea level (msl) at the south portion of the Project Site to 6.8 feet above msl at the north portions of the Project Site. A general topography map is provided in **Figure10**.

According to the U.S Department of Agriculture (USDA), Soil Conservation Service publication, *Soil Survey of the Islands of Kauai, Oʻahu, Maui, Molokai, and Lanai, State of Hawaiʻi, 1972*, the soil type Jaucus Sand, 0 to 15 percent slopes are found at the Project Site and illustrated in **Figure11.** The soil survey describes Jaucus Sand as the following:

***Jaucus Sand, 0 to 15 percent slopes (JaC):*** *"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 a severe hazard where vegetation has been removed. The available water capacity is 0.5 to 1.0 inch per foot of soil. Workability is slightly difficult because the soil is loose and lacks stability for use of equipment."*

**Project Impacts and Mitigation**

The proposed Project is not anticipated to greatly alter existing topography at the Project Site. Grading will be limited to the Project Site and will not impact the surrounding area. No significant impact to topographic landforms or soils at the subject property is anticipated. The proposed project will involve major grading activities to prepare the site for development. Earthwork will consist of grubbing, grading, and excavation. Excavation at the site will be accomplished using conventional excavating equipment. Detailed design of the site will take into consideration the groundwater level and the potential for its rise. It is anticipated that the new underground water, sewer, and drainage systems will not be impacted by sea level rise, due to the design of finished grades and topography and the inland location of the site. For all ground disturbing activities, a grading plan and BMP plan will be implemented to prevent soil loss and runoff that may impact the areaʻs topography. All grading operations will be conducted in full compliance with dust, erosion control, and other requirements of the City and County Grading Ordinance and the State of Hawaiʻi Administrative Rules, Section 11-60, 1-33 applicable to fugitive dust. Best management

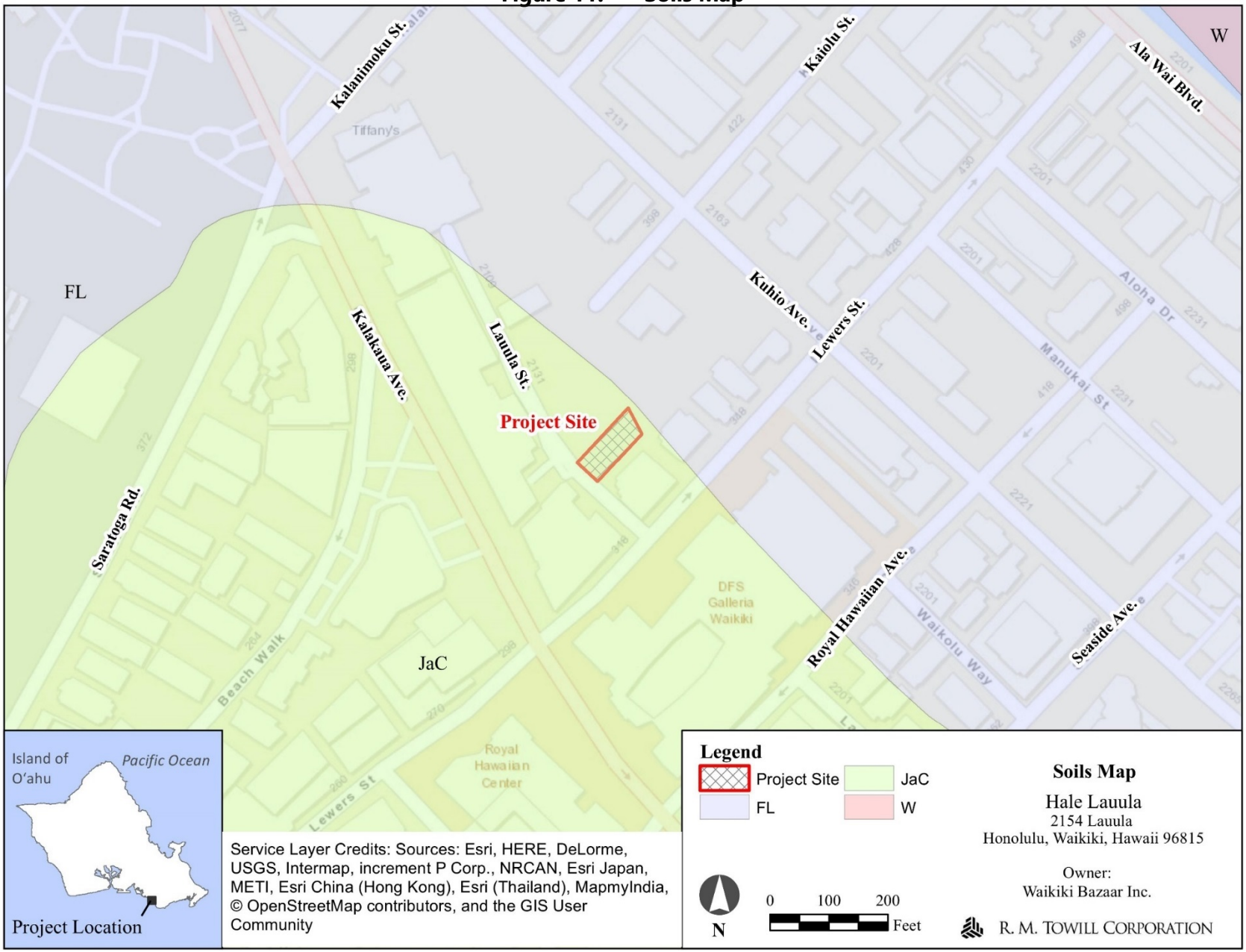
practices will be included in construction plans to mitigate dust and/or silt emissions.

Construction of the Project would involve land disturbance that could result in soil erosion. Additional mitigative measures may be recommended by the Project's soils engineers as building design and final locations are further defined. Potential impacts involving soils stability or erosion will be addressed by use of applicable Federal State, and City guidelines governing development, including adherence to grading standards, erosion controls, and Clean Water Act (CWA) of 1972, as amended regulations. During construction, the potential for release of sediments in storm water runoff from excavated areas and stockpile material sites will be addressed through a City and County-approved Erosion and Sediment Control Plan (ESCP). The ESCP applications will require the use of BMPs to prevent or mitigate the potential for impacts to State waters as a result of storm water runoff from the construction site. BMPs may include, but are not limited to, stabilized construction entrances, stabilization of disturbed areas, re-vegetation, and maintenance of equipment. Additional mitigative measures may include removal of unsuitable soils under foundations and/or special foundation design. Grading, excavation, and other construction activities required for the project will be in accordance with City and State of Hawai'i regulatory requirements. Adherence to the above mitigation measures and provisions of law are expected to mitigate against the potential for significant short or long term adverse environmental impacts.

The site shall be graded for accessibility in accordance with the Americans with Disabilities Accessibility Act Guidelines (ADAAG). Requirements include, in part, providing at least one accessible route from public transportation stops, accessible parking spaces, passenger loading zones, if provided, and public streets or sidewalks, to an accessible building entrance.

**Figure 10: Topography Map**

**Figure 11: Soils Map**



## 3.5 Water Resources and Hydrology

### 3.5.1 Groundwater

O'ahu has been divided into seven major groundwater areas, primarily on the basis of geologic or hydrologic differences. The most important sources of ground water in Hawai'i are from the freshwater parts of these systems in volcanic rocks. According to the *Summary of the O'ahu, Hawai'i, Regional Aquifer-System Analysis*, the Project Site is located in the Southern O'ahu ground water area. The area is divided into six smaller ground-water areas and the Project Site is located in the Kaimuki subordinate ground water-area. The Kaimuki area is separated by valley-fill barriers and is underlain by Koolau Basalt. See **Figure 12**. There are five fresh ground-water flow systems on O'ahu. The Project Site is located within the Southern O'ahu groundwater flow system. See **Figure 13**. The Southern O'ahu groundwater flow has large amounts of basal ground water. The early development in the flow system was mainly springs near the basalt-caprock contact and flowing artesian wells open to confined parts of the aquifers near the coast.

This potable, artesian ground water resource, known as the Southern O'ahu Basal Aquifer (SOBA) is designated a soles source aquifer by the EPA in accordance with the Safe Drinking Water Act of 1974. A sole source aquifer is defined as supplying 50 percent or more of the drinking water for an area. Once an aquifer is given this designation, any project planned in areas above the aquifer receiving Federal funds must be coordinated with the Region 9 EPA Office in San Francisco.

According to the State Department of Land and Natural Resources, Commission on Water Resource Management (CWRM), the Project Site is located within the Honolulu Hydrologic Unit and has a sustainable yield of 48.5 million gallons per day. Within the Honolulu Hydrologic Unit is in the subarea Palolo with a sustainable yield of 5 million gallons per day. See **Figure 14.**

#### Project Impacts and Mitigation

No short or long term, secondary, or cumulative adverse impacts to groundwater resources are anticipated during construction or operation of the proposed Project. Due to the location of the Project Site, infiltration of water would reach seawater instead of groundwater aquifers.

### 3.5.2 Surface Waters

There are no surface waters in the form of perennial or intermittent stream flows through the Project Site. The closest water bodies to the Project Site are the Ala Wai Canal, approximately 1,100-feet to the northeast, and the Pacific Ocean off Waikīkī Beach, approximately 1,600-feet to the south. See **Figure 15**. The Ala Wai Canal is a man-made waterway that starts at Kapahulu Avenue, runs the length of Waikīkī, and connects to the Pacific Ocean at Ala Wai Harbor. The Ala Wai Canal is an estuary that collects stormwater flows from Makiki, Palolo, and Manoa valley, portions of Waikīkī, and the surrounding area through sheet flow and improved drainage structure connections.

Ala Wai Canal is classified as a "Class 2, inland" water. According to HAR, Chapter 11-54, it is the

"objective of Class 2, Inland waters to "protect their use for recreational purposes, the support, and propagation of aquatic life, agricultural and industrial water supplies, shipping, and navigation". The stream is further identified by DOH as an impaired water on the DOH §303(d) List of Impaired Inland Waters. The impairments include Enterococci, TN, NO3+NO2, TP, Turbidity, Pathogens, Metals, TSS, Organochlorine Pesticides, Lead, Fish Consumption Advisor (DOH, 2018). According to DOH, the stream the Total Maximum Daily Loads (TMDL) has been approved in 1996 and revised in 2002.

The drainage runoff on the Project Site sheet flows offsite into city-owned drainage structures. The drainage ultimately outlets into the Ala Wai Canal. See **Section 3.13** for further discussion on existing and proposed storm drain system.

**Project Impacts and Mitigation**

The proposed Project will not impact any perennial or intermittent stream flows or channels.

If water is encountered and removed while digging foundations for the proposed roadway, walkway, concrete slab, and drainage facilities, any such discharged water must comply with federal requirements. During operation of the proposed project, site-specific construction storm water BMPs will be implemented to protect against inadvertent spills or releases of contaminants. No direct, secondary, or cumulative adverse impacts to the area wetlands are anticipated and no further mitigation is anticipated to be required. All work proposed would adhere to City and County of Honolulu regulatory requirements.

### 3.5.3 Wetlands

Wetlands play an integral role in the environment. They prevent erosion in the surrounding area through the presence of wetland-associated plants with root systems that hold soil in place. The plants serve as a physical barrier and absorb energy from waves. Wetlands also provide a natural filtration system for runoff. Nutrients swept into a wetland from runoff become bound to soil particles themselves or absorbed by plant roots and microorganisms that live in the soil. Through this process, most of the nutrients and pollution in the water are retained, preventing them from entering the ocean. Executive Order 11990, Protection of Wetlands, directs federal agencies to take action to minimize the destruction, loss, or degradation of wetlands on their properties and mandates the review of the impact of proposed actions on wetlands through NEPA.

There are no known wetlands in or adjacent to the project site.

**Project Impacts and Mitigation**

There would be no impact to wetlands because none exist in the project area.

**Figure 12: O'ahu Groundwater**

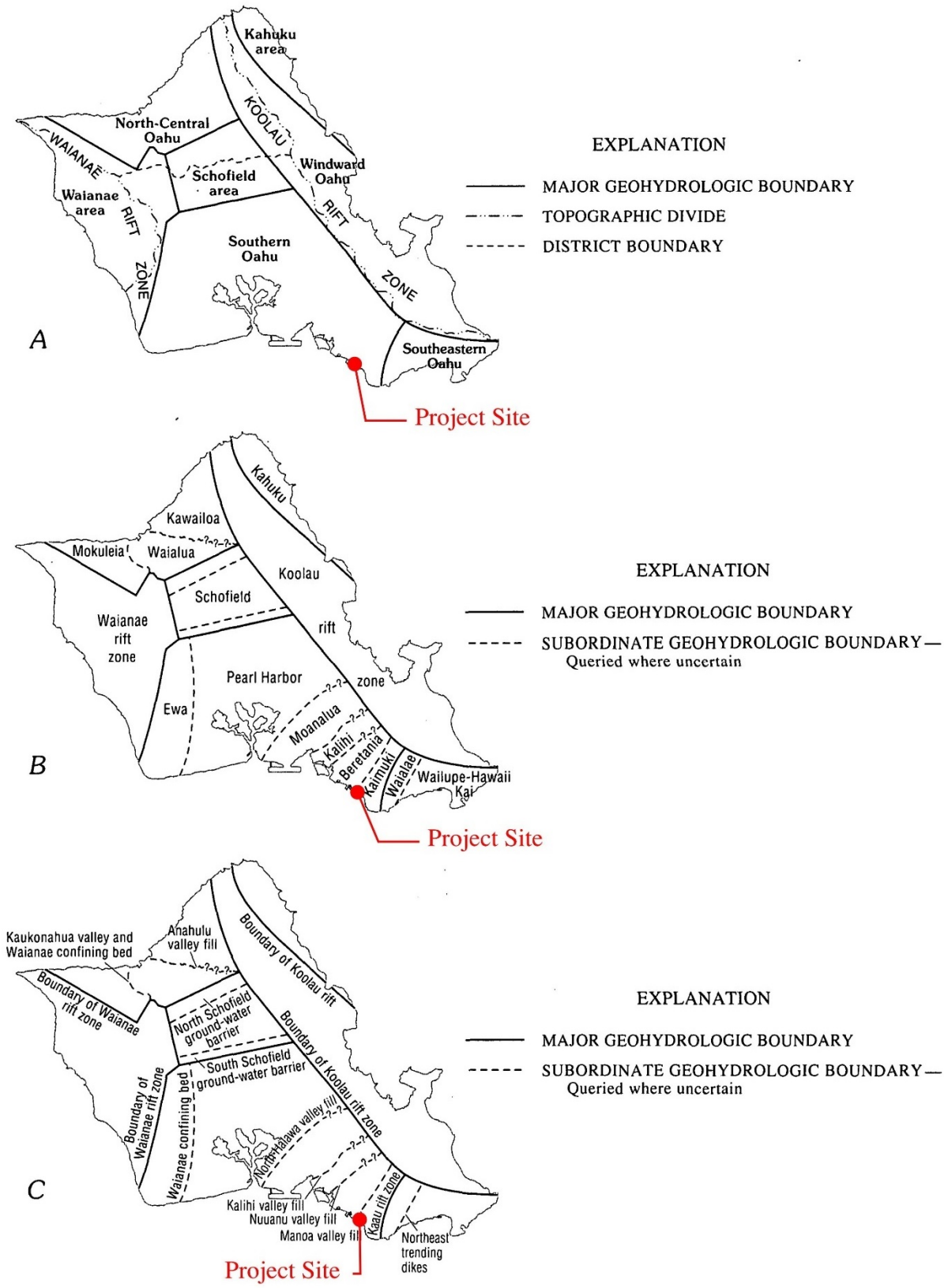


**Figure 13: O'ahu Freshwater**

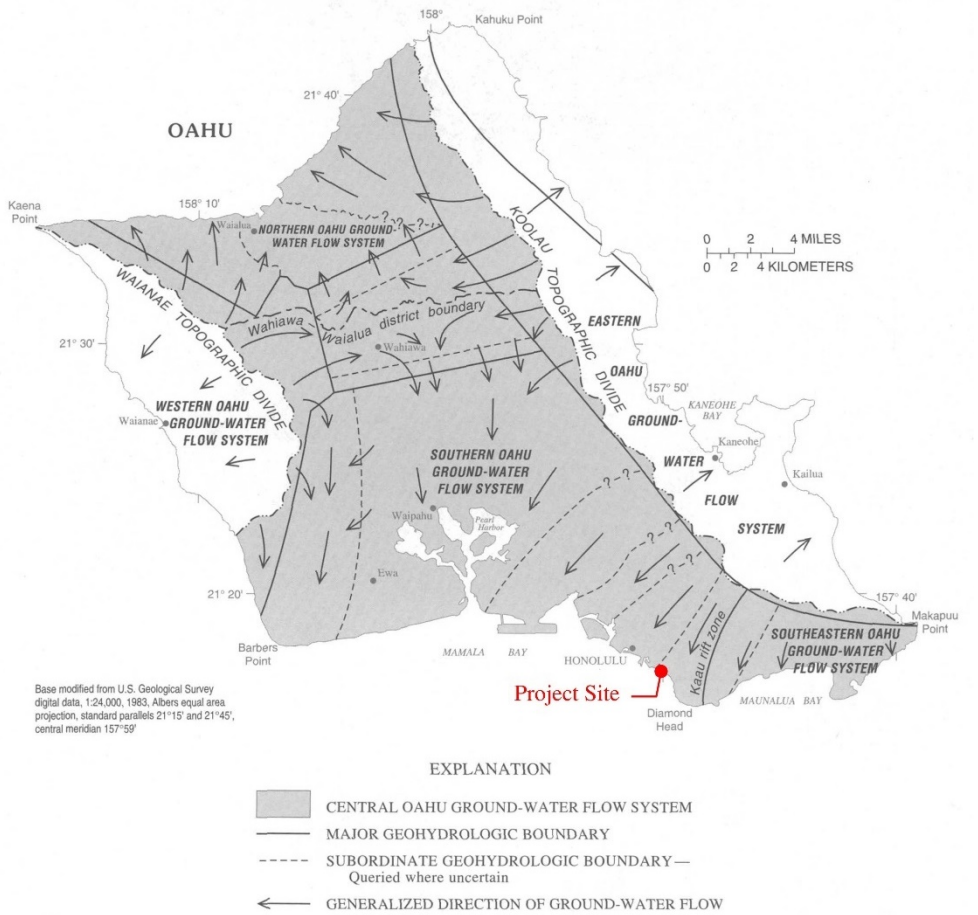



**Figure 14: Hydrologic Units**

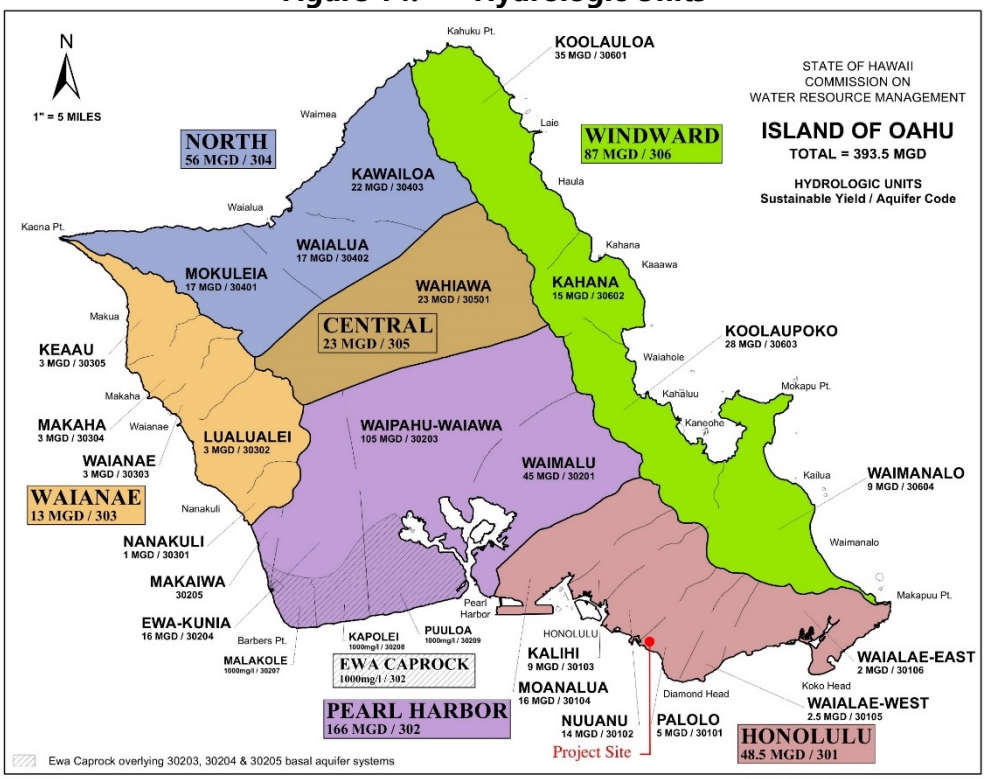
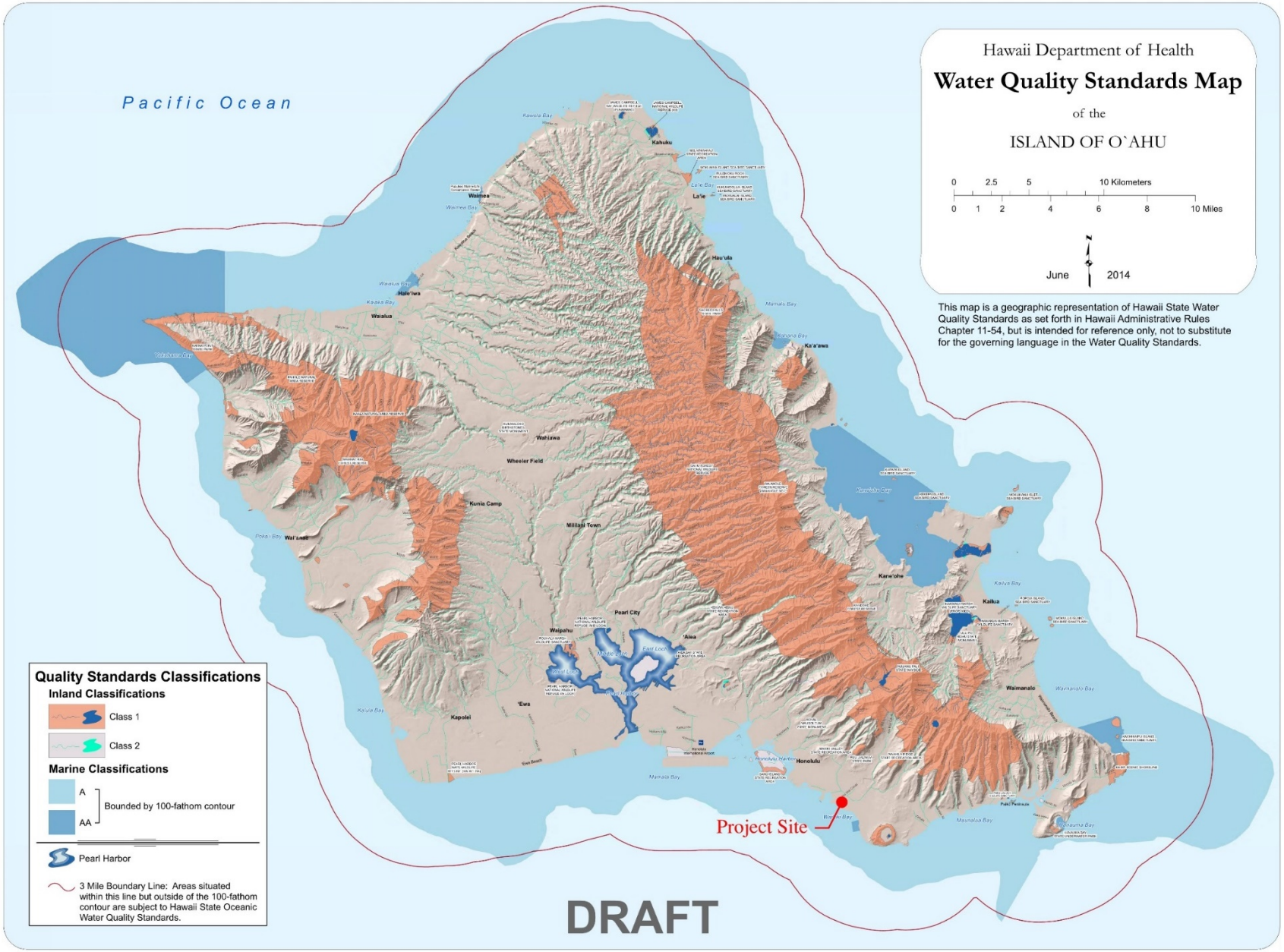


**Figure 15: Water Quality Standards Map**



## 3.6 Natural Hazards (Floods, Climate Change and Sea Level Rise, Tsunamis, Seismic Hazards, Hurricanes and High Winds)

This section summarizes potential natural hazards including, floods, tsunamis, seismic hazards, hurricanes, and high winds, and potential effects of the proposed project, and mitigation measures.

In case of a natural hazard, construction activities would cease for the period that the flood, seismic, hurricane, or tsunami hazard exists. Equipment would be secured in work and support areas. No additional impacts related to the construction operations are anticipated due to flood, climate change and SLR, seismic, hurricane, or tsunami hazard.

### 3.6.1 Flood Zones

According to the Flood Insurance Rate Map (FIRM), map number 15003C0368G, prepared by the Federal Emergency Management Agency (FEMA), the subject property is located in Flood Zone "AO". Zone "AO" identifies areas with flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths undetermined. See **Figure 17**.

#### Project Impacts and Mitigation

The proposed project involving building construction is not expected to be significantly impacted based on its location within the FEMA Flood Zone AO. Construction of the proposed Project would adhere to design standards as set forth in ROH, Chapter 21A, "Flood Hazards".

### 3.6.2 Climate Change and Sea Level Rise

In 2014, the Hawai'i State legislature passed the Hawai'i Climate Adaptation Initiative Act (Act 83, 2014). The purpose of the act is to address the effect of climate change by implementing a climate adaption plan. Studies supporting this plan projected sea level to rise one foot by 2050 and three feet by 2100. Rising sea levels will increase the probability of coastal flooding and erosion, which could damage coastal infrastructure. The Hawai'i State Legislature also passed a law (SB 2745) in 2012 that amends the State Planning Act to include climate change as one of the priority guidelines.

Climate change is considered a threat to all coastal areas. Planning for climate change and sea level rise (SLR) is challenging as there are multiple variables and changing and unknown factors. Research indicates that greenhouse gas (GHG) emissions, including carbon dioxide, methane, nitrous oxide, and fluorinated gases, are a key contributor to the unprecedented increases in global atmospheric warming over the past century (USEPA, 2011 and IPRC, 2013). University of Hawai'i (UH) researchers have documented the effects of climate change in Hawai'i, as air temperatures have risen; rain intensity has increased while total rainfall has decreased; stream flows have decreased; sea surface temperatures and sea levels have increased; and the ocean is becoming more acidic (IPRC, 2013, var. and SB No. 2745, 2012). These trends are projected to continue to increase in the future, which poses unique and considerable challenges to Hawai'i. It is estimated that sea level has risen in Hawai'i by approximately 0.6 inches per decade (1.5

millimeter per year) over the past century (SOEST, 2012). The estimates point to a potential aggregate SLR of 1.3 feet (40 centimeter) by the year 2060 and a rise of 3.3 feet (100 centimeter) by 2110 (SOEST, 2012).

The Hawai'i State Legislature passed a law (SB 2745) in 2012 that amended the State Planning Act to include climate change as one of the State's priority guidelines. In 2014, the Hawai'i State legislature passed the *Hawai'i Climate Adaptation Initiative Act* (Act 83, 2014), codified as HRS, Chapter 225P, which established an Interagency Climate Adaptation Committee (ICAC). The purpose of Act 83 is to address the effects of climate change by implementing a climate adaption plan. On June 6, 2017, Governor David Ige signed Act 32, Session Laws of Hawai'i, which amended HRS, Chapter 225P by renaming the ICAC to the Hawai'i Climate Change Mitigation and Adaptation Commission ("Commission"). The Commission published the *Hawai'i Sea Level Rise Vulnerability and Adaptation Report* ("SLR Report") in December 2017, which included recommendations on how to reduce exposure and increase adaptability to the impacts of SLR. Research within the SLR Report notes that the intensity and frequency of natural disasters have increased and will continue to do so, and further provides technical projections of areas along the coast that are vulnerable to SLR based on the latest available science. The SLR Report includes recommendations to address risks associated with climate change. The SLR Report found that a SLR of 3.2 feet and the associated erosion, flooding, and waves inundation, will have significant impacts to O'ahu's building and land values, residents and infrastructure.

Portions of O'ahu that are vulnerable to the SLR are illustrated on the Hawai'i Sea Level Rise Viewer ("Viewer"), an online interactive map created in conjunction with the SLR Report. Specifically, the Viewer defines an area called the SLR exposure area (SLR-XA), which is the projected extent of chronic flooding due to SLR (PacIOOS, 2018). The Project Site is not located within the 3.2 feet SLR-XA. **Figure 18**, PACIOOS Sea Level Rise Exposure Area – 3.2 feet was derived from the Viewer accessed at https://www.pacioos.Hawai'i.edu/shoreline/slr-Hawai'i/ in May 2020.

The National Oceanic and Atmospheric Administrators (NOAA) have come up with a viewer to view impacted areas at different levels of sea level rise. At 4 to 6 feet, the Project Site will be affected by sea level rise. The Project Site is not located within the 3 feet SLR. See **Figures 19** The data shown in **Figures 19** were derived from NOAA's viewer The data was accessed at https://coast.noaa.gov/slr/ in May 2020.

Based on Guidance from the Honolulu Climate Change Commission, the City and County of Honolulu recommended the benchmarks of 3.2 feet SLR-XA (via Hawai'i Sea Level Rise Viewer) and 6 feet SLR (via NOAA Sea Level Rise viewer) to be used as a planning benchmark. High tide flooding and nuisance flooding may be present and precede global mean SLR by decades.

The proposed project is not located along coastal areas. The closest water bodies to the Project Site are the Ala Wai Canal, approximately 1,100-feet to the northeast, and the Pacific Ocean off Waikīkī Beach, approximately 1,600-feet to the south. The Project Site is relatively flat, with elevations ranging from 5.7 feet above mean sea level (msl) at the south portion of the Project Site to 6.8 feet above msl at the north portions.

**Project Impacts and Mitigation**

Climate change and SLR and associated coastal impacts are a concern for the State of Hawai'i and the world, and requires a global response. The project would not result nor constitute a source of impact to the climate of the project area or region, and does not propose activities that will lead to an increase in the generation of GHGs, as discussed in **Section 3.1 Climate** and **3.2 Air Quality**. LID greening measures to contribute to the sustainability of the building, thereby reducing the development's impacts on the environment will be incorporated.

As stated previously, the Project Site will not be affected by 3.2 feet of SLR in accordance with the PACIOOS SLR-XA. Sea level rise mitigation measures such as raising the finish floor elevation shall be considered during the Project's design phase to address sea level rise impacts under the 3.2-foot condition.

### 3.6.3 Tsunami

Tsunamis are a series of waves most commonly caused by large earthquakes below or near the ocean floor on thrust faults associated with subduction zones. Tsunamis can also be caused by undersea landslides. Tsunamis differ from ordinary ocean waves and storm surges in that the entire water column from the sea floor to the ocean surface is displaced, not just the upper few feet of the ocean surface as with ordinary ocean waves. As tsunamis enter shallower coastal waters, the speed of the wave slows down and the height increases. A wave that may be only 3 feet high or less in the ocean may climb to more than 60 feet when it hits the coastline.

Tsunamis can cause great loss of life and property damage where they come ashore. The first wave is almost never the largest; successive waves may be spaced tens of minutes apart and continue arriving for many hours. All low lying areas along the Pacific Coast of the U. S. are subject to inundation by tsunamis.

The Pacific Rim is the name given to the land masses surrounding the Pacific Ocean. Very large earthquakes anywhere around the Pacific Rim may cause a distant source tsunami that could strike the coastline. The first waves would reach the coastline many hours after the earthquake occurred depending on the distance of the quake from the project site. Tsunami Warning Centers will alert local officials, who may order evacuation along the coastline. The effects of a distant-source tsunami may be negligible or severe, depending on the magnitude of the earthquake, the distance of the earthquake from the site, and the direction of approach.

If a large earthquake occurs within the major Hawaiian Islands, the first waves (a local source tsunami) may reach the coast within minutes after the ground shaking stops. There is no time for authorities to issue a warning. People on the beach or in low coastal areas need to move to higher ground as soon as the ground shaking stops and stay away from low-lying coastal areas until an official "all clear" is broadcast. Locally generated tsunamis constitute the most serious threat because they can strike suddenly, before a tsunami warning system has been activated and sometimes before ground shaking stops. Lack of information about how tsunamis behave is widely responsible for loss of human life in many situations.

According to the City Department of Emergency Management Tsunami Evacuation Zone map Waikīkī Map 1, the subject property is within the "Tsunami Evacuation Zone." See **Figure 20**.

**Project Impacts and Mitigation**

The proposed project site is located in the tsunami evacuation zone as designated by the City. To mitigate against tsunami and storm surge impacts, engineering analyses will be performed to determine proper design criteria to be applied to structures associated with this project. During Tsunami Warnings, citizens evacuate out of the red zone. In the event of an Extreme Tsunami Warning, citizens evacuate out of both the tsunami evacuation zone (red zone) and the extreme tsunami evacuation zone (yellow zone).

### 3.6.4 Hurricanes and High Winds

In Hawai'i, northeast trade winds predominate throughout most of the year and generally range in velocity between 10 and 20 mph with trade winds of 40-60 mph periodically occurring. When wind speeds exceed 70 mph, the storms are characterized as hurricanes. Hurricanes are strong tropical winds with wind speeds greater than 74 miles per hour.

They often come with heavy rains and, depending on the wind speeds, can damage on-shore buildings and structures and vessels within the harbor. Hurricanes are classified according to "Category", where Category 1 hurricanes have wind speeds between 75-95 mph and Category 5 hurricanes have wind speeds exceeding 155 mph. Hurricanes occasionally approach the Hawaiian Islands, but rarely reach the islands with hurricane force wind speeds.

Hurricanes are more prone to affect the Hawaiian Islands from the late summer to early winter months. During hurricanes and storm conditions high winds cause strong uplifting forces on structures, particularly roofs. Wind-driven materials and debris can attain high velocity, causing devastating property damage and harm to life and limb.

It is difficult to predict when these natural occurrences may occur, but it is reasonable to expect that future events will occur. The project area is, however, no more or less vulnerable than the rest of O'ahu to the destructive winds and torrential rains associated with hurricanes.

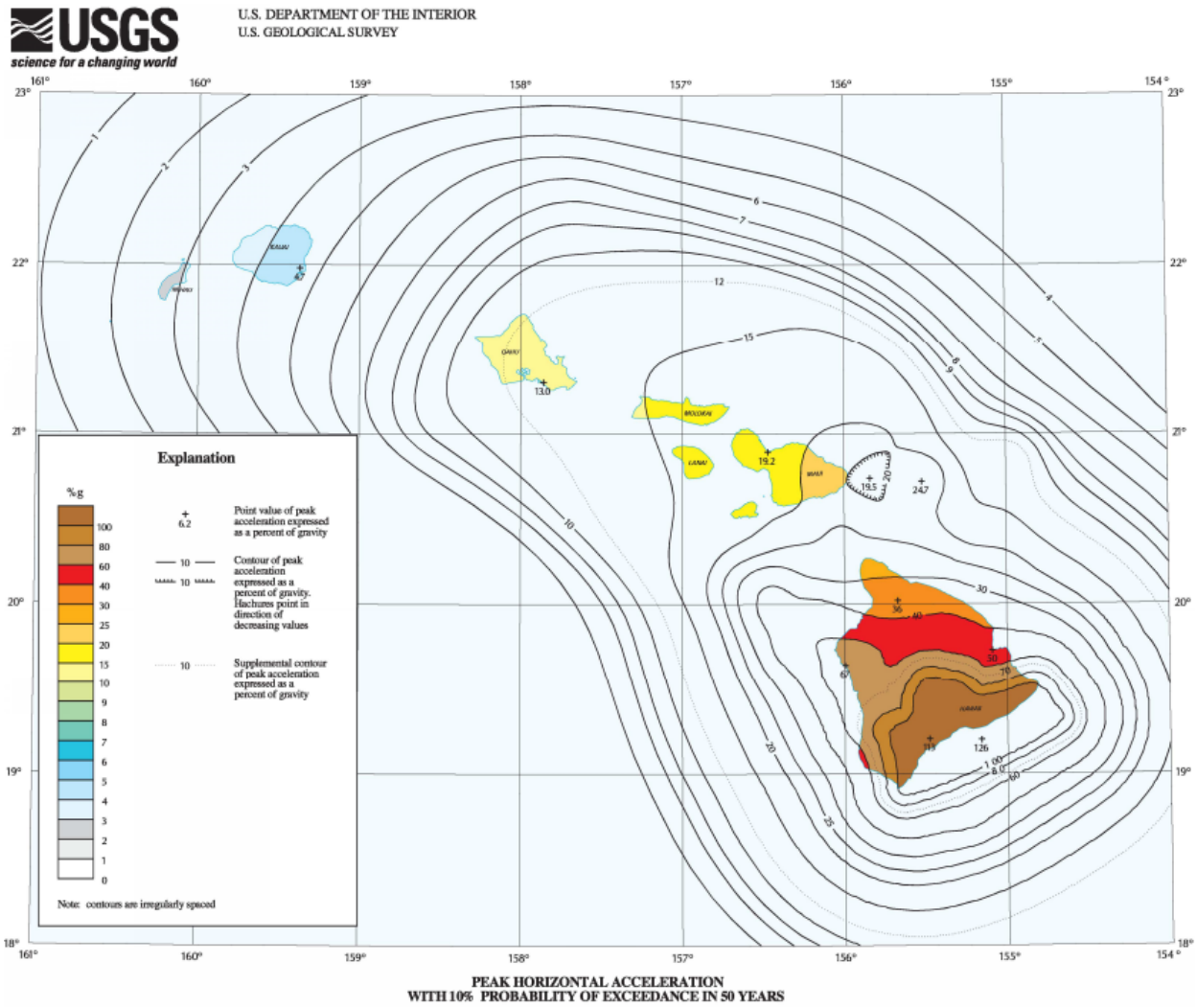
**Project Impacts and Mitigation**

To mitigate against potential impacts from high winds or hurricanes, the proposed project will ensure that improvements are designed to use current building codes which offer some protection from damage.

### 3.6.5 Seismic Hazards

**Figure 16** illustrates the estimated risk of earthquakes using the measure of ground motion hazard in terms of peak horizontal acceleration (PHA) measured as a percent of Earth's gravitational acceleration (%g). The map depicts the PHA expected over the next 50 years with a 10% probability of exceedance. The southeast part of the Island of Hawai'i has the highest expected ground acceleration at over 100 %g. This amount of acceleration would make it difficult to stand and could topple structures. The color scale shows the island of O'ahu to have an expected ground acceleration of 15%, a reduced risk in which a moderate amount of shaking may be experienced (USGS, 2017).

**Figure 16: State of Hawai'i Seismicity**




## Project Impacts and Mitigation

Construction of the proposed project is not expected to be adversely affected by seismic activity. In the case of a seismic hazard, construction activities would cease for the period that the seismic hazard exists. Equipment would be secured in work and support areas. All project alternatives will comply with the International Building Code (IBC), which provides minimum design criteria to address potential for damage due to seismic disturbances. No direct, secondary, or cumulative impacts related to seismic hazards are expected.

.

**Figure 17: Flood Zones**

**Figure 18: PACIOOS Sea Level Rise Exposure Area (SLR-XA) - 3.2 feet**

**Figure 19: NOAA Sea Level Rise Viewer – 3-6 feet**

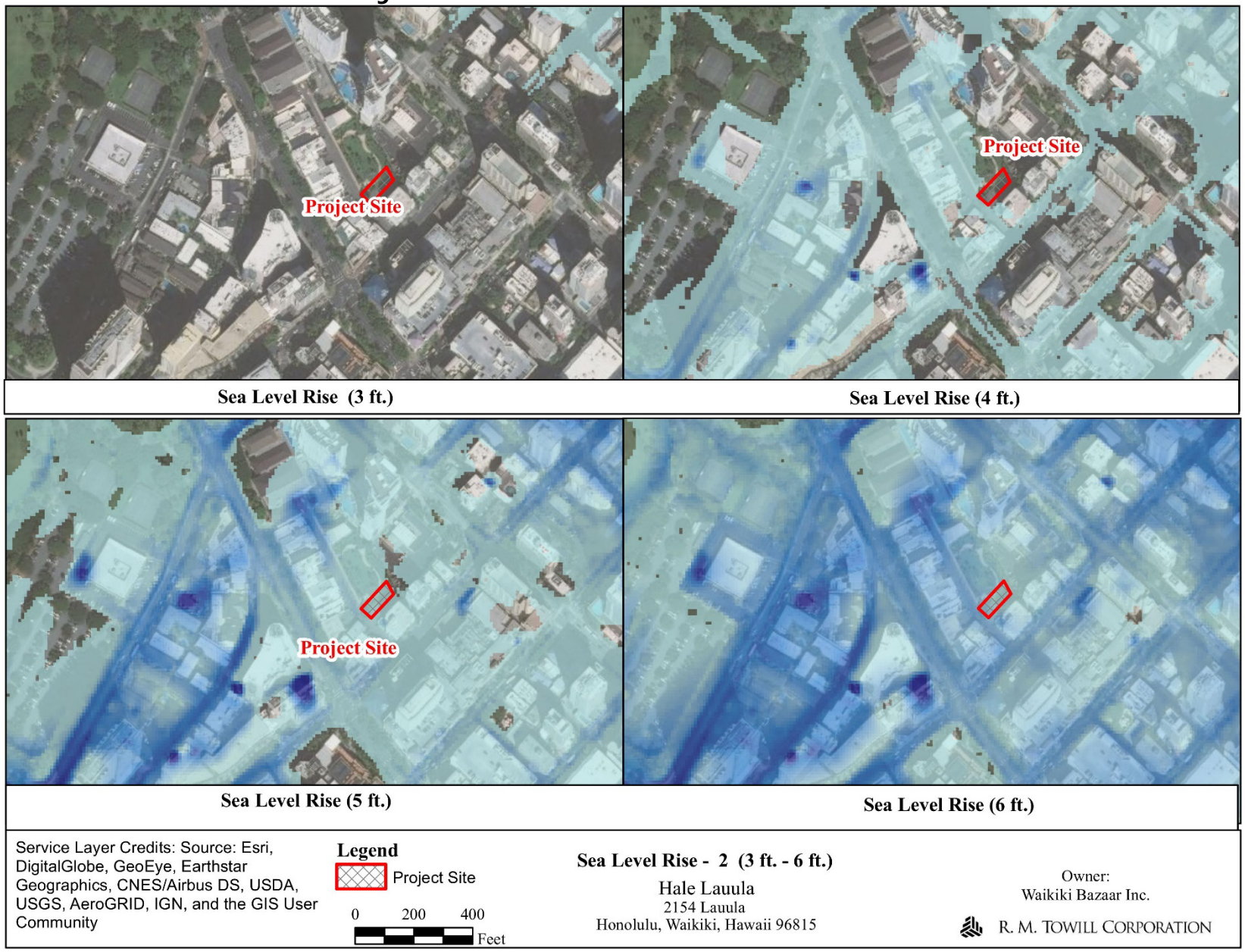
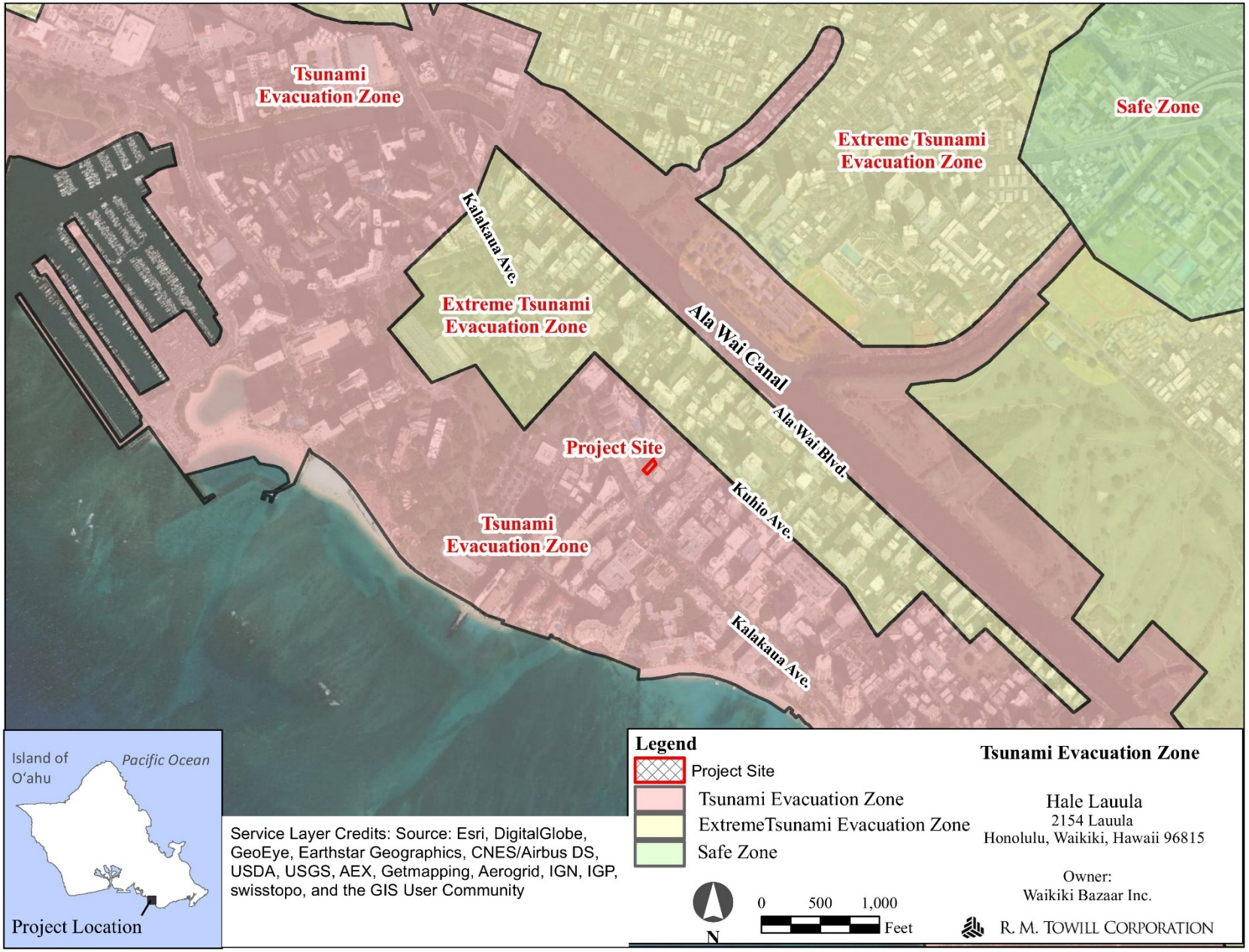


**Figure 20: Tsunami Evacuation Zone**



## 3.7 Noise

The regulation of noise is governed by HAR, Chapter 11-46, Community Noise Control. Allowable day and nighttime noise standards for sensitive receptors have been established for conservation, residential, apartment, hotel, business, agricultural and industrial districts. Current noise sources in the project vicinity include vehicular traffic, equipment use associated with residential, hotel, commercial and business uses, and grounds and building maintenance.

**Project Impacts and Mitigation**

Short-term noise impacts are related primarily to construction activities. Construction of the proposed Project will involve excavating, grading, concrete casting, the placement of pre-cast structural components, and paving. A majority of the noise will be generated during mobilization and operation of heavy construction equipment comprised of earth moving equipment, such as diesel engine powered bulldozers, trucks, backhoes, front-end loaders, graders, etc. The actual noise levels produced are dependent on the construction methods employed during each phase of the construction process. Construction equipment noise is expected to be in the range of 55 and 90 dB in close proximity to the site. The total duration of the construction period is not known, but noise exposure is not expected to be continuous during the total construction period and noise related to construction is expected to cease upon completion of the proposed project.

Construction noise impacts will be in compliance with provisions of the State DOH Administrative Rules, Title 11, Chapter 46 *Community Noise Control*.

After construction is complete, noise generated from any stationary mechanical equipment on the project site will comply with the DOH property line noise regulations. Noise mitigation for stationary mechanical equipment will be considered during the design of the project.

Significant long-term noise impacts are not anticipated once the construction of the Project has been completed. The increase of traffic volume is not expected to result in a noticeable noise impact on nearby communities.

## 3.8 Historic, Archaeological, and Cultural Resources

A *Draft Cultural Impact Assessment Report (CIAR) for the 2154 Lau'ula Street Development Waikīkī Ahupua'a, Kona District, O'ahu Islan*d was prepared by Honua Consulting in January 2020, and is provided in **Appendix E**. The document was designed to determine the cultural history of Waikīkī, the modern history of the area, the biocultural environment and cultural landscape, and impact assessment. The following approach was used to develop the CIAR:

I. *"Gather Best Information Available*

   A. *Gather historic cultural information from stories and other oral histories about the affected area to provide cultural foundation for the report;*

*B. Inventory as much information as can be identified about as many known cultural, historic, and natural resources, including previous archaeological inventory surveys, CIAs, etc. that may have been completed for the possible range of areas; and*

*C. Update the information with interviews with cultural or lineal descendants or other knowledgeable cultural practitioners.*

II. *Identify Potential Impacts to Cultural Resources*

III. *Develop Reasonable Mitigation Measures to Reduce Potential Impacts*

*A. Involve the community and cultural experts in developing culturally appropriate mitigation measures; and*

*B. Develop specific Best Management Practices (BMPs), if any are required, for conducting the project in a culturally appropriate and/or sensitive manner as to mitigation and/or reduce any impacts to cultural practices and/or resources."*

Additionally, an *Archaeological Literature Review and Field Inspection for Construction of a Commercial Loft at 2154 Lauʻula Street, Waikīkī Ahupuaʻa, Kona (Honolulu) District, Oʻahu Island, TMK: [1[ 2-6-018: 049* was prepared by Honua Consulting in May 2020, and is provided in **Appendix F**. The LRFI states:

*The purpose of this literature review and field inspection is to determine the land-use history, potential sub-surface deposits which may exist within the property, and identify any potential artifacts or cultural deposits present on the ground surface observable during surface survey of the property. This study is not an archaeological inventory survey (AIS), however, this report was written using standards outlined within Hawaiʻi Administrative Rules (HAR) 13-276 for AIS studies and is intended to assist with historic preservation efforts related to the proposed commercial loft at 2154 Lauʻula Street.*

*The archaeological field inspection conducted for the current project included a pedestrian survey of the paved asphalt parking lot and periphery of the property. Nothing of archaeological interest was observed or collected during the inspection.*

*Background research for the project area indicates it is located in a former wetland area which was primarily used for habitation, growing taro, and constructing fishponds in the pre-contact era. The vicinity was later used for banana and rice cultivation in the historic-era up until the early 1920's when land reclamation began with the construction of the Ala Wai Canal followed by filling in of low-lying wetlands and division of Waikīkī into city blocks by the late 1920's. Twentieth century Land Court Application maps show potential utility easements running along the western boundary as well as through the northern portion of the project area. A 1956 Sanborn Fire Insurance map also shows the potential utility easement running along the western boundary of the project area as well as a small garage structure within the southeast corner of the project area. The garage appears to be the only previous development within the project area, other than for subsurface utilities and its present use as a pay parking lot.*

*No previous archaeological studies have been conducted and no sites are known to exist within the project area. However, several studies in adjacent parcels and the surrounding area have*

*documented, SIHP #50-80-14-5796, the original buried Waikīkī wetland surface (LeSuer et al. 2000, Yucha et al. 2009, Sroat et al. 2011, Pammer et al. 2014, Morriss and Hammatt 2015, and Martel and Hammatt 2017). The site consists of deposits of agricultural wetland sediments, non-agricultural wetland sediments, peat sediments, pond sediments, and pond berms dating from the pre-contact era to the early 1900's and has been documented in multiple separate locations. The site has generally been encountered below 4 to 6 ft (1.2-1.8 m) of modern and historic land reclamation fill materials (crushed coral, hydraulic pump dredge).*

*An archaeological inventory survey (AIS) for 2149 Kūhio Avenue, located adjacent and to the west of the project area, documented SIHP # -5796 in 24 out of 26 trenches and a buried berm in 4 trenches which was depicted in that study to continue towards the current project area (Pammer et al. 2014). An AIS for a Beach Walk Wastewater Pump Station, located adjacent and to the north side of the project area documented SIHP # -5796 in all five of the trenches excavated (Morriss and Hammatt 2015).*

**Project Impacts and Mitigation**

According to the CIAR, the Project's impacts to cultural and historic resources are as follows.

*"Impacts to Intangible Cultural Resources*

*Intangible cultural resources refer to those resources without physical form, such as hula or mele. As there are no known or identified cultural practices currently taking place on the property and the property has been heavily disturbed, it is unlikely the proposed activities would adversely impact intangible cultural resources currently taking place on the property or in adjacent areas.*

*Impacts to Cultural Practices*

*The interviewees did not identify any cultural practices currently taking place within the project area or in its immediate vicinity; the proposed project is not expected to impact any cultural practices.*

*Impacts to Historic Sites*

*The LRFI did not uncover anything of archaeological note during the pedestrian survey, which assessed the entirety of the paved parking lot and periphery of the property. Human skeletal remains and pre-contact and historic era artifacts have been encountered within fill materials in Waikīkī, which necessitates the need for archaeological monitoring over the course of any ground disturbance activities."*

The CIAR recommends that an archaeological monitoring program be conducted over the course of the project. WB will comply with the recommendations of the CIAR and continue to consult with SHPD regarding the appropriate testing strategy. An Archaeological Inventory Survey may subsequently be prepared based on consultation.

In the event that cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find. If human remains are discovered, HAR Title 13. Subtitle 13, Chapter 300 states that further disturbances and

activities shall cease in any area or nearby area suspected to overlie remains, and SHPD and Police Department will be contacted. The appropriate process would then proceed in conformance with HAR §13-300 Subchapter 4 *Procedures for Proper Treatment of Burial Sites and Human Skeletal Remains*.

## 3.9 Visual Resources

The Project proposes to convert an existing small surface parking lot to a mid-rise building. The existing site is shown in **Figure 6**, and proposed perspective views are shown in **Appendix A** .

The PUC DP (2004) indicates to protect and enhance Honolulu's natural, cultural, and scenic resources. The Project Site is located within view planes indicated in the PUC DP Map A.1 Significant Panoramic Views, see **Figure 21**.

Current zoning allows building heights of up to 280 feet. The proposed building is significantly shorter than this height at approximately 75 feet high.

The Project is located within the Waikīkī Special District. The City and County of Honolulu Land Use Ordinance identifies streets and locations of significant public views within the Waikīkī Special District. The following sections highlight excerpts of LUO Sec. 21-9.80-3 that are particularly relevant to this Project (emphasis added).

*(a) The following streets and locations identify significant public views of Waikiki landmarks, the ocean, and the mountains from public vantage points:*

*(1) Intermittent ocean views from Kalia Road across Fort DeRussy Park and from the Ala Wai Bridge on Ala Moana Boulevard;*
*(2) Continuous ocean views along Kalakaua Avenue, from Kuhio Beach to Kapahulu Avenue;*
*(3) Ocean views from Ala Wai Yacht Harbor;*
*(4) Ocean views from Kuhio 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 Kuhio Avenue:*
*(A) Nohonani Street;*
*(B) Nahua Street;*
*(C) Kanekapolei Street;*
*(D) Kaiolu Street;*
*(E) Lewers Street;*
*(F) Walina Street; and*
*(G) Seaside Avenue; and*
*(7) View of Diamond Head from Ala Wai Boulevard between McCully Street and Kapahulu Avenue.*

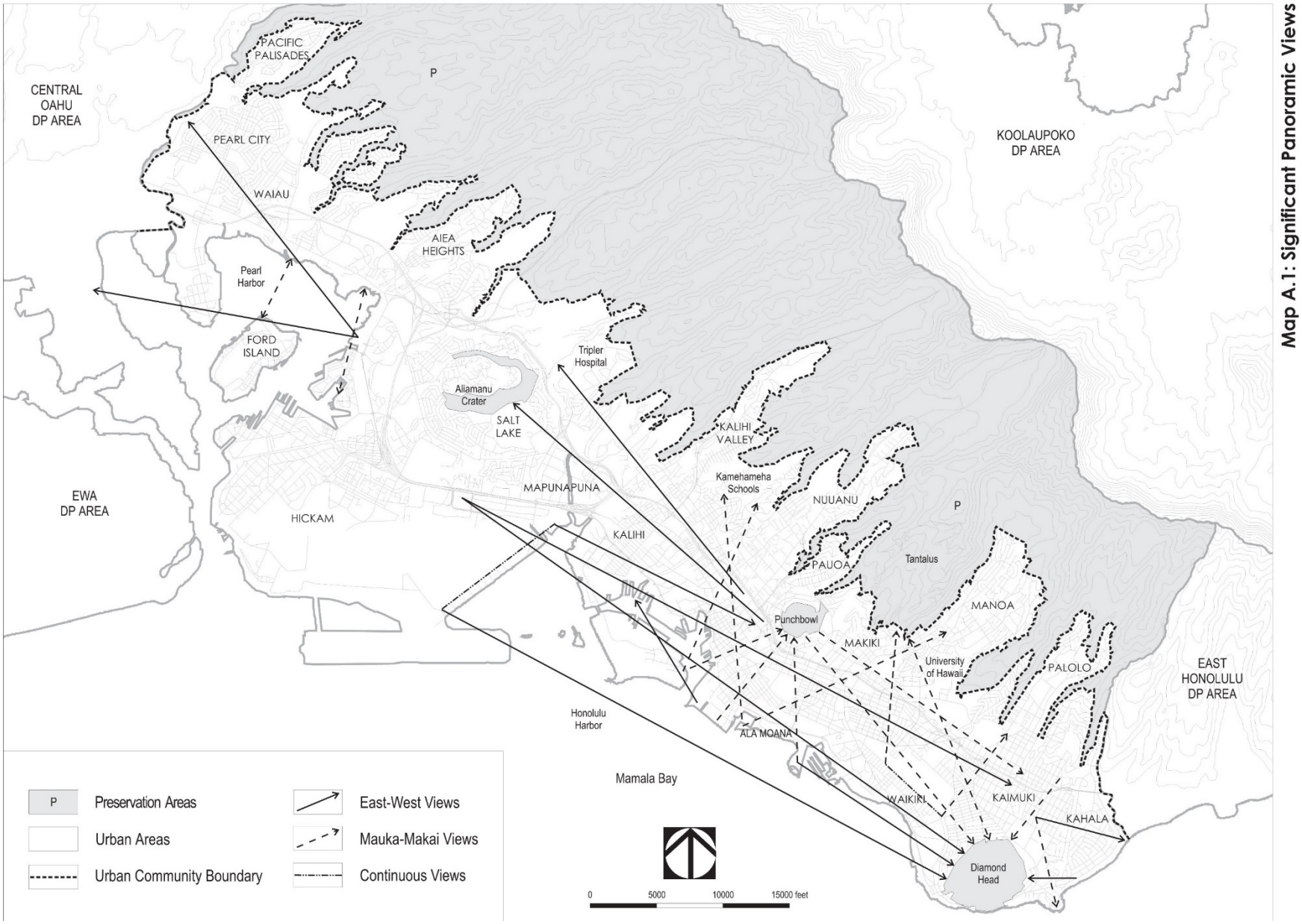
*(b) Development should preserve, maintain and enhance these views whenever possible. Additional yard area and spacing between buildings may be required by the director, in connection with the issuance of special district permits, and the council or the director, in connection with planned development-resort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

*(c) 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.*

**Project Impacts and Mitigation**

The Project Site will be more visible than it is now due to the addition of the proposed building. However, the Project is not anticipated to have a significant adverse impact on scenic view planes or scenic resources. The parcel - in its current or future condition - does not interfere with the Significant Panoramic Views, including east-west views, mauka-makai views or continuous views, shown on Map A.1 of the PUC DP. Furthermore, the Project will not affect any of the significant public views identified in the WSD requirements. The more densely developed parcel will be better integrated with the urban fabric. The proposed building has been aligned to a mauka-makai orientation and will preserve mauka-makai view corridors. Design treatments to minimize the impact on surrounding neighbors, such as height setbacks, active ground floor uses and screening will also be considered in the final design. No further mitigation is necessary.

**Figure 21: Development Plan Significant Panoramic Views**



## 3.10 Transportation Network and Traffic

### 3.10.1 Roads

A Traffic Assessment was prepared for the Project by Wilson Okamoto Corporation in October 2019 and is provided in **Appendix**. The study was conducted to assess the potential traffic impacts resulting from the proposed project.

The study looked at the following three intersections with Lewers Street: Kalākaua Ave., Kūhiō Ave., and Lau'ula Street. Since the AM peak period is generally lower than the PM peak period, the field study was only conducted in the PM peak period. Based on the information provided in the traffic survey, the weekday PM peak period generally occurs between 4:15 pm and 5:15 pm and the Saturday PM peak period generally occurs between 6:30 pm and 7:30 pm.

Based on the findings of the traffic study, the total vehicular traffic volumes at Lewers Street and Kūhiō Ave. and Kalākaua Ave. are expected to increase by less than 1% during the PM peak periods.

**Project Impacts and Mitigation**

The traffic study provides the following recommendations to be incorporated in the project.

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. *Provide adequate pedestrian connections to facilitate pedestrian traffic between off-site and on-site uses. Pedestrian facilities should be made accessible in conformance with the American with Disabilities Act (ADA)."*

With the application of the recommendations, the proposed traffic conditions are generally anticipated to remain similar to existing and without project conditions. The Project is not expected to have a significant impact on traffic operations in the project vicinity.

### 3.10.2 Bus Service, Pedestrian and Bicycle Access

The Project Site is served by TheBus, operated by the City and County of Honolulu, Department of Transportation Services, O'ahu Transit Services through several bus routes along Kalākaua Ave., Kūhiō Ave., and Saratoga Rd./Kalanimoku St. Kūhiō Avenue services the most routes in the project vicinity. The nearest bus stops are located at the Kūhiō Ave./Lewers. The following bus routes are located on Kūhiō Avenue: W1, W2, W3, 2, 2L, 8, 13, 19, 20, 22, 23, 42, and 98A. **See**

**Figure 22.**

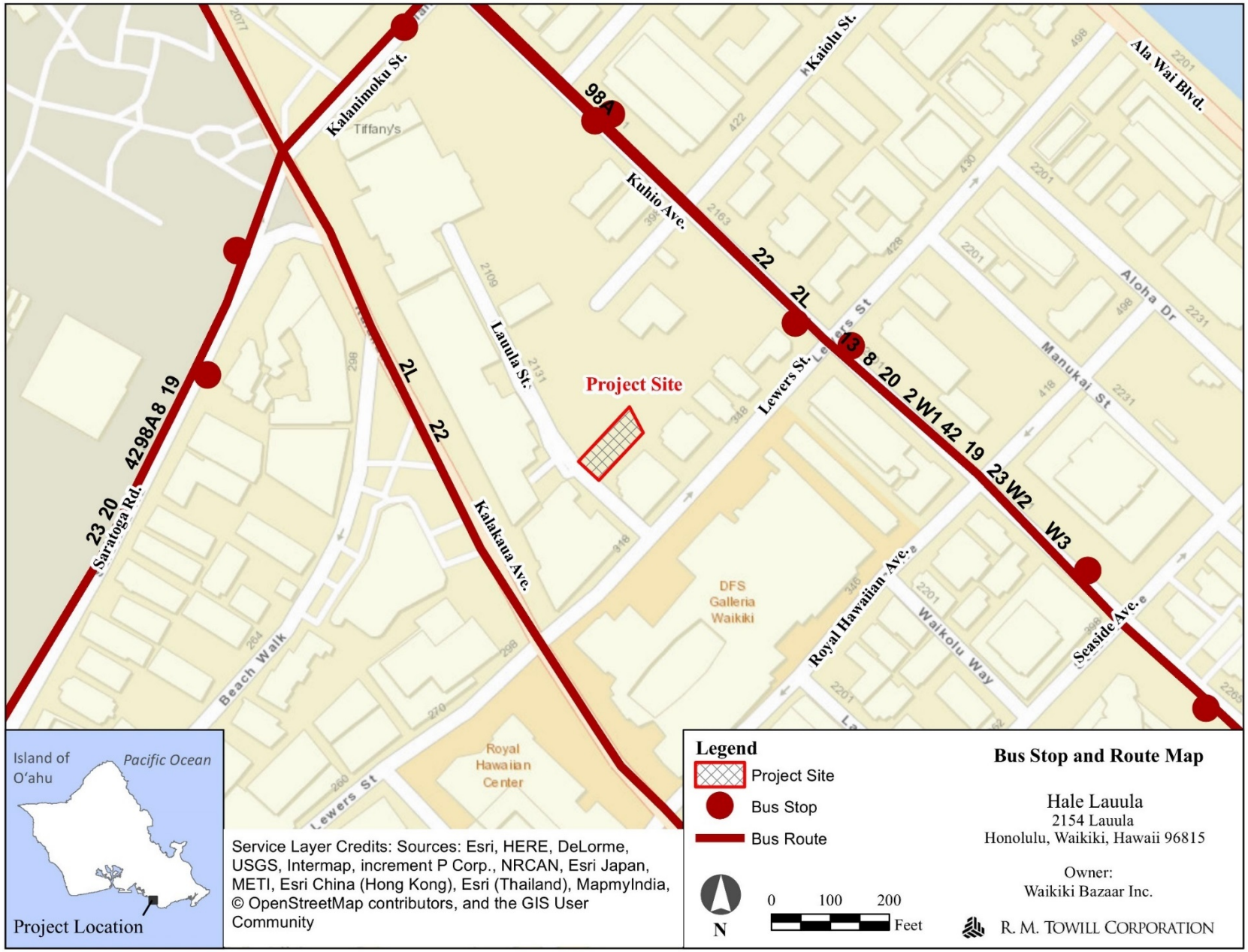
There are existing bicycle facilities along Kalākaua Ave. and Ala Wai Blvd. The existing and proposed bicycle facilities are further discussed in **Section 4.8 City and County of Honolulu O'ahu Bike Plan: A Bicycle Master Plan.**

There are existing sidewalks on both sides of Kalākaua Ave., Kūhiō Ave., and Lewers Street. On Lau'ula Street, there is an intermittent sidewalk on the mauka side of the street and a short segment of sidewalk on the makai side of the street near the Lau'ula Street and Lewers Street intersection. Crosswalks are provided at the Lau'ula Street and Lewers Street intersection.

**Project Impacts and Mitigation**

The proposed project is not expected to have a significant impact on pedestrian and bicycle facilities, and bus stops and routes in the project vicinity.

**Figure 22: Bus Stop and Route Map**



## 3.11 Wastewater

There is an existing 6-inch sanitary sewer line within an existing sewer easement located on the adjacent TMK: 2-6-018:48. Topographic survey indicates an existing 6-inch sewer lateral stubbed to the site and an existing lateral which appears to be crossing the site from the easement to TMK:2-6-18:083. City and County Wastewater Branch does not indicate any laterals from this Parcel and the Parcel's sewer connection appears to be from Lewers Street.

**Project Impacts and Mitigation**

In lieu of re-using the existing lateral, due to age and unknown condition, it is proposed to reconnect a new sewer lateral to an existing sewer manhole located within the sewer easement. The existing unused sewer lateral will be cut and plugged at the main.

A sewer connection application was submitted and subsequently approved with conditions on 7/24/20 and will expire on 7/24/22. Conditions are to submit construction plans for review and approval and Wastewater System Facility Charges will be later determined.

It is recommended to CCTV the sewer line within the sewer easement to verify if there is an active sewer lateral connection crossing the site from TMK: 2-6-18:083. Another option is to excavate and probe for the lateral within the site.

## 3.12 Potable Water

There is an existing 8-inch waterline within Lauula Street. A fire hydrant is within 50 feet of the site. There is an existing 1-inch water meter and meter box.

**Project Impacts and Mitigation**

A new water connection and enlarged water meter for domestic water, irrigation and fire sprinkler will be connected to the existing 8-inch water main. It appears that an electrical duct line runs within the sidewalk and driveway area, thus if a detector check meter for the fire sprinkler system is required, it may need to be located within the site. An Easement in favor of the Board of Water Supply will need to be provided.

## 3.13 Storm Drainage and Storm Water Quality

### 3.13.1 Storm Drainage

The project site is currently an existing paved parking lot with a narrow landscape strip. The project site slopes towards Lauula Street. There are no storm drainage facilities within Lauula Street. The nearest catch basin is at the entry from Lewers Street. Lauula Street fronting the site slopes in the Ewa direction.

The project is also in Flood Zone AO depth 2 feet.

The adjacent parcel TMK:2-6-18:083 has an existing drain line strapped to the side of the existing wall. Although it appears to be within that parcel, access for maintenance would be blocked with the proposed construction. Similarly, there is an existing gas meter.

**Project Impacts and Mitigation**

Project finish floor will be set above the Flood Zone Elevation. The new impervious surface area compared with the existing conditions will not result in an increase in impervious area, therefore, there will be a "no net increase in stormwater runoff" generated by this project. The existing drainage flow pattern will remain.

Although it is proposed to reconstruct Lauula Street from Lewers Street to the project site, the drainage system by surface flow will need to be maintained as it is not possible to provide an underground drainage system connection to the drainage system in Lewers Street. The existing slopes will need to be maintained with a portion of Lauula Street sloping to Lewers Street and portion fronting the project site sloping in the Ewa direction.

TMK: 2-6-18:083 should be advised to relocate the existing drain line and gas meter so it will be accessible to them.

### 3.13.2 Storm Water Quality

Source control: Source control will consist of Landscaping with automatic sprinkler system with rain sensors to prevent irrigation during and after precipitation. There are no outdoor trash area. Trash Dumpster will be located within the Building.

Treatment control: Treatment control will consist of having the roof downspouts piped to drywells and/or infiltration trenches and allowed to overflow into landscape areas.

**Project Impacts and Mitigation**

The Project will comply with City and County of Honolulu Rules Relating to Water Quality, as necessary, and is not anticipated to have negative impacts to storm water quality.

## 3.14 Power and Communications Facilities

Hawaiian Electric Company (HECO) – There is existing HECO facilities along Lauula Street servicing adjacent properties with 3-phase power. The nearest handhole to service the property is located fronting the ewa/makai corner of the site which looks to have fed a previously installed HECO transformer. The HECO transformer pad is still located adjacent to the handhole and will need to be removed. Currently, there is a parking meter kiosk on site but that looks to be solar powered with wireless communication.

Hawaiian Telcom (HTCO) and Charter Communications (Charter) – There are existing HTCO and Charter facilities along Lauula Street servicing adjacent properties. The nearest HTCO handhole to service the property is located across the street on the makai side of the roadway. The nearest Charter handhole to service the property is located adjacent to the HECO handhole, fronting the ewa/makai corner of the site. There is an existing tree between the site and handhole therefore trenching around the tree would be required if the tree is to remain.

**Project Impacts and Mitigation**

The Hawaiian Telcom handhole is located on the opposite side of Lauula Street from the site therefore a road crossing would be required which would temporarily affect traffic to

businesses on Lauula Street. During our site investigation, we did notice there are a lot of existing handholes that are damaged by vehicular traffic. It is not known yet if the utilities will require the project to replace the existing handholes that are being touched to service the site. If replacement is required, additional temporary traffic would occur.

## 3.15 Police, Fire, and Medical Facilities

### 3.15.1 Police

The Project Site is located within the Honolulu Police Department (HPD) District 6 – Waikīkī, Sector 1 which covers the west side of Waikīkī. The closest police station/substation, Waikīkī Substation, is located at 2425 Kalākaua Ave and is approximately 0.5 miles to the southeast of the Project Site. See **Figure 23**.

### 3.15.2 Fire

There are multiple Honolulu Fire Department (HFD) stations in the project vicinity including the Pāwa'a, McCully, and Waikīkī fire stations. The McCully Fire Station is located at 2425 Date St. and is approximately 0.6 miles north of the Project Site. The Pāwa'a Fire Station is located at 1610 Makaloa St. and is approximately 1.1 miles northwest of the Project Site. The Waikīkī Fire Station is located at 381 Kapahulu Ave. and is approximately 1.1 miles east of the Project Site. See **Figure 23**.

### 3.15.3 Medical Facilities

The closest medical facility with emergency services is the Straub Medical Center. Straub Medical Center is located approximately 1.9 miles northwest of the project site on Ward Avenue and S. King St. Straub Medical Center's Emergency Department is available 24-hours a day, 365-days a year. See **Figure 23**.

**Project Impacts and Mitigation**

In the short-term, the project may have adverse impacts such as temporary disturbance of traffic, which could affect emergency vehicle access through the project area. During the construction period, the contractor shall ensure to keep the roadways clear and allow accessibility of police, fire, and emergency vehicles.

In the long-term, the proposed project my require occasional police and fire protection, as well as medical services, however it would likely not represent a significant amount relative to the overall regional demand.

The proposed project will be designed and built in compliance with the applicable County fire code requirements.

**Figure 23: Police, Fire, and Medical Facility Map**

## 3.16 Education Facilities

The Project Site is located within the Kaimuki-McKinley-Roosevelt Complex Area within the Honolulu District as indicated by the State of Hawai'i Department of Education (DOE). There are 10 public schools within the Kaimuki Complex. Students from the project area attend Jefferson Elementary School, Washington Middle School, and Kaimuki High School.

See **Figure 24** for schools in the vicinity of the project area.

**Project Impacts and Mitigation**

Under the use as an apartment building, the project will add students to the DOE system. Jefferson Elementary is at capacity and will remain at capacity over the next five years. However, both Washington Middle and Kaimuki High have excess capacity and will continue to have excess capacity over the next five years.

**Figure 24: Public Schools and Public/Private University Map**

## 3.17 Community Parks and Recreational Resources

The City Department of Parks and Recreation (DPR) manages and maintains a system of parks on the island of O'ahu. The Project Site is located with DPR's District 1: East Honolulu – Hawai'i Kai to McCully. There are many community parks and beaches available in the vicinity of the subject project.

See **Figure 25.**

### Project Impacts and Mitigation

The proposed project is not expected to have significant adverse impacts on recreational facilities in the vicinity of the project area.

**Figure 25: Community Park Map**

## 3.18 Socio-economic Environment

The Project is located in the PUC, which has been specifically targeted for urbanization, per the City's growth management strategy outlined in the PUC DP (2004) and the Honolulu General Plan (1992, amended in 2002).

US Census compiles demographic information on population, housing, and employment every 10 years, with the most recent data available from the year 2010. The Project Site is located within Census Tract 20.06 Ala Wai-Olohana Street and the Census Designated Place Urban Honolulu.

An overview of 2017 demographic characteristics based on the U.S. Census Bureau American Community Survey for the census tract and for Honolulu County as a whole, is provided in **the table below**.

**Table 1: Selected Population and Housing Characteristics**

| Subject | Census Tract 20.06 | | City and County of Honolulu | |
|---|---|---|---|---|
| | Number | Percent | Number | Percent |
| **Total Population** | **1,623** | **100.0** | **990,060** | **100.0** |
| **AGE** | | | | |
| Under 5 years | 18 | 1.1 | 64,644 | 6.5 |
| 5-19 years | 134 | 8.3 | 169,511 | 17.2 |
| 20-64 years | 1,169 | 72.0 | 530,898 | 53.6 |
| 65 years and over | 302 | 18.6 | 162,580 | 16.4 |
| Median age (years) | 44.4 | - | 37.6 | - |
| **RACE** | | | | |
| One race | 1,539 | 94.8 | 760,701 | 76.8 |
| White | 634 | 39.1 | 209,222 | 21.1 |
| Black or African American | 57 | 3.5 | 23,248 | 2.3 |
| American Indian and Alaskan Native | 12 | 0.7 | 1,391 | 0.1 |
| Asian | 668 | 41.2 | 424,558 | 42.9 |
| Native Hawaiian and other Pacific Islander | 160 | 9.9 | 92,743 | 9.4 |
| Other | 8 | 0.5 | 9,539 | 1.0 |
| Two or more races | 84 | 5.2 | 229,359 | 23.2 |
| **HOUSEHOLD (BY TYPE)** | | | | |
| **Total households** | **993** | **100.0** | **311,451** | **100.0** |
| Family households (families) | 339 | 34.1 | 219,859 | 70.6 |
| Nonfamily household | 654 | 65.9 | 91,592 | 29.4 |
| Average household size | 1.63 | - | 3.06 | - |
| **HOUSING OCCUPANCY AND TENURE** | | | | |
| **Total housing Units** | **1,806** | **100.0** | **346,374** | **100.0** |
| Occupied Units | 993 | 55.0 | 311,451 | 89.9 |

| | | | | |
|---|---|---|---|---|
| Owner-occupied | 446 | 44.9 | 173,242 | 55.6 |
| Renter-occupied | 547 | 55.1 | 138,209 | 44.4 |
| Vacant Units | 813 | 45.0 | 34,923 | 10.1 |
| **Misc.** | | | | |
| Median Gross Rent | $ 1,532 | - | $ 1,653 | - |
| Median Household Income | $ 51,146 | - | $ 80,078 | - |
| Mean Household Income | $ 65,077 | - | $ 101,194 | - |

*Source: U.S. Census Bureau, American Community Survey, 5-year Estimates (2017)

**Project Impacts and Mitigation**

The proposed Project will not provide additional dwelling units to the area as a boutique hotel. The hotelunits will target temporary guests and not affect the population of O'ahu citizens. However, as an apartment building it will provide 16 additional dwelling units. The 16 additional dwelling units will increase the total households from 993 to 1,009 and increase the total housing units from 1,806 to 1,822 (0.9% increase). The 0.9% increase of housing units is not anticipated to significantly impact the socio-economic environment.

Development of the project will provide construction and indirect jobs. In addition to construction expenditures, construction activity will generate indirect sales associated with supplying goods and services to construction companies and to the families of construction workers. In turn, the companies supplying goods and services, and the families of their employees, will purchase goods and services from other companies, and so on. These indirect sales will include sales by companies that supply building materials (cement, steel, lumber, roofing materials, plumbing equipment, electrical equipment, hard-ware supplies, lighting, flooring, etc.); rent out construction equipment; repair equipment; provide warehousing services; provide shipping and trucking services; etc. Indirect sales also include sales by grocery stores, drugstores, restaurants, service stations, beauty salons, medical providers, accountants, attorneys, insurance agents, etc.

## 3.19 Potential Cumulative and Secondary Impacts

Cumulative impacts 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. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The Project is not anticipated to generate substantial cumulative impacts. Short-term impacts to adjacent buildings may occur during construction. These will be mitigated to the extent possible, as previously described. In the long-term, there will be no adverse cumulative impacts on existing environment as described previously.

Secondary effects are impacts that are associated with, but do not result directly from, an activity. The environmental analysis of the proposed Project addresses full development of the project in the context of known planned or approved land uses in the vicinity. Thus, secondary

impacts are not anticipated.

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## Section 4

# Conformance with Land Use plans, Policies and Controls

# Section 4 Conformance with Land Use Plans, Policies and Controls

## 4.1 Hawai'i State Plan

The Hawai'i State Plan, HRS, Chapter 226, adopted in 1978 and revised in 1986, serves as a guide for the future long range development of the State by identifying goals, objectives, policies, and priorities. The Hawai'i State Plan consists of three major parts:

Part I, Overall Theme, Goals, Objectives, and Policies, describes the overall theme including Hawai'i's desired future and quality of life as expressed in goals, objectives, and policies.

Part II, Planning Coordination and Implementation, describing a statewide planning system designed to coordinate and guide all major state and county activities and to implement the goals, objectives, policies, and priority guidelines of the Hawai'i State Plan.

Part III, Priority Guidelines, which express the pursuit of desirable courses of action in major areas of statewide concern.

The proposed project is consistent with the objectives and policies of the Hawai'i State Plan. An analysis of the project's ability to meet the objectives, policies, and priority guidelines of the Hawai'i State Plan are provided in the **tables** below.

| **Table 2: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies**<br>S = Supportive, N/S = Not Supportive, N/A = Not Applicable | **S** | **N/S** | **N/A** |
|---|---|---|---|
| **§226-4: State Goals.**<br>In order to guarantee, for the present and future generations, those elements of choice and mobility that insure that individuals and groups may approach their desired levels of self-reliance and self-determination, it shall be the goal of the State to achieve: | | | |
| (1) A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawai'i's present and future generations. | | | |
| (2) 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. | | | |
| (3) 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. | | | |
| **§226-5: Objective and policies for population**<br>(a) It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic, and social objectives contained in this chapter;<br>(b) To achieve the population objective, it shall be the policy of this State to: | | | |
| (1) Manage population growth statewide in a manner that provides increased opportunities for Hawai'i's people to pursue their physical, social and economic aspirations while recognizing the unique needs of each county. | | | **X** |
| (2) Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs-and desires. | | | **X** |
| (3) Promote increased opportunities for Hawai'i's people to pursue their socioeconomic aspirations throughout the islands. | | | **X** |

| **Table 2: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies**<br>S = Supportive, N/S = Not Supportive, N/A = Not Applicable | **S** | **N/S** | **N/A** |
|---|---|---|---|
| (4) Encourage research activities and public awareness programs to foster and understanding of Hawai'i's limited capacity to accommodate population needs and to address concerns resulting from an increase in Hawai'i's population. | | | **X** |
| (5) Encourage federal actions and coordination among major governmental agencies to promote a more balanced distribution of immigrants among states, provided that such actions do not prevent the reunion of immediate family members. | | | **X** |
| (6) Pursue an increase in federal assistance for states with a greater proportion of foreign immigrants relative to their state's population | | | **X** |
| (7) Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area | | | **X** |
| **Discussion:** The Project will not affect the objectives and policies for the State's population. | | | |
| **§226-6 Objectives and policies for the economy in general.**<br>(a) Planning for the State's economy in general shall be directed toward achievement of the following objectives:<br>(1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawai'i's people.<br>(2) A steadily growing and diversified economic base that is not overly dependent on a few industries and includes the development and expansion of industries on the neighbor islands.<br>(b) To achieve the general economic objectives, it shall be the policy of this State to: | | | |
| (1) Promote and encourage entrepreneurship within Hawai'i by residents and nonresidents of the State. | | | **X** |
| (2) Expand Hawai'i's national and international marketing, communication, and organizational ties, to increase the State's capacity to adjust to and capitalize upon economic changes and opportunities occurring outside the State. | | | **X** |
| (3) Promote Hawai'i as an attractive market for environmentally and socially sound investment activities that benefit Hawai'i's people. | | | **X** |
| (4) Transform and maintain Hawai'i as a place that welcomes and facilitates innovative activity that may lead to commercial opportunities. | | | **X** |
| (5) Promote innovative activity that may pose initial risks, but ultimately contribute to the economy of Hawai'i. | | | **X** |
| (6) Seek broader outlets for new or expanded Hawai'i business investments. | | | **X** |
| (7) Expand existing markets and penetrate new markets for Hawai'i's products and services. | | | **X** |
| (8) Assure that the basic economic needs of Hawai'i's people are maintained in the event of disruptions in overseas transportation. | | | **X** |
| (9) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives. | | | **X** |
| (10) Encourage the formation of cooperatives and other favorable marketing arrangements at the local or regional level to assist Hawai'i's small-scale producers, manufacturers, and distributors. | | | **X** |
| (11) Encourage labor-intensive activities that are economically satisfying, and which offer opportunities for upward mobility. | | | **X** |
| (12) Encourage innovative activities that may not be labor-intensive, but may otherwise contribute to the economy of Hawai'i. | | | **X** |
| (13) Foster greater cooperation and coordination between the government and private sectors in developing Hawai'i's employment and economic growth opportunities. | | | **X** |
| (14) Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems. | | | **X** |
| (15) Maintain acceptable working conditions and standards for Hawai'i's workers. | **X** | | |

| **Table 2: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies**<br>S = Supportive, N/S = Not Supportive, N/A = Not Applicable | **S** | **N/S** | **N/A** |
|---|---|---|---|
| (16) Provide equal employment opportunities for all segments of Hawai'i's population through affirmative action and nondiscrimination measures. | | | **X** |
| (17) Stimulate the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited. | | | **X** |
| (18) Encourage businesses that have favorable financial multiplier effects within Hawai'i's economy. | | | **X** |
| (19) Promote and protect intangible resources in Hawai'i, such as scenic beauty and the aloha spirit, which are vital to a healthy economy. | | | **X** |
| (20) Increase effective communication between the educational community and the private sector to develop relevant curricula and training programs to meet future employment needs in general, and requirements of new, potential growth industries in particular. | | | **X** |
| (21) Foster a business climate in Hawai'i--including attitudes, tax and regulatory policies, and financial and technical assistance programs--that is conducive to the expansion of existing enterprises and the creation and attraction of new business and industry. | | | **X** |
| **Discussion:** The Project will provide a hotel or apartment building in Waikīkī, a major tourist destination. This will promote temporary jobs during construction and permanent jobs for the operation of the building. | | | |
| **§226-7 Objectives and policies for the economy - agriculture.**<br>(a) Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:<br>(1) Viability of Hawai'i's sugar and pineapple industries.<br>(2) Growth and development of diversified agriculture throughout the State.<br>(3) An agriculture industry that continues to constitute a dynamic and essential component of Hawai'i's strategic, economic, and social well-being.<br>(b) To achieve the agriculture objectives, it shall be the policy of this State to: | | | |
| (1) Establish a clear direction for Hawai'i's agriculture through stakeholder commitment and advocacy. | | | **X** |
| (2) Encourage agriculture by making best use of natural resources. | | | **X** |
| (3) Provide the governor and the legislature with information and options needed for prudent decision making for the development of agriculture. | | | **X** |
| (4) Establish strong relationships between the agricultural and visitor industries for mutual marketing benefits. | | | **X** |
| (5) Foster increased public awareness and understanding of the contributions and benefits of agriculture as a major sector of Hawai'i's economy. | | | **X** |
| (6) Seek the enactment and retention of federal and state legislation that benefits Hawai'i's agricultural industries. | | | **X** |
| (7) Strengthen diversified agriculture by developing an effective promotion, marketing, and distribution system between Hawai'i's producers and consumer markets locally, on the continental United States, and internationally. | | | **X** |
| (8) Support research and development activities that provide greater efficiency and economic productivity in agriculture. | | | **X** |
| (9) Enhance agricultural growth by providing public incentives and encouraging private initiatives. | | | **X** |
| (10) Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs. | | | **X** |
| (11) Increase the attractiveness and opportunities for an agricultural education and livelihood. | | | **X** |

| **Table 2: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies**<br>S = Supportive, N/S = Not Supportive, N/A = Not Applicable | **S** | **N/S** | **N/A** |
|---|---|---|---|
| (12) Expand Hawai'i's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises. | | | **X** |
| (13) Promote economically competitive activities that increase Hawai'i's agricultural self-sufficiency. | | | **X** |
| (14) Promote and assist in the establishment of sound financial programs for diversified agriculture. | | | **X** |
| (15) Institute and support programs and activities to assist the entry of displaced agricultural workers into alternative agricultural or other employment. | | | **X** |
| (16) Facilitate the transition of agricultural lands in economically non-feasible agricultural production to economically viable agricultural uses. | | | **X** |
| (17) Perpetuate, promote, and increase use of traditional Hawaiian farming systems, such as the use of loko i'a,<br>māla, and irrigated lo'i, and growth of traditional Hawaiian crops, such as kalo, 'uala, and 'ulu. | | | **X** |
| (18) Increase and develop small-scale farms. | | | **X** |
| **Discussion:** The proposed Project on the State's economy in regards to agriculture is negligible. | | | |
| **§226-8 Objective and policies for the economy-visitor industry.**<br>(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.<br>(b) To achieve the visitor industry objective, it shall be the policy of this State to: | | | |
| (1) Support and assist in the promotion of Hawai'i's visitor attractions and facilities. | **X** | | |
| (2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawai'i's people. | **X** | | |
| (3) Improve the quality of existing visitor destination areas. | **X** | | |
| (4) Encourage cooperation and coordination between the government and private sectors in developing and maintaining well-designed, adequately serviced visitor industry and related developments which are sensitive to neighboring communities and activities. | **X** | | |
| (5) Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawai'i's people. | **X** | | |
| (6) Provide opportunities for Hawai'i's people to obtain job training and education that will allow for upward mobility within the visitor industry. | **X** | | |
| (7) Foster a recognition of the contribution of the visitor industry to Hawai'i's economy and the need to perpetuate the aloha spirit. | **X** | | |
| (8) Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawai'i's cultures and values. | **X** | | |
| **Discussion:** The alternative for a hotel development will align with the State's goals for the visitor industry. The Project will provide 16 rooms for guests in the heart of Waikīkī. Guests will have access to the nearby retail, dining, and visitor industry activities throughout Waikīkī. | | | |
| **§226-9 Objective and policies for the economy--federal expenditures.**<br>(a) Planning for the State's economy with regard to federal expenditures shall be directed towards achievement of the objective of a stable federal investment base as an integral component of Hawai'i's economy.<br>(b) To achieve the federal expenditures objective, it shall be the policy of this State to: | | | |
| (1) Encourage the sustained flow of federal expenditures in Hawai'i that generates long-term government civilian employment. | | | **X** |
| (2) Promote Hawai'i's supportive role in national defense. | | | **X** |

| **Table 2: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies**<br>S = Supportive, N/S = Not Supportive, N/A = Not Applicable | **S** | **N/S** | **N/A** |
|---|---|---|---|
| (3) Promote the development of federally supported activities in Hawai'i that respect state-wide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawai'i's environment. | | | **X** |
| (4) Increase opportunities for entry and advancement of Hawai'i's people into federal government service. | | | **X** |
| (5) Promote federal use of local commodities, services, and facilities available in Hawai'i. | | | **X** |
| (6) Strengthen federal-state-county communication and coordination in all federal activities that affect Hawai'i. | | | **X** |
| (7) Pursue the return of federally controlled lands in Hawai'i that are not required for either the defense of the nation or for other purposes of national importance, and promote the mutually beneficial exchanges of land between federal agencies, the State, and the counties. | | | **X** |
| **Discussion:** The Project will not affect the objectives and policies for the State's economy in regards to federal expenditures. | | | |
| **§226-10 Objective and policies for the economy--potential growth and innovative activities.**<br>(a) Planning for the State's economy with regard to potential growth and innovative activities shall be directed towards achievement of the objective of development and expansion of potential growth and innovative activities that serve to increase and diversify Hawai'i's economic base.<br>(b) To achieve the potential growth and innovative activity objective, it shall be the policy of this State to: | | | |
| (1) Facilitate investment and employment growth in economic activities that have the potential to expand and diversify Hawai'i's economy, including but not limited to diversified agriculture, aquaculture, renewable energy development, creative media, health care, and science and technology-based sectors; | | | **X** |
| (2) Facilitate investment in innovative activity that may pose risks or be less labor-intensive than other traditional business activity, but if successful, will generate revenue in Hawai'i through the export of services or products or substitution of imported services or products; | | | **X** |
| (3) Encourage entrepreneurship in innovative activity by academic researchers and instructors who may not have the background, skill, or initial inclination to commercially exploit their discoveries or achievements; | | | **X** |
| (4) Recognize that innovative activity is not exclusively dependent upon individuals with advanced formal education, but that many self-taught, motivated individuals are able, willing, sufficiently knowledgeable, and equipped with the attitude necessary to undertake innovative activity; | | | **X** |
| (5) Increase the opportunities for investors in innovative activity and talent engaged in innovative activity to personally meet and interact at cultural, art, entertainment, culinary, athletic, or visitor-oriented events without a business focus; | | | **X** |
| (6) Expand Hawai'i's capacity to attract and service international programs and activities that generate employment for Hawai'i's people; | | | **X** |
| (7) Enhance and promote Hawai'i's role as a center for international relations, trade, finance, services, technology, education, culture, and the arts; | | | **X** |
| (8) Accelerate research and development of new energy-related industries based on wind, solar, ocean, underground resources, and solid waste; | | | **X** |
| (9) Promote Hawai'i's geographic, environmental, social, and technological advantages to attract new or innovative economic activities into the State; | | | **X** |
| (10) Provide public incentives and encourage private initiative to attract new or innovative industries that best support Hawai'i's social, economic, physical, and environmental objectives; | | | **X** |
| (11) Increase research and the development of ocean-related economic activities such as mining, food production, and scientific research; | | | **X** |
| (12) Develop, promote, and support research and educational and training programs that will enhance Hawai'i's ability to attract and develop economic activities of benefit to Hawai'i; | | | **X** |

| **Table 2: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies**<br>S = Supportive, N/S = Not Supportive, N/A = Not Applicable | **S** | **N/S** | **N/A** |
|---|---|---|---|
| (13) Foster a broader public recognition and understanding of the potential benefits of new or innovative growth- oriented industry in Hawai'i; | | | **X** |
| (14) Encourage the development and implementation of joint federal and state initiatives to attract federal programs and projects that will support Hawai'i's social, economic, physical, and environmental objectives; | | | **X** |
| (15) Increase research and development of businesses and services in the telecommunications and information industries; | | | **X** |
| (16) Foster the research and development of nonfossil fuel and energy efficient modes of transportation; and | | | **X** |
| (17) Recognize and promote health care and health care information technology as growth industries. | | | **X** |
| **Discussion:** The Project will not affect the objectives and policies for the State's economy in regards to potential growth and innovative activities. | | | |
| **§226-10.5 Objectives and policies for the economy--information industry.**<br>(a) Planning for the State's economy with regard to telecommunications and information technology shall be directed toward recognizing that broadband and wireless communication capability and infrastructure are foundations for an innovative economy and positioning Hawai'i as a leader in broadband and wireless communications and applications in the Pacific Region.<br>(b) To achieve the information industry objective, it shall be the policy of this State to: | | | |
| (1) Promote efforts to attain the highest speeds of electronic and wireless communication within Hawai'i and between Hawai'i and the world, and make high speed communication available to all residents and businesses in Hawai'i; | | | **X** |
| (2) Encourage the continued development and expansion of the telecommunications infrastructure serving Hawai'i to accommodate future growth and innovation in Hawai'i's economy; | | | **X** |
| (3) Facilitate the development of new or innovative business and service ventures in the information industry which will provide employment opportunities for the people of Hawai'i; | | | **X** |
| (4) Encourage mainland- and foreign-based companies of all sizes, whether information technology-focused or not, to allow their principals, employees, or contractors to live in and work from Hawai'i, using technology to communicate with their headquarters, offices, or customers located out-of-state; | | | **X** |
| (5) Encourage greater cooperation between the public and private sectors in developing and maintaining a well- designed information industry; | | | **X** |
| (6) Ensure that the development of new businesses and services in the industry are in keeping with the social, economic, and physical needs and aspirations of Hawai'i's people; | | | **X** |
| (7) Provide opportunities for Hawai'i's people to obtain job training and education that will allow for upward mobility within the information industry; | | | **X** |
| (8) Foster a recognition of the contribution of the information industry to Hawai'i's economy; and | | | **X** |
| (9) Assist in the promotion of Hawai'i as a broker, creator, and processor of information in the Pacific. | | | **X** |
| **Discussion:** The proposed Project impact on the State's economy in regards to the information industry is negligible. | | | |
| **§226-11 Objectives and policies for the physical environment--land-based, shoreline, and marine resources.**<br>(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:<br>(1) Prudent use of Hawai'i's land-based, shoreline, and marine resources.<br>(2) Effective protection of Hawai'i's unique and fragile environmental resources. | | | |

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|---|---|---|---|
| (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. | | | **X** |
| (2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems. | | | **X** |
| (3) Take into account the physical attributes of areas when planning and designing activities and facilities. | **X** | | |
| (4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage | | | **X** |
| (5) Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions. | | | **X** |
| (6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawai'i. | | | **X** |
| (7) Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion. | | | **X** |
| (8) Pursue compatible relationships among activities, facilities and natural resources. | | | **X** |
| (9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational and scientific purposes. | | | **X** |
| **Discussion:** The Project will follow design standards set forth in the LUO. The Project will not result in utilization of land that would impact the natural resources or ecological systems of the Project Site. | | | |
| **§226-12 Objective and policies for the physical environment--scenic, natural beauty, and historic resources.**<br>(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.<br>(b) To achieve the scenic, natural beauty, and historic resources objectives, it shall be the policy of this State to: | | | |
| (1) Promote the preservation and restoration of significant natural and historic resources. | | | **X** |
| (2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities. | | | **X** |
| (3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features. | **X** | | |
| (4) Protect those special areas, structures, and elements that are an integral and functional part of Hawai'i's ethnic and cultural heritage. | | | **X** |
| (5) Encourage the design of developments and activities that complement the natural beauty of the islands. | | | **X** |
| **Discussion:** The Project is not anticipated to have a significant adverse impact on scenic view planes or scenic resources. The Project Site will be more visible than it is now due to the addition of the proposed building. The parcel - in its current or future condition - does not interfere with the Significant Panoramic Views, including East-West Views, Mauka-Makai Views or Continuous Views, shown on Map A.1 of the PUC DP. Additionally, the more densely developed parcel will be better integrated with the urban fabric. According to the CIAR, cultural practices are not taking place and cultural/historic resources are not found at the Project Site. Furhtermore, the purpose of the Project is not to specifically enhance scenice, natural beauty, and histori resources objectives. | | | |
| **§226-13 Objectives and policies for the physical environment--land, air, and water quality.**<br>(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:<br>(1) Maintenance and pursuit of improved quality in Hawai'i's land, air, and water resources.<br>(2) Greater public awareness and appreciation of Hawai'i's environmental resources.<br>(b) To achieve the land, air, and water quality objectives, it shall be the policy of this State to: | | | |
| (1) Foster educational activities that promote a better understanding of Hawai'i's limited environmental resources. | | | **X** |

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|---|---|---|---|
| (2) Promote the proper management of Hawai'i's land and water resources. | | | **X** |
| (3) Promote effective measures to achieve desired quality in Hawai'i's surface, ground and coastal waters. | | | **X** |
| (4) Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawai'i's people. | | | **X** |
| (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. | | | **X** |
| (6) Encourage design and construction practices that enhance the physical qualities of Hawai'i's communities. | **X** | | |
| (7) Encourage urban developments in close proximity to existing services and facilities. | **X** | | |
| (8) Foster recognition of the importance and value of the land, air, and water resources to Hawai'i's people, their cultures and visitors. | | | **X** |
| **Discussion:** The Project will incorporate BMPs during construction to mitigate impacts on air and water quality during construction. The Project is not within the PACIOOS Sea Level Rise Exposure Area as described in **Section 3.6.2** and shown in **Figure 19**. The project's purpose is not specifically targetting enhancing the State's land, air, and water quality. However, with the use of construction BMPs, the land, air, and water resources will be maintained. | | | |
| **§226-14 Objective and policies for facility systems--in general.**<br>(a) Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives.<br>(b) To achieve the general facility systems objective, it shall be the policy of this State to: | | | |
| (1) Accommodate the needs of Hawai'i's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans. | | | **X** |
| (2) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities. | | | **X** |
| (3) Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user. | | | **X** |
| (4) Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems. | | | **X** |
| **Discussion:** The Project will coordinate proposed facility system impacts and connections with the appropriate State, City, and private entities. | | | |
| **§226-15 Objectives and policies for facility systems--solid and liquid wastes.**<br>(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. | | | **X** |
| (2) Provision of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas. | | | **X** |
| (b) To achieve solid and liquid waste objectives, it shall be the policy of this State to: | | | |
| (1) Encourage the adequate development of sewerage facilities that complement planned growth. | | | **X** |
| (2) Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic. | **X** | | |
| (3) Promote research to develop more efficient and economical treatment and disposal of solid and liquid wastes. | | | **X** |
| **Discussion:** WB will work with the City and County of Honolulu to ensure that there is adequate sewerage and solid waste facilities for the Project. | | | |

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|---|---|---|---|
| **§226-16 Objective and policies for facility systems--water.**<br>(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.<br>(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. | | | **X** |
| (2) Support research and development of alternative methods to meet future water requirements well in advance of anticipated needs. | | | **X** |
| (3) Reclaim and encourage the productive use of runoff water and wastewater discharges. | | | **X** |
| (4) Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use. | | | **X** |
| (5) Support water supply services to areas experiencing critical water problems. | | | **X** |
| (6) Promote water conservation programs and practices in government, private industry, and the general public to help ensure adequate water to meet long-term needs. | | | **X** |
| **Discussion:** WB will work with the Board of Water Supply to ensure that there is adequate water facilities to serve the Project. Post-construction LID measures may be used to improve the use and/or groundwater recharge of runoff water. | | | |
| **§226-17 Objectives and policies for facility systems--transportation.**<br>(a) Planning for the State's facility systems with regard to transportation shall be directed towards the achievement of the following objectives:<br>(1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods.<br>(2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State.<br>(b) To achieve the transportation objectives, it shall be the policy of this State to: | | | |
| (1) Design, program, and develop a multi-modal system in conformance with desired growth and physical development as stated in this chapter; | | | **X** |
| (2) Coordinate state, county, federal, and private transportation activities and programs toward the achievement of statewide objectives; | | | **X** |
| (3) Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties; | | | **X** |
| (4) Provide for improved accessibility to shipping, docking, and storage facilities; | | | **X** |
| (5) Promote a reasonable level and variety of mass transportation services that adequately meet statewide and community needs; | | | **X** |
| (6) Encourage transportation systems that serve to accommodate present and future development needs of communities; | | | **X** |
| (7) Encourage a variety of carriers to offer increased opportunities and advantages to inter-island movement of people and goods; | | | **X** |
| (8) Increase the capacities of airport and harbor systems and support facilities to effectively accommodate transshipment and storage needs; | | | **X** |
| (9) Encourage the development of transportation systems and programs which would assist statewide economic growth and diversification; | | | **X** |
| (10) Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawai'i's natural environment; | | | **X** |

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|---|---|---|---|
| (11) Encourage safe and convenient use of low-cost, energy- efficient, non-polluting means of transportation; | | | **X** |
| (12) Coordinate intergovernmental land use and transportation planning activities to ensure the timely delivery of supporting transportation infrastructure in order to accommodate planned growth objectives; and | | | **X** |
| (13) Encourage diversification of transportation modes and infrastructure to promote alternate fuels and energy efficiency. | | | **X** |
| **Discussion:** The Project supports facility systems related to transportation due to providing vehicle and bicycle access and parking. | | | |
| **§226-18 Objectives and policies for facility systems--energy.**<br>(a) Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all:<br>(1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people;<br>(2) Increased energy security and self-sufficiency through the reduction and ultimate elimination of Hawai'i's dependence on imported fuels for electrical generation and ground transportation;<br>(3) Greater diversification of energy generation in the face of threats to Hawai'i's energy supplies and systems;<br>(4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use; and<br>(5) Utility models that make the social and financial interests of Hawai'i's utility customers a priority.<br>(b) To achieve the energy objectives, it shall be the policy of this State to ensure the short- and long-term provision of adequate, reasonably priced, and dependable energy services to accommodate demand.<br>(c) To further achieve the energy objectives, it shall be the policy of this State to: | | | |
| (1) Support research and development as well as promote the use of renewable energy sources; | | | **X** |
| (2) Ensure that the combination of energy supplies and energy-saving systems is sufficient to support the demands of growth; | | | **X** |
| (3) Base decisions of least-cost supply-side and demand-side energy resource options on a comparison of their total costs and benefits when a least-cost is determined by a reasonably comprehensive, quantitative, and qualitative accounting of their long-term, direct and indirect economic, environmental, social, cultural, and public health costs and benefits; | | | **X** |
| (4) Promote all cost-effective conservation of power and fuel supplies through measures, including:<br>(A) Development of cost-effective demand-side management programs;<br>(B) Education;<br>(C) Adoption of energy-efficient practices and technologies; and<br>(D) Increasing energy efficiency and decreasing energy use in public infrastructure; | **X** | | |
| (5) Ensure to the extent that new supply-side resources are needed, the development or expansion of energy systems utilizes the least-cost energy supply option and maximizes efficient technologies; | | | **X** |
| (6) Support research, development, and demonstration of energy efficiency, load management, and other demand-side management programs, practices, and technologies; | | | **X** |
| (7) Promote alternate fuels and energy efficiency by encouraging diversification of transportation modes and infrastructure; | | | **X** |
| (8) Support actions that reduce, avoid, or sequester greenhouse gases in utility, transportation, and industrial sector applications; and | | | **X** |
| (9) Support actions that reduce, avoid, or sequester Hawai'i's greenhouse gas emissions through agriculture and forestry initiatives. | | | **X** |

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|---|---|---|---|
| (10) Provide priority handling and processing for all state and county permits required for renewable energy projects; | | | **X** |
| (11) Ensure that liquefied natural gas is used only as a cost-effective transitional, limited-term replacement of petroleum for electricity generation and does not impede the development and use of other cost-effective renewable energy sources; and | | | **X** |
| (12) Promote the development of indigenous geothermal energy resources that are located on public trust land as an affordable and reliable source of firm power for Hawai'i. | | | **X** |
| **Discussion:** WB will work with the Hawaiian Electric Company to ensure that there is adequate electrical facilities to serve the Project. | | | |
| **§226-18.5 Objectives and policies for facility systems--telecommunications.**<br>(a) Planning for the State's telecommunications facility systems shall be directed towards the achievement of dependable, efficient, and economical statewide telecommunications systems capable of supporting the needs of the people.<br>(b) To achieve the telecommunications objective, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable telecommunications services to accommodate demand.<br>(c) To further achieve the telecommunications objective, it shall be the policy of this State to: | | | |
| (1) Facilitate research and development of telecommunications systems and resources; | | | **X** |
| (2) Encourage public and private sector efforts to develop means for adequate, ongoing telecommunications planning; | | | **X** |
| (3) Promote efficient management and use of existing telecommunications systems and services; and | | | **X** |
| (4) Facilitate the development of education and training of telecommunications personnel. | | | **X** |
| **Discussion:** WB will work with the appropriate telecommunication companies to ensure that there is adequate facilities to serve the Project. | | | |
| **§226-19 Objectives and policies for socio-cultural advancement--housing.**<br>(a) Planning for the State's socio- cultural advancement with regard to housing shall be directed toward the achievement of the following objectives:<br>(1) Greater opportunities for Hawai'i's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more rental and for sale affordable housing is made available to extremely low-, very low-, lower-, moderate-, and above moderate-income segments of Hawai'i's population.<br>(2) The orderly development of residential areas sensitive to community needs and other land uses.<br>(3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawai'i's people.<br>(b) To achieve the housing objectives, it shall be the policy of this State to: | | | |
| (1) Effectively accommodate the housing needs of Hawai'i's people. | **X** | | |
| (2) Stimulate and promote feasible approaches that increase affordable rental and for sale housing choices for extremely low-, very low-, lower-, moderate-, and above moderate-income households. | | | **X** |
| (3) Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing. | **X** | | |
| (4) Promote appropriate improvement, rehabilitation, and maintenance of existing rental and for sale housing units and residential areas. | | | **X** |

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|---|---|---|---|
| (5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas. | **X** | | |
| (6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing. | **X** | | |
| (7) Foster a variety of lifestyles traditional to Hawai'i through the design and maintenance of neighborhoods that reflect the culture and values of the community. | | | **X** |
| (8) Promote research and development of methods to reduce the cost of housing construction in Hawai'i. | | | **X** |
| **Discussion:** The Project will not provide housing. The dormitory or hotel units will target temporary guests and not affect the population of O'ahu citizens. | | | |
| **§226-20 Objectives and policies for socio-cultural advancement--health.**<br>(a) Planning for the State's socio-cultural advancement with regard to health shall be directed towards achievement of the following objectives:<br>(1) Fulfillment of basic individual health needs of the general public.<br>(2) Maintenance of sanitary and environmentally healthful conditions in Hawai'i's communities.<br>(3) Elimination of health disparities by identifying and addressing social determinants of health.<br>(b) To achieve the health objectives, it shall be the policy of this State to: | | | |
| (1) Provide adequate and accessible services and facilities for prevention and treatment of physical and mental health problems, including substance abuse. | | | **X** |
| (2) Encourage improved cooperation among public and private sectors in the provision of health care to accommodate the total health needs of individuals throughout the State. | | | **X** |
| (3) Encourage public and private efforts to develop and promote statewide and local strategies to reduce health care and related insurance costs. | | | **X** |
| (4) Foster an awareness of the need for personal health maintenance and preventive health care through education and other measures. | | | **X** |
| (5) Provide programs, services, and activities that ensure environmentally healthful and sanitary conditions. | | | **X** |
| (6) Improve the State's capabilities in preventing contamination by pesticides and other potentially hazardous substances through increased coordination, education, monitoring, and enforcement. | | | **X** |
| (7) Prioritize programs, services, interventions, and activities that address identified social determinants of health to improve native Hawaiian health and well-being consistent with the United States Congress' declaration of policy as codified in title 42 United States Code section 11702, and to reduce health disparities of disproportionately affected demographics, including native Hawaiians, other Pacific Islanders, and Filipinos. The prioritization of affected demographic groups other than native Hawaiians may be reviewed every ten years and revised based on the best available epidemiological and public health data. | | | **X** |
| **Discussion:** The Project will not affect the objectives and policies for the State's socio-cultural advancement of health. | | | |
| **§226-21 Objective and policies for socio-cultural advancement--education.**<br>(a) Planning for the State's socio- cultural advancement with regard to education shall be directed towards achievement of the objective of the provision of a variety of educational opportunities to enable individuals to fulfill their needs, responsibilities, and aspirations.<br>(b) To achieve the education objective, it shall be the policy of this State to: | | | |
| (1) Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups. | | | **X** |
| (2) Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs. | | | **X** |

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|---|---|---|---|
| (3) Provide appropriate educational opportunities for groups with special needs. | | | **X** |
| (4) Promote educational programs which enhance understanding of Hawai'i's cultural heritage. | | | **X** |
| (5) Provide higher educational opportunities that enable Hawai'i's people to adapt to changing employment demands. | | | **X** |
| (6) Assist individuals, especially those experiencing critical employment problems or barriers, or undergoing employment transitions, by providing appropriate employment training programs and other related educational opportunities. | | | **X** |
| (7) Promote programs and activities that facilitate the acquisition of basic skills, such as reading, writing, computing, listening, speaking, and reasoning. | | | **X** |
| (8) Emphasize quality educational programs in Hawai'i's institutions to promote academic excellence. | | | **X** |
| (9) Support research programs and activities that enhance the education programs of the State. | | | **X** |
| **Discussion:** The Project will not affect the objectives and policies for the State's socio-cultural advancement with regard to education. | | | |
| **§226-22 Objective and policies for socio-cultural advancement--social services.**<br>(a) Planning for the State's socio-cultural advancement with regard to social services shall be directed towards the achievement of the objective of improved public and private social services and activities that enable individuals, families, and groups to become more self-reliant and confident to improve their well-being.<br>(b) To achieve the social service objective, it shall be the policy of the State to: | | | |
| (1) Assist individuals, especially those in need of attaining a minimally adequate standard of living and those confronted by social and economic hardship conditions, through social services and activities within the State's fiscal capacities. | | | **X** |
| (2) Promote coordination and integrative approaches among public and private agencies and programs to jointly address social problems that will enable individuals, families, and groups to deal effectively with social problems and to enhance their participation in society. | | | **X** |
| (3) Facilitate the adjustment of new residents, especially recently arrived immigrants, into Hawai'i's communities. | | | **X** |
| (4) Promote alternatives to institutional care in the provision of long-term care for elder and disabled populations. | | | **X** |
| (5) Support public and private efforts to prevent domestic abuse and child molestation, and assist victims of abuse and neglect. | | | **X** |
| (6) Promote programs which assist people in need of family planning services to enable them to meet their needs. | | | **X** |
| **Discussion:** The Project will not affect the objectives and policies for the State's socio-cultural advancement with regard to social services. | | | |
| **§226-23 Objective and policies for socio-cultural advancement--leisure.**<br>(a) Planning for the State's socio- cultural advancement with regard to leisure shall be directed towards the achievement of the objective of the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.<br>(b) To achieve the leisure objective, it shall be the policy of this State to: | | | |
| (1) Foster and preserve Hawai'i's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities. | | | **X** |
| (2) Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently. | | | **X** |

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|---|---|---|---|
| (3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance. | | | **X** |
| (4) Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved. | | | **X** |
| (5) Ensure opportunities for everyone to use and enjoy Hawai'i's recreational resources. | | | **X** |
| (6) Assure the availability of sufficient resources to provide for future cultural, artistic, and recreational needs. | | | **X** |
| (7) Provide adequate and accessible physical fitness programs to promote the physical and mental well-being of Hawai'i's people. | | | **X** |
| (8) Increase opportunities for appreciation and participation in the creative arts, including the literary, theatrical, visual, musical, folk, and traditional art forms. | | | **X** |
| (9) Encourage the development of creative expression in the artistic disciplines to enable all segments of Hawai'i's population to participate in the creative arts. | | | **X** |
| (10) Assure adequate access to significant natural and cultural resources in public ownership. | | | **X** |
| **Discussion:** The Project will not affect the objectives and policies for the State's socio-cultural advancement with regard to leisure. | | | |
| **§226-24 Objective and policies for socio-cultural advancement--individual rights and personal well-being.**<br>(a) Planning for the State's socio-cultural advancement with regard to individual rights and personal well-being shall be directed towards achievement of the objective of increased opportunities and protection of individual rights to enable individuals to fulfill their socio-economic needs and aspirations.<br>(b) To achieve the individual rights and personal well-being objective, it shall be the policy of this State to: | | | |
| (1) Provide effective services and activities that protect individuals from criminal acts and unfair practices and that alleviate the consequences of criminal acts in order to foster a safe and secure environment. | | | **X** |
| (2) Uphold and protect the national and state constitutional rights of every individual. | | | **X** |
| (3) Assure access to, and availability of, legal assistance, consumer protection, and other public services which strive to attain social justice. | | | **X** |
| (4) Ensure equal opportunities for individual participation in society. | | | **X** |
| **Discussion:** The Project will not affect the objectives and policies for the State's socio-cultural advancement with regard to individual rights and personal well-being. | | | |
| **§226-25 Objective and policies for socio-cultural advancement--culture.**<br>(a) Planning for the State's socio-cultural advancement with regard to culture shall be directed toward the achievement of the objective of enhancement of cultural identities, traditions, values, customs, and arts of Hawai'i's people.<br>(b) To achieve the culture objective, it shall be the policy of this State to: | | | |
| (1) Foster increased knowledge and understanding of Hawai'i's ethnic and cultural heritages and the history of Hawai'i. | | | **X** |
| (2) Support activities and conditions that promote cultural values, customs, and arts that enrich the lifestyles of Hawai'i's people and which are sensitive and responsive to family and community needs. | | | **X** |
| (3) Encourage increased awareness of the effects of proposed public and private actions on the integrity and quality of cultural and community lifestyles in Hawai'i. | | | **X** |
| (4) Encourage the essence of the aloha spirit in people's daily activities to promote harmonious relationships among Hawai'i's people and visitors. | | | **X** |
| **Discussion:** The Project will not affect the objectives and policies for the State's socio-cultural advancement with regard to culture. | | | |

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|---|---|---|---|
| **§226-26 Objectives and policies for socio-cultural advancement--public safety.**<br>(a) Planning for the State's socio-cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives:<br>(1) Assurance of public safety and adequate protection of life and property for all people.<br>(2) Optimum organizational readiness and capability in all phases of emergency management to maintain the strength, resources, and social and economic well-being of the community in the event of civil disruptions, wars, natural disasters, and other major disturbances.<br>(3) Promotion of a sense of community responsibility for the welfare and safety of Hawai'i's people.<br>(b) To achieve the public safety objectives, it shall be the policy of this State to: | | | |
| (1) Ensure that public safety programs are effective and responsive to community needs. | | | **X** |
| (2) Encourage increased community awareness and participation in public safety programs. | | | **X** |
| (c) To further achieve public safety objectives related to criminal justice, it shall be the policy of this State to: | | | |
| (1) Support criminal justice programs aimed at preventing and curtailing criminal activities. | | | **X** |
| (2) Develop a coordinated, systematic approach to criminal justice administration among all criminal justice agencies. | | | **X** |
| (3) Provide a range of correctional resources which may include facilities and alternatives to traditional incarceration in order to address the varied security needs of the community and successfully reintegrate offenders into the community. | | | **X** |
| (d) To further achieve public safety objectives related to emergency management, it shall be the policy of this State to: | | | |
| (1) Ensure that responsible organizations are in a proper state of readiness to respond to major war-related, natural, or technological disasters and civil disturbances at all times. | | | **X** |
| (2) Enhance the coordination between emergency management programs throughout the State. | | | **X** |
| **Discussion:** The Project will not affect the objectives and policies for the State's socio-cultural advancement with regard to public safety. | | | |
| **§226-27 Objectives and policies for socio-cultural advancement--government.**<br>(a) Planning the State's socio-cultural advancement with regard to government shall be directed towards the achievement of the following objectives:<br>(1) Efficient, effective, and responsive government services at all levels in the State.<br>(2) Fiscal integrity, responsibility, and efficiency in the state government and county governments.<br>(b) To achieve the government objectives, it shall be the policy of this State to: | | | |
| (1) Provide for necessary public goods and services not assumed by the private sector. | | | **X** |
| (2) Pursue an openness and responsiveness in government that permits the flow of public information, interaction, and response. | | | **X** |
| (3) Minimize the size of government to that necessary to be effective. | | | **X** |
| (4) Stimulate the responsibility in citizens to productively participate in government for a better Hawai'i. | | | **X** |
| (5) Assure that government attitudes, actions, and services are sensitive to community needs and concerns. | | | **X** |
| (6) Provide for a balanced fiscal budget. | | | **X** |
| (7) Improve the fiscal budgeting and management system of the State. | | | **X** |
| (8) Promote the consolidation of state and county governmental functions to increase the effective and efficient delivery of government programs and services and to eliminate duplicative services wherever feasible. | | | **X** |

| **Table 2: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives and Policies**<br>S = Supportive, N/S = Not Supportive, N/A = Not Applicable | **S** | **N/S** | **N/A** |
|---|---|---|---|
| **Discussion:** The Project will not affect the objectives and policies for the State's socio-cultural advancement with regard to government. | | | |

| **Table 3: Hawai'i State Plan Part 3. Priority Guidelines**<br>S = Supportive, N/S = Not Supportive, N/A = Not Applicable | **S** | **N/S** | **N/A** |
|---|---|---|---|
| **§226-103 Economic priority guidelines.**<br>(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. | | | **X** |
| (2) Encourage the expansion of technological research to assist industry development and support the development and commercialization of technological advancements. | | | **X** |
| (3) Improve the quality, accessibility, and range of services provided by government to business, including data and reference services and assistance in complying with governmental regulations. | | | **X** |
| (4) Seek to ensure that state business tax and labor laws and administrative policies are equitable, rational, and predictable. | | | **X** |
| (5) Streamline the processes for building and development permit and review and telecommunication infrastructure installation approval and eliminate or consolidate other burdensome or duplicative governmental requirements imposed on business, where scientific evidence indicates that public health, safety, and welfare would not be adversely affected. | | | **X** |
| (6) Encourage the formation of cooperatives and other favorable marketing or distribution arrangements at the regional or local level to assist Hawai'i's small-scale producers, manufacturers, and distributors. | | | **X** |
| (7) Continue to seek legislation to protect Hawai'i from transportation interruptions between Hawai'i and the continental United States. | | | **X** |
| (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:<br>(A) An industry that can take advantage of Hawai'i's unique location and available physical and human resources.<br>(B) A clean industry that would have minimal adverse effects on Hawai'i's environment.<br>(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.<br>(D) An industry that would provide reasonable income and steady employment. | | | **X** |
| (9) Support and encourage, through educational and technical assistance programs and other means, expanded opportunities for employee ownership and participation in Hawai'i business. | | | **X** |
| (10) Enhance the quality of Hawai'i's labor force and develop and maintain career opportunities for Hawai'i's people through the following actions:<br>(A) Expand vocational training in diversified agriculture, aquaculture, information industry, and other areas where growth is desired and feasible.<br>(B) Encourage more effective career counseling and guidance in high schools and post-secondary institutions to inform students of present and future career opportunities. | | | **X** |

| **Table 3: Hawai'i State Plan Part 3. Priority Guidelines**<br>S = Supportive, N/S = Not Supportive, N/A = Not Applicable | **S** | **N/S** | **N/A** |
|---|---|---|---|
| (C) Allocate educational resources to career areas where high employment is expected and where growth of new industries is desired.<br>(D) Promote career opportunities in all industries for Hawai'i's people by encouraging firms doing business in the State to hire residents.<br>(E) Promote greater public and private sector cooperation in determining industrial training needs and in developing relevant curricula and on- the-job training opportunities.<br>(F) Provide retraining programs and other support services to assist entry of displaced workers into alternative 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. | **X** | | |
| (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. | **X** | | |
| (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. | | | **X** |
| (4) Encourage visitor industry practices and activities which respect, preserve, and enhance Hawai'i's significant natural, scenic, historic, and cultural resources. | **X** | | |
| (5) Develop and maintain career opportunities in the visitor industry for Hawai'i's people, with emphasis on managerial positions. | **X** | | |
| (6) Support and coordinate tourism promotion abroad to enhance Hawai'i's share of existing and potential visitor markets. | | | X |
| (7) Maintain and encourage a more favorable resort investment climate consistent with the objectives of this chapter. | | | X |
| (8) Support law enforcement activities that provide a safer environment for both visitors and residents alike. | | | **X** |
| (9) Coordinate visitor industry activities and promotions to business visitors through the state network of advanced data communication techniques. | | | **X** |
| (c) Priority guidelines to promote the continued viability of the sugar and pineapple industries: | | | |
| (1) Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries. | | | **X** |
| (2) Continue efforts to maintain federal support to provide stable sugar prices high enough to allow profitable operations in Hawai'i. | | | **X** |
| (3) Support research and development, as appropriate, to improve the quality and production of sugar and pineapple crops. | | | **X** |
| (d) Priority guidelines to promote the growth and development of diversified agriculture and aquaculture: | | | |
| (1) Identify, conserve, and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands. | | | **X** |
| (2) Assist in providing adequate, reasonably priced water for agricultural activities. | | | **X** |
| (3) Encourage public and private investment to increase water supply and to improve transmission, storage, and irrigation facilities in support of diversified agriculture and aquaculture. | | | **X** |
| (4) Assist in the formation and operation of production and marketing associations and cooperatives to reduce production and marketing costs. | | | **X** |

| **Table 3: Hawai'i State Plan Part 3. Priority Guidelines**<br>S = Supportive, N/S = Not Supportive, N/A = Not Applicable | **S** | **N/S** | **N/A** |
|---|---|---|---|
| (5) Encourage and assist with the development of a waterborne and airborne freight and cargo system capable of meeting the needs of Hawai'i's agricultural community. | | | **X** |
| (6) Seek favorable freight rates for Hawai'i's agricultural products from interisland and overseas transportation operators. | | | **X** |
| (7) Encourage the development and expansion of agricultural and aquacultural activities which offer long-term economic growth potential and employment opportunities. | | | **X** |
| (8) Continue the development of agricultural parks and other programs to assist small independent farmers in securing agricultural lands and loans. | | | **X** |
| (9) Require agricultural uses in agricultural subdivisions and closely monitor the uses in these subdivisions. | | | **X** |
| (10) Support the continuation of land currently in use for diversified agriculture. | | | **X** |
| (11) Encourage residents and visitors to support Hawai'i's farmers by purchasing locally grown food and food products. | | | **X** |
| (e) Priority guidelines for water use and development: | | | |
| (1) Maintain and improve water conservation programs to reduce the overall water consumption rate. | | | **X** |
| (2) Encourage the improvement of irrigation technology and promote the use of nonpotable water for agricultural and landscaping purposes. | | | **X** |
| (3) Increase the support for research and development of economically feasible alternative water sources. | | | **X** |
| (4) Explore alternative funding sources and approaches to support future water development programs and water system improvements. | | | **X** |
| (f) Priority guidelines for energy use and development: | | | |
| (1) Encourage the development, demonstration, and commercialization of renewable energy sources. | | | **X** |
| (2) Initiate, maintain, and improve energy conservation programs aimed at reducing energy waste and increasing public awareness of the need to conserve energy. | | | **X** |
| (3) Provide incentives to encourage the use of energy conserving technology in residential, industrial, and other buildings. | | | **X** |
| (4) Encourage the development and use of energy conserving and cost-efficient transportation systems. | | | **X** |
| (g) Priority guidelines to promote the development of the information industry: | | | |
| (1) Establish an information network that will serve as the catalyst for establishing a viable information industry in Hawai'i. | | | **X** |
| (2) Encourage the development of services such as financial data processing, a products and services exchange, foreign language translations, telemarketing, teleconferencing, a twenty-four-hour international stock exchange, international banking, and a Pacific Rim management center. | | | **X** |
| (3) Encourage the development of small businesses in the information field such as software development, the development of new information systems and peripherals, data conversion and data entry services, and home or cottage services such as computer programming, secretarial, and accounting services. | | | **X** |
| (4) Encourage the development or expansion of educational and training opportunities for residents in the information and telecommunications fields. | | | **X** |
| (5) Encourage research activities, including legal research in the information and telecommunications fields. | | | **X** |
| (6) Support promotional activities to market Hawai'i's information industry services. | | | **X** |

| **Table 3: Hawai'i State Plan Part 3. Priority Guidelines**<br>S = Supportive, N/S = Not Supportive, N/A = Not Applicable | **S** | **N/S** | **N/A** |
|---|---|---|---|
| (7) Encourage the location or co-location of telecommunication or wireless information relay facilities in the community, including public areas, where scientific evidence indicates that the public health, safety, and welfare would not be adversely affected. | | | **X** |
| **Discussion:** The Project will support the economic priority guidelines in regards to the visitor industry. The alternative use of a hotel will positively impact the visitor industry. It will provide additional rooms for tourists in the heart of Waikīkī, the visitor industry hub. | | | |
| **§226-104 Population growth and land resources priority guidelines.**<br>(a) Priority guidelines to effect desired statewide growth and distribution: | | | |
| (1) Encourage planning and resource management to insure that population growth rates throughout the State are consistent with available and planned resource capacities and reflect the needs and desires of Hawai'i's people. | | | **X** |
| (2) Manage a growth rate for Hawai'i's economy that will parallel future employment needs for Hawai'i's people. | | | **X** |
| (3) Ensure that adequate support services and facilities are provided to accommodate the desired distribution of future growth throughout the State. | | | **X** |
| (4) Encourage major state and federal investments and services to promote economic development and private investment to the neighbor islands, as appropriate. | | | **X** |
| (5) Explore the possibility of making available urban land, low-interest loans, and housing subsidies to encourage the provision of housing to support selective economic and population growth on the neighbor islands. | | | **X** |
| (6) Seek federal funds and other funding sources outside the State for research, program development, and training to provide future employment opportunities on the neighbor islands. | | | **X** |
| (7) Support the development of high technology parks on the neighbor islands. | | | **X** |
| (b) Priority guidelines for regional growth distribution and land resource utilization: | | | |
| (1) Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles. | X | | |
| (2) Make available marginal or nonessential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district. | | | **X** |
| (3) Restrict development when drafting of water would result in exceeding the sustainable yield or in significantly diminishing the recharge capacity of any groundwater area. | | | **X** |
| (4) Encourage restriction of new urban development in areas where water is insufficient from any source for both agricultural and domestic use. | | | **X** |
| (5) In order to preserve green belts, give priority to state capital-improvement funds which encourage location of urban development within existing urban areas except where compelling public interest dictates development of a noncontiguous new urban core. | | | **X** |
| (6) Seek participation from the private sector for the cost of building infrastructure and utilities, and maintaining open spaces. | | | **X** |
| (7) Pursue rehabilitation of appropriate urban areas. | | | **X** |
| (8) Support the redevelopment of Kaka'ako into a viable residential, industrial, and commercial community. | | | **X** |
| (9) Direct future urban development away from critical environmental areas or impose mitigating measures so that negative impacts on the environment would be minimized. | | | **X** |

| **Table 3: Hawai'i State Plan Part 3. Priority Guidelines**<br>S = Supportive, N/S = Not Supportive, N/A = Not Applicable | **S** | **N/S** | **N/A** |
|---|---|---|---|
| (10) Identify critical environmental areas in Hawai'i to include but not be limited to the following: watershed and recharge areas; wildlife habitats (on land and in the ocean); areas with endangered species of plants and wildlife; natural streams and water bodies; scenic and recreational shoreline resources; open space and natural areas; historic and cultural sites; areas particularly sensitive to reduction in water and air quality; and scenic resources. | | | **X** |
| (11) Identify all areas where priority should be given to preserving rural character and lifestyle. | | | **X** |
| (12) Utilize Hawai'i's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands, and other limited resources for future generations. | | | **X** |
| (13) Protect and enhance Hawai'i's shoreline, open spaces, and scenic resources. | | | **X** |
| **Discussion:** The Project will not affect the population growth and land resources priority guidelines. | | | |
| **§226-105 Crime and criminal justice.**<br>Priority guidelines in the area of crime and criminal justice: | | | |
| (1) Support law enforcement activities and other criminal justice efforts that are directed to provide a safer environment. | | | **X** |
| (2) Target state and local resources on efforts to reduce the incidence of violent crime and on programs relating to the apprehension and prosecution of repeat offenders. | | | **X** |
| (3) Support community and neighborhood program initiatives that enable residents to assist law enforcement agencies in preventing criminal activities. | | | **X** |
| (4) Reduce overcrowding or substandard conditions in correctional facilities through a comprehensive approach among all criminal justice agencies which may include sentencing law revisions and use of alternative sanctions other than incarceration for persons who pose no danger to their community. | | | **X** |
| (5) Provide a range of appropriate sanctions for juvenile offenders, including community-based programs and other alternative sanctions. | | | **X** |
| (6) Increase public and private efforts to assist witnesses and victims of crimes and to minimize the costs of victimization. | | | **X** |
| **Discussion:** The Project will not affect the crime and criminal justice priority guidelines. | | | |
| **§226-106 Affordable housing**.<br>Priority guidelines for the provision of affordable housing: | | | |
| (1) Seek to use marginal or nonessential agricultural land, urban land, and public land to meet housing needs of extremely low-, very low-, lower-, moderate-, and above moderate-income households. | | | **X** |
| (2) Encourage the use of alternative construction and development methods as a means of reducing production costs. | | | **X** |
| (3) Improve information and analysis relative to land availability and suitability for housing. | | | **X** |
| (4) Create incentives for development which would increase home ownership and rental opportunities for Hawai'i's extremely low-, very low-, lower-, and moderate-income households and residents with special needs. | | | **X** |
| (5) Encourage continued support for government or private housing programs that provide low interest mortgages to Hawai'i's people for the purchase of initial owner-occupied housing. | | | **X** |
| (6) Encourage public and private sector cooperation in the development of rental housing alternatives. | | | **X** |

| **Table 3: Hawai'i State Plan Part 3. Priority Guidelines**<br>S = Supportive, N/S = Not Supportive, N/A = Not Applicable | **S** | **N/S** | **N/A** |
|---|---|---|---|
| (7) Encourage improved coordination between various agencies and levels of government to deal with housing policies and regulations. | | | **X** |
| (8) Give higher priority to the provision of quality housing that is affordable for Hawai'i's residents and less priority to development of housing intended primarily for individuals outside of Hawai'i. | | | **X** |
| **Discussion:** If the Project is developed as an apartment building, it will provide 16 housing units. The Project will not affect the affordable housing priority guidelines. If the Project is developed as a boutique hotel, it will target temporary guests and not affect the population of O'ahu citizens. | | | |
| **§226-107 Quality education.**<br>Priority guidelines to promote quality education: | | | |
| (1) Pursue effective programs which reflect the varied district, school, and student needs to strengthen basic skills achievement; | | | **X** |
| (2) Continue emphasis on general education "core" requirements to provide common background to students and essential support to other university programs; | | | **X** |
| (3) Initiate efforts to improve the quality of education by improving the capabilities of the education workforce; | | | **X** |
| (4) Promote increased opportunities for greater autonomy and flexibility of educational institutions in their decision- making responsibilities; | | | **X** |
| (5) Increase and improve the use of information technology in education by the availability of telecommunications equipment for:<br>(A) The electronic exchange of information;<br>(B) Statewide electronic mail; and<br>(C) Access to the Internet.<br>Encourage programs that increase the public's awareness and understanding of the impact of information technologies on our lives; | | | **X** |
| (6) Pursue the establishment of Hawai'i's public and private universities and colleges as research and training centers of the Pacific; | | | **X** |
| (7) Develop resources and programs for early childhood education; | | | **X** |
| (8) Explore alternatives for funding and delivery of educational services to improve the overall quality of education; and | | | **X** |
| (9) Strengthen and expand educational programs and services for students with special needs. | | | **X** |
| **Discussion:** The Project will not affect the quality education guidelines. | | | |
| **§226-108 Sustainability**.<br>Priority guidelines and principles to promote sustainability shall include: | | | |
| (1) Encouraging balanced economic, social, community, and environmental priorities; | | | **X** |
| (2) Encouraging planning that respects and promotes living within the natural resources and limits of the State; | | | **X** |
| (3) Promoting a diversified and dynamic economy; | **X** | | |
| (4) Encouraging respect for the host culture; | | | **X** |
| (5) Promoting decisions based on meeting the needs of the present without compromising the needs of future generations; | | | **X** |
| (6) Considering the principles of the ahupua'a system; and | | | **X** |
| (7) Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawai'i. | | | **X** |

| **Table 3: Hawai'i State Plan Part 3. Priority Guidelines**<br>S = Supportive, N/S = Not Supportive, N/A = Not Applicable | **S** | **N/S** | **N/A** |
|---|---|---|---|
| **Discussion:** The Project will provide a hotel or apartment building in Waikīkī, a major tourist destination. This will promote temporary jobs during construction and permanent jobs for the operation of the building. | | | |
| **§226-109 Climate change adaptation priority guidelines.**<br>Priority guidelines to prepare the State to address the impacts of climate change, including impacts to the areas of agriculture; conservation lands; coastal and nearshore marine areas; natural and cultural resources; education; energy; higher education; health; historic preservation; water resources; the built environment, such as housing, recreation, transportation; and the economy shall: | | | |
| (1) Ensure that Hawai'i's people are educated, informed, and aware of the impacts climate change may have on their communities; | | | **X** |
| (2) Encourage community stewardship groups and local stakeholders to participate in planning and implementation of climate change policies; | | | **X** |
| (3) Invest in continued monitoring and research of Hawai'i's climate and the impacts of climate change on the State; | | | **X** |
| (4) Consider native Hawaiian traditional knowledge and practices in planning for the impacts of climate change; | | | **X** |
| (5) Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands, that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change; | | | **X** |
| (6) Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments; | | | **X** |
| (7) Promote sector resilience in areas such as water, roads, airports, and public health, by encouraging the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options; | | | **X** |
| (8) Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other nongovernmental entities, including nonprofit entities; | | | **X** |
| (9) Use management and implementation approaches that encourage the continual collection, evaluation, and integration of new information and strategies into new and existing practices, policies, and plans; and | | | **X** |
| (10) Encourage planning and management of the natural and built environments that effectively integrate climate change policy. | | | **X** |
| **Discussion:** Sea level rise mitigation measures such as raising the finish floor elevation shall be considered during the Project's design phase to address sea level rise impacts at the Project Site. | | | |

## 4.2 Hawai'i State Land Use Law

The Hawai'i State Land Use Law (HRS, Chapter 205), adopted in 1961, is intended to preserve and protect Hawai'i's lands and encourage the uses to which the lands are best suited. All land in Hawai'i is classified in one of the following four State Land Use Districts (SLUDs): Urban, Rural, Agricultural or Conservation.

The subject Project Site is located in the "Urban" district. See **Figure 26.**

HRS, Chapter 205-2, *Districting and classification of lands* states the following:

> (a) There shall be four major land use districts in which all lands in the State shall be placed: urban, rural, agricultural, and conservation. The land use commission shall group contiguous

land areas suitable for inclusion in one of these four major districts. The commission shall set standards for determining the boundaries of each district, provided that:

(1) In the establishment of boundaries of urban districts those lands that are now in urban use and a sufficient reserve area for foreseeable urban growth shall be included.

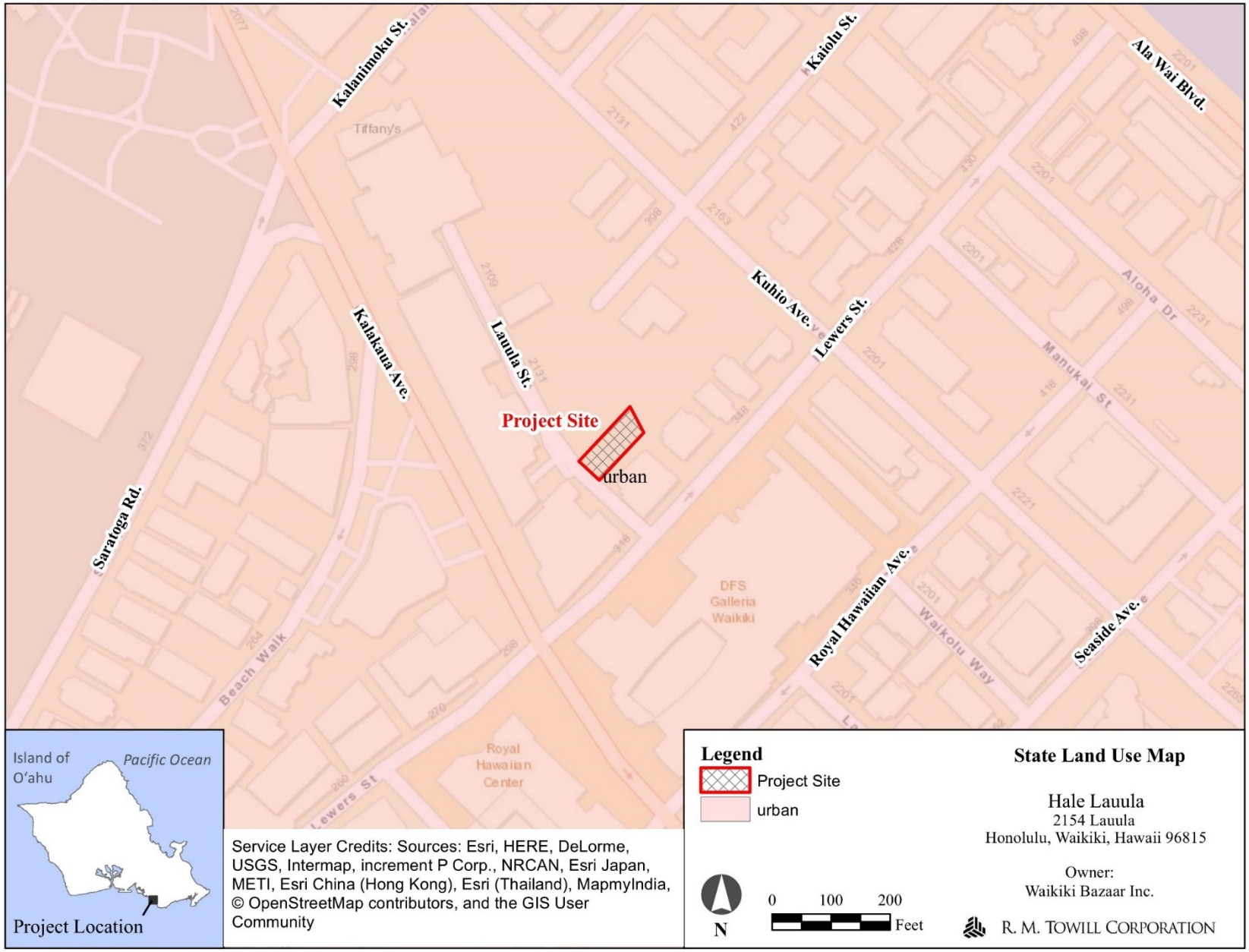
In establishing the boundaries of the districts in each county, the commission shall give consideration to the master plan or general plan of the county.

(b) Urban districts shall include activities or uses as provided by ordinances or regulations of the county within which the urban district is situated.

**Discussion:**

The proposed project is located in the Urban district. A State Land Use District Boundary Amendment is not needed to redevelop the property as proposed. The proposed use of the subject property would be consistent with the Urban designation.

**Figure 26: State Land Use Map**



## 4.3 Hawai'i Coastal Zone Management Program

The Federal Coastal Zone Management Act (CZMA), enacted 1972, provides states with financial incentives for the development and implementation of Coastal Zone Management (CZM) practices, and limited review power over Federal actions affecting the State's Coastal Zone. As a response, HRS, Chapter 250(A), *Hawai'i Coastal Zone Law*, as amended, was enacted in 1977. The State of Hawai'i has designated the Coastal Zone Management Program (CZMP) to manage the intent, purpose and provisions of HRS, Chapter 250(A)-2 for the areas from the shoreline to the seaward limit of the State's jurisdiction, and any other area which a lead agency may designate for the purpose of administering the CZMP. All land and water use activities in the State must comply with HRS, Chapter 205(A). The CZMP is administered by the State of Hawai'i Office of Planning, DBEDT.

A discussion regarding the proposed project's compliance with the CZMA is as follows.

### 4.3.1 Recreational Resources

***Objective:***

*Provide coastal recreational opportunities accessible to the public.*

***Policies:***

*A) Improve coordination and funding of coastal recreational planning and management; and*
*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 use of county, state and federally owned or controlled shoreline lands and waters 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 and where feasible, restore the recreational value of coastal waters;*
  *vii) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches and artificial reefs for surfing and fishing; and*
  *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, county planning commissions; and crediting such dedication against the requirements of Section 46-6, HRS.*

**Discussion:**

As indicated in **Section 3.5.2**, the closest water bodies to the Project Site are the Ala Wai Canal, approximately 1,100-feet to the northeast, and the Pacific Ocean off Waikīkī Beach, approximately 1,600-feet to the south. The proposed project would have no effect on existing uses and access of public coastal recreational areas.

### 4.3.2 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.*

***Policies:***

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

**Discussion:**

According to the CIAR report prepared for the project, there are no archaeological or cultural resources known to be present within the immediate project site. However, in accordance with HRS, Chapter 6E, and the requirements of the SHPD, should any historic resources, including human skeletal and significant cultural remains be identified during the construction of the proposed project, the following shall be implemented:

1. Work will cease in the immediate vicinity of the find;
2. The find will be protected from any additional disturbance by the contractor; and,
3. SHPD will be contacted immediately at (808) 692-8015 (Main Office, O'ahu) for further instructions including the conditions under which work activities may resume.

See **Section 3.8** for further discussion and recommendations.

### 4.3.3 Scenic and Open Space Resources

***Objective:***

*Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.*

***Policies:***

*A) Identify valued scenic resources in the coastal zone management area;*
*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;*
*C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic*

*resources; and*

*D) Encourage those developments that are not coastal dependent to locate in inland areas.*

**Discussion:**

The project is not anticipated to have a significant negative impact on scenic view planes or scenic resources. See **Section 3.9** for further discussion and recommendations.

### 4.3.4 Coastal Ecosystems

***Objective:***

*Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.*

***Policies:***

*A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources*

*B) Improve the technical basis for natural resource management;*

*C) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance*

*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*

*E) Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine water ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.*

**Discussion:**

The proposed project will not affect the coastal ecosystems. No use of the coastal ecosystems will be required. To minimize degradation to the water quality of near-shore waters, BMPs would be implemented during the construction phase of this project. Such measures would be developed during project design.

### 4.3.5 Economic Uses

***Objective:***

*Provide public or private facilities and improvements important to the State's economy in suitable locations.*

***Policies:***

*A) Concentrate in appropriate areas the location of coastal dependent development necessary to the State's economy;*

*B) Insure that coastal dependent development such as harbors and ports, 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*

*C) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such development and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:*
   *i) Utilization of presently designated locations is not feasible;*
   *ii) Adverse environmental effects are minimized; and*
   *iii) Important to the State's economy.*

**Discussion:**

The proposed project will be consistent with these policies. The Project is located in a suitable location at the heart of Waikīkī. Residents and guests of Hale Lauʻula will have access to shopping, dining, entertainment activities within Waikīkī. They will also have access to multiple forms of transportation to reach their destinations and coastal areas.

### 4.3.6 Coastal Hazards

***Objective:***

*Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, and subsidence.*

***Policies:***

*A) Develop and communicate adequate information on storm wave, tsunami, flood erosion, and subsidence hazard;*
*B) Control development in areas subject to storm wave, tsunami, flood, erosion, and subsidence hazard;*
*C) Ensure that developments comply with requirements of the Federal Flood Insurance Program; and*
*D) Prevent coastal flooding from inland projects.*

**Discussion:**

The proposed project has been evaluated for potential impacts associated with coastal hazards. Natural hazards such as hurricanes, flooding, and tsunami are unavoidable for all coastal areas. Accordingly, all structures proposed for this project will be built, at a minimum, according to equivalent standards for the areaʻs flood zone. To mitigate from hurricanes, the project will ensure that improvements are designed to present building codes which offer some protection from damage See **Section 3.6** for further discussion on natural hazards.

### 4.3.7 Managing Development

***Objective:***

*Improve the development review process, communication, and public participation in the management of coastal resources and hazards.*

***Policies:***

*A) Effectively utilize and implement existing law to the maximum extent possible in managing present and future coastal zone development;*
*B) Facilitate timely processing of application for development permits and resolve overlapping or conflicting permit requirements; and*
*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 general public to facilitate public participation in the planning and review process*

**Discussion:**

The proposed Project will be consistent with these policies. The Project will comply with all existing laws in managing present and future coastal zone development. The EA process requires public notification and allowance for public comment.

### 4.3.8 Public Participation

***Objective:***

*Stimulate public awareness, education, and participation in coastal management.*

***Policies:***

*A) Maintain a public advisory body to identify coastal management problems and to provide policy advice and assistance to the coastal zone management program;*
*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-related issues, developments, and government activities; and*
*C) Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.*

**Discussion:**

The Project was presented to the Waikīkī Neighborhood Board No. 9 at their January 14, 2020 meeting. The meeting meetings are discussed further in **Section 5.1**. The public will further have 30 days during the public comment period on this Draft EA to make comments on the Project.

### 4.3.9 Beach Protection

***Objective:***

Protect beaches for public use and recreation.

***Policies:***

*A) Locate new structures inland from the shoreline setback to conserve open space and to minimize loss of improvements due to erosion;*
*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*

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

**Discussion:**

Beaches will not be impacted by this proposed project. The project is inland from the shoreline setback and does not involve any construction seaward of the shoreline.

### 4.3.10 Marine Resources

***Objective:***

*Implement the State's ocean resources management plan.*

***Policies:***

*A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;*
*B) Assure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;*
*C) Coordinate the management of marine and coastal resources and activities management to improve effectiveness and efficiency;*
*D) 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;*
*E) 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*
*F) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.*

**Discussion:**

The project will avoid any negative effects to marine and coastal resources and will incorporate appropriate LID measures to minimize impacts to affected streams and near-shore waters.

## 4.4 City and County of Honolulu General Plan

The General Plan for the City and County of Honolulu (GP) is a comprehensive statement of objectives and policies which sets forth the long-range aspirations of O'ahu residents, as well as strategies of action needed to achieve such goals. It is the focal point of a comprehensive planning process that addresses physical, social, economic, and environmental concerns affecting the City and County of Honolulu. This planning process serves as the coordinative means by which the City and County government provides for the future growth of the metropolitan area of Honolulu.

The GP was adopted in 1992, and amended in 2002. DPP completed its Proposed Revised GP in December 2017. The Proposed Revised GP has been reviewed by the Planning Commission and was transmitted to the City Council on April 20, 2018. The update considers critical issues of growth, development, and quality of life that island residents are most concerned about, including regional population, economic health, affordable housing, and sustainability.

The following sections highlight excerpts of the Proposed Revised GP that are particularly relevant to this Project (emphasis added).

### 4.4.1 Part II: The Economy

***Objective B:*** To maintain a successful visitor industry that creates meaningful employment, enhances quality of life, and celebrates our unique sense of place, natural beauty, Native Hawaiian culture, and multi-cultural heritage.

***Policies:***

*Policy 3- Guide the development and operation of visitor accommodations and attractions in a manner which avoids unsustainable increases in the cost of providing public services and infrastructure, and which respects existing lifestyles, cultural practices, and natural, cultural, and historic resources.*

*Policy 4- Provide for the long-term viability of Waikīkī as a world-class visitor destination and as Oʻahu's primary resort area by giving Waikīkī priority in visitor industry related public expenditures and by encouraging private investment in enhancing facilities and attractions that support the visitor industry.*

*Policy 6- Provide for a high-quality and safe environment for visitors and residents in Waikīkī, and support measures to ensure visitors' and residents' safety in all areas of Oʻahu.*

*Policy 7- Concentrate on the quality of the visitor experience in Waikīkī, rather than on development densities.*

***Objective G:*** *To bring about orderly economic growth on Oʻahu.*

***Policies:***

*Policy 1- Concentrate economic activity and government services in the primary urban center and in the secondary urban center at Kapolei.*

**Discussion:**

The hotel alternative will provide 16 new guest rooms to Waikīkī which will aid the long-term viability of Waikīkī as a world-class visitor destination. Additionally, the hotel will provide an additional high-quality and safe lodging option for guests.

### 4.4.2 Part III. Natural Environment and Resource Stewardship

***Objective A:*** To protect and preserve the natural environment.

***Policies:***

*Policy 7- Protect the natural environment from damaging levels of air, water, and noise pollution.*

*Policy 8- Protect plants, birds, and other animals that are unique to the State of Hawaiʻi and Oʻahu, and protect their habitats.*

*Policy 9- Protect significant trees on public and private lands and encourage their integration*

*into new developments.*

*Policy 12- Plan and prepare for the impacts of climate change on the natural environment, including strategies of adaptation.*

***Objective B:*** *To preserve and enhance natural landmarks and scenic views of O'ahu for the benefit of both residents and visitors as well as future generations.*

***Policies:***

*Policy 2- Protect O'ahu's scenic views, especially those seen from highly developed and heavily traveled areas.*

**Discussion:**

The proposed Project will have minimal impact on the natural environment. There are no native or endemic flora or fauna species or habitats found at the Project Site. Furthermore, there are no significant trees at or adjacent to the Project Site. The Project will not be impacted by sea level rise. Project impacts and mitigation measures are discussed in **Section. 3.6.2**. Additionally, the project's impact on scenic views are discussed in **Section 3.9**.

### 4.4.3 Part VII. Physical Development and Urban Design

***Objective A:*** *To coordinate changes in the physical environment of O'ahu to ensure that all new developments are timely, well-designed, and appropriate for the areas in which they will be located.*

***Policies:***

*Policy 2- Coordinate the location and timing of new development with the availability of adequate water supply, sewage treatment, drainage, transportation, and other public facilities and services.*

*Policy 4- Facilitate and encourage compact, higher-density development in urban areas designated for such uses.*

*Policy 10- Discourage uses which are major sources of noise, air, and light pollution*

*Policy 11- Encourage siting and design solutions that seek to reduce exposure to natural hazards, including those related to climate change and sea level rise.*

***Objective B:*** *To plan and prepare for the long-term impacts of climate change.*

***Policies:***

*Policy 1- Integrate climate change adaptation into the planning, design, and construction of all significant improvements to and development of the built environment.*

*Policy 3- Prepare for the anticipated impacts of sea level rise on existing communities and facilities through remediation, adaptation, and other measures.*

***Objective F:*** *To create and maintain attractive, meaningful, and stimulating environments throughout O'ahu.*

***Policies:***

*Policy 1- Encourage distinctive community identities for both new and existing communities and neighborhoods.*

*Policy 2- Require the consideration of urban design principles in all development projects.*

*Policy 3- Require developments in stable, established communities and rural areas to be compatible with the existing communities and areas.*

**Discussion:**

The proposed Project will develop a mid-rise hotel or apartment building at the site of an existing parking lot. This will promote a compact higher-density development in an urban area. The proposed Project will not be a major source of noise, air, and light pollution. The Project will not be impacted by sea level rise. Project impacts and mitigation measures are discussed in **Section. 3.6.2.**

### 4.4.4 Part VII. Public Safety and Community Resilience

***Objective B:*** *To protect residents and visitors and their property against natural disasters and other emergencies, traffic and fire hazards, and unsafe conditions.*

***Policies:***

*Policy 1- Keep up-to-date and enforce all City and County safety regulations.*

*Policy 2- Require all developments in areas subject to floods and tsunamis, and coastal erosion to be located and constructed in a manner that will not create any health or safety hazards or cause harm to natural and public resources.*

*Policy 9- Plan for the impacts of climate change and sea level rise on public safety, in order to minimize potential future hazards.*

**Discussion:**

The Project will comply with all City and County of Honolulu safety regulations. The impacts to natural hazards on the Project are further discussed in **Section 3.6**.

## 4.5 City and County of Honolulu Primary Urban Center Development Plan

Supporting the GP are the sustainable communities plans (SCPs) and development plans (DPs) for various regions of O'ahu. Each plan explains the role of the particular region in O'ahu's overall development pattern; the vision statement for the area; land use policies, principles and guidelines; public facilities and infrastructure policies and principles; implementation strategies; and maps of Open Space, Land Use and Public Utilities. The PUC DP was adopted by the City Council via Ordinance 04-14 in June 2004 and is currently being updated. The plan was prepared as a community-developed guidance document for orderly and coordinated public and private sector development in the PUC DP area in a manner 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 following sections highlight excerpts of the PUC DP that are particularly relevant to this Project (emphasis added).

### 4.5.1 Chapter 2. The Vision for the PUC's Future

#### 4.5.1.1 Chapter 2.4 Honolulu is the Pacific's Leading City and Travel Destination

*With ongoing redevelopment and improvement, Waikīkī remains the State's largest and most popular visitor destination. An ever-growing number of visitors are drawn to Honolulu for business reasons. Many organizations travel here for conferences and meetings at the City's highly rated Hawai'i Convention Center. Newer hotels are located near the Convention Center and in Downtown. In addition, smaller hotels and inns are integrated into the commercial districts of several PUC neighborhoods, where local restaurants and businesses benefit from visitor spending."*

**Discussion:**

The proposed Project will enable Waikīkī to host additional visitors and students. This will support local restaurants and businesses from visitor spending.

### 4.5.2 Chapter 3. Land Use and Transportation

#### 4.5.2.1 Chapter 3.1 Protecting and Enhancing Natural, Cultural, and Scenic Resources

***Policies:***

*Preserve panoramic views of natural landmarks and the urban skyline. Preserve views of the Koolau and Waianae Mountain Ranges, Punchbowl, Diamond Head, Pearl Harbor and other natural landmarks. Maintain important view corridors within and across urban Honolulu and keep Downtown as the most prominent feature of the urban skyline. Views along the Pearl Harbor shoreline and the Pearl Harbor Historic Trail toward the mountains, shoreline, significant landmarks, and adjacent communities should be created and maximized wherever possible and appropriate.*

#### 4.5.2.2 Chapter 3.2 Neighborhood Planning and Improvement

***Policies:***

*Promote mixed land uses. Office, retail, and community service uses can coexist with residential uses; and there are a number of opportunities for them to support each other. In traditional single-family neighborhoods, groupings of small stores provide convenient service and a place to meet neighbors. In the PUC's in-town neighborhoods, both residential and office development support retail and other services. Neighborhoods with a strong mix of uses have activity 24 hours a day. Residences providing "eyes on the street" contribute to neighborhood safety.*

#### 4.5.2.3 Chapter 3.4 The Pacific's Leading City

***Policies:***

*Provide opportunities for the development of smaller-scale visitor accommodations (i.e., inns and lodges) in existing commercial centers. These could serve resident and business needs (visiting family, friends and business associates) as well as visitors looking for an alternative to the resort enclave. Potential areas include Kapahulu, Kaimuki, the King/Beretania corridor, Kapalama, Pearlridge, and Pearl City. Development of such facilities should consider the community's preferences and be integrated with the surrounding neighborhood.*

**Discussion:**

The proposed Project will preserve panoramic views of natural landmarks and the urban skyline as discussed in Section 3.9. The proposed Project will promote mixed land uses in Waikīkī through providing a small hotel or apartment building. As a hotel, the Project could serve resident and business needs and visitors that prefer smaller scale visitor accommodations.

**Figure 27: Primary Urban Center Development Plan Land Use Map**

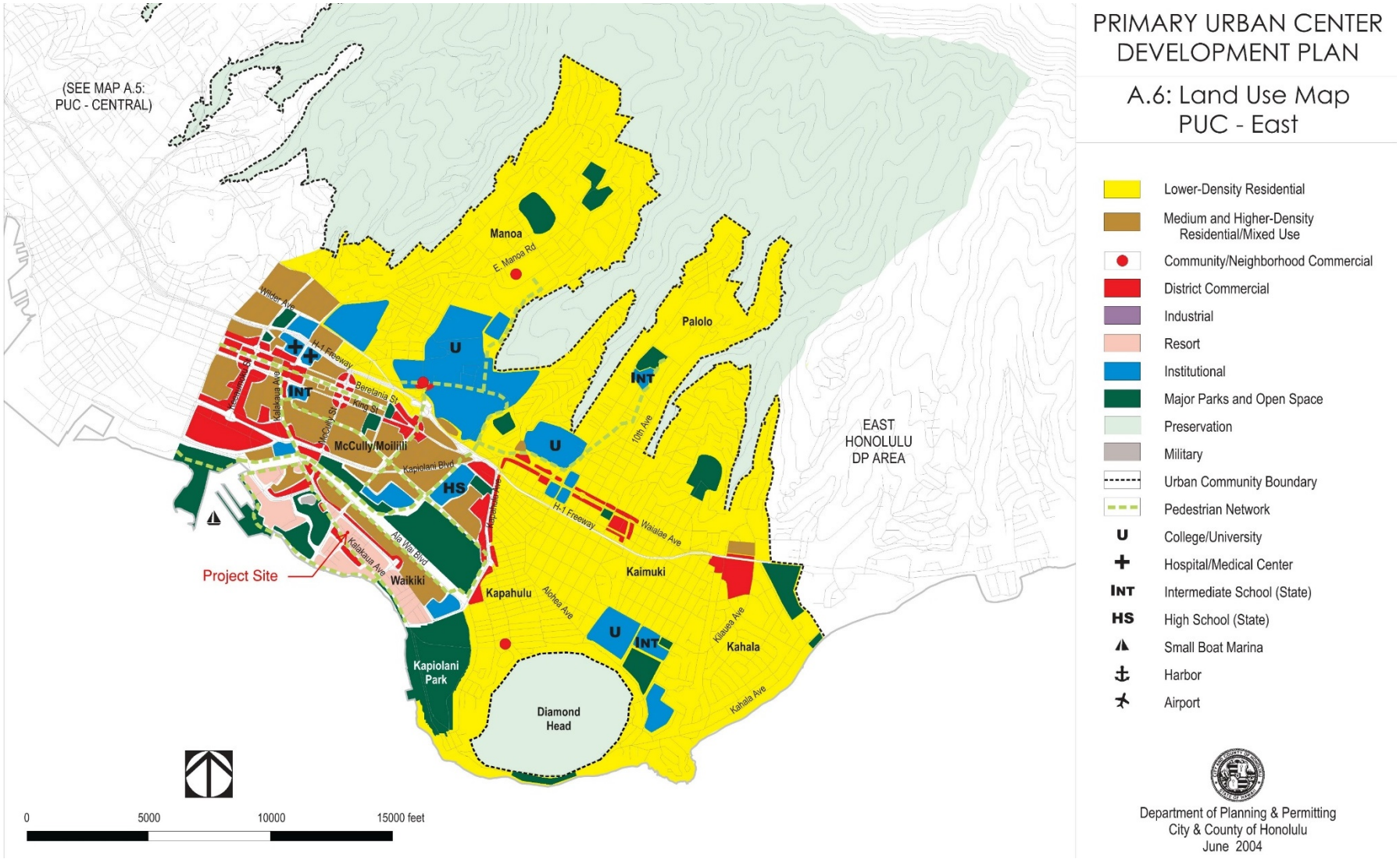


**Figure 28: Primary Urban Center Public Infrastructure Map**

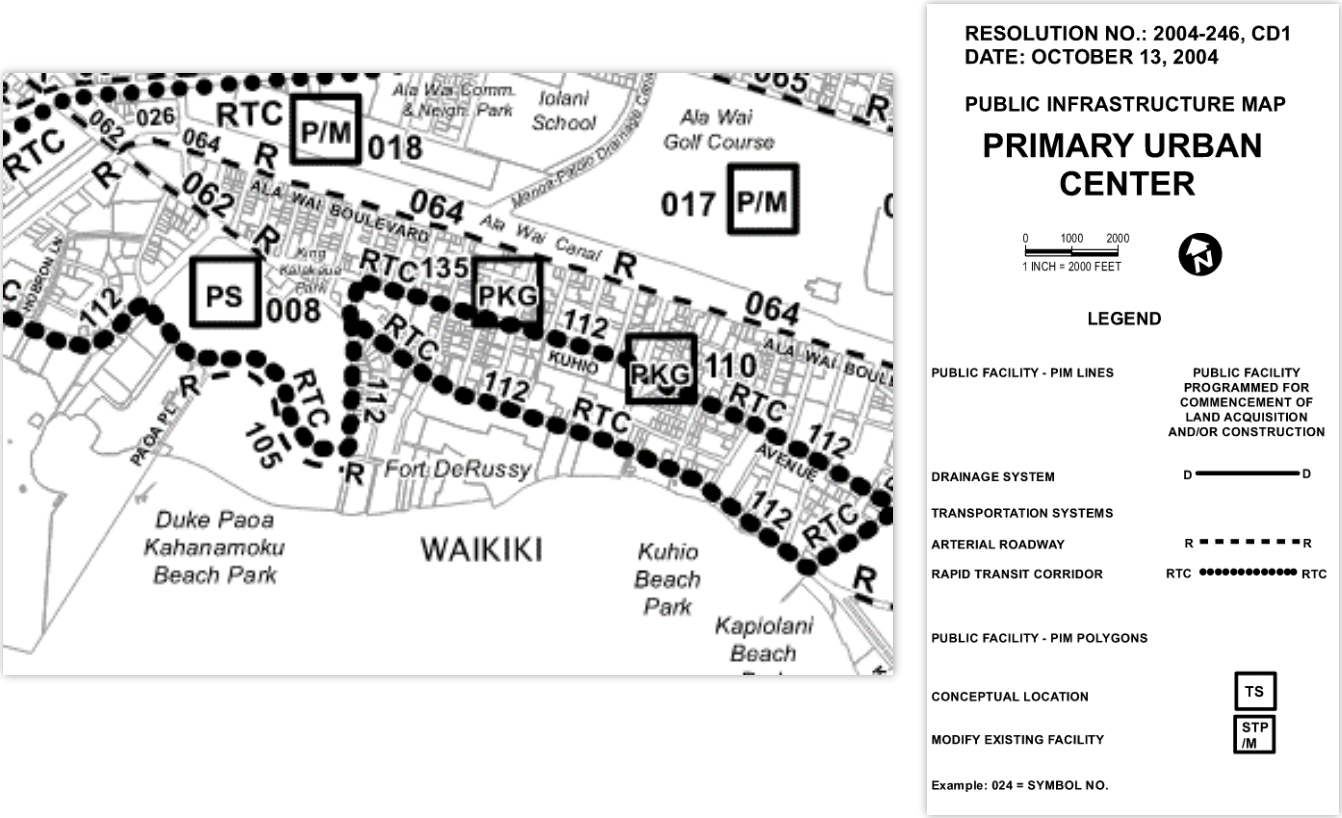
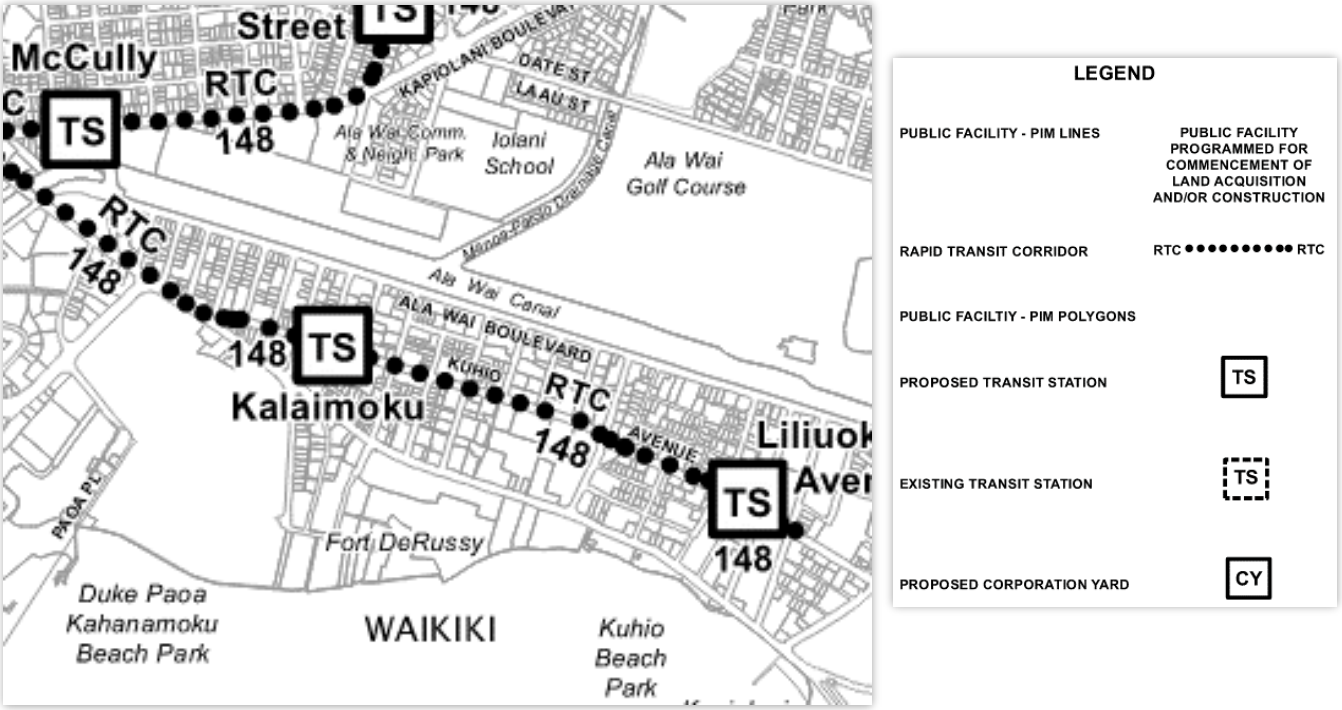



**Figure 29: Primary Urban Center Public Infrastructure Map (Supplemental Map)**



## 4.6 City and County of Honolulu Land Use Ordinance

The subject property is designated as Resort Mixed Use Precinct within the Waikīkī Special District by ROH, Chapter 21, "Land Use Ordinance" (LUO). See **Figure 30**. The LUO regulates land use in a manner that encourages the orderly development in accordance with the General Plan and DPs. The Resort Mixed Use Precinct within the Waikīkī Special District objectives, general requirements, and design controls are further discussed in **Section 4.7.**

### 4.6.1 Off-Street Vehicle Parking

WB will provide a ground level parking lot. The parking areas will include 4 standard parking stalls and 1 ADA accessible stalls for a total of 5 parking stalls. Parking is not required in accordance with Ordinance 20-41, Bill 2(2020), CD1, FD2 and the latest LUO.

1 stalls of the total 4 stalls shall be designated as accessible in accordance with ADA requirements.

### 4.6.2 Off-Street Loading Stalls

WB will provide 2 loading stalls. 1 loading stall is required in accordance with the LUO. A comparison of the LUO required stalls vs. Project proposed stalls is shown in the table below.

**Table 4: Number of Loading Stalls- LUO Required vs. Project Proposed**

| Alternative | LUO Use or Use Category | Requirement | Required Loading Stalls | Proposed Loading Stalls |
|---|---|---|---|---|
| **Hotel** | B. Hotels, hospitals or similar institutions, and places of public assembly | 5,000 to 10,000 sf = 1 | 1 | 2 |
| **Apartment Building** | Multi-family dwellings – 16 units | 20-150 units = 1 | 0 | |

The Project is required to provide one loading stall for the Prada Store on Kalakaua Avenue and one loading for the Hotel development and no loading stalls for the apartment use. If a hotel is developed, WB will request that the Prada Store and the Hotel be allowed to share the loading zone.

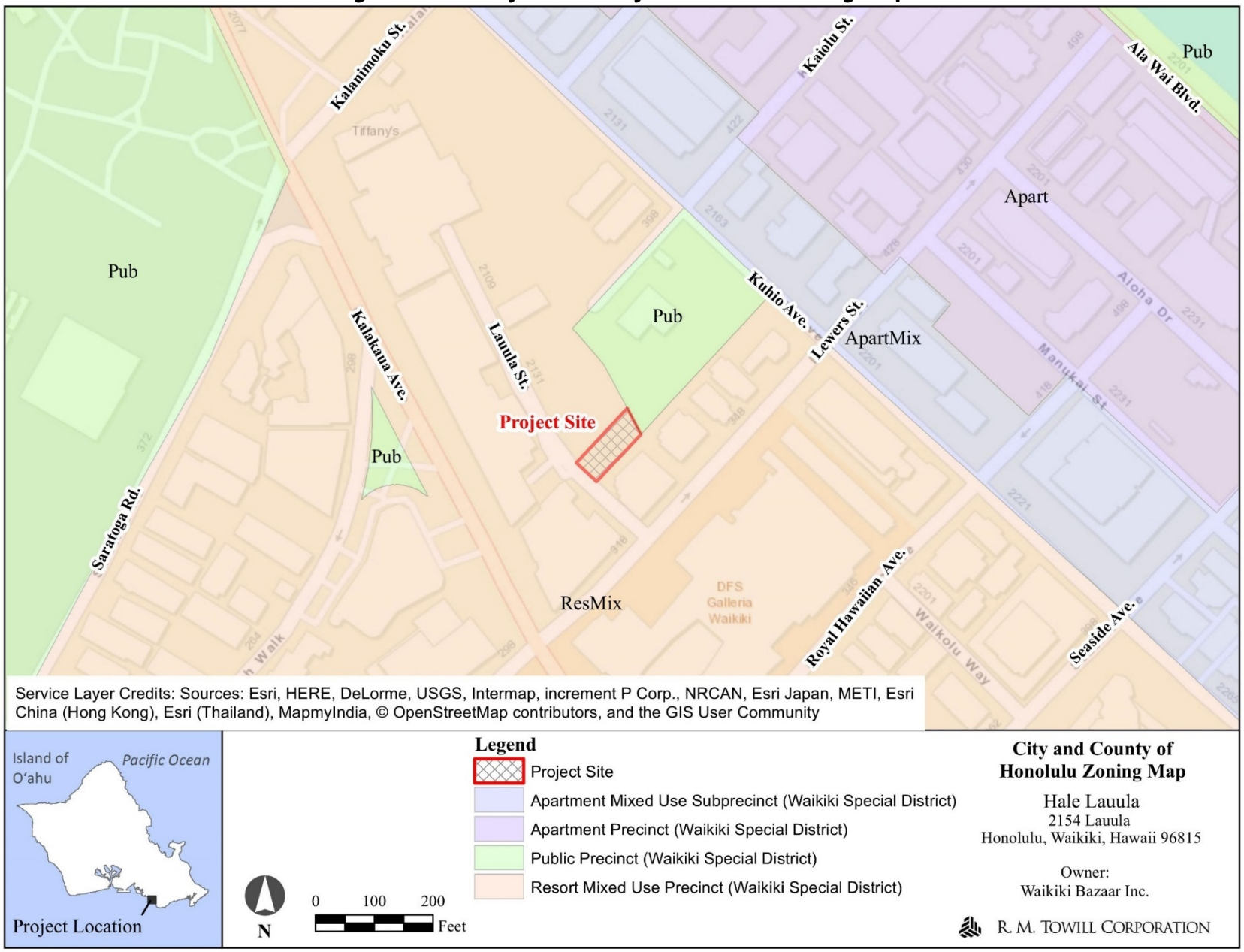
### 4.6.3 Bicycle Parking

WB will provide 2 short term bicycle stalls and 8 long term bicycle stalls for the apartment use or 5 short term and 1 long term stalls. A comparison of the LUO required stalls vs. Project proposed stalls is shown in the table below.

**Table 5: Number of Bicycle Stalls- LUO Required vs. Project Proposed**

| | **Requirements** | **Required Bicycle Stalls** | **Proposed Bicycle Stalls** |
|---|---|---|---|
| Non-Residential Short Term | 1 space per 2,000 square feet of floor area or portion thereof or 1 space for every 10 vehicle spaces or portion thereof whichever is greater | 5 | 5 |
| Non-Residential Long Term | 1 space per 12,000 square feet of floor area or portion thereof or 1 space for every 30 vehicle spaces or portion thereof whichever is greater | 1 | 1 |
| Residential Short Term | 1 space for every 10 units and thereafter 1 space for every 10 units or portion thereof | 2 | 2 |
| Residential Long Term | 1 space for every 2 dwellings or lodging units | 8 | 8 |

**Figure 30: City and County of Honolulu Zoning Map**



## 4.7 City and County of Honolulu Waikīkī Special District

The Project Site is located within the Waikīkī Special District (WSD) and will comply with the WSD requirements as shown in the ROH, Chapter 21, "Land Use Ordinance" Section 21-9.80 Waikīkī Special District. In accordance with table 21-9.6(c) Waikīkī Special District Project Classification, a Major WSD permit is required for the development.

See **Table** below for the development standards for Resort Mixed Precinct (Waikīkī Special District).

**Table 6: Resort Mixed Use Precinct Development Standards**

| | Resort Mixed Us Precinct | Project |
|---|---|---|
| Minimum Lot Area (sf) | 10,000 sf. | 5,355 sf |
| Minimum Lot Width and Depth (ft) | 50 ft. | 47.80 feet |
| Yards - Front | 15 | 15 |
| Yards – Side and Rear | 0 | 0 |
| Maximum Density (FAR) | 1.0[5] | Up to 1.0 |
| Minimum Open Space (Percent of Zoning Lot) | 0.00 | See Appendix A, Sheet A0.2 |
| Open Space Bonus - Available | Yes – See sec. 21-9.80-6(c)(1) | |
| Open Space Bonus – Max FAR | 3.5 | |
| Maximum Height (ft) | 280' | 75'-6" |
| Traditional Height Setbacks | Per Sec. 21-9.80-6(c)(2) | See Appendix A for Elevation views showing setbacks |

**Discussion:**

The subject property is designated as Resort Mixed Use Precinct. See **Figure 31.** According to Table 21-9.6(A), the proposed uses are structures are permitted within this precinct. A Conditional Use Permit will be required for the apartment building. The project will comply with the Resort Mixed Use Precinct Development Standards. Additionally, the subject property will not impact any of the prominent view corridors and will comply with the urban design controls. See **Figure 32.**

The improvements will support the City's goal of the WSD guidelines to improve the economic health and promote the unique character of Waikīkī with mixed land uses. Specific WSD objectives which will be met by the Project include the following:

### 4.7.1 Hawaiian Sense of Place

The Project's overall design will reflect a "Hawaiian Sense of Place" by including a tropical landscape in the front yard with canopy trees.

The Project design includes a landscaped yard. The building facade will be varied with articulation. WB will provide eyebrow extensions on each floor of the structure to provide articulation and contrast (shadows). This architectural element, providing articulation, is intended to promote a Hawaiian sense of place.

Exterior Building Colors. The use of reflective materials will be limited. Exterior colors will contribute to the tropical resort ambiance and complement the landscaping. Generally neutral tones are being considered for the development with more vibrant and pronounced colors being used for accenting.

The building façade will be varied with articulation provided by eyebrows on each floor.

### 4.7.2 Building Design

"The following guidelines are intended to promote building design which responds to Hawai'i 's climate, relates to human scale and preserves significant public views. The resulting design solutions should reduce the perception of crowding, enhance the aesthetics of Waikiki and impart a greater sense of Hawaiiana in the built environment."

As noted, the following guidelines, including the **mauka/makai orientation** are intended to promote a design that responds to climate, relates to human scale and preserves **significant public views** (emphasis added).

Significant public views are described in the "Waikiki Special District Design Guidelines" as follows:

"…Significant views are identified in Section 9.80-3(a) of the LUO and include:

- Views of Diamond Head from as many vantage points as possible, but especially from Ala Wai Boulevard and the Punchbowl Lookout.
- Continuous views of the ocean along Kalakaua Avenue, from Kuhio Beach to Kapahulu Avenue.
- Intermittent ocean views from Kalia Road across Fort DeRussy Park, Ala Wai Yacht Harbor, and the Ala Wai Bridge on Ala Moana Boulevard.
- Mauka views from the following streets mauka of Kuhio Avenue:
  - Nohonani and Nāhua Streets; Kānekapolei and Kaiolu Streets; Lewers and Walina Streets; and Seaside Avenue and the Ala Wai Promenade.
- Views of Ala Wai Yacht Harbor from Magic Island Park."

The Project will not affect any of these significant public views described here and in Section 21-9.80-3(a) of the Land Use Ordinance.

The Project responds to Hawai'i 's climate with a large second floor lanai to allow residents and/or visitors to enjoy the tropical climate of Hawai'i and provides tables and chairs and a landscaped area to enjoy the second level lanai and to further experience the tropical climate.

#### 4.7.2.1 Orientation & Form

As noted in Section 4.6.2.1 above, since the Project will not affect the significant public views that the mauka/makai orientation was intended to protect, there is some flexibility afforded

in the building orientation. This building, however, is oriented in a mauka/makai orientation.

The building facade will be varied with eyebrows for articulation. From an aerial view, the articulation will include eyebrows, a ground level parking podium and a second level lanai. These architectural elements provide a level of articulation, to promote a Hawaiian sense of place.

#### 4.7.2.2 Open Space

The Project, through its landscaped open space at the front yard, rear landscape area, and its landscaped second level lanai will provide people oriented interactive landscaped open spaces.

#### 4.7.2.3 Parking Facilities

The ground level parking will be screened by the stairwell to the west and the Lobby to the east. The Project requires either four or seven parking stalls under the existing LUO, and five parking stalls and one loading stall will be provided.

#### 4.7.2.4 Articulation, Scale, Material Color

The building facade will be varied with a degree of articulation. From an aerial view, the articulation will include eyebrows, a ground level parking podium and a second level lanai. These architectural elements, provide a level of articulation intended to promote a Hawaiian sense of place.

The use of reflective materials will be limited. Exterior colors will contribute to the tropical resort ambiance and complement the added landscaping. Generally neutral tones are being considered for the development with more vibrant and pronounced colors being used for accenting.

These elements of articulation, material and color are in keeping with the recommendation of the "Waikiki Special District Design Guidelines"

#### 4.7.2.5 Entries, Lobbies & Arcades

WB plans open landscaped entry areas leading visitors into the Project from Lauula Street. Additional landscaped open space areas are provided in the rear of the parking level and on the second level lanai.

#### 4.7.2.6 Visual Links

This building is not located between a public space and a shoreline, mountain view, open space or landmark, and is not subject to the visual link criteria. Avenue.

#### 4.7.2.7 Features in Required Yards

The following features will enhance the open space and improve the appearance of the streetscape:

- A porte cochere is not planned.

- Lei stands are not proposed at this time.
- Walls & Fences – Fences and/or walls may be used to secure the perimeter of the Project in the evenings, respecting the front yard setback. The landscape elements will also have walls less than 36 inches in height to provide separation from walkways, including seat walls as a rest stop and/or gathering place for pedestrians.
- Shading Devices - Shading devices such as roof overhangs and eaves are proposed, and may encroach into the required yards no more than the amount permitted by the LUO.
- Outdoor Dining - Outdoor dining facilities are not being considered. Vending carts are not proposed at this time.
- Rooftop Design and Equipment Screening - Rooftop machinery, equipment and utility installations will not exceed the established height limit and will be screened from view.

#### 4.7.2.8 Roof Design and Equipment Screening

Rooftop machinery, equipment and utility installations (if any) will be screened from view (as required by the LUO) to prevent undesirable views and vistas from surrounding buildings.

#### 4.7.2.9 Landscaping

As indicated in the preliminary concept plan, landscaping will be provided to improve the streetscape along Lauula Street and enhance the pedestrian experience for residents and/or visitors. There will be open space on the Project at the ground level and second level to maintain and enhance the pedestrian and resident and/or visitor experience. The landscaping will promote and create the image for Waikīkī as a tropical resort destination.

#### 4.7.2.10 Water Features and Artwork

No water feature is planned within the Property.

#### 4.7.2.11 Sidewalk & Paving

Public walkways will be constructed to match the existing sidewalks on Lauula Street, or will be upgraded to a design acceptable to the City's Department of Facility Maintenance.

#### 4.7.2.12 Signage

WB has not designed the proposed signs for the Project; however, the proposed signs will meet LUO requirements, possibly through development of a Sign Master Plan to be submitted as a Zoning Adjustment. If illuminated, the lighting will comply with the WSD guidelines.

#### 4.7.2.13 Lighting

Lighting for the Project will be utilized to contribute to public safety and to enhance the nighttime ambiance of the open space areas on the property. Outdoor lighting will be

subdued or shielded so as not to provide inappropriate or excessive spillage onto surrounding properties or public rights-of-way.

### 4.7.3 Urban Design Controls

#### 4.7.3.1 Waikiki Gateways and Fort DeRussy

The Project is not located near any Waikiki Gateway areas.

#### 4.7.3.2 Major Streets

The Project site abuts Lauula Street, not one of the Major Streets identified in the WSD Design Guidelines. Due to the increase in open space and landscape within the required yard, the proposed design will improve pedestrian flow and offer visual relief for motorists. Landscaping and trees will be located to accentuate the tropical outdoor experience.

#### 4.7.3.3 Waikiki Promenade

The Project is not situated along the Waikiki Promenade and will not affect the Waikiki Promenade.

#### 4.7.3.4 Coastal Height Setback

The Project is not located near the shoreline; therefore it is not subject to a coastal height setback.

#### 4.7.3.5 Mini Parks

Due to the small size of the Project Site, no mini parks are planned.

#### 4.7.3.6 Significant Public Views

As mentioned earlier, the Project will not impact the significant views that are identified in the WSD Design Guidelines and Section 9.80-3(a) of the LUO.

#### 4.7.3.7 Public Pedestrian Access

The Project will not affect existing public pedestrian access in Waikīkī. Due to the size, shape and location of the property, new public pedestrian access is not needed or warranted.

#### 4.7.3.8 Historic Structures, Significant Sites and Landmarks

The only existing structure on the Project Site is a small pay station structure for the surface parking lot that does not meet the age or significance criteria for and is not listed on the State or Federal Register of Historic Places. An Archaeological Literature Review and Field Inspection and Cultural Impact Assessment ("CIA") for the Project were conducted by Honua Consulting in January 2020, and are provided in **Appendix E**.

**Figure 31: Waikīkī Special District Zoning Precincts**

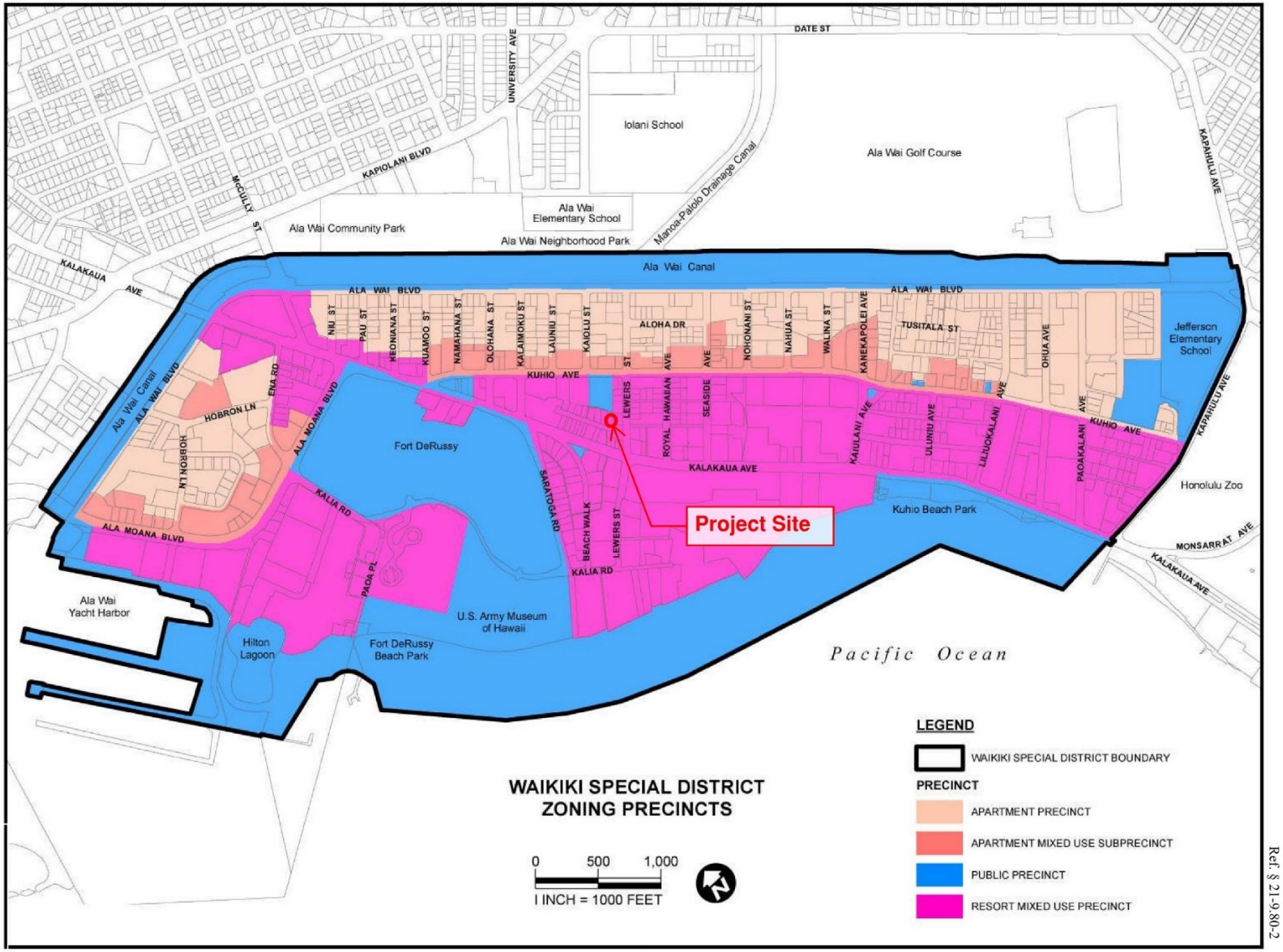
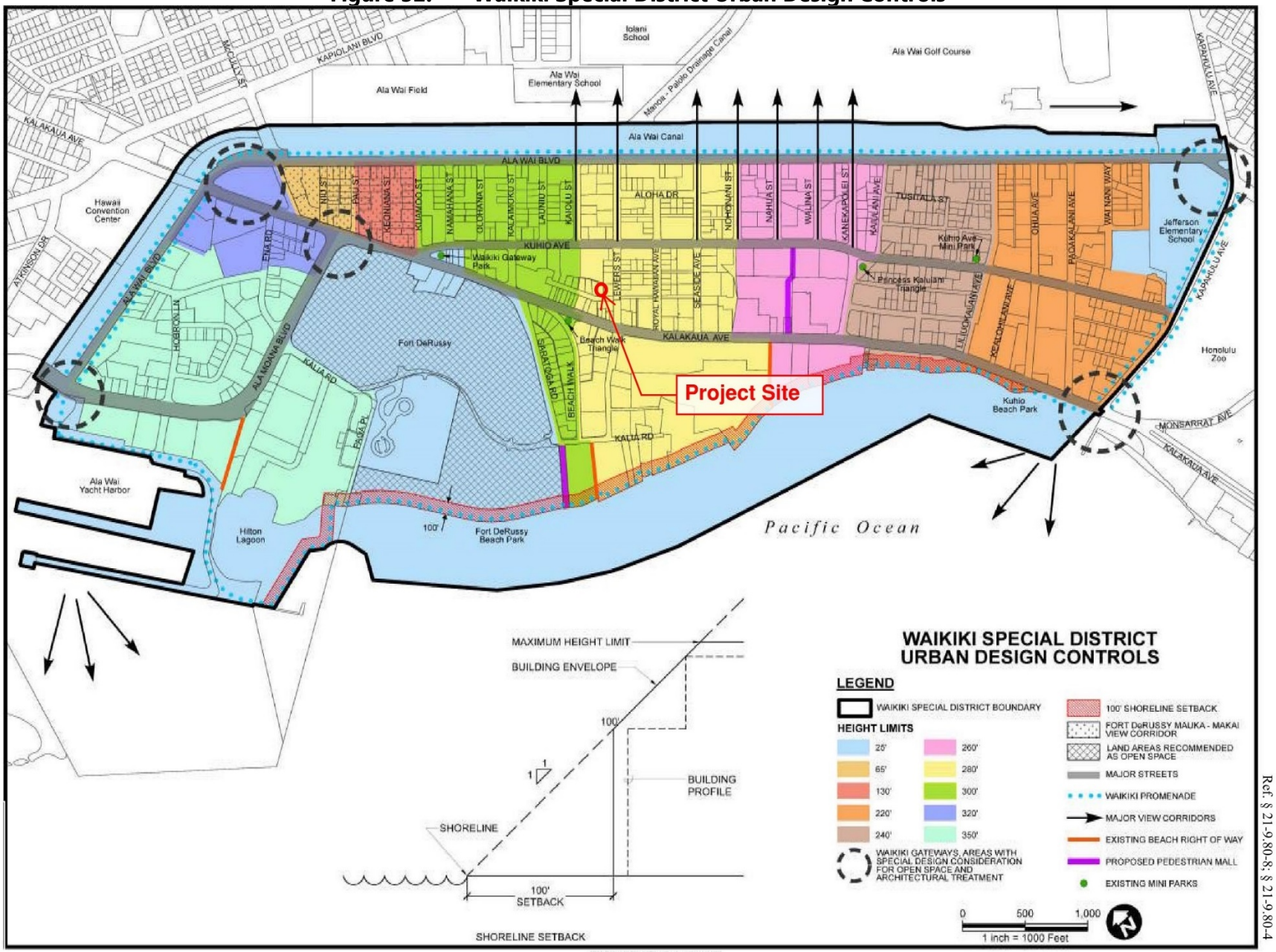


**Figure 32: Waikīkī Special District Urban Design Controls**




Ref. § 21-9.80-8; § 21-9.80-4

## 4.8 City and County of Honolulu O'ahu Bike Plan: A Bicycle Master Plan

The publication of the *Honolulu Bicycle Master Plan* (1999) was the first significant effort by the City in making Honolulu more bike-friendly. The plan was then broadened in scope to include the entire island, and thus renamed the *O'ahu Bike Plan* (2012). In December 2019, the City and County of Honolulu published a 2019 Update that builds off of the 2012 plan. The *O'ahu Bike Plan 2019 Update* indicates that O'ahu's bike network includes 211 miles of existing bikeways, 325 miles of proposed City bikeways and 242 miles of proposed State bikeways.

The Vision Statement of the O'ahu Bike Plan, which first articulated in the 1999 Honolulu Bicycle Master Plan, is as follows:

> *"O'ahu is a bicycle-friendly community where bicycling is a safe, viable, and popular travel choice for residents and visitors of all ages."*

The goals of the O'ahu Bike Plan are articulated as the following:

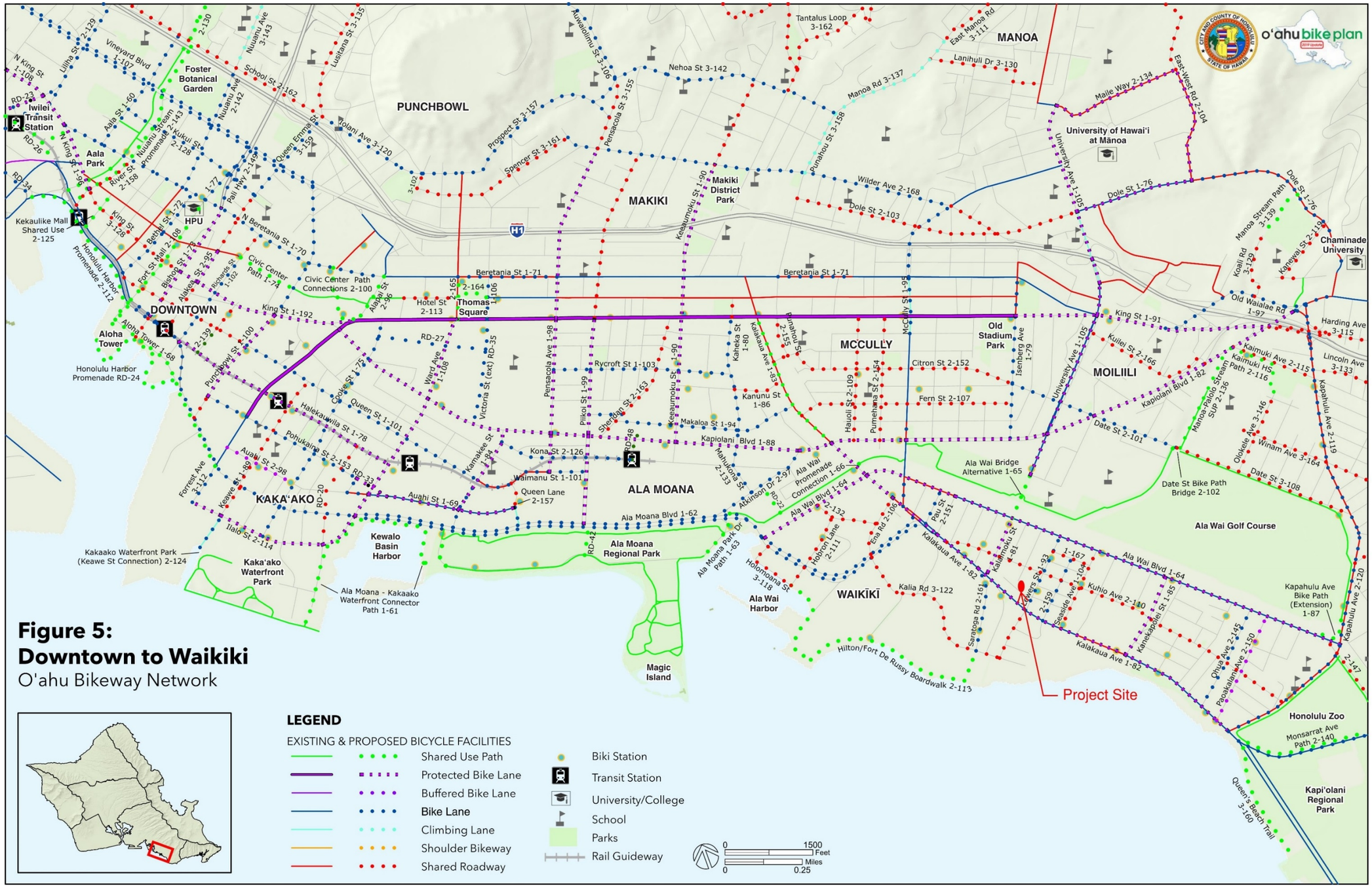
1. To increase the mode share of bicycle trips.
2. To enhance cooperation between roadway users.
3. To encourage and promote bicycling as a safe, convenient, and pleasurable means of travel.
4. To be recognized by the League of American Bicyclists as a Bicycle-Friendly Community

In the project vicinity, there are existing dedicated bike lanes along Kalākaua Avenue and Ala Wai Boulevard. The *O'ahu Bike Plan 2019 Update* proposes that these bike lanes be converted to protected bike lanes. Additionally, the *O'ahu Bike Plan 2019 Update* proposes a new bike lane along Lewers St., a shared roadway along Kūhiō Ave. and a protected bike lane along Kalanimoku St. See **Figure 33**.

**Discussion:**

Bicycle parking will be provided on-site to encourage bicycle usage. The proposed project does not anticipate to substantially affect bicycle usage counts in the project vicinity. In current conditions, guests could utilize the bike lanes along Ala Wai Boulevard and Kalākaua Avenue as the main thoroughfare to travel through Waikīkī.

**Figure 33: O'ahu Bikeway Network (Downtown to Waikīkī) Map**



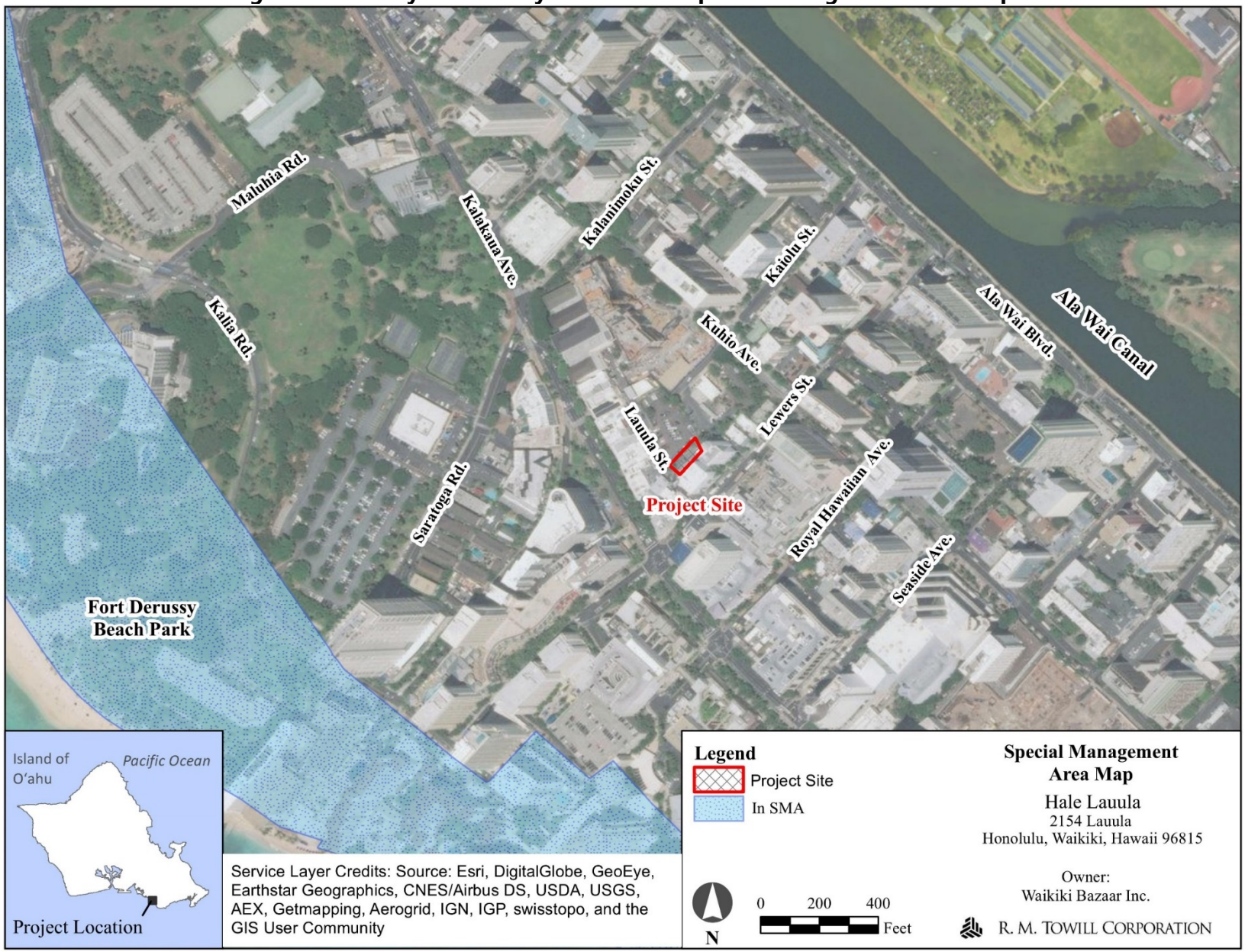
## 4.9 City and County of Honolulu Special Management Area

HRS, Chapter 205A outlines control, policies, and guidelines for development within an area along the shoreline referred to as the Special Management Area (SMA). CZM policies are administered by each County. In the City and County of Honolulu, management of lands located within the SMA is regulated through ROH, Chapter 25, *Special Management Area*. HRS, Chapter 205A also establishes the Shoreline Setback Area (SSA) to further manage uses along the shoreline. The City is the delegated authority to regulate uses located within the established SSA for the island of O'ahu.

**Discussion:**

The proposed development is not located within the SMA established by the City and County of Honolulu. **See Figure 34.**

**Figure 34: City and County of Honolulu Special Management Area Map**



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## Section 5

# Agencies, Organization, and Individuals Consulted

# Section 5 Agencies, Organizations, and Individuals Consulted

The agencies, organizations, and individuals listed below have been or will be contacted during the HRS, Chapter 343, environmental review process to review and comment on the environmental conditions of the site, the proposed undertaking, and the potential impacts and mitigation measures that will be applied to ensure against adverse impacts. Stakeholders and the public will have an opportunity to review and comment on the proposed project and alternatives during the 30-day statutory public review period mandated by HRS, Chapter 343.

**State Agencies**

- Department of Education
- Department of Health
  - Clean Water Branch
  - Environmental Management Division
  - Office of Environmental Quality Control
  - Water Resources Division
- Department of Land and Natural Resources
  - Land Division
  - State Historic Preservation Division
- Office of Planning

**City and County of Honolulu**

- Board of Water Supply
- Department of Planning and Permitting
- Neighborhood Board (Waikīkī No. 9)

**Elected Officials**

- State Senator Sharon Moriwaki, District 12
- State Representative Tom Brower, District 22
- Councilman Tommy Waters, District 4

**Utilities**

- Hawaiian Electric Company
- Hawaiian Telcom
- Spectrum
- Hawaii Gas

**Other Agencies**

- Waikiki Improvement Association

- Hawaii Lodging & Tourism Association

## 5.1 Pre-Assessment Consultation

The following agencies and organizations were consulted during the preparation of the Draft EA. The following parties formally replied during the pre-assessment period and copies of the comments are provided in Appendix B.

**State Agencies**

- Department of Education
- Department of Land and Natural Resources
  - Land Division

**City and County of Honolulu**

- Board of Water Supply
- Department of Planning and Permitting

**Utilities**

- Hawaiian Electric Company (HECO)
- Hawaii Gas

## 5.2 Waikīkī Neighborhood Board No. 9 Meeting

The project was presented to the Waikīkī Neighborhood Board No. 9 at their January 14, 2020 meeting. The project was described during the meeting. The following concerns were raised by the Board and the audience:

1. Air B&B loopholes at the facility
2. Drainage pressure at the facility

The motion to support the project was adopted by majority vote.

## 5.3 Comments Received during the 30-day Public Comment Period for the Draft Environmental Assessment

This section is reserved for written comments and responses to comments received during the Draft EA 30-day public comment period.

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## Section 6

# Summary of Findings and Preliminary Determination

# Section 6 Summary of Findings and Preliminary Determination

The proposed development of Hale Lauʻula is not anticipated to have a significant impact based on the criteria set forth in the HAR, Chapter 200, Title 11, Section 12. The objective of this Draft EA is to identify and consider the "significance" of potential environmental effects which includes the sum of effects on the quality of the environment along with cumulative long-term effects.

As set forth in HAR, Chapter 200, Title 11, a prescribed set of 13 Significance Criteria is used to determine the project's impact on the environment. The project's relationship to each criterion is discussed in this chapter and followed by the ensuing project determination.

## 6.1 Findings

To determine whether a proposed action may have a significant effect on the environment under Hawaiʻi Administrative Rules Title 11, Chapter 200, the Proposing Agency needs to consider every phase of the action, the expected primary and secondary consequences, cumulative effect, and the short- and long-term effects. The Proposing Agency's review and evaluation of the proposed action's effect on the environment would result in a determination whether: 1) the action would have a significant effect on the environment, and an Environmental Impact Statement Preparation Notice should be issued, or 2) the action would not have a significant effect warranting a Finding of No Significant Impact (FONSI).

1) *Irrevocable commit a natural, cultural, or historic resource;*

   The current Project Site consists of an asphalt parking lot. Based on the information provided in the CIAR, there are no natural cultural, or historic resources present on the property. Based on the potential for subsurface historic properties, consultation with SHPD regarding an appropriate testing strategy will be conducted. If subsurface archaeological materials are discovered during demolition and construction, mitigation measures shall be followed in accordance with HAR standards.

   Historic, archaeological, and cultural resources are further discussed in **Section 3.8.** The proposed project does not represent an irrevocable commitment to loss or destruction of any natural, cultural, or historic resource.

2) *Curtails the range of beneficial use of the environment;*

   The Project will not curtail the range of beneficial uses of the environment. The proposed use as a hotel or apartment building would smoothly integrate into the Waikīkī neighborhood. The operations and uses are consistent with Waikīkī's visitor industry as a leading destination in the Pacific.

3) *Conflicts with the State's environmental policies or long-term environmental goals established by law;*

The proposed project is consistent with the State's environmental policies or long-term environmental goals established in HRS, Chapter 344.

4) *Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community or State;*

In the short-term, the proposed action will have a beneficial economic impact through the creation of temporary construction, real estate, legal, engineering, insurance, and other short-term employment opportunities associated with construction activities.

In the long-term, the project will be operated as a hotel or apartment building. This will improve the utilization of the Project Site, which is currently a paid-parking lot. The Project will also create job opportunities related to the Project's operation.

As discussed in **Section 3.8**, there are no known cultural practices at or in the immediate vicinity of the Project Site.

5) *Have a substantial adverse effect on public health;*

The Project is not anticipated to have long-term substantial adverse effects on public health. During construction, the project will have temporary impacts on air quality and noise in the immediate vicinity. The impacts and mitigations are further described in **Section 3.2** and **3.7**, respectively. The project will comply with State and County regulations during construction.

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

The Project does not anticipate to involve substantial secondary impacts on public facilities or to induce population growth of permanent residents in the Waikīkī area.

The impacts and mitigations to wastewater, water, storm drainage, and power and Communication Facilities is further described in **Section 3.11** to **3.14** .

As described in **Section 3.10**, traffic conditions are generally anticipated to remain similar to existing and without project conditions. The Project is not expected to have a significant impact on traffic operations in the project vicinity.

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

The proposed action is not expected to cause a substantial degradation of environmental quality. No hazardous materials will be used during construction, and construction impacts to water and air quality will be minimized through the implementation of BMPs. No significant long-term adverse impacts are anticipated from development of the subject property for hotel or apartment purposes.

8) *Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions;*

The project does not cumulatively have substantial adverse effect upon the environment or involve a commitment for larger actions.

9) *Have a substantial adverse effect on rare, threatened, or endangered species, or its habitat;*

The Project is not likely to have any long-term adverse impacts on any state or federally listed threatened or endangered species or species of cultural or environmental concern. Flora and fauna at the Project Site are further discussed in **Section 3.3**.

*10) Have a substantial adverse effect on air or water quality or ambient noise levels;*

In the short and long-term, no significant impact to air or water quality or ambient noise levels are anticipated to result from the proposed action. Short-term impacts during construction will be minimized through the implementation of best management practices to control construction dust and emissions in compliance with provisions of HAR Section 11.60.1-33. All work will be in conformance with DOH air pollution standards and regulations. Long term impacts to air quality from vehicle exhaust emissions are expected to be minimal. The traffic assessment indicates that the traffic conditions are generally anticipated to remain similar to existing and without project conditions. The project is not expected to have a long-term adverse impact air or water quality or ambient noise levels.

*11) Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;*

The subject property is not located in an environmentally sensitive area such as a beach, erosion-prone area, geologically-hazardous land, estuary, fresh water, or coastal waters. However, the subject property is within the Flood Zone "AO", the tsunami evacuation zone, and the six foot sea level rise exposure area. To mitigate against tsunami and storm surge impacts, engineering analyses will be performed to determine proper design criteria to be applied to structures associated with this project. Additionally, sea level rise mitigation measures such as raising the finish floor elevation shall be considered during the Project's design phase.

*12) Have a substantial adverse effect on scenic vistas and view planes, during day or night, identified in county or state plans or studies.*

The Project will be more visible than it is now due to the addition of the proposed building. The Project is not anticipated to have a significant adverse impact on scenic view planes or resources. Visual resources is discussed further in **Section 3.9**.

*13) Requires substantial energy consumption or emit substantial greenhouse gases*

Construction of the project will not require substantial energy consumption relative to other similar projects. After the project is completed, energy will be conserved by the use of modern energy-efficient appliances and fixtures.Determination

Based upon the information and results of the assessments conducted for the project site, a Finding of No Significant Impact (FONSI) determination is warranted for the proposed for the Project.

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## Section 7

# References

# Section 7 References

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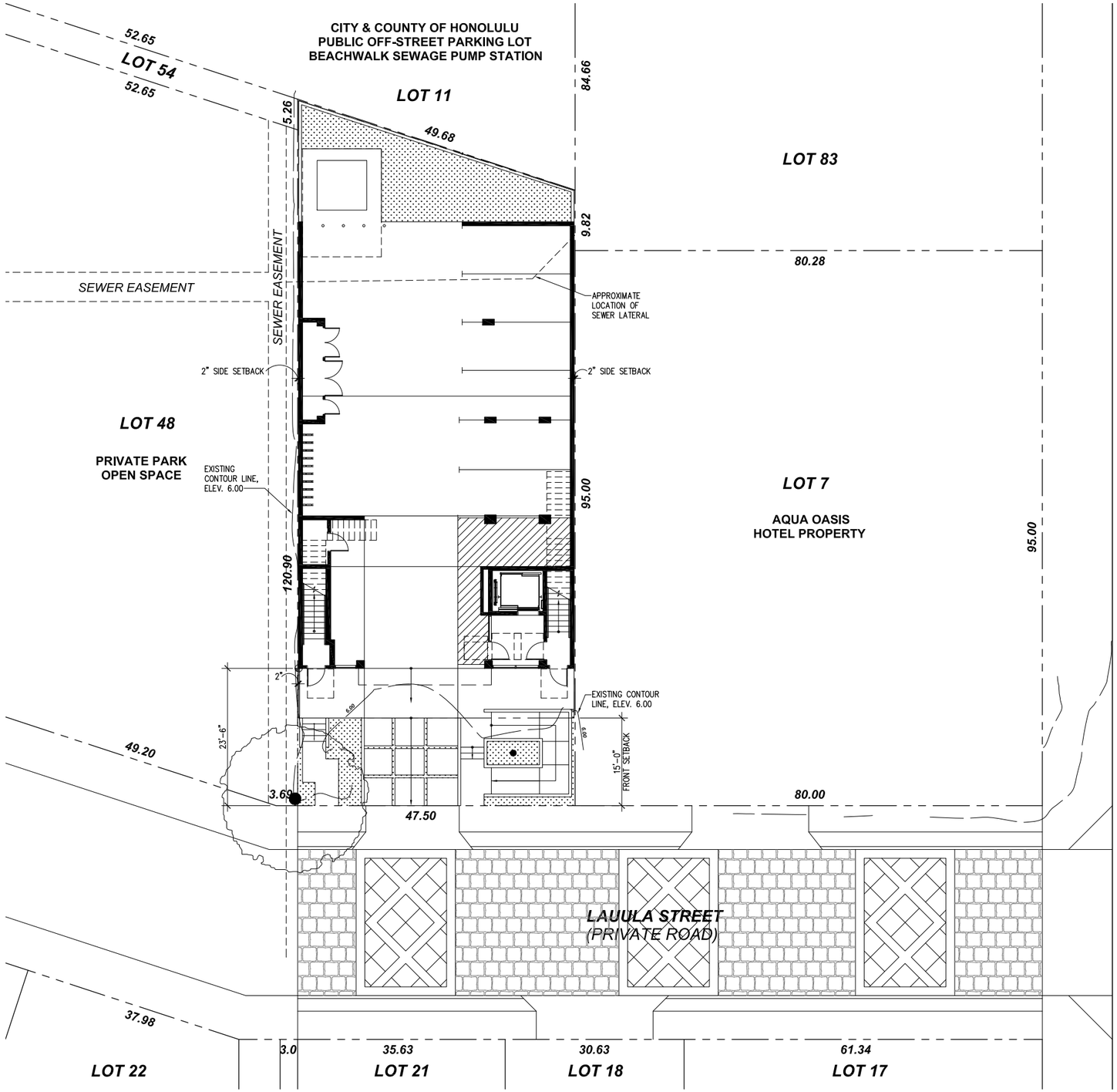
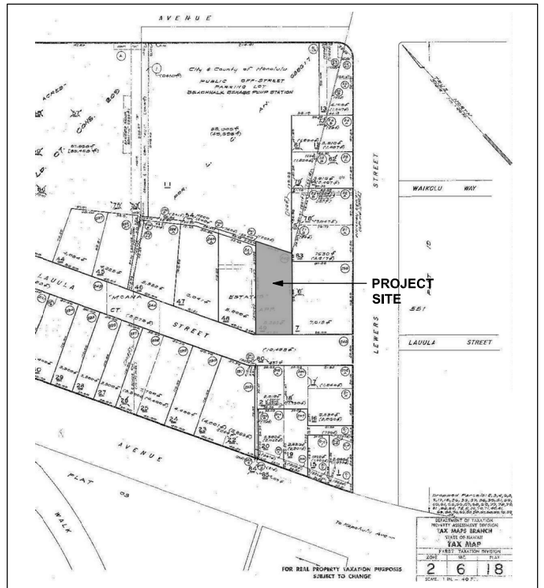
# Appendix A

**Conceptual Drawings**




## PROJECT LOCATION PLAN

NOT TO SCALE

## GENERAL PROJECT INFORMATION:

**BUILDING:**

| | |
|---|---|
| OCCUPANCY: | S-2 PARKING<br>A-2<br>B<br>R-1 |
| CONSTRUCT TYPE: | V-B OPEN PARKING<br>I-B FIRE RESISTIVE NON-COMBUSTIBLE |
| SEPERATED USE: | 1 HR S-2/A-2/B/R-1<br>FULLY SPRINKLED BLDG. |
| EXTERIOR WALLS: | 2 HOURS |
| SPRINKLER: | NFPA 13 THROUGHOUT |
| OVERALL BUILDING AREA: | 1,308 S.F. 1ST FLOOR PARKING<br>496 S.F. 1ST FLOOR<br>2,250 S.F. 2ND FLOOR<br>1,732 S.F. 3RD FLOOR<br>5,118 S.F. 4TH-6TH FLOORS<br>294 S.F. ROOF ACCESS<br>11,198 S.F. TOTAL |

**ZONING:**

| | |
|---|---|
| TMK: | 26018049: 0000 |
| LOT SIZE: | 5,355 S.F. |
| ZONE: | RESORT, MIXED-USE PRECINCT |
| ADDRESS: | 2154 LAUULA STREET |
| FLOOD ZONE: | A0 2'-0" |
| SMA: | NOT IN SMA ZONE |
| FRONT SETBACK: | 15'-0" + 1/10 FT TRANSITIONAL OVER 40'-0" |
| SIDE & REAR: | 0 UP TO 40'-0" HIGH + 1/10 FT TRANSITIONAL |
| HEIGHT LIMIT: | 280'-0" |
| PARKING REQUIRED: | NONE |
| PARKING PROVIDED: | 5 STALLS |
| LOADING: | 1 STALL 8'-6" X 19'-0" (FOR PRADA SITE) |
| ZONING BUILDING AREA: | ±4,114 S.F. |
| MAX. BUILDABLE AREA: | 10,002 S.F. |
| PROPOSED FLOOR AREA: | 9,890 S.F. |

## CONCEPTUAL SITE PLAN

FEET 1" = 20'

0 10 20 30

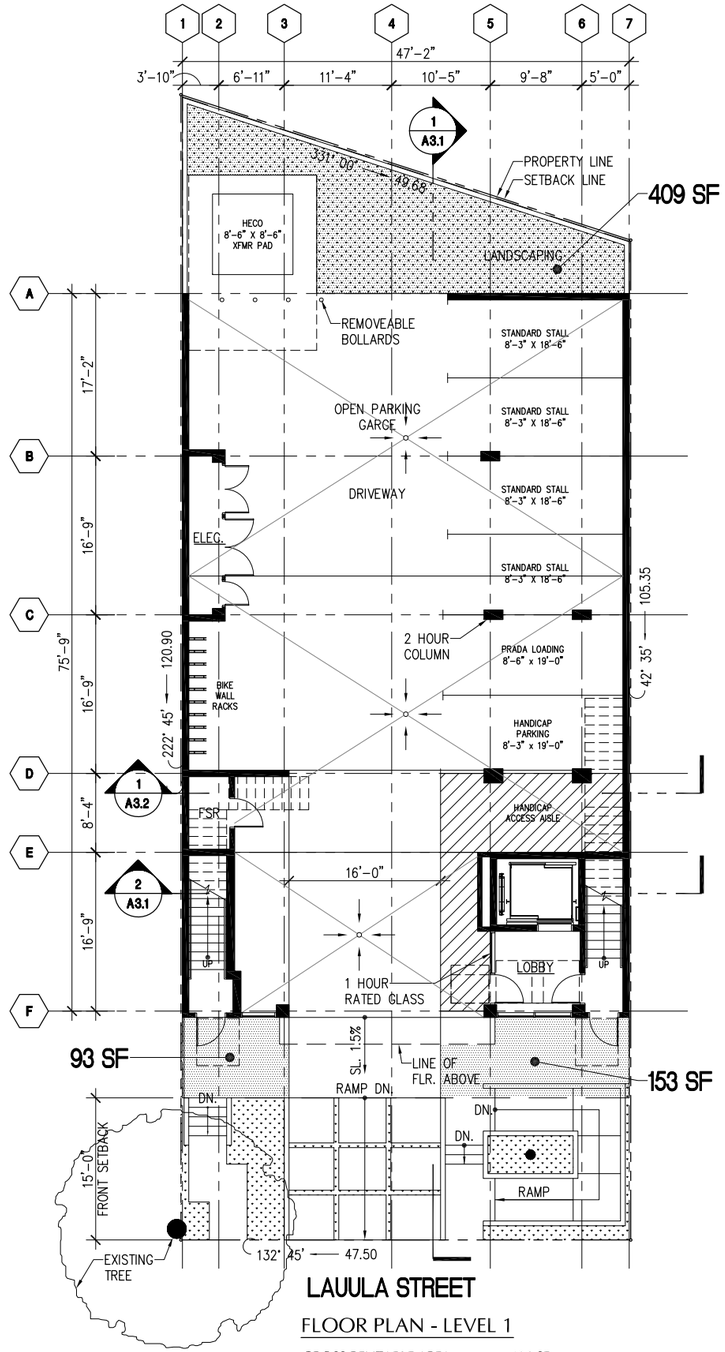
Conceptual Design

# HALE LAUULA

2154 Lauula Street
Honolulu, Hawaii 96815

KY International Inc.
Architects and Planners
1100 Alakea Street, Suite 1988
Honolulu, Hawaii 96813
Telephone 808-524-1268
Facsimile 808-599-8881

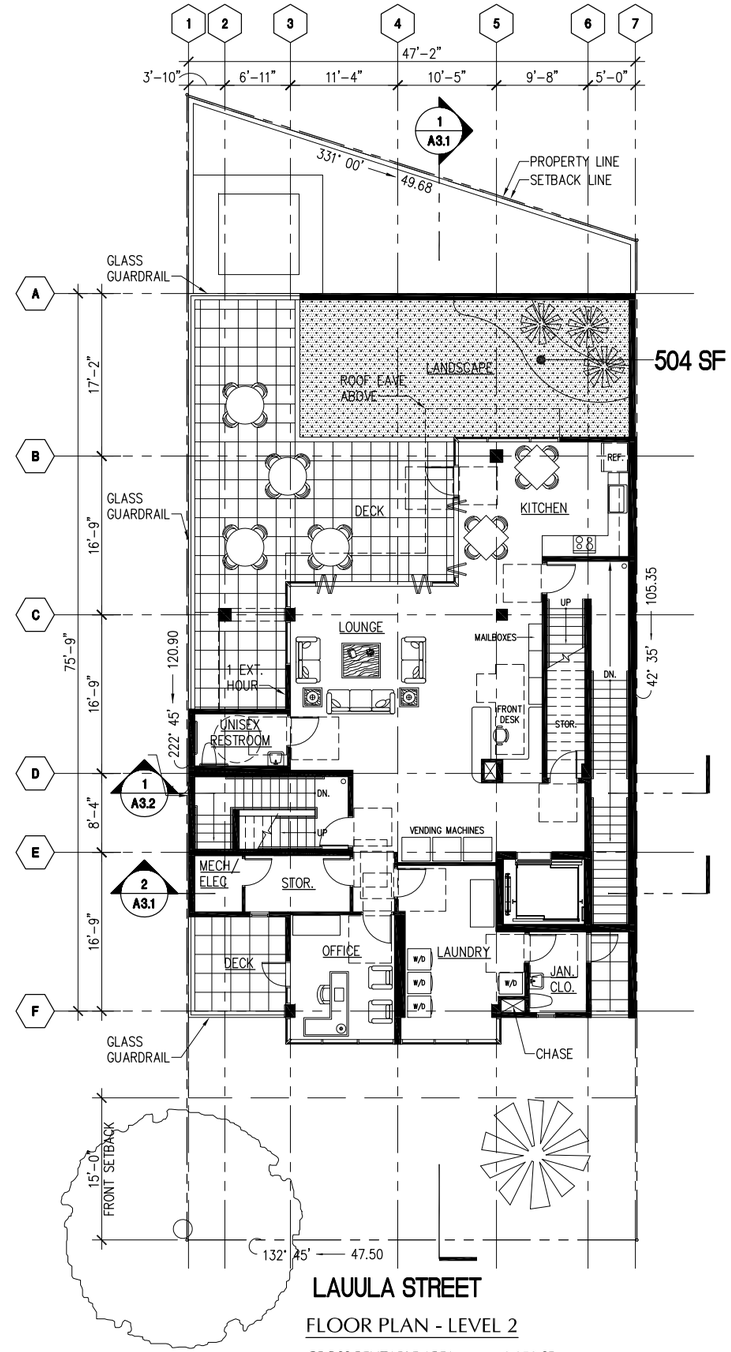
A0.1




## LAULA STREET

### FLOOR PLAN - LEVEL 1

GROSS RENTABLE AREA: 496 SF
PARKING & LOADING: 3,108 SF




## LAULA STREET

### FLOOR PLAN - LEVEL 2

GROSS RENTABLE AREA: 2,250 SF
LANDSCAPED DECK: 1,280 SF

## LEVEL 1 OPEN SPACE:

409 SF + 93 SF + 153 SF = 655 SF
X 5
= 3,275 SF

## LEVEL 2 OPEN SPACE:

= 504 SF

## TOTAL OPEN SPACE:

3,275 SF + 504 SF
= 3,779 SF

## BUILDABLE AREA:

| | | |
|---|---|---|
| | 5,355 SF | LOT AREA |
| + | 950 SF | 50% ROAD AREA |
| = | 6,305 SF | |
| + | 3,779 SF | OPEN SPACE |
| = | 10,084 SF | BUILDABLE AREA |

## PROPOSED AREA:

| | | |
|---|---|---|
| + | 496 SF | 1ST FLOOR |
| + | 2,237 SF | 2ND FLOOR |
| + | 1,757 SF | 3RD FLOOR |
| + | 5,079 SF | 4TH-6TH FLOOR |
| + | 294 SF | ROOF ACCESS |
| = | 9,863 SF | PROPOSED BLDG. |

LEGEND:

OPEN SPACE AREA

## OPEN SPACE PLAN

FEET 1/16"=1'-0"
0 2 4 8 16

Conceptual Design

# HALE LAUULA

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Honolulu, Hawaii 96815

KY International Inc.
Architects and Planners
1100 Alakea Street, Suite 1988
Honolulu, Hawaii 96813
Telephone 808-524-1268
Facsimile 808-599-8881

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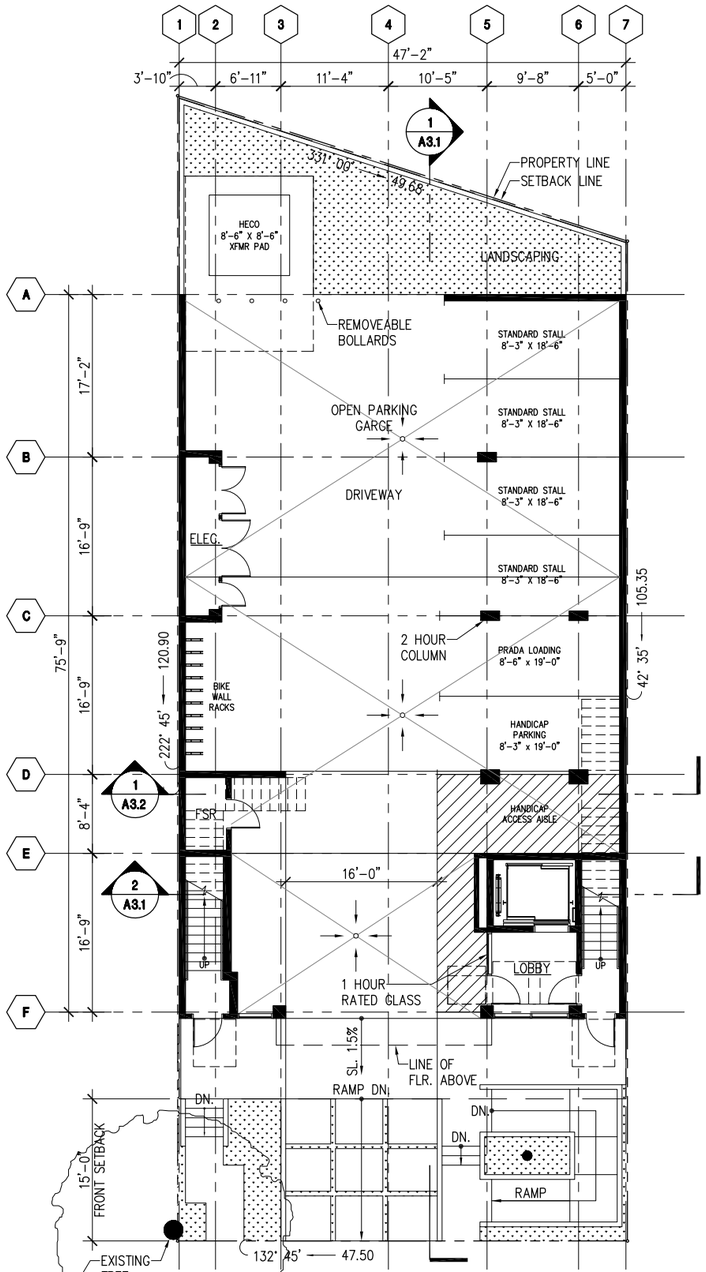
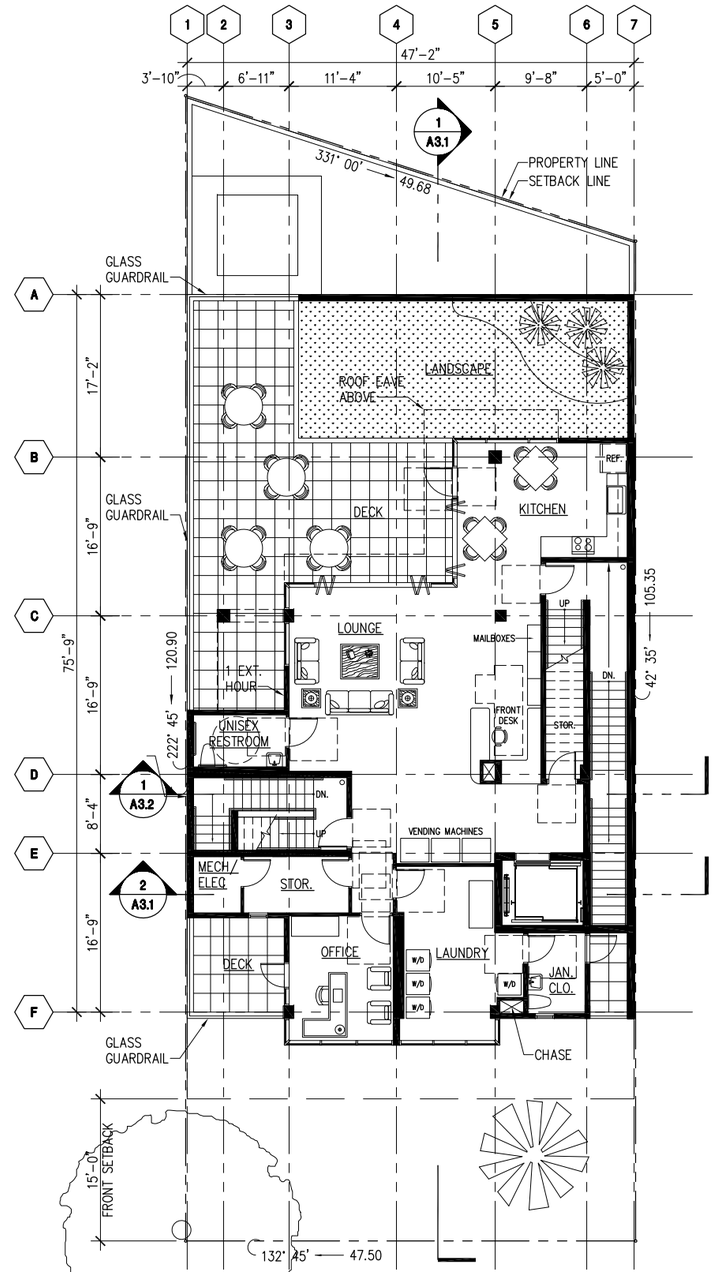



## LAUULA STREET

### FLOOR PLAN - LEVEL 1

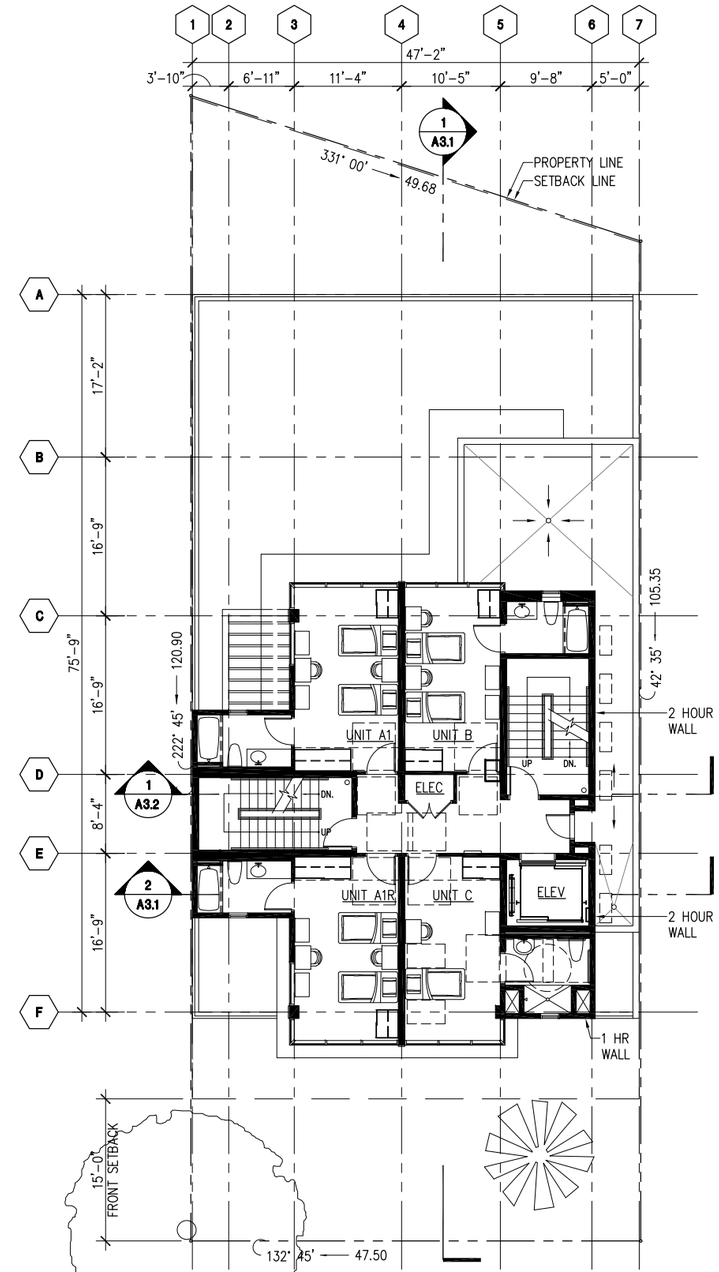
GROSS BUILDABLE AREA: 496 SF
PARKING & LOADING: 3,108 SF




## LAUULA STREET

### FLOOR PLAN - LEVEL 2

GROSS BUILDABLE AREA: 2,237 SF
LANDSCAPED DECK: 1,280 SF




## LAUULA STREET

### FLOOR PLANS - LEVEL 3

GROSS RENTABLE AREA: 1,757 SF

## BUILDING FLOOR PLANS

FEET 1/16"=1'-0"
0 2 4 8 16

Conceptual Design

# HALE LAUULA

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Honolulu, Hawaii 96815

KY International Inc.
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1100 Alakea Street, Suite 1988
Honolulu, Hawaii 96813
Telephone 808-524-1268
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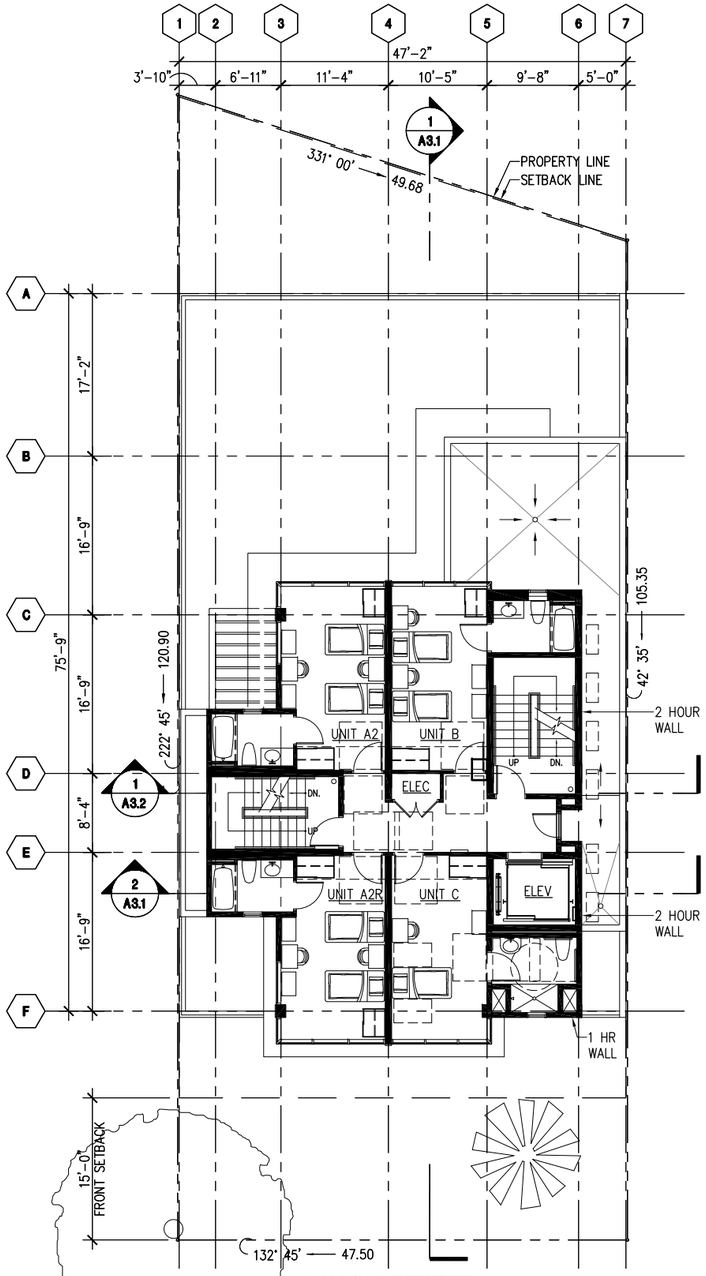
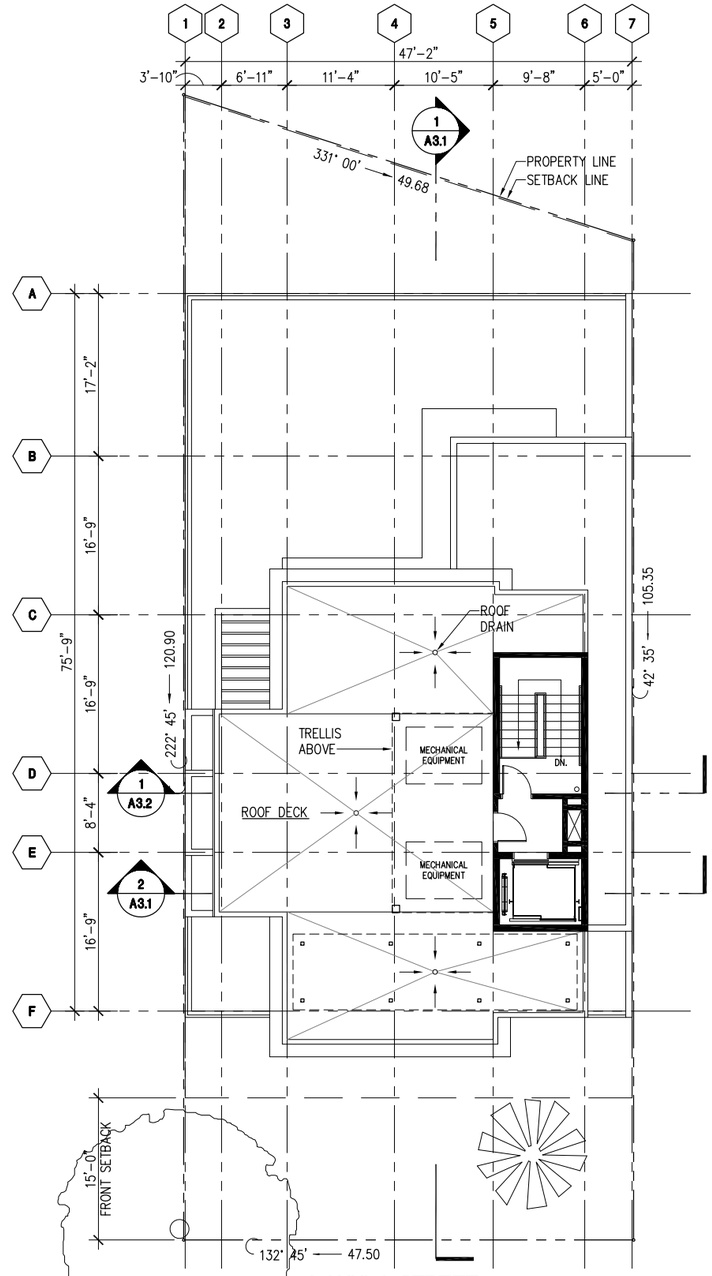



## LAUULA STREET

FLOOR PLANS - LEVELS 4-6

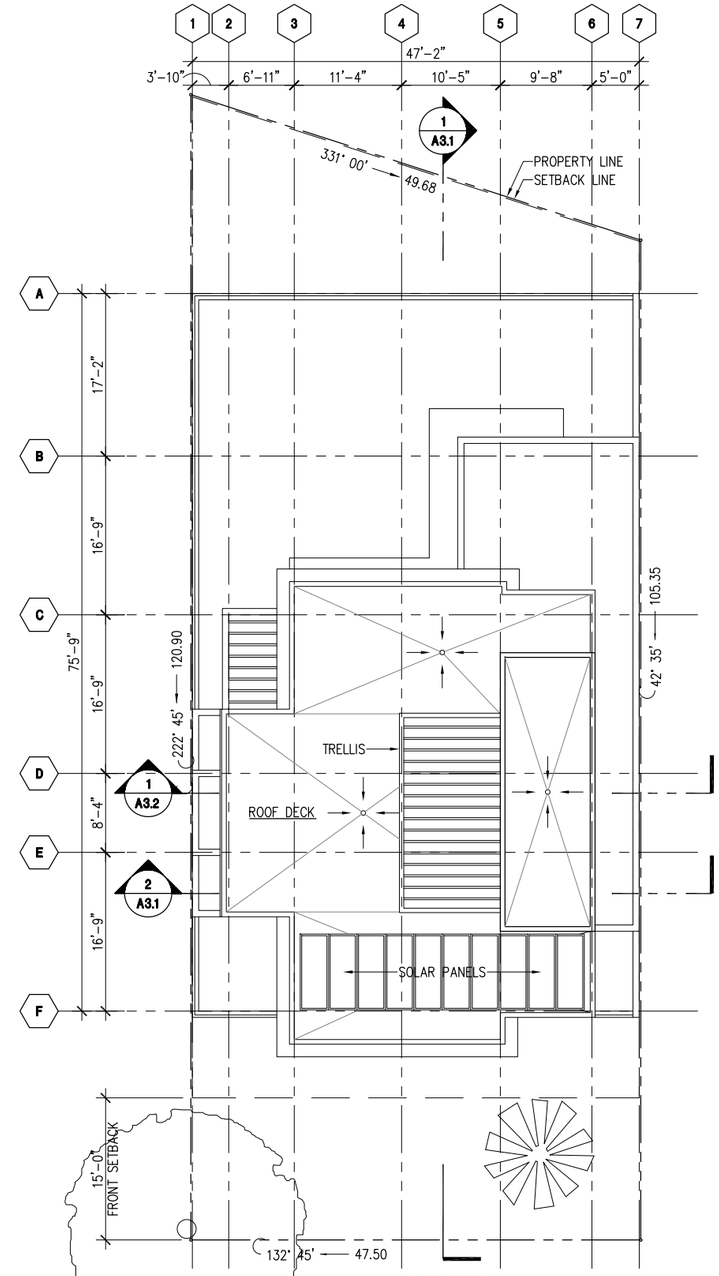
GROSS BUILDABLE AREA: 5,079 SF (1,693 SF PER FLR.)




## LAUULA STREET

ROOF DECK

ROOF ACCESS: 294 SF
ROOF DECK: 1,419 SF




## LAUULA STREET

ROOF PLAN

## BUILDING FLOOR PLANS

FEET 1/16"=1'-0"

0 2 4 8 16

Conceptual Design

# HALE LAUULA

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Honolulu, Hawaii 96815

KY International Inc.
Architects and Planners
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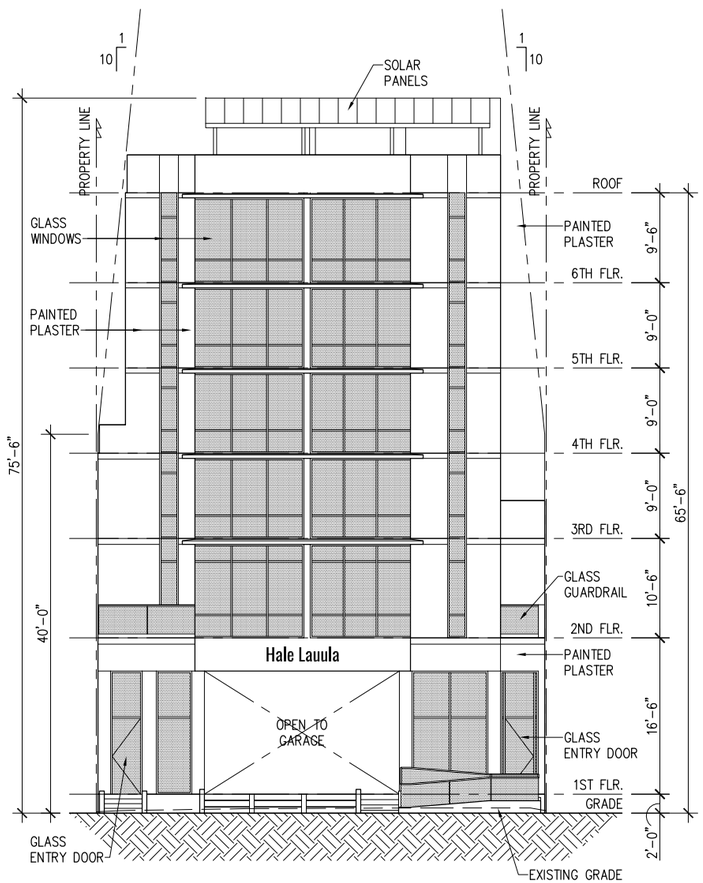
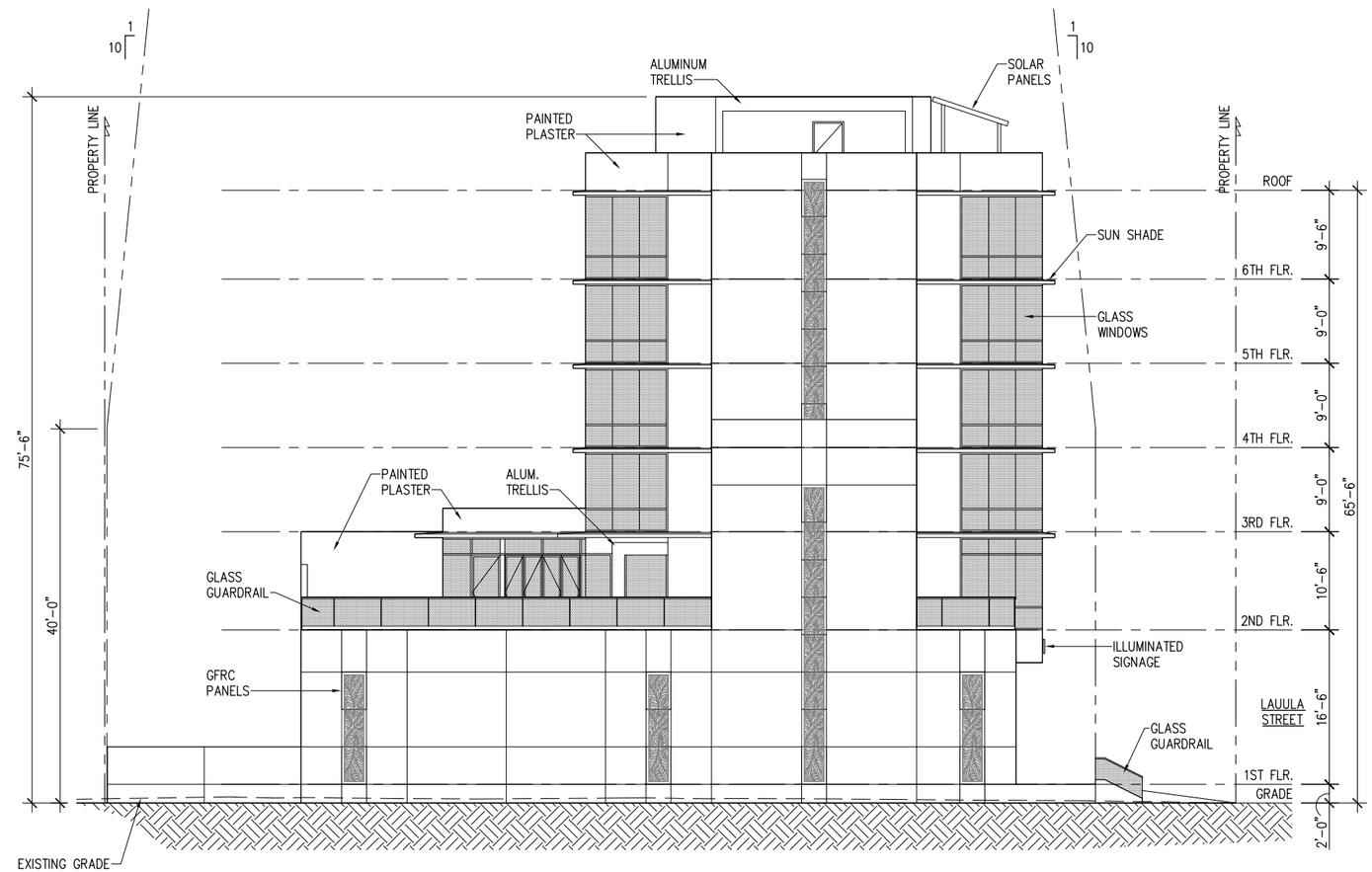



FRONT ELEVATION




LEFT ELEVATION

## BUILDING ELEVATIONS

FEET 1/16"=1'-0"

0 2 4 8 16

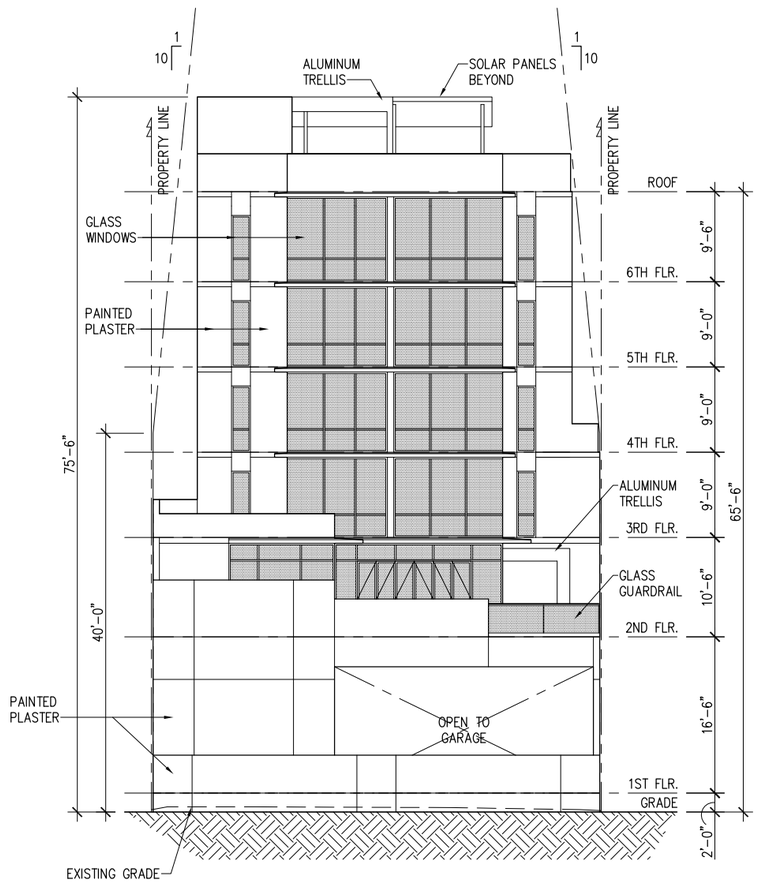
Conceptual Design

# HALE LAUULA

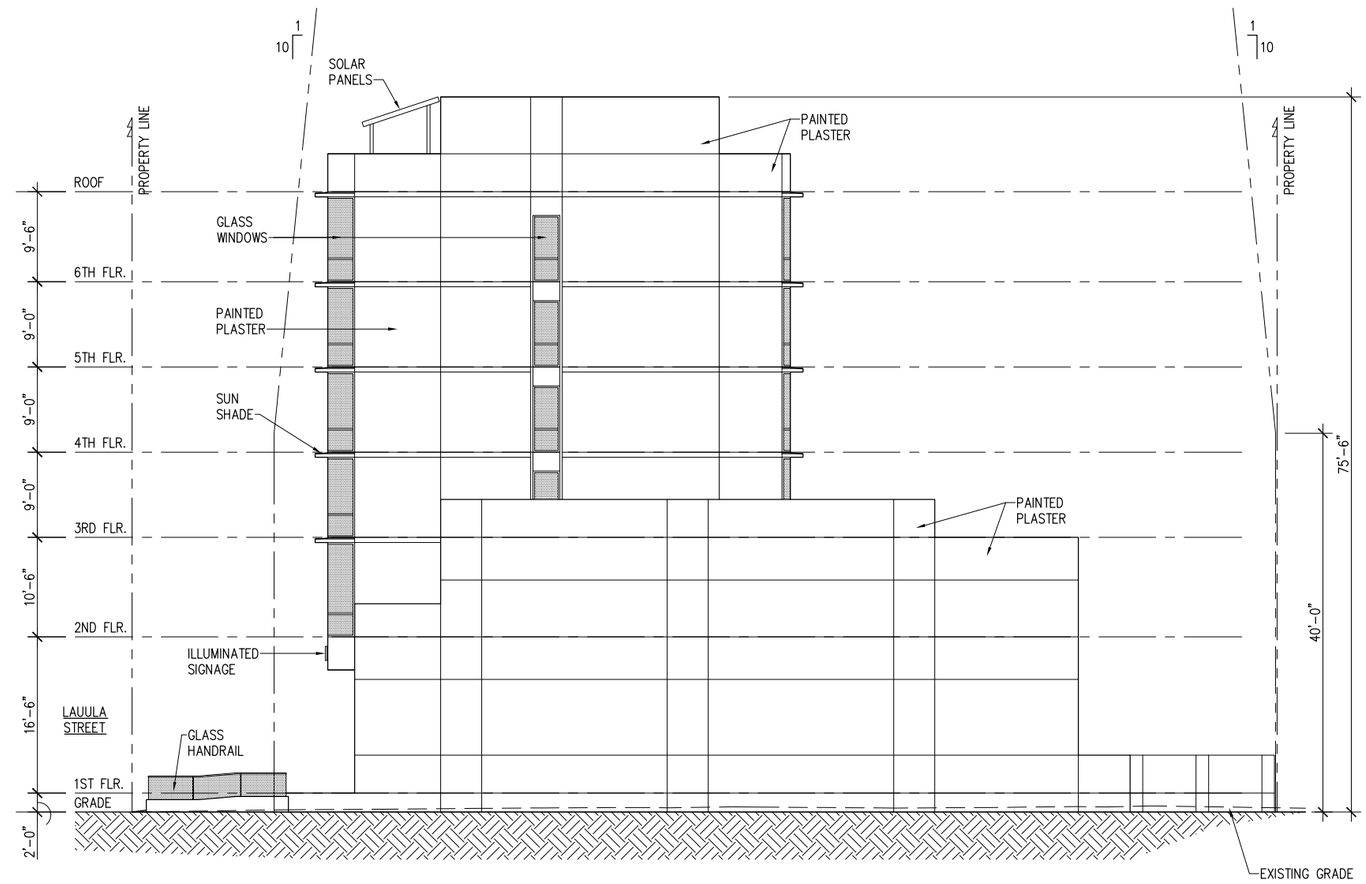
2154 Lauula Street
Honolulu, Hawaii 96815

KY International Inc.
Architects and Planners
1100 Alakea Street, Suite 1988
Honolulu, Hawaii 96813
Telephone 808-524-1268
Facsimile 808-599-8881

A2.1




REAR ELEVATION




RIGHT ELEVATION

## BUILDING ELEVATIONS

FEET 1/16"=1'-0"

0 2 4 8 16

Conceptual Design

# HALE LAUULA

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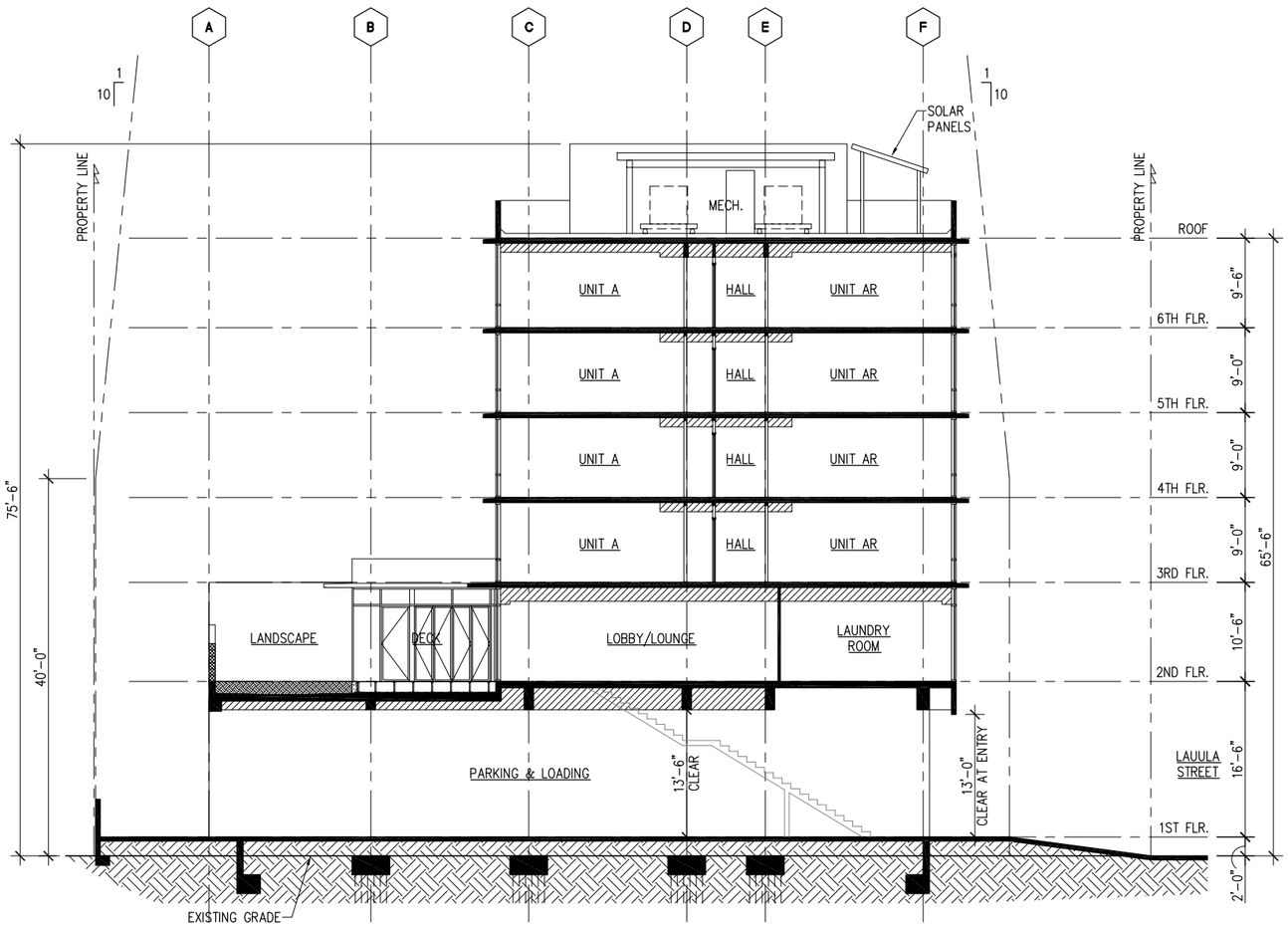
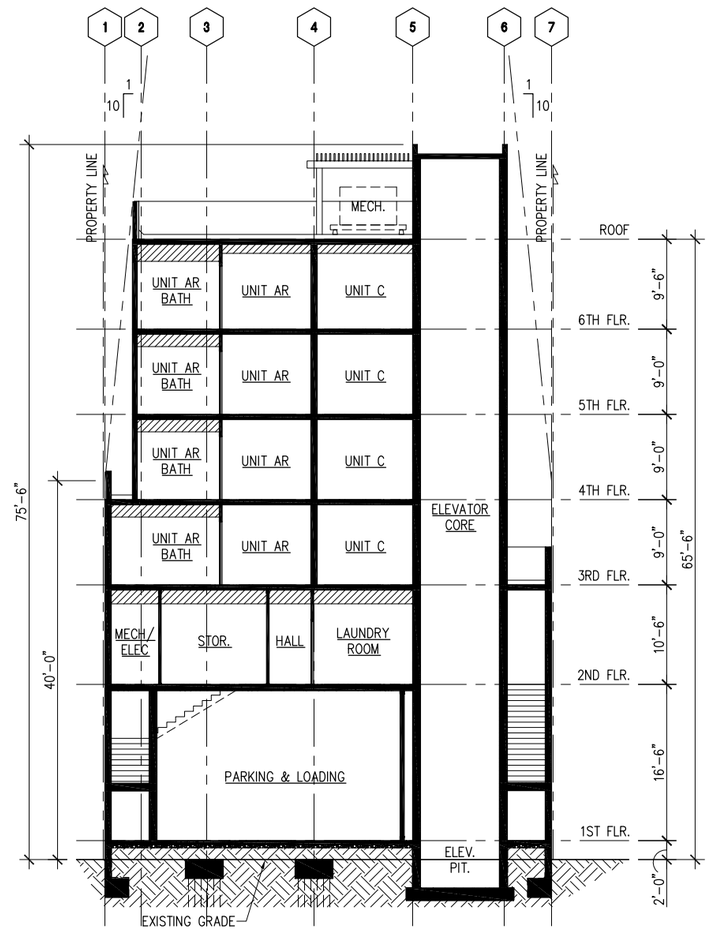
A2.2




CONCEPTUAL SECTION 1




CONCEPTUAL SECTION 2

## BUILDING SECTIONS

FEET 1/16"=1'-0"

0 2 4 8 16

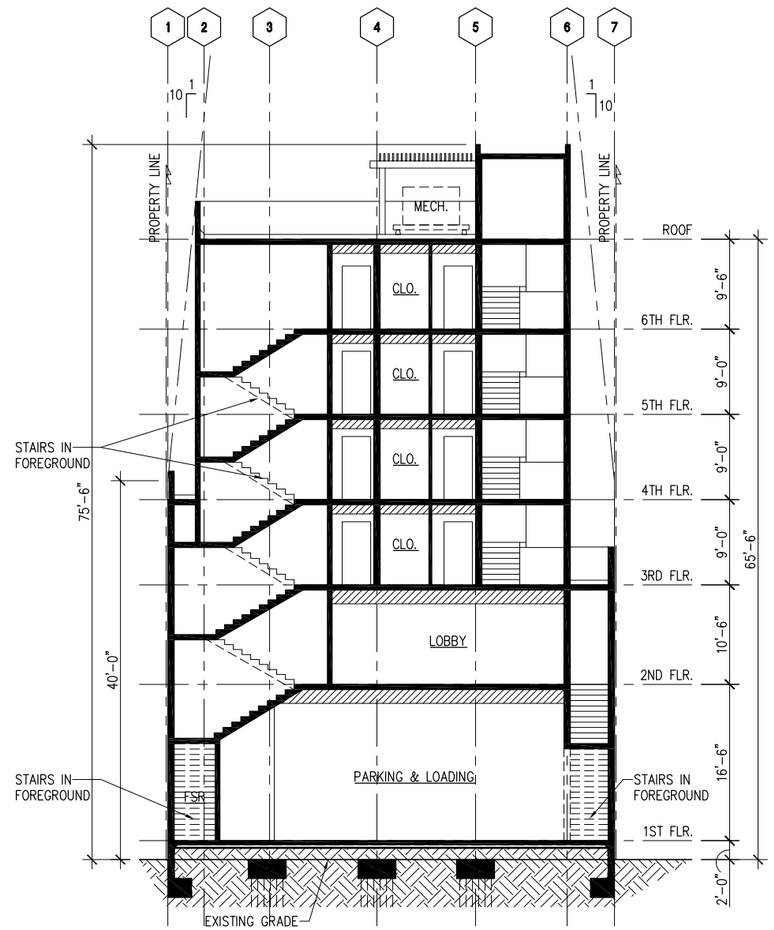
Conceptual Design

# HALE LAUULA

2154 Lauula Street
Honolulu, Hawaii 96815

KY International Inc.
Architects and Planners
1100 Alakea Street, Suite 1988
Honolulu, Hawaii 96813
Telephone 808-524-1268
Facsimile 808-599-8881

A3.1




CONCEPTUAL SECTION 3

## BUILDING SECTIONS

FEET 1/16"=1'-0"

0 2 4 8 16

Conceptual Design

# HALE LAUULA

2154 Lauula Street
Honolulu, Hawaii 96815

KY International Inc.
Architects and Planners
1100 Alakea Street, Suite 1988
Honolulu, Hawaii 96813
Telephone 808-524-1268
Facsimile 808-599-8881

A3.2

10 | MACARTHUR PALM
15 G.C., 6' HT.

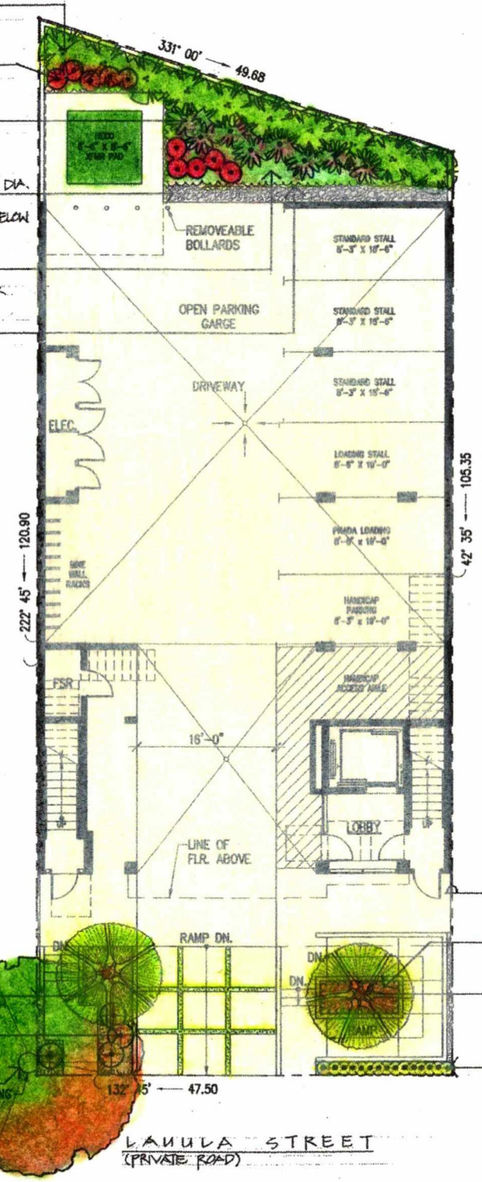
10 | 'LILINOE' TI
3 G.C.

8 | 'KIMI DARK PINK' GINGER
3 G.C., 3' HT.

60 | SMOOTH BLACK RIVER ROCK - 2"-3" DIA.
S.F. | PLACED ON 3" LAYER OF 3B FINE GRAVEL, W/WEED CONTROL FABRIC BELOW

345 | DWARF LAU'E FERN
S.F. | 4" POT @ 12" O.C. SPACING, W/BLACK CINDER MULCH BELOW - 2" LAYER

33 | BLACK ANODIZED ALUMINUM
L.F. | DIVIDER




PROPERTY LINE

36 | 'DWARF TEMPLE FIRE' BOUGAINVILLEA
S.F. | 1 G.C. @ 12" O.C. SPACING

2 | FIJI FAN PALM
FIELD STOCK, 8' BROWN TRUNK HEIGHT

15 | 'AKIA
1 G.C. @ 12" O.C. SPACING, W/BLACK CINDER MULCH BELOW - 2" LAYER (23 S.F.)

86 | POHINAHINA
S.F. | 1 G.C. @ 12" O.C. SPACING W/BLACK CINDER MULCH

4 | 'PETRA' CROTON
3 G.C.

1 | EXISTING AFRICAN TULIP TREE
TO REMAIN

EXISTING TREE

LAUULA STREET
(PRIVATE ROAD)

GROUND FLOOR PLAN - LEVEL 1
SCALE: 1/8" = 1'-0"

LANDSCAPE NOTES:
1. A PERMANENT AUTOMATIC IRRIGATION SYSTEM DESIGN TO BE SUBMITTED DURING THE BUILDING PERMIT AND BID SET PHASES OF THIS PROJECT.
2. A 90-DAY LANDSCAPE MAINTENANCE TO BE PROVIDED AFTER ACCEPTANCE OF LANDSCAPE & IRRIGATION INSTALLATION.

4 | DWARF SINGAPORE PLUMERIA TREES
25 G.C., 4'-5' HT.; W/KUPUKUPU FERN - 25 S.F. BELOW - 4" POT (PROVIDE 4 PLANTS PER PLANTER)

135 | SMOOTH BLACK RIVER ROCK - 3"-5" DIA. SIZE
S.F. | SET ON #3B PINE GRAVEL

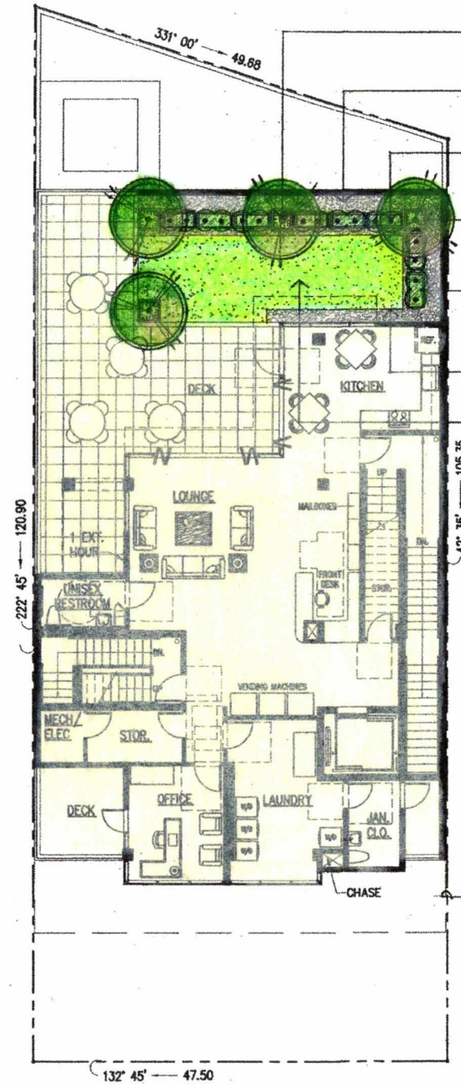
16 | PUALOALO (HIBISCUS ARNOTTIANUS)
1 G.C., W/BLACK CINDER MULCH BELOW

4 | TALL SQUARE FRP FIBERGLASS PLANTER
30" x 30" x 54" HEIGHT

8 | RECTANGULAR FRP FIBERGLASS PLANTER
24" x 48" LONG x 36" HEIGHT

57 | BLACK ANODIZE ALUMINUM DIVIDER
L.F.

270 | 'CITRA-BLUE' ST. AUGUSTINE GRASS
S.F. | SOD; W/SAND/PEAT MIX




PROPERTY LINE

LAUULA STREET
(PRIVATE ROAD)

SECOND FLOOR PLAN - LEVEL 2
SCALE: 1/8" = 1'-0"

## LANDSCAPE PLAN

FEET 1/16"=1'-0"
0 2 4 8 16

Conceptual Design

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Honolulu, Hawaii 96815

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L0.1

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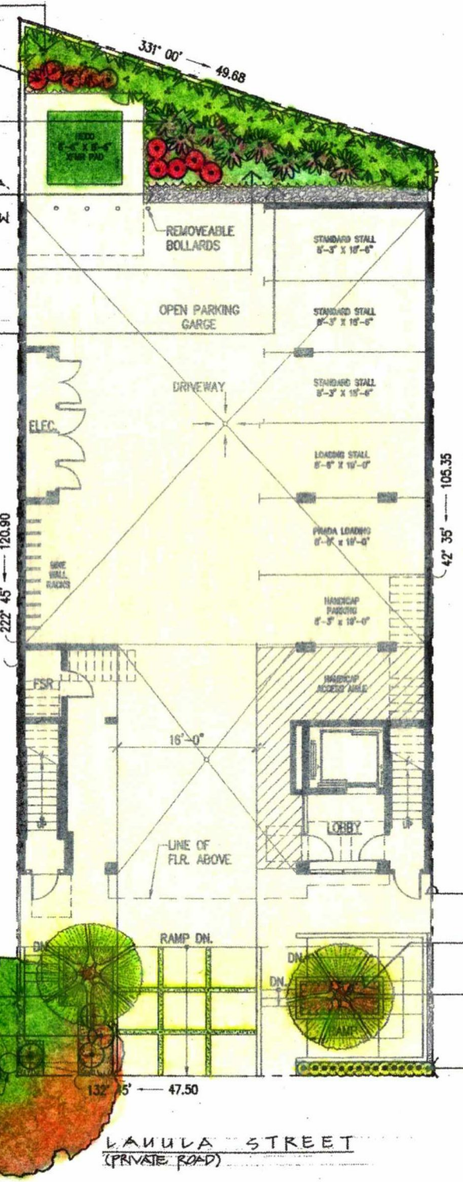


PROPERTY LINE

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S.F. | 1 G.C. @ 12" O.C. SPACING

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FIELD STOCK; 8' BROWN TRUNK HEIGHT

18 | 'AKIA
1 G.C. @ 12" O.C. SPACING, W/BLACK CINDER MULCH BELOW - 2" LAYER (23 S.F.)

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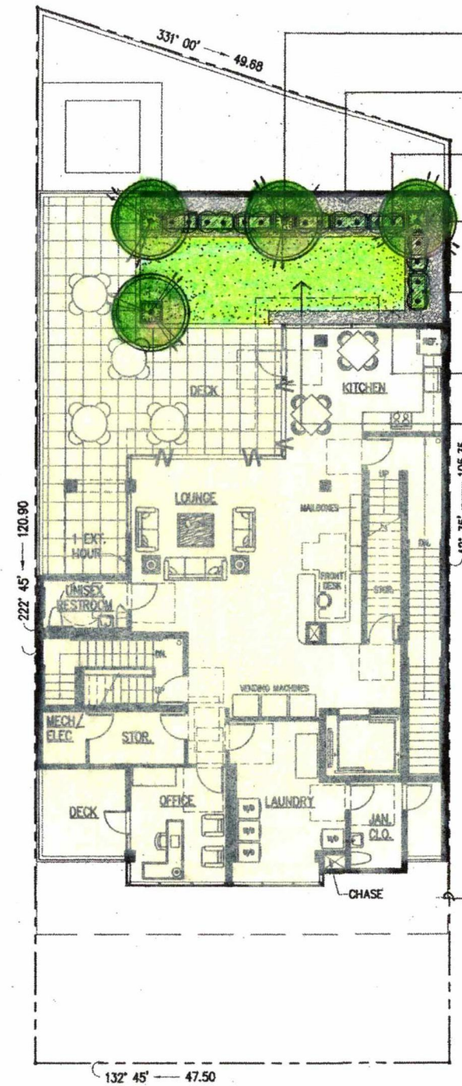
L.F.

270 | 'CITRA-BLUE' ST. AUGUSTINE GRASS
S.F. | SOD; W/ SAND/PEAT MIX




PROPERTY LINE

LAUULA STREET
(PRIVATE ROAD)

SECOND FLOOR PLAN - LEVEL 2
SCALE: 1/8" = 1'-0"

LANDSCAPE PLAN

FEET 1/8"=1'-0"
0 2 4 8 16

Conceptual Design

# HALE LAUULA
2154 Lauula Street
Honolulu, Hawaii 96815


KY International Inc.
Architects and Planners
1100 Alakea Street, Suite 1988
Honolulu, Hawaii 96813
Telephone 808-524-1268
Facsimile 808-599-8881


L0.1

# Appendix B

**Pre-Consultation Responses**

**BOARD OF WATER SUPPLY**

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843
www.boardofwatersupply.com

June 16, 2020

IS

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|---|---|---|---|
| GHH | | KYY | |
| JHY | | RTC | |
| CDL | | DKT | |
| REC'D | JUN 22 2020 | RMTC | |
| CWL | | RES | |
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| AS | | | |

Mr. Isaiah Sato
R. M. Towill Corporation
2024 North King Street, Suite 200
Honolulu, Hawaii 96819-3494

Dear Mr. Sato:

Subject: Your Letter Dated June 3, 2020 Requesting Comments on the Draft Environmental Assessment Pre-Consultation for Hale Lauula off Lauula Street – Tax Map Key: 2-6-018: 049

Thank you for your letter regarding the proposed 16-unit dormitory or hotel project.

The existing water system is adequate to accommodate the proposed high-rise development. 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.

Water conservation measures are required for all proposed developments. These measures include utilization of nonpotable water for irrigation using rain catchment, drought tolerant plants, xeriscape landscaping, efficient irrigation systems, such as a drip system and moisture sensors, and the use of Water Sense labeled ultra-low flow water fixtures and toilets.

High-rise buildings with booster pumps will be required to install water hammer arrestors or expansion tanks to reduce pressure spikes and potential main breaks in our water system.

The proposed project is subject to BWS Supply Cross-Connection Control and Backflow Prevention requirements prior to the issuance of the Building Permit Applications.

The construction drawings should be submitted for our approval, and the construction schedule should be coordinated to minimize impact to the water system.

The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

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

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
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

July 06, 2020

LD 600

ATTN: Isaiah T.K. Sato
R.M. Towill
2024 North King Street, Suite 200 *via email: isaiahs@rmtowill.com*
Honolulu, HI 96819-3494

Dear Sirs:

SUBJECT: **Pre-Consultation for Preparation and Contents of a Draft Environmental Assessment for Hale Lau'ula, Located at 2154 Lau'ula Street, Honolulu, HI 96815, TMK: (1) 2-6-018:049**

Thank you for the opportunity to review and comment on the subject project, and for the extension to July 06th. The Land Division, which handles these requests for the Department of Land and Natural Resources (DLNR), distributed copies of your request to DLNR's various divisions for their review and comment.

Enclosed are responses from our (a) Division of Aquatic Resources, (b) Engineering Division, and (c) Division of Forestry and Wildlife, and (d) Land Division – Oahu District. If you have any questions about the attached, please feel free to contact Barbara Lee via email at barbara.j.lee@hawaii.gov. Thank you.

Sincerely,

*Russell Tsuji*

Russell Y. Tsuji
Land Administrator

Enclosure(s)
cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
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 17, 2020

LD 600

**MEMORANDUM**

TO: **DLNR Agencies:**
X Div. of Aquatic Resources *(via email: Kendall.L.Tucker@hawaii.gov)*
__Div. of Boating & Ocean Recreation
X Engineering Division *(via email: DLNR.Engr@hawaii.gov)*
X Div. of Forestry & Wildlife *(via email: Rubyrosa.T.Terrago@hawaii.gov)*
__Div. of State Parks
X Commission on Water Resource Management *(via email: DLNR.CWRM@hawaii.gov)*
__Office of Conservation & Coastal Lands
X Land Division – Oahu District *(via email: DLNR.Land@hawaii.gov)*
X Historic Preservation *(via email: DLNR.Intake.SHPD@hawaii.gov)*

FROM: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: **Pre-Consultation for Preparation and Contents of a Draft Environmental Assessment for Hale Lau'ula**
LOCATION: 2154 Lau'ula Street, Honolulu, Island of Oahu; TMK: (1) 2-6-018:049
APPLICANT: **R.M. Towill Corporation on behalf of Waikiki Bazaar Inc.**

Transmitted for your review and comment is information on the above-referenced subject. Please submit any comments via email to the Land Division at DLNR.Land@hawaii.gov, copied to barbara.j.lee@hawaii.gov and darlene.k.nakamura@hawaii.gov, by **June 22, 2020.**

If no response is received by the above date, we will assume your agency has no comments. If you have any questions about this request, please contact Barbara Lee via email at barbara.j.lee@hawaii.gov. Thank you.

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

Signed: [signature]
Print Name: Brian J. Neilson- Administrator
Division: Division of Aquatic Resources
Date: Jun 22, 2020

Attachments
Cc: Central Files

DAVID Y. IGE
GOVERNOR OF
HAWAII

**STATE OF HAWAII**
**DEPARTMENT OF LAND AND NATURAL RESOURCES**
**DIVISION OF AQUATIC RESOURCES**
1151 PUNCHBOWL STREET, ROOM 330
HONOLULU, HAWAII 96813

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

Date: 6/22/2020
DAR # CV0029

MEMORANDUM

TO: Brian J. Neilson
DAR Administrator

FROM: Kendall Tucker, Aquatic Biologist

SUBJECT: Pre-Consultation for Preparation and Contents of a Draft Environmental Impact Assessment for Hale Lau'ula

Request Submitted by: Russell Y. Tsuji- Administrator- Land Division

Location of Project: 2154 Lau'ula St. Honolulu, Oahu

Brief Description of Project:

Waikiki Bazaar Inc. (the "Applicant") proposes to develop Hale Lau'ula (the "Project"), a 6-story structure with a 16-unit, 28-bed dormitory or 16 unit hotel, on Tax Map Key: (1) 2-6-018: 049 (the "Project Site"), a 5,355 square feet parcel. The Project Site is approximately 120-feet deep and 50-feet wide. The Project Site is comprised of a small surface parking lot of 13 parking stalls and a covered pay station. The Applicant will replace the existing surface commercial parking lot with a six-story, 16 unit, 28-bed student dormitory.

Comments:

☐ No Comments ☒ Comments Attached

Thank you for providing DAR the opportunity to review and comment on the proposed project. Should there be any changes to the project plan, DAR requests the opportunity to review and comment on those changes.

Comments Approved: _____ Date: Jun 22, 2020
Brian J. Neilson
DAR Administrator

DAR# CV0029

Comments

The Division of Aquatic Resources (DAR) would like to see the following concerns addressed in the Draft Environmental Assessment (DEA). DAR's major concerns pertain to any organisms in the nearby water source. Although the project isn't directly adjacent to a waterway DAR would like to see the Best Management Practices (BMP's) addressed for limiting Land Based Source Pollution (LBSP) from the construction activities from entering the storm drains or nearby water sources.

Thank you for providing DAR the opportunity to review and comment on the proposed project. Should there be any changes to the project plans, DAR requests the opportunity to review and comment on those changes.

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
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 17, 2020

LD 600

**MEMORANDUM**

FROM:

~~TO:~~ **DLNR Agencies:**

X Div. of Aquatic Resources *(via email: Kendall.L.Tucker@hawaii.gov)*
__Div. of Boating & Ocean Recreation
X Engineering Division *(via email: DLNR.Engr@hawaii.gov)*
X Div. of Forestry & Wildlife *(via email: Rubyrosa.T.Terrago@hawaii.gov)*
__Div. of State Parks
X Commission on Water Resource Management *(via email: DLNR.CWRM@hawaii.gov)*
__Office of Conservation & Coastal Lands
X Land Division – Oahu District *(via email: DLNR.Land@hawaii.gov)*
X Historic Preservation *(via email: DLNR.Intake.SHPD@hawaii.gov)*

TO:

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

SUBJECT: **Pre-Consultation for Preparation and Contents of a Draft Environmental Assessment for Hale Lau'ula**

LOCATION: 2154 Lau'ula Street, Honolulu, Island of Oahu; TMK: (1) 2-6-018:049

APPLICANT: **R.M. Towill Corporation on behalf of Waikiki Bazaar Inc.**

Transmitted for your review and comment is information on the above-referenced subject. Please submit any comments via email to the Land Division at DLNR.Land@hawaii.gov, copied to barbara.j.lee@hawaii.gov and darlene.k.nakamura@hawaii.gov, by **June 22, 2020.**

If no response is received by the above date, we will assume your agency has no comments. If you have any questions about this request, please contact Barbara Lee via email at barbara.j.lee@hawaii.gov. Thank you.

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

Signed: *CSC*
Print Name: Carty S. Chang, Chief Engineer
Division: Engineering Division
Date: Jun 22, 2020

Attachments
Cc: Central Files

**DEPARTMENT OF LAND AND NATURAL RESOURCES**
**ENGINEERING DIVISION**

**LD/Russell Y. Tsuji**
**Ref: Pre-Consultation for Preparation and Contents of a Draft Environmental Assessment for Hale Lau'ula**
**TMK(s): (1) 2-6-018:049**
**Location: 2154 Lau'ula Street, Honolulu, Island of Oahu**
**Applicant: R.M. Towill Corporation on behalf of Waikiki Bazaar Inc.**

**COMMENTS**

The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a Special Flood Hazard Area (high risk areas). State projects are required to comply with 44CFR regulations as stipulated in Section 60.12. Be advised that 44CFR reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may stipulate higher standards that can be more restrictive and would take precedence over the minimum NFIP standards.

The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zones are designated on FEMA's Flood Insurance Rate Maps (FIRM), which can be viewed on our Flood Hazard Assessment Tool (FHAT) (http://gis.hawaiinfip.org/FHAT).

If there are questions regarding the local flood ordinances, please contact the applicable County NFIP coordinating agency below:

- Oahu: City and County of Honolulu, Department of Planning and Permitting (808) 768-8098.
- Hawaii Island: County of Hawaii, Department of Public Works (808) 961-8327.
- Maui/Molokai/Lanai County of Maui, Department of Planning (808) 270-7253.
- Kauai: County of Kauai, Department of Public Works (808) 241-4896.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: Jun 22, 2020

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

**STATE OF HAWAII**
**DEPARTMENT OF LAND AND NATURAL RESOURCES**
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LOCATION: 2154 Lau'ula Street, Honolulu, Island of Oahu; TMK: (1) 2-6-018:049
APPLICANT: **R.M. Towill Corporation on behalf of Waikiki Bazaar Inc.**

Transmitted for your review and comment is information on the above-referenced subject. Please submit any comments via email to the Land Division at DLNR.Land@hawaii.gov, copied to barbara.j.lee@hawaii.gov and darlene.k.nakamura@hawaii.gov, by **June 22, 2020.**

If no response is received by the above date, we will assume your agency has no comments. If you have any questions about this request, please contact Barbara Lee via email at barbara.j.lee@hawaii.gov. Thank you.

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

Signed: DGS
Print Name: DAVID G. SMITH, Administrator
Division: Division of Forestry and Wildlife
Date: Jun 22, 2020

Attachments
Cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

**STATE OF HAWAII**
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET, ROOM 325
HONOLULU, HAWAII 96813

June 22, 2020

**MEMORANDUM** *Log no. 2698*

**TO:** RUSSELL Y. TSUJI, Administrator
Land Division

**FROM:** DAVID G. SMITH, Administrator
Division of Forestry and Wildlife

**SUBJECT: Division of Forestry and Wildlife Comments on the Pre-Consultation for Preparation and Contents of a Draft Environmental Assessment (EA) for Hale Lauʻula**

The Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) has received your inquiry regarding review of the pre-consultation for the Draft EA of the proposed Hale Lauʻula in Honolulu on Oʻahu, Hawaiʻi, TMK: (1) 2-6-018:049. The proposed project consists of constructing a six-story 16-unit student dormitory and hotel on a 5,355 square foot parcel of previously developed land in Waikīkī.

The State endangered White Tern (*Gygis alba*) or Manu o Kū is known to nest in the proposed project vicinity. If tree trimming or removal is planned, DOFAW strongly recommends surveying for the presence of White Terns prior to any action that could disturb the trees. White Tern pairs lay their single egg in a branch fork with no nest. The eggs and chicks can be easily dislodged by construction equipment that nudges the trees. If a nest is discovered, please notify DOFAW staff for assistance.

DOFAW notes that artificial lighting can adversely impact seabirds that may pass through the area at night by causing disorientation. This disorientation can result in collision with manmade artifacts or grounding of birds. For nighttime lighting that might be required, DOFAW recommends that all lights be fully shielded to minimize impacts. Nighttime work that requires outdoor lighting should be avoided during the seabird fledging season from September 15 through December 15. This is the period when young seabirds take their maiden voyage to the open sea. For illustrations and guidance related to seabird-friendly light styles that also protect the dark, starry skies of Hawaiʻi please visit:
https://dlnr.hawaii.gov/wildlife/files/2016/03/DOC439.pdf.

The State listed Hawaiian Hoary Bat or ʻŌpeʻapeʻa (*Lasiurus cinereus semotus*) has the potential to occur in the vicinity of the project area and may roost in nearby trees. If any site clearing is required this should be timed to avoid disturbance during the bat birthing and pup rearing season (June 1 through September 15). If this cannot be avoided, woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed without consulting DOFAW.

DOFAW recommends minimizing the movement of plant or soil material between worksites, such as in fill. Soil and plant material may contain invasive fungal pathogens, vertebrate and invertebrate pests (e.g. Coconut Rhinoceros Beetles), or invasive plant parts that could harm our native species and ecosystems. We recommend consulting the O‘ahu Invasive Species Committee at (808) 266-7994 in planning, design, and construction of the project to learn of any high-risk invasive species in the area and ways to mitigate spread. All equipment, materials, and personnel should be cleaned of excess soil and debris to minimize the risk of spreading invasive species.

We appreciate your efforts to work with our office for the conservation of our native species. Should the scope of the project change significantly, or should it become apparent that threatened or endangered species may be impacted, please contact our staff as soon as possible. If you have any questions, please contact Lauren Taylor, Protected Species Habitat Conservation Planning Coordinator at (808) 587-0010 or lauren.tavlor@hawaii.gov.

Sincerely,

DAVID G. SMITH
Administrator

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
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 17, 2020

LD 600

**MEMORANDUM**

TO: **DLNR Agencies:**
X Div. of Aquatic Resources *(via email: Kendall.L.Tucker@hawaii.gov)*
__Div. of Boating & Ocean Recreation
X Engineering Division *(via email: DLNR.Engr@hawaii.gov)*
X Div. of Forestry & Wildlife *(via email: Rubyrosa.T.Terrago@hawaii.gov)*
__Div. of State Parks
X Commission on Water Resource Management *(via email: DLNR.CWRM@hawaii.gov)*
__Office of Conservation & Coastal Lands
X Land Division – Oahu District *(via email: DLNR.Land@hawaii.gov)*
X Historic Preservation *(via email: DLNR.Intake.SHPD@hawaii.gov)*

FROM: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: **Pre-Consultation for Preparation and Contents of a Draft Environmental Assessment for Hale Lau'ula**
LOCATION: 2154 Lau'ula Street, Honolulu, Island of Oahu; TMK: (1) 2-6-018:049
APPLICANT: **R.M. Towill Corporation on behalf of Waikiki Bazaar Inc.**

Transmitted for your review and comment is information on the above-referenced subject. Please submit any comments via email to the Land Division at DLNR.Land@hawaii.gov, copied to barbara.j.lee@hawaii.gov and darlene.k.nakamura@hawaii.gov, by **June 22, 2020.**

If no response is received by the above date, we will assume your agency has no comments. If you have any questions about this request, please contact Barbara Lee via email at barbara.j.lee@hawaii.gov. Thank you.

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

Signed: *Darlene Bryant-Takamatsu*
Print Name: Darlene Bryant-Takamatsu
Division: Land Division
Date: June 25, 2020

Attachments
Cc: Central Files

DEPARTMENT OF PLANNING AND PERM
CITY AND COUNTY OF HO
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, H
PHONE: (808) 768-8000 • FAX: (808) 768-6
DEPT. WEB SITE: www.honoluludpp.org • CITY WEB SITE:

KIRK CALDWELL
MAYOR

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June 19, 2020

Mr. Isaiah Sato
R.M. Towill Corporation
2024 North King Street, Suite 200
Honolulu, Hawaii 96819

Dear Mr. Sato:

SUBJECT: Pre-consultation for a Draft Environmental Assessment (DEA)
Hale Lauula
2154 Lauula Street - Waikiki
Tax Map Key 2-6-018: 049

This responds to your letter (received on June 5, 2020), regarding your plans to submit a DEA for the above-mentioned Project, which will be a 6-story building consisting of a 16-unit, 28-bed student dormitory or a 16-unit hotel in the Resort Mixed Use Precinct of the Waikiki Special District. The DEA should evaluate the impacts of both uses.

It is our understanding that the building will contain a lobby on the ground level and a prep-kitchen on the second level. The Project is classified as a "boarding facility" as it is an *"establishment with one kitchen which provides living accommodations for roomers in addition to the resident manager or owner and family, with or without meals, for remuneration or in exchange for services,"* as defined in the Land Use Ordinance. Please be advised that the parking requirement is one space per 800 square feet of floor area.

Alternatively, you indicate that the Project may be operated as a hotel. The lobby must provide a desk or counter with 24-hour clerk service for guest registration. Boarding facilities and hotels are permitted uses in the Resort Mixed Use Precinct.

Should you have any further questions on this matter, please contact Janet Meinke-Lau, of our Urban Design Branch, at (808) 768-8033 or by email at j.meinkelau@honolulu.gov.

Very truly yours,

for Kathy K. Sokugawa
Acting Director

HAWAI'I GAS
THE CLEAN ENERGY COMPANY

June 24, 2020

Mr. Isaiah T. K. Sato
R. M. Towill Corporation
2024 North King Street, Suite 200
Honolulu, Hawaii 96819-3494

Dear Mr. Sato:

Subject: Pre-consultation for the Preparation and Contents of a Draft Environmental Assessment for Hale Lau'ula, Located at 2154 Lau'ula Street, Honolulu, HI 96815
TMK: [1] 2-6-018:049
Plan Review and Comment

In response to your letter dated June 3, 2020, please be advised that Hawaii Gas maintains underground utility gas mains in the project vicinity that serve commercial and residential customers in the area. We would appreciate your consideration during the planning and design process to minimize any potential conflicts with the existing gas facilities in the area.

Thank you for the opportunity to comment on this project. Should there be any questions, or if additional information is desired, please feel free to contact Talon Choy at (808) 594-5549.

Sincerely,

Hawaii Gas

Keith K. Yamamoto
Manager, Engineering

KKY:krs

| | |
|---|---|
| **From:** | Liu, Rouen |
| **To:** | Isaiah Sato |
| **Cc:** | Keith Kurahashi |
| **Subject:** | RE: Pre-consultation Hale Lauula DEA |
| **Date:** | Monday, June 22, 2020 6:11:18 PM |
| **Attachments:** | image001.png |

CAUTION: External Email

Dear Isaiah Sato,

Thank you for the opportunity to comment on the subject project. Hawaiian Electric Company has no objection to the project. Should Hawaiian Electric have existing easements and facilities on the subject properties, we will need continued access and proper clearances for maintenance of our facilities. We appreciate your efforts to keep us apprised of the subject project in the planning process. As the proposed Hale Lauula project comes to fruition, please continue to keep us informed.

Should there be any questions, please contact me at 543-7245.

Thank you,

Rouen Liu
Permit Engineer
Hawaiian Electric Company, Inc.

---

**From:** Isaiah Sato <IsaiahS@rmtowill.com>
**Sent:** Tuesday, June 9, 2020 2:35 PM
**To:** Liu, Rouen <rouen.liu@hawaiianelectric.com>
**Cc:** Keith Kurahashi <KeithK@rmtowill.com>
**Subject:** Pre-consultation Hale Lauula DEA

**[This email is coming from an EXTERNAL source. Please use caution when opening attachments or links in suspicious email.]**

Aloha Rouen,

We are planning to submit a Draft Environmental Assessment (DEA) for Hale Lau'ula, a proposed 6-story student dormitory or hotel. We are requesting your input on the proposed action. Please see attached letter describing the project and location.

We received a kickback when we mailed to the below address.  Could you please provide an updated address?
820 Ward Ave.
Honolulu, Hawaii 96814

Malama Pono,
Isaiah
--
Isaiah T. K. Sato, P.E.

R. M. Towill Corporation
2024 North King Street Suite 200
Honolulu, Hawaii 96819
office: 808 842 1133  direct: 808 748 7431  web: www.rmtowill.com

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DAVID Y. IGE
GOVERNOR

**STATE OF HAWAI`I**
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAI`I 96804

OFFICE OF FACILITIES AND OPERATIONS

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June 16, 2020

Isaiah Sato
R.M. Towill Corporation
2024 North King Street
Honolulu, Hawaii 96819-3494

Re: Pre-consultation for a Draft Environmental Assessment for the Proposed Hale Lauula Project, Waikiki, Oahu, Hawaii TMK 2-6-018:049

Dear Mr. Sato:

The Hawaii State Department of Education (HIDOE) has the following comments for the preparation of a Draft Environmental Assessment (DEA) for the proposed Hale Lauula Project (Project). According to the information provided, the proposed Project will either be a 16-unit student dormitory or a 16-unit hotel on approximately 5,355 square feet of land located at Waikiki, Island of Oahu, Hawaii, and TMK 2-6-018:049.

The HIDOE schools servicing the Project are Jefferson Elementary, Washington Middle, and Kaimuki High School.

The DEA should include whether school-age children will be allowed to reside in the student dormitory.

Thank you for the opportunity to comment. Should you have questions please contact Robyn Loudermilk, Acting Land Use Planner with the Facilities Development Branch, Planning Section, at 784-5093 or via email at robyn.loudermilk@k12.hi.us.

Respectfully,

Kenneth G. Masden II
Public Works Administrator
Planning Section

KGM;rll

# Appendix C

**Waikīkī Neighborhood Board No. 9 Minutes, January 14, 2020**

**WAIKIKI NEIGHBORHOOD BOARD NO. 9**
**REGULAR MEETING MINUTES**
**TUESDAY, JANUARY 14, 2020**
**WAIKIKI COMMUNITY CENTER**

CALL TO ORDER: Chair Robert Finley called the meeting to order at 7:00 p.m. **A quorum was established with 12 members present**. Note: This 17-member Board requires nine (9) members to establish quorum and to take official board action.

Board Members Present: Jerome Bautista, Helen Carroll, Louis Erteschik, Robert Finley, Walt Flood, Mark Garrity, Jeffrey Merz, John Nigro, Patricia Shields, Mark Smith, Kenneth Wilder, and Michael Brown.

Board Members Absent: Robert Boyack, Lisa Cabanero, and Kathryn Henski.

Guests: Dominic Dias (Board of Water Supply); Captain Lee Marquez (Honolulu Fire Department); Jeff Herzog (United States Army Corps of Engineers); Senator Sharon Moriwaki; Councilmember Tommy Waters; Keith Kurahashi (R.N. Towill); Tommy Penrose, Pam Walker, Pattie Johnson, Cherlynn Thrasher, Lynn Marians, Ray Freeze, Jennifer Ropiak, Nehy Hax, Franklin Chung, Jacob Wiencek, Brian Fannin, Joe Thomas, Steve Thompson, Sue Thompson, Peggy Wagner, Denise Boisvert, Lillian Reynolds, Judi Kern, and Melissa Filek (Residents); Casey Ishitani (Neighborhood Assistant). **Name was not included if not legible on the attendance sheet.**

FILLING OF VACANCIES:
Two (2) Vacancies Sub District 2: Hearing no appointees, Chair Finley deferred this item to the January 2020 meeting.

CITY MONTHLY REPORTS
Honolulu Fire Department (HFD): HFD Captain Lee Marquez reported the following.

- December 2019 Statistics: There were three (3) structure fires, two (2) nuisance fires, one (1) cooking fire, 11 activated alarms, 142 medical emergencies, two (2) motor vehicle collisions with pedestrians, four (4) motor vehicle crashes, four (4) ocean rescues, and one (1) hazardous materials incident.
- Safety Tip: Captain Marquez reported that residents can practice kupuna fall protection by having elderly individuals exercise regularly, keep walkways clear, and to keep footpaths well-lit.

Questions, comments, and concerns followed. Elevators: Smith inquired about the frequency of stalled elevators and Captain Marquez responded that it averages 10 incidents a week.

Honolulu Police Department (HPD): HPD Sergeant Glenn Romero reported the following.

- December 2019 Statistics: There were four (4) robberies, 13 burglaries, 204 theft, 29 unauthorized entries of vehicles, 41 assaults, one (1) sex crimes, 15 citations for bicycles on the sidewalk, seven (7) citations for skateboards on the sidewalk, eight (8) speeding citations, 657 parking citations, seven (7) park closure warnings, 69 park closure citations, three (3) park closure arrests, and 3,882 total calls for service.
- Meet the Major: HPD will host a Meet the Major event at Paki Hale, 3840 Paki Avenue, on Thursday, February 20, 2020 from 6:00 p.m. to 7:00 p.m.

Questions, comments, and concerns followed.

1. Homelessness: Merz raised a concern from resident Tommy Penrose regarding homeless individuals residing on or near a Hawaiian Electric Company (HECO) substation on Ena Road. Resident Penrose reported littering, the stripping of electronics, and prostitution around the substation. Sergeant Romero responded that HECO would need to be the complainant for activities on its property. Wilder raised concerns regarding a homeless individual on Paokalani Street and Kuhio Avenue harassing residents and tourists. A resident raised concerns regarding homeless individuals littering into the Ala Wai Canal near the Ala Wai Promenade and inquired where residents can meet HPD officers without risk of reprisal and Sergeant Romero reported that residents can meet officers where ever they feel safest.

2. Motorcycle Noise: Carroll raised concerns regarding motorcycle noise and Sergeant Romero responded that a new law was passed to curb modified mufflers. Carroll inquired if HPD can inspect facilities and Sergeant Romero reported that it is not in their purview.
3. Pualani Road: Smith inquired about the legality of a trailer frame on Pualani Way and Sergeant Romero responded that HPD will inspect.
4. Sidewalk Law: A resident inquired about the legality of skateboards and bicycles on the sidewalk along Kuhio Avenue. Sergeant Romero responded that residents can inquire with legislators regarding concerns over sidewalk laws as HPD can only enforce them.
5. Cartwright Road: Wilder inquired about the legality of food trucks to Cartwright Road, claiming that some of the trucks have deflated tires. A resident reported illicit activity. Chair Finley raised that the Board has had constant concerns regarding the Cartwright Road situation and Sergeant Romero responded that concerns can be reported to the Department of Health (DOH).
6. Officer Shortage: A resident raised concerns over the recent rise in crimes and shortage of HPD officers. Sergeant Romero responded that HPD is accepting applications and that HPD Chief Susan Ballard is creating a ladder system in order to fill vacancies. Sergeant Romero also reported that officers who are eligible to retire may do so at the end of 2020.

Board of Water Supply (BWS): BWS representative Dominic Dias reported the following.

- Main Breaks: There were no main breaks in December 2019.
- Meter Reading Equipment Replacement Project: Starting in January 2020, BWS has contracted Royal Contracting Company to install new transponders to replace the automated BWS meter reading equipment across Oahu. Work will be done seven (7) days a week from 7:30 a.m. to 10:30 p.m.

RESIDENTS AND COMMUNITY CONCERNS
Parking Stalls: A resident raised concerns regarding a lack of parking stalls due to filming and contracted labor.

Aston Waikiki Beach: A resident raised concerns regarding the sidewalk along Kalakaua Avenue being incomplete in front of the Aston Waikiki Beach.

Surfboards: A resident raised concerns regarding surfboards being locked up at the pavilions.

Centennial Park: A resident requested updates for the completion of the Centennial Park.

PUBLIC EVENTS: Chair Finley reported the following public events in Waikiki.

- Dr. Martin Luther King Parade: Monday, January 20, 2020 from 8:45 a.m. to noon

APPLICATIONS FOR LIQUOR LICENSES: Chair Finley reported the following liquor license hearing.

- Thursday, January 30, 2020, Kinship Honolulu, 330 Royal Hawaiian Avenue (DFS Galleria), Category 2

ELECTED OFFICIALS AND OTHERS
Mayor Kirk Caldwell's Representative: Department of Design and Construction (DDC) Deputy Director Mark Yonamine reported the following.

- Kaiolu Street and Kuhio Avenue Parking Lot: Chair Finley and Councilmember Tommy Waters reported that they are continuing to have a parking lot at Kaiolu Street and Kuhio Avenue opened. The Department of Transportation (DTS) reported that the Kūhiō-Kaiʻolu parking lot located on Kūhiō Avenue between Lewers and Kaiʻolu streets was re-opened to the public on Thursday, December 5, 2019, and is operational 24-hours, with 7-days of enforcement of the metered stalls within the parking lot. The developer has met the requirements for the opening of the parking lot.
- Homelessness: Residents and Board members raised concerns regarding the number of homeless individuals frequenting the Waikiki pavilions at all times, often harassing residents and tourists. HPD District 6 (Waikiki) Bicycle Detail and patrol units frequently take enforcement action for observed violations in the area. However, the pavilions are part of the public beach park and open to all members of the public, including homeless individuals. HPD officers assigned to the Waikiki district are aware of individuals who frequent the pavilion areas and have made attempts to get them assistance through social services providers. They work closely with the Institute for Human Services and their outreach team to get these individuals the assistance that they need and will continue to do so. HPD officers also collaborate with the Honolulu Police Department Community Outreach Unit and their H.E.L.P. Honolulu program to conduct outreach with those experiencing homelessness. The Office of Housing (HOU) reminds the community that

the pavilions owned by the city are open to the public. Should a disturbance be observed during or after hours, please call 911 immediately. If the pavilion is privately owned, a complaint would have to be made with the property manager.

- Bird Waste: Board reiterated concerns about bird waste on the benches near the bandstand in Kapiolani Park. As part of their daily duties, the Department of Parks and Recreation (DPR) staff cleans the benches around the Kapiolani Park Bandstand.
- Water Leak: A resident raised that there is a water leak in front of the Luana Waikiki Hotel and that it is spilling onto Kalakaua Avenue. On Thursday, November 21, 2019, a BWS troubleshooter investigated the complaint of a water leak fronting the Luana Waikiki Hotel and determined there is no leak. The water was coming from the hotel's drains and is collecting in a low spot in the gutter.
- Leaning Utility Pole: The Board raised concerns regarding a leaning utility pole with jersey barriers and cords around it. The pole is located in front of the Chateau Waikiki on Hobron Lane. The Department of Design and Construction (DDC) reported that per HECO, the anchor supporting this pole kept pulling out due to bad soil conditions and when we dug near the pole, they determined there is coral blocking the way. HECO has proceeded with ordering a steel pole and their engineering division is designing the steel pole and anchor bolt foundation for the pole. The steel pole is tentatively scheduled to arrive in Spring 2020. The work package is scheduled to be issued by November/December 2020.
- Uneven Ramp: Residents and Board raised that a curb ramp on the Mauka-Diamond Head side of Kalakaua Avenue and Paokalani Avenue is uneven and requires repairs. A Department of Facility Maintenance (DFM) Division of Road Maintenance supervisor inspected the curb ramp sidewalk near Paoakalani Avenue and Kalakaua Avenue on Friday, November 22, 2019, and did not find any degradation.
- Sewage Spill: Residents inquired about a sewage spill in Waikiki on Saturday, November 9, 2019. Environmental Services (ENV) did not receive or respond to any trouble call and or complaint regarding a sewage spill in Waikiki on Saturday, November 9, 2019. ENV encourages residents to call our 24-hour sewer problems / complaints hotline at (808) 768-7272 to report sewage spills.
- Upcoming Project: Deputy Director Yonamine reported that in Spring and Summer 2020 DFM will install fiber optic cables along Kalakaua Avenue from the Hawaii Convention Center to Kapahulu Avenue.

Questions, comments, and concerns followed.

1. Ritz Carlton Parking: Chair Finley reported that the new parking lot is missing eight (8) parking stalls and has grass where stalls should be. A resident raised concerns that they are unable to find the entrance to the parking lot.
2. Construction: Merz raised concerns regarding construction noise near Walina Street and Kuhio Avenue. Chair Finley responded that his understanding is that the construction will comply with DOH hours related to noise. A resident raised concerns about sea water seepage at their property – 225 Kaiulani Avenue – which they claim is due to the construction.
3. Dillingham Fountain: A resident raised concerns regarding the Louise Dillingham Memorial Fountain being constantly shut off.

Governor David Ige's Representative: Director of the Office of Environmental Quality Control (OEQC) Scott Glenn reported the following.

- Capitol Connection: Director Glenn reported that the newest edition of Capitol Connection is available.
- Legislature: The Legislature opens on Wednesday, January 15, 2020. Hot topics will include cost of living and raising the minimum wage.

Questions, comments, and concerns.

1. Cartwright Street: Chair Finley reiterated concerns regarding Cartwright Street, requesting DOH inspection of the area.
2. Cost of Living: A resident inquired if cost of food was considered in cost of living for Legislature session and Director Glenn responded that it was.

Councilmember Tommy Waters: Councilmember Waters handed out his newsletter and reported the following.

- Property Tax: The deadline to appeal property tax is on Wednesday, January 15, 2020.
- Prosecuting Attorney: A new bill is being proposed that would make the prosecuting attorney a mayoral appointed position.
- Ethics Commission: A new bill is being proposed to have the Ethics Commission control its own budget.

- Officer Shortage: Councilmember Waters proposed a Waikiki town hall in order to address the HPD officer shortage. Councilmember Waters reported that he will meet with HPD Chief Ballard to figure out ways to retain and recruit officers, including raising pay and benefits.
- Parking Lots: Councilmember Waters reported that the midnight closure of the Honolulu Zoo parking lot has been suspended due to a negative response from the community. He also raised that DTS will provide signage for the Ritz Carlton parking lot to avoid confusion.
- Fence: A fence has been placed from Makalei Beach Park to Leahi Beach Park due to a lawsuit from a tourist who fell. Councilmember Waters worked with Department of Parks and Recreation (DPR) to install beach access points in the fence for residents and tourists.
- Aston Waikiki Beach: Councilmember Waters reported that the sidewalk construction by the Aston Waikiki Beach is on hold due to the discovery of bones in the ground. An investigation will need to determine if they will need to be repatriated.

Questions, comments, and concerns followed.

1. Fiber Optics: Chair Finley requested that a BWS waterline project be scheduled along with the DFM fiber optic installation to save time.
2. Parking: Wilder inquired if Councilmember Waters is working on dealing with the parking issues raised at the meeting and he responded that he will need more public input.
3. Representation: A resident inquired if there was a way to verify that resident voices are being heard and Councilmember Waters responded that the Board as an advisory entity should reflect community viewpoints.

Senator Sharon Moriwaki: Senator Moriwaki handed out a newsletter and reported the following.

- Waste Management: Senator Moriwaki reported that she spoke to waste management companies regarding early morning noise from dumpster disposal. The waste management companies have agreed to collect dumpsters later in the morning.
- Waikiki Sidewalk Patching Project: Senator Moriwaki joined the Waikiki Community Center, Rotary Club of Waikiki, AARP, and the DFM in a sidewalk patching project on Kuhio Avenue between Liliuokalani Avenue and Ohua Avenue.
- Ala Wai Small Boat Harbor (AWSBH) Saturation Patrol: Department of Land and Natural Resources (DLNR) Deputy Director Bob Masuda implemented a saturation project in November 2019. There were 550 citations with 135 violations including vessel moorings without a permit, expired registrations, citations for illegal storage, assault, contempt of court warrants, and parking citations.
- Legislative Session: Senator Moriwaki reported that that she will focus on Kupuna Care bills and the restriction of cabaret liquor licenses to a zoned resort area with 24 hour security.
- Three Strikes: A Three Strikes rule is being pursued to keep bad actors out of Waikiki. Three (3) infractions will constitute a trespass for individuals with a record of aberrant behavior.
- Waiwai Ola Waterkeepers: Waiwai Ola Waterkeepers are proposing to use native oysters to improve water quality in AWSBH.

Questions, comments, and concerns followed.

1. Legislative Corruption: A resident inquired about State Legislative Bills to mitigate corruption and Senator Moriwaki responded that there will be Bills introduced this Session.
2. AWSBH: Chair Finley suggested that the State Legislature take action to avoid a leasehold by private entities and Senator Moriwaki responded that a bid for leasehold is the fast track to proper management of the AWSBH and that it would be a public-private partnership.

Representative Tom Brower: Representative Brower handed out his newsletter and reported the following.

- Joint Economic Package: Representative Brower reported that the Joint Economic Package is being introduced to mitigate problems stemming from the cost of living in Hawaii.
- Homelessness: Representative Brower raised concerns that HPD is not enforcing laws on homeless individuals.

Questions, comments, and concerns followed.

1. Homelessness: Chair Finley reported that HPD has requested that the Legislature make the act of homeless defecation in public a violation of law resulting in arrest and Representative Brower encouraged HPD officers to “be brave” when encountering homeless individuals when residents report them.

Representative Brower suggested that HECO add signage to the substation in order to allow HPD officers to make an arrest.

2. Scooters: A resident inquired about the legality of motorized scooters on sidewalks and Representative Bower responded that motorized vehicles are not allowed on the sidewalk unless they aid disability.

Waikiki Improvement Association (WIA): WIA President Rick Egged reported that there will be approximately 30 street closures in 2020.

Congressman Ed Case: Asami Kobayashi of Congressman Case's office reported the following.

- Talk Story Events: In 2019 Congressman Case took part in 17 talk story events.
- Legislation: Congressman Case introduced three (3) bills in Congress to reform the Merchant Marine Act of 1920 ("the Jones Act") and three (3) bills to combat the cost of living in Hawaii.

APPROVAL OF MINUTES

Tuesday, November 12, 2019 Regular Meeting Minutes: Chair Finley reported that on Page 2, "Cabaret Licenses" should read "4:00 a.m. Licenses". On Page 5, under the item "Princess Kaiulani Project", there should be language reporting that Waikiki Neighborhood Board No. 9 supports Kyo-ya's plan to raze the existing hotel, as opposed to just Chair Finley.

**Flood Moved and Merz Seconded to Adopt the Regular Meeting Minutes for Tuesday, November 12, 2019 with amendments. The Motion was ADOPTED BY UNANIMOUS CONSENT, 12-0-0** (**Aye**: Bautista, Carroll, Erteschik, Finley, Flood, Garrity, Merz, Nigro, Shields, Smith, Wilder, and Brown, **Nay**: None; **Abstain**: None).

NEW BOARD BUSINESS

U.S. Army Ala Wai Flood Project Update: Jeff Herzog of the United States Army Corps of Engineers (USACE) reported that research from 2012 to 2017 did not have accurate outreach and community input. The USACE will commit to a monthly newsletter to keep the community informed. Herzog also reported that the upstream areas will require management along with attention paid to the native ecosystem. Mayor Caldwell suggested a Private Interaction Group (PIG) be used to get feedback from the community.

Questions, comments, and concerns followed.

1. Environment Impact Statement (EIS): Merz inquired if the USACE has a supplemental EIS.
2. Ala Wai Golf Course: A resident inquired if the Ala Wai Golf Course will be taken into consideration with the project going forward and Herzog responded that, as the project is not projected to be completed until 2024 to 2026, he will need to get back to the Board and residents.
3. Project Status: Senator Moriwaki inquired if the project is still moving forward and Herzog responded that the project will move forward until the USACE is instructed to do otherwise.

Sekai Mahikari Spiritual Center at Eaton Square: R.M. Towill representative Keith Kurahashi reported that the property will be a mixed-use precinct and meeting facility with events twice per month. Events will have 10 to 20 people at a time. The property will be open from 10:00 a.m. to 6:00 p.m. and closed on Mondays.

**Smith Moved and Garrity Seconded to support the Sekai Mehikari Spiritual Center at Eaton Square. The Motion was ADOPTED BY MAJORITY VOTE, 11-1-0** (**Aye**: Bautista, Carroll, Erteschik, Finley, Garrity, Merz, Nigro, Shields, Smith, Wilder, and Brown, **Nay**: Flood; **Abstain**: None).

Lauula Student Housing: A new student housing is being proposed for Lauula Street near the Ritz Carlton. The facility will have 28 beds and will be a six (6) floor structure under the 284 height limit. Flood raised concerns regarding Air B&B loopholes at the facility. Nigro raised concerns regarding drainage pressure at the facility.

**Smith Moved and Garrity Seconded to support the Lauula Student Housing. The Motion was ADOPTED BY MAJORITY VOTE, 11-1-0** (**Aye**: Bautista, Carroll, Erteschik, Finley, Garrity, Merz, Nigro, Shields, Smith, Wilder, and Brown, **Nay**: Flood; **Abstain**: None).

REPORTS

Treasurer's Report: The remaining budget for the Waikiki Neighborhood Board was $239.67.

Sub District 1 Report: No report was given.

Sub District 2 Report: No report was given.

Sub District 3 Report: No report was given.

Chair Report: Chair Finley reported the following.

- Affordable Housing: Residents looking for affordable housing can apply at the Ohana Waikiki East.
- Candidate Event: Chair Finley will inquire with the Board if they would like to have a 2020 electoral candidate event after June 2020.

ANNOUNCEMENTS

- The next Waikiki Neighborhood Board No. 9 meeting is scheduled for Tuesday February 11, 2020 at 7:00 p.m.
- View this meeting on Olelo Channel 49 at 9:00 p.m. on the 4th Tuesday each month, and at 6:00 a.m. on the 1st and 3rd Sunday of each month. View online at: http://olelo.granicus.com/ViewPublisher.php?view_id=30

ADJOURNMENT – The meeting adjourned at 9:40 p.m.

Submitted by: Casey Ishitani, Neighborhood Assistant
Reviewed by: Harry Cho, Public Relations
Final Review: Vice Chair Louis Erteschik

# Appendix D

**2154 Lauʻula Street Development – Traffic Assessment, Wilson Okamoto Corporation, October 2019**

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

# Transmittal

1907 S Beretania St STE 400, Honolulu, Hawaii 96826

TO

| NAME | COMPANY | EMAIL | PHONE |
|---|---|---|---|
| jbs@vcshawaii.com | | jbs@vcshawaii.com | |

FROM

| NAME | COMPANY | EMAIL | PHONE |
|---|---|---|---|
| Jennylyn Tapat<br>1907 S Beretania St STE 400<br>Honolulu HAWAII 96826<br>United States | Wilson Okamoto Corporation | JTapat@wilsonokamoto.com | 1 (808) 946-2277 |

| | | | |
|---|---|---|---|
| PROJECT: | 2154 LAUULA STREET DEVELOPMENT<br>10430-01 | DATE: | 10/21/2019 |
| SUBJECT: | Lauula Traffic Assessment | TRANSMITTAL ID: | 00002 |
| PURPOSE: | For your review and comment | VIA: | Info Exchange |

REMARKS:

Good afternoon John,

Please find included the Traffic Assessment Update for the 2154 Lauula Street Development. Please contact Pete Pascua or myself should you have any questions. Thank you.

DESCRIPTION OF CONTENTS

| QTY | DATED | TITLE | NOTES |
|---|---|---|---|
| 1 | 10/21/2019 | 20191021_Update_Lauula TA.pdf | |

COPIES:

Pete Pascua (Wilson Okamoto Corporation)

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10430-01
October 21, 2019

Ms. Yoko Kimura
Waikiki Bazaar, Inc.
1288 Kapiolani Boulevard, Apt. I-4603
Honolulu, HI 96814

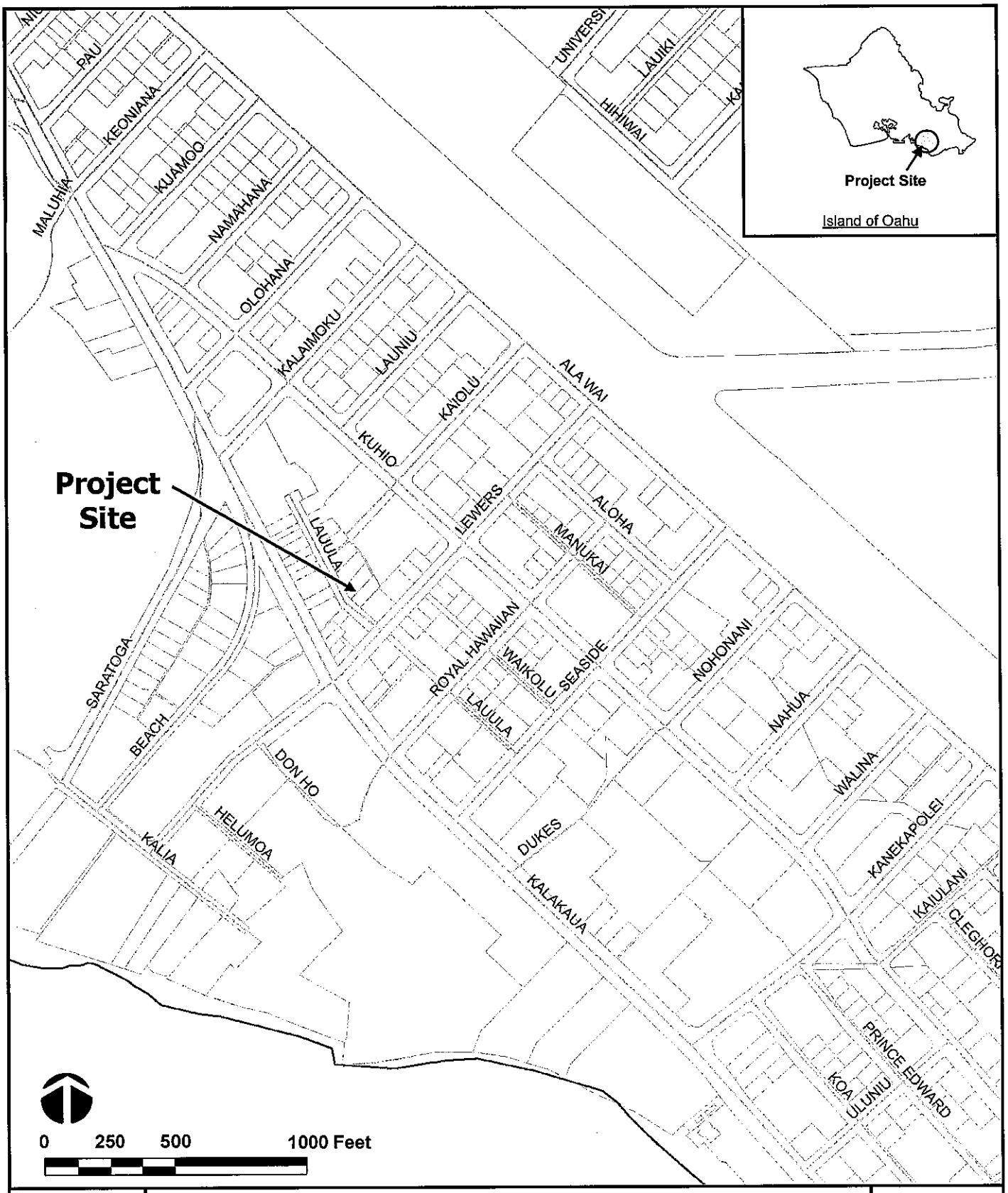
Subject: 2154 Lauula Street Development –Traffic Assessment

Dear Ms. Kimura,

As requested, we have conducted a traffic assessment of the proposed 2154 Lauula Street development in Waikiki on the island of Oahu. The proposed development entails the demolition and replacement of the existing parking lot with two potential development alternatives currently under consideration. As such, a traffic assessment was conducted to identify and assess the potential traffic impacts resulting from the two proposed alternatives. The following is a summary of our assessment.

Project Description

The existing site for the proposed 2154 Lauula development is a 5,355 square feet parking lot located adjacent to Lauula Street in Waikiki on the island of Oahu (see Figure 1). The project site is bounded by Aqua Oasis Hotel to the east, Lauula Street to the south, and other hotel and commercial uses to the west and north, and is further identified by Tax Map Key (1) 3-6-18: 49. The proposed project entails the demolition and replacement of the existing parking lot with two potential development alternatives currently under consideration. The first alternative entails the development of a six-story dormitory with accommodations for 32 residents (16 units) which are primarily expected to be students from the University of Hawaii at Manoa. The second alternative entails the construction of a new building to include 16 hotel rooms. Access to the project site under both alternatives will be provided via a two-way driveway off Lauula Street. The proposed project is expected to be completed by Year 2024. Figures 2 and 3 show the proposed site plan under both alternatives.

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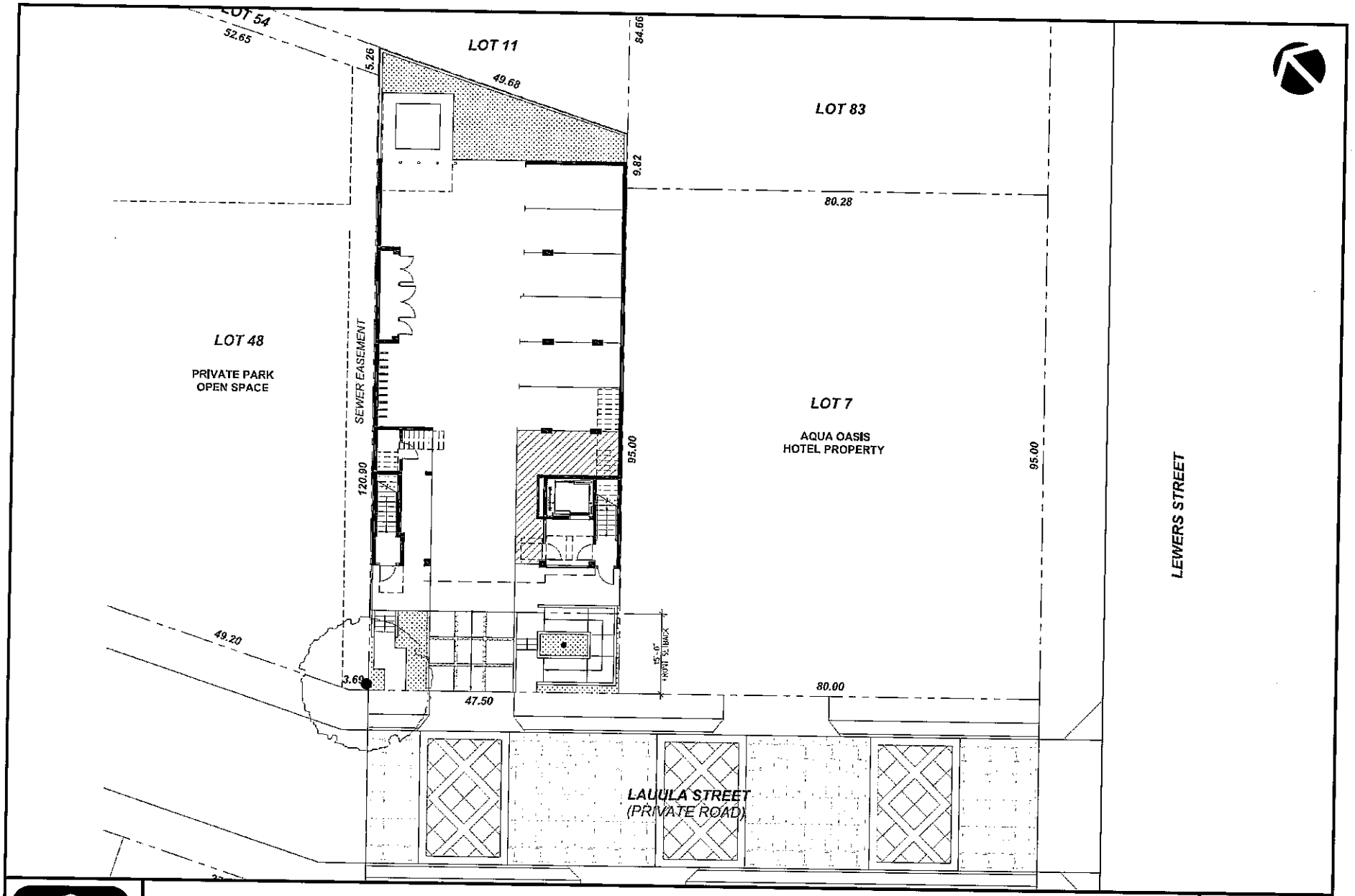
**2154 LAUULA STREET DEVELOPMENT**

LOCATION MAP AND VICINITY MAP

FIGURE 1




WILSON OKAMOTO CORPORATION

**2154 LAUULA STREET DEVELOPMENT**

# PROJECT SITE PLAN – ALTERNATIVE 1

FIGURE 2

To be provided by the client

WILSON OKAMOTO CORPORATION

2154 LAUULA STREET DEVELOPMENT

PROJECT SITE PLAN – ALTERNATIVE 2

FIGURE 3

Area Roadways

South of the project site, Kalakaua Avenue intersects Lewers Street. Kalakaua Avenue is a predominantly four-lane, one-way (eastbound) City and County of Honolulu roadway generally oriented in the east-west direction that with Ala Wai Boulevard forms a couplet system that provides access through Waikiki. At this signalized intersection, the eastbound approach of Kalakaua Avenue has a shared left-turn and through lane, two through lanes, and a shared through and right-turn lane. In the vicinity of Kalakaua Avenue, Lewers Street is a four-lane, two-way City and County of Honolulu roadway that transitions to a one-lane, one-way (northbound) roadway north of Kalakua Avenue until Kuhio Avenue where the roadway becomes a two-lane, one-way (northbound) roadway. The northbound approach of Lewers Street at the intersection with Kalakaua Avenue has one lane that serves right-turn movements and one lane that serves through movements.

North of Kalakaua Avenue, Lewers Street intersects Lauula Street. Lauula Street is a two-lane, two-way private roadway generally oriented in the east-west direction. At this unsignalized T-intersection, the eastbound approach of Lauula Street has one lane that serves left-turn movements while the northbound approach of Lewers Street has one lane that serves left-turn and through movements.

North of the intersection with Lauula Street, Lewers Street intersects Kuhio Avenue. The northbound approach of Lewers Street includes a shared left-turn and through lane and a shared through and right-turn lane at this signalized intersection. Kuhio Avenue is a four-lane, two-way City and County of Honolulu roadway generally oriented in the east-west direction. At the intersection with Lewers Street, the eastbound approach of Kuhio Avenue has an exclusive left-turn lane and two through lanes. The westbound approach of Kuhio Avenue has one through lane, and one lane that serves through and right-turn movements.

Field Investigation

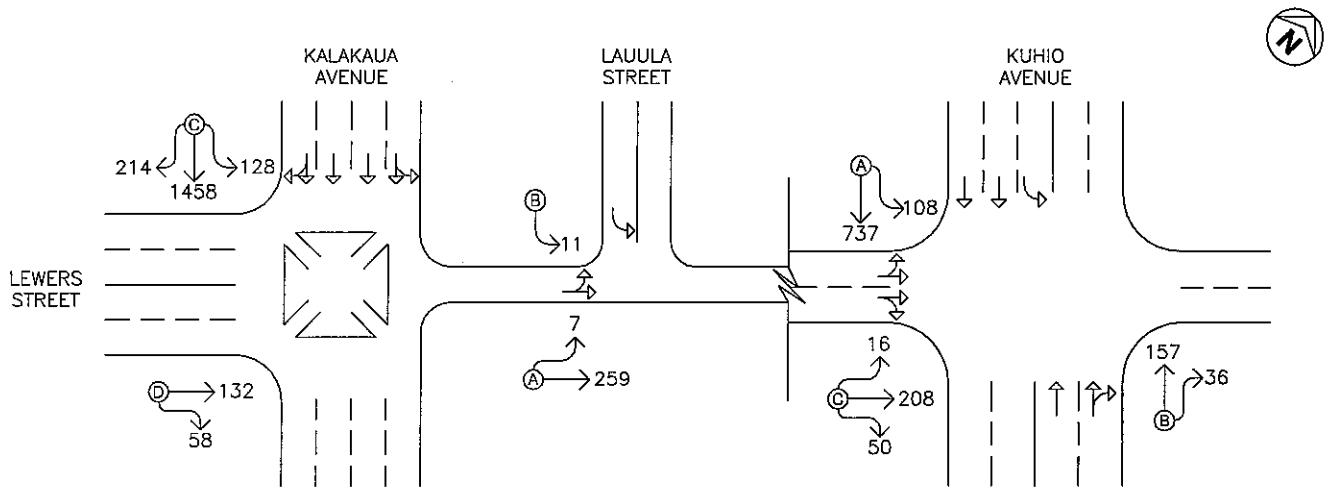
Field investigations were conducted on April 11 and April 13, 2019 which consisted of manual turning counts along Lewers Street at the intersections with Kalakaua Avenue, Lauula Street, and Kuhio Avenue. It should be noted that traffic volumes in the project vicinity are influenced by the surrounding commercial and hotel uses typical of Waikiki with traffic volumes during the AM peak period generally lower than the PM peak period. As such, the field investigations were only conducted during the PM peak periods when the traffic volumes are expected to be higher along the roadways. The existing traffic count data is included in the attachments.

Existing Traffic Conditions and Capacity Analysis Methodology

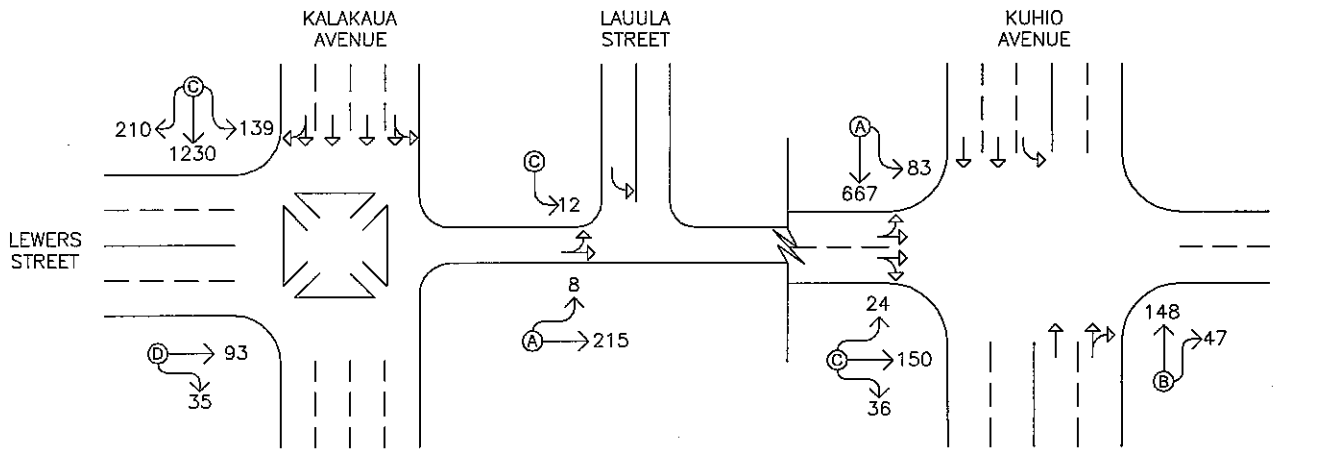
The highway capacity analysis performed in this study is based upon procedures presented in the "Highway Capacity Manual," Transportation Research Board, 2000, and the "Synchro" software, developed by Trafficware. The analysis is based on the concept of Level of Service (LOS) to identify the traffic impacts associated with traffic demands during the peak periods of traffic. LOS is a quantitative and qualitative assessment of traffic operation. 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. Based on the traffic survey, the weekday PM peak period generally occurs between 4:15 PM and 5:15 PM while the Saturday PM peak period generally occurs between 6:30 PM and 7:30 PM. Figure 4 shows the existing PM peak period traffic volumes and operating conditions.

At the intersection with Lewers Street, Kalakaua Avenue carries 1,800 vehicles eastbound during the weekday PM peak period. During the Saturday PM peak period, the volume is less with 1,579 vehicles traveling eastbound. The eastbound approach of Kalakaua Avenue operates at LOS "C" during both PM peak periods. The Lewers Street approach of the intersection carries 190 northbound vehicles during the weekday PM peak period and 128 vehicles during the Saturday PM peak period. The northbound approach of Lewers Street operates at LOS "D" during both peak periods. Traffic queues periodically formed on the Kalakau Avenue and Lewers Street approaches of the intersection, with average queue lengths of 13–15 vehicles observed along Kalakaua Avenue and 3–5 vehicles observed along Lewers Street during both peak periods. It should be noted that queues from the downstream intersection with Royal Hawaiian Avenue extended through this intersection and the upstream intersection with Beach Walk. An all-way pedestrian crossing is provided at this intersection with 2,587 pedestrians observed crossing during the weekday PM peak period and 3,128 pedestrians observed crossing during the Saturday PM peak period.

At the intersection with Lewers Street, Lauula Street carries 18 vehicles and 20 vehicles eastbound during the weekday and Saturday PM peak periods, respectively. The eastbound approach operates at LOS "B" during the weekday PM peak period and LOS "C" during the Saturday PM peak period. Lewers Street carries 266 vehicles northbound during the weekday PM peak period. During the Saturday PM peak period, the volume is less with 223 vehicles traveling northbound. Minimal queues were observed along Lauula Street with average queue lengths of 1-2 vehicles observed during both peak periods. Crosswalks are provided across the north and west legs of the intersection. During the weekday PM peak period, 36 pedestrians were observed crossing Lewers Street on the north side of the intersection while 280 pedestrians were observed crossing Lauula Street on the west side of the intersection. During the Saturday PM peak period, 61 pedestrians were observed crossing Lewers Street on the north side of the intersection, and 355 pedestrians were observed crossing Lauula Street on the west side of the intersection.




WEEKDAY PM PEAK PERIOD




SATURDAY PM PEAK PERIOD

LEGEND

90 TRAFFIC MOVEMENT VOLUME (VPH)

(A) APPROACH LEVEL OF SERVICE

LANE USAGE

DATE OF COUNT: April 11, 2019
April 13, 2019

WILSON OKAMOTO CORPORATION

**2154 LAUULA STREET DEVELOPMENT**

# EXISTING PEAK HOURS OF TRAFFIC

FIGURE 4

At the intersection with Lewers Street, Kuhio Avenue carries 845 vehicles eastbound and 193 vehicles westbound during the weekday PM peak period. During the Saturday PM peak period, the overall volume is less with 750 vehicles traveling eastbound and 195 vehicles traveling westbound. The eastbound approach operates at LOS "A" during both peak periods, while the westbound approach operates at LOS "B" during both peak periods. The Lewers Street approach of the intersection carries 274 vehicles northbound during the weekday PM peak period. During the Saturday PM peak period, the volume is less with 218 northbound vehicles. The northbound approach of Lewers Street operates at LOS "C" during both peak periods. Traffic queues occasionally formed on the approaches of the intersection. Along Kuhio Avenue, average queue lengths of 5–6 vehicles were observed on the eastbound approach and 2–3 vehicles on westbound approach during both peak periods. Along Lewers Street, average queue lengths of 4–6 vehicles were observed during both peak periods. Crosswalks are provided across all approaches of the intersection. During the weekday PM peak period, 516 pedestrians and 388 pedestrians were observed crossing Lewers Street on the north and south sides of the intersection, respectively, while 424 pedestrians and 246 pedestrians were observed crossing Kuhio Avenue on the east and west sides of the intersections, respectively. During the Saturday PM peak period, 870 pedestrians and 476 pedestrians were observed crossing Lewers Street on the north and south sides of the intersection, respectively, while 570 pedestrians and 356 pedestrians were observed crossing Kuhio Avenue on the east and west sides of the intersection, respectively.

Trip Generation and Distribution

*Alternative 1*

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, 10th Edition," 2017. 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 resident. It should be noted that the trip generation for dormitory use (off-campus student housing) during the weekday PM peak period is higher than the Saturday PM peak period. As such, for the purpose of this analysis, only the weekday PM peak period was assessed when trip generation is expected to be higher. All site-generated trips were conservatively assumed to be new trips in the project vicinity with no adjustments made as a result of the removal of the existing parking lot. Table 1 summarizes the trip generation characteristics related to the proposed project applied to the PM peak hour of traffic.

**Table 1: Peak Hour Trip Generation With Alternative 1**

| **OFF-CAMPUS STUDENT APARTMENT**<br>INDEPENDENT VARIABLE: # of Residents = 32 | | |
|---|---|---|
| | | PROJECTED TRIP ENDS |
| PM PEAK | ENTER | 5 |
| | EXIT | 5 |
| | TOTAL | 10 |

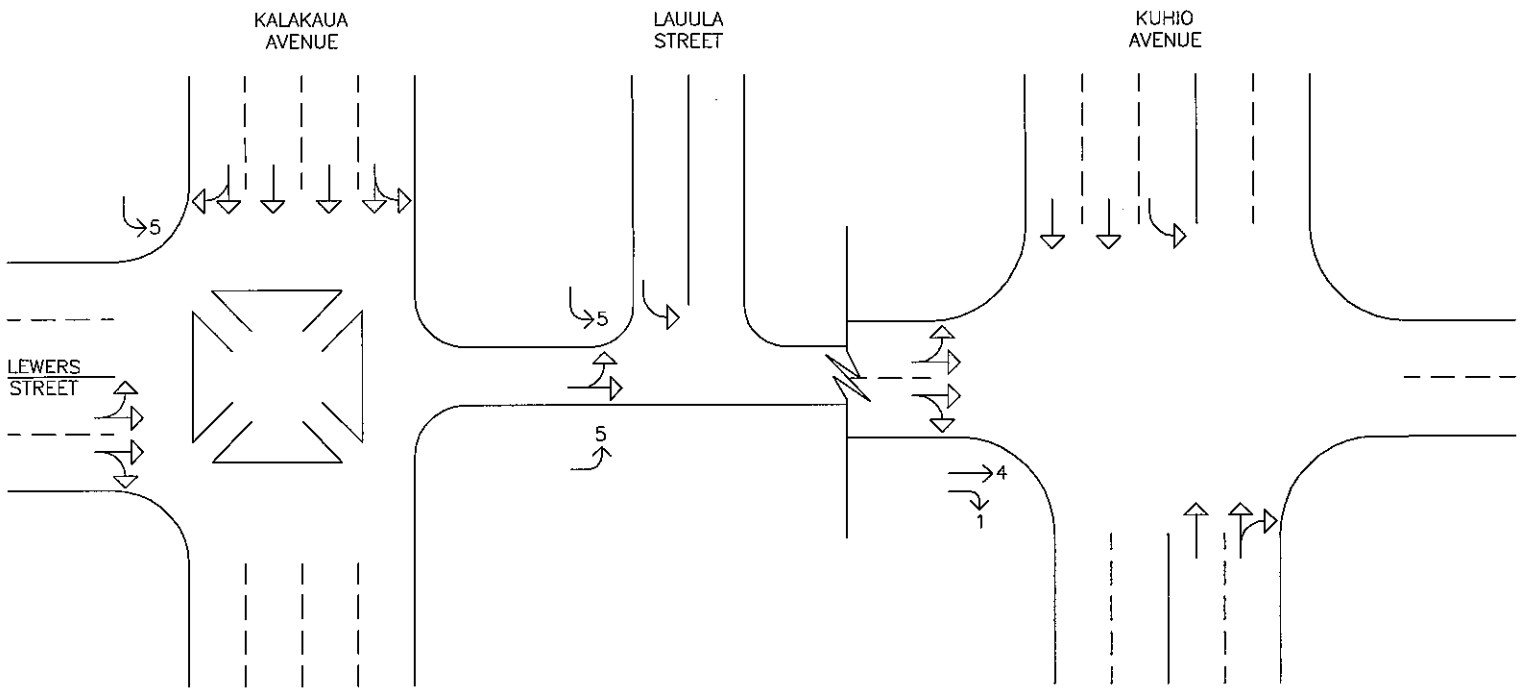
Under Alternative 1, access to the proposed development is expected to be provided via a two-way driveway off Lauula Street. Site-generated trips were distributed at the study intersections based on the allowed turning movements and the relative convenience of available routes. As such, all entering trips were assumed to access the project site via the intersection of Kalakaua Avenue with Lewers Street and exiting trips via the intersection with Kuhio Avenue and Lewers Street. The directional distribution of trips at the intersection of Kuhio Avenue with Lewers Street was assumed to remain similar to existing conditions. Figure 5 shows the Year 2024 weekday PM peak hour distribution of site-generated traffic associated with Alternative 1.

*Alternative 2*

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, 10th Edition," 2017. 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 hotel room. It should be noted that all site-generated trips were conservatively assumed to be new trips in the project vicinity with no adjustments made as a result of the removal of the existing parking lot. Table 2 summarizes the trip generation characteristics related to the proposed project applied to the weekday and Saturday PM peak hour of traffic.

**Table 2: Peak Hour Trip Generation With Alternative 2**

| **HOTEL**<br>INDEPENDENT VARIABLE: # of Rooms = 16 | | |
|---|---|---|
| | | PROJECTED TRIP ENDS |
| WEEKDAY PM PEAK | ENTER | 5 |
| | EXIT | 5 |
| | TOTAL | 10 |
| SATURDAY PM PEAK | ENTER | 6 |
| | EXIT | 5 |
| | TOTAL | 11 |




LEGEND

90 TRAFFIC MOVEMENT VOLUME (VPH)

LANE USAGE

WILSON OKAMOTO CORPORATION

**2154 LAUULA STREET DEVELOPMENT**

DISTRIBUTION OF SITE-GENERATED VEHICLES WITH ALTERNATIVE 1

FIGURE 5

Under Alternative 2, access to the proposed development is expected to be provided via a two-way driveway off Lauula Street. Site-generated trips were distributed at the study intersections based on the allowed turning movements and the relative convenience of available routes. As such, all entering trips were assumed to access the project site via the intersection of Kalakaua Avenue with Lewers Street and exiting trips via the intersection with Kuhio Avenue and Lewers Street. The directional distribution of trips at the intersection of Kuhio Avenue with Lewers Street was assumed to remain similar to existing conditions. Figure 6 shows the Year 2024 weekday and Saturday PM peak hour distribution of site-generated traffic associated with Alternative 2.

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 annual traffic growth rate of approximately 2% was conservatively assumed along Kalakaua Avenue and Kuhio Avenue. Using 2019 as the Base Year, a growth factor of 1.10 was applied to existing through traffic demands along these roadways to achieve the projected Year 2024 traffic demands.

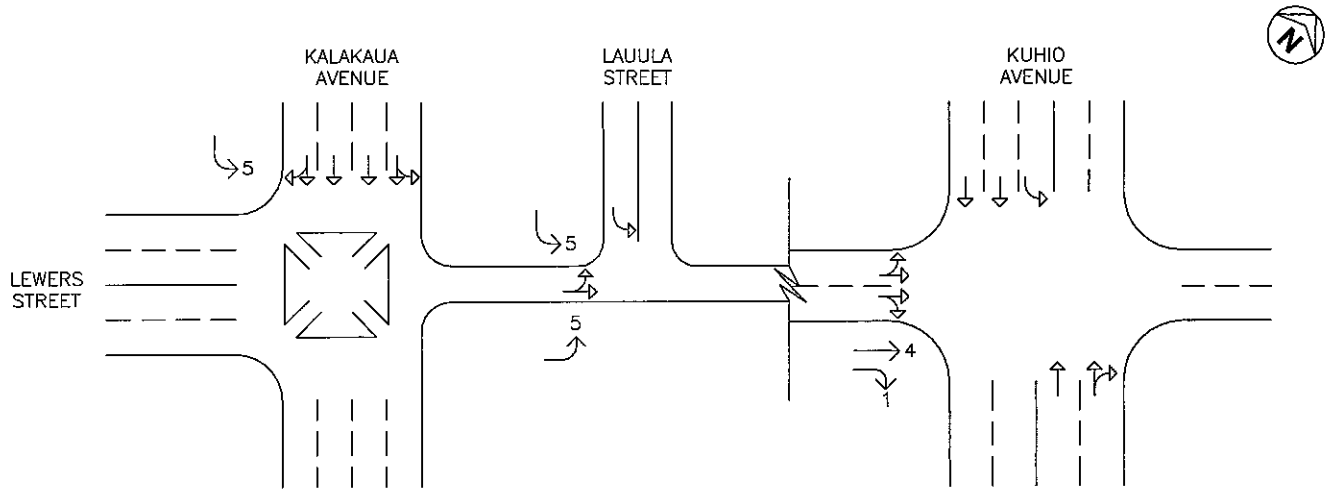
Projected Conditions

*Alternative 1*

The projected Year 2024 PM peak period operating conditions resulting from Alternative 1 are summarized in Table 3. The existing and Year 2024 without project operating conditions are provided for comparison purposes. The projected Year 2024 PM peak period traffic volumes and operating conditions without and with the addition of Alternative 1 are included as Figures 7 and 8. LOS calculations are included in the attachments.

**Table 3: Existing and Year 2024 (Without and With Alternative 1) LOS Traffic Operating Conditions**

| Intersection | Approach/ Critical Movement | Weekday PM | | |
|---|---|---|---|---|
| | | Exist | Year 2024 | |
| | | | w/o Alt 1 | w/ Alt 1 |
| Kalakaua Ave/ Lewers St | Eastbound | C | C | C |
| | Northbound | D | D | D |
| Lewers St/ Lauula St | Eastbound | B | B | B |

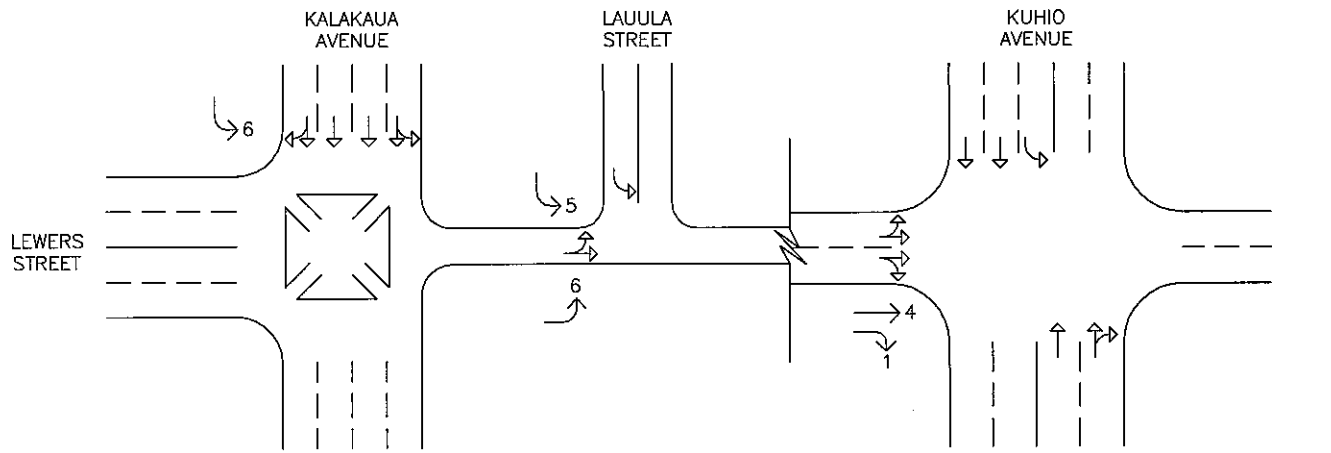



WEEKDAY PM PEAK PERIOD

LEGEND

90 TRAFFIC MOVEMENT VOLUME (VPH)

LANE USAGE



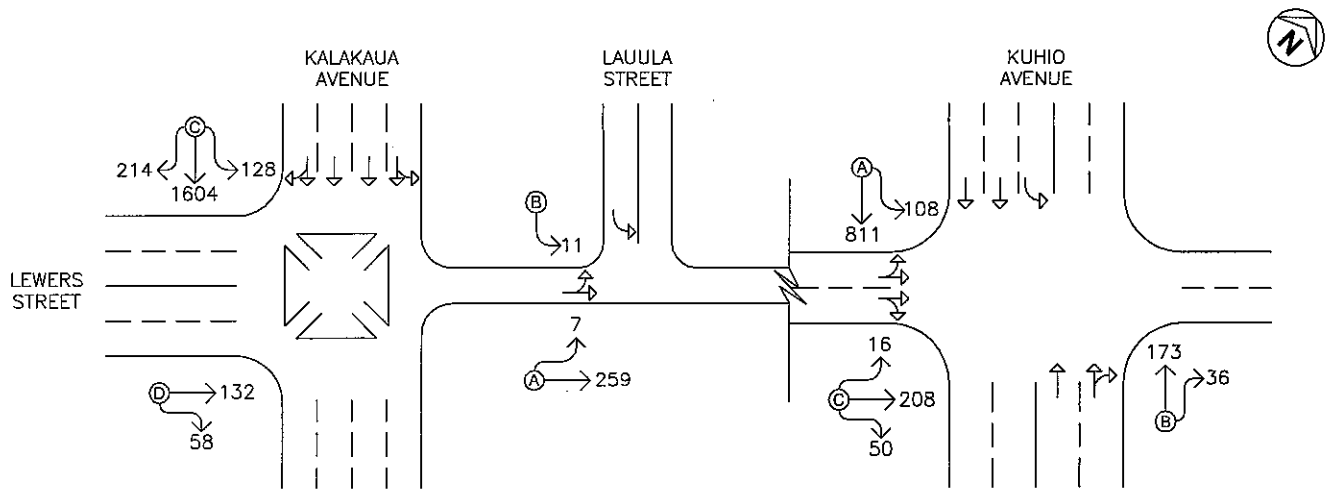

SATURDAY PM PEAK PERIOD

WILSON OKAMOTO CORPORATION

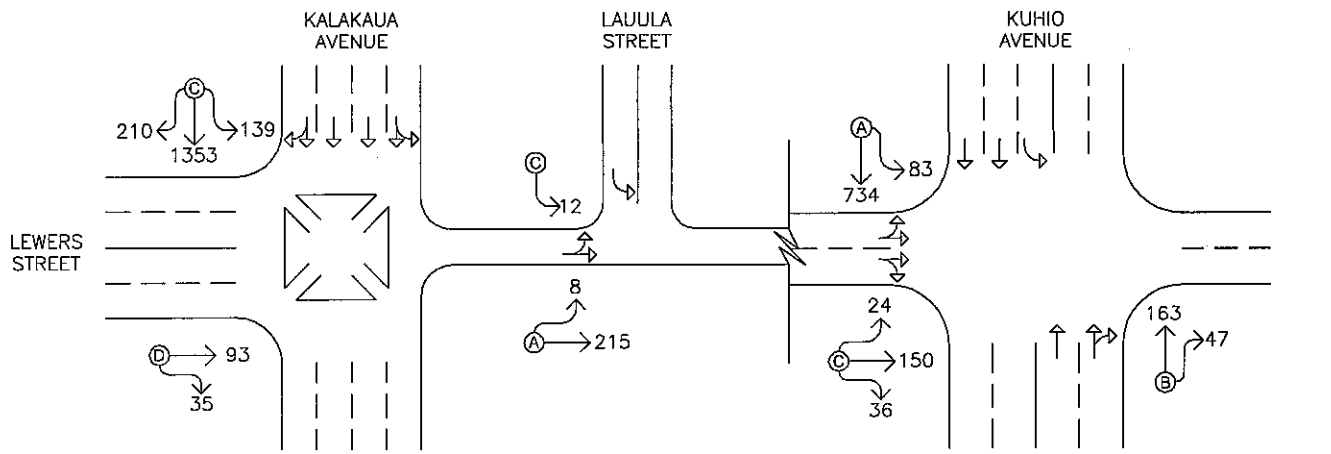
**2154 LAUULA STREET DEVELOPMENT**

# DISTRIBUTION OF SITE-GENERATED TRAFFIC VEHICLES WITH ALTERNATIVE 2

FIGURE 6




WEEKDAY PM PEAK PERIOD




SATURDAY PM PEAK PERIOD

LEGEND

90 TRAFFIC MOVEMENT VOLUME (VPH)

Ⓐ APPROACH LEVEL OF SERVICE

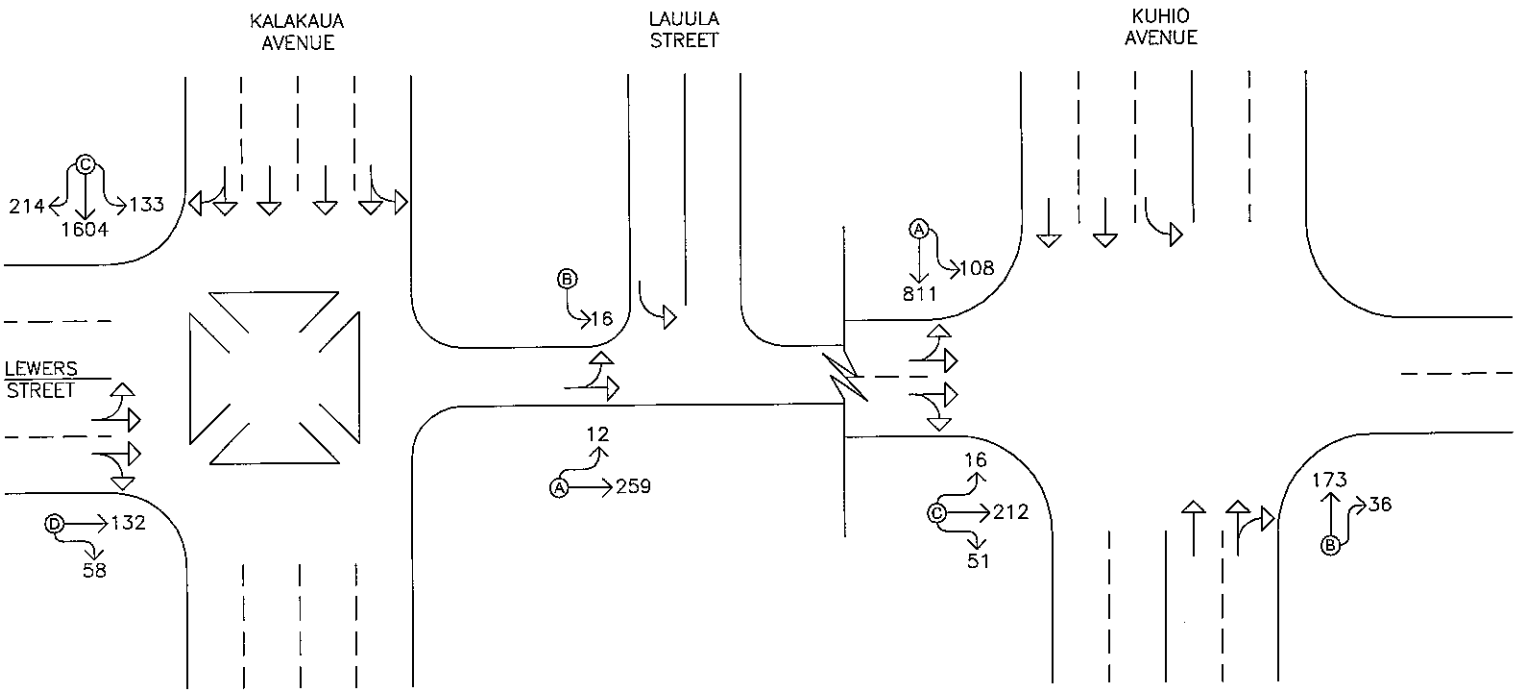
LANE USAGE

WILSON OKAMOTO CORPORATION

**2154 LAUULA STREET DEVELOPMENT**

# YEAR 2024 PEAK HOURS OF TRAFFIC WITHOUT PROJECT

FIGURE 7




LEGEND

90 TRAFFIC MOVEMENT VOLUME (VPH)

Ⓐ APPROACH LEVEL OF SERVICE

LANE USAGE

WILSON OKAMOTO CORPORATION

**2154 LAUULA STREET DEVELOPMENT**

# YEAR 2024 PEAK HOUR OF TRAFFIC WITH ALTERNATIVE 1

FIGURE 8

**Table 3: Existing and Year 2024 (Without and With Alternative 1) LOS Traffic Operating Conditions (Cont'd)**

| Intersection | Approach/ Critical Movement | Weekday PM | | |
|---|---|---|---|---|
| | | Exist | Year 2024 | |
| | | | w/o Alt 1 | w/ Alt 1 |
| Kuhio Ave/ Lewers St | Eastbound | A | A | A |
| | Westbound | B | B | B |
| | Northbound | C | C | C |

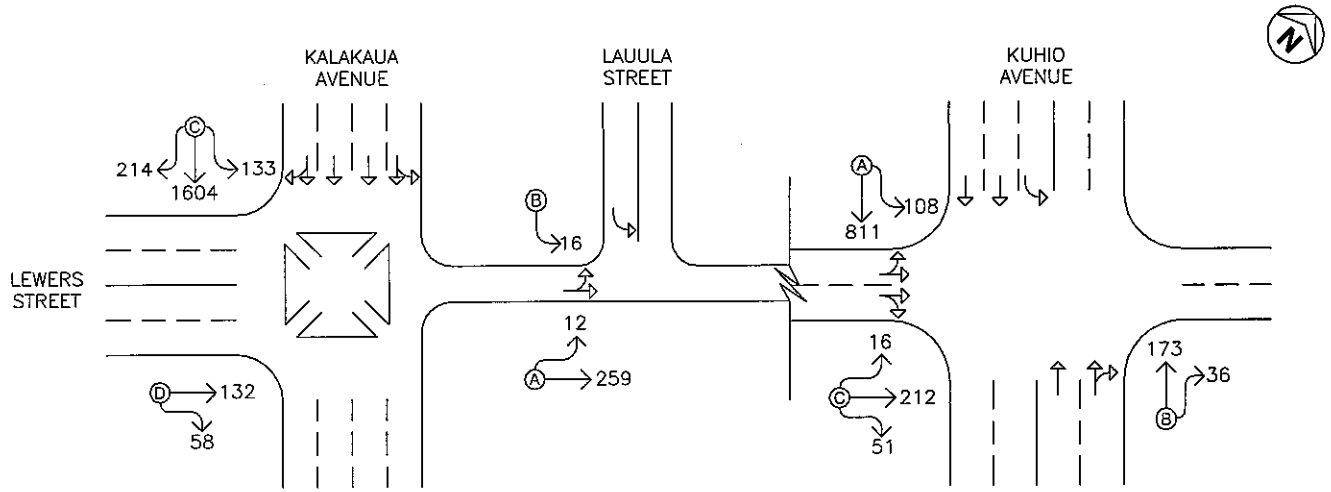
With the implementation of Alternative 1, traffic operations at the study intersections are generally expected to remain similar to existing and without project conditions. Along Lewers Street, traffic operations at the intersection with Kalakaua Avenue are expected to continue operating at LOS "D" or better during the weekday PM peak period. At the intersection with Lauula Street, traffic operations are expected to continue to operate at LOS "B" or better during the weekday PM peak period, whereas traffic operations at the intersection with Kuhio Avenue are expected to continue at LOS "C" or better during the same peak period.

*Alternative 2*

The projected Year 2024 PM peak period operating conditions resulting from Alternative 2 are summarized in Table 4. The existing and Year 2024 without project operating conditions are provided for comparison purposes. The projected Year 2024 PM peak period traffic volumes and operating conditions without and with the addition of the proposed project are included as Figures 7 and 9. LOS calculations are included in the attachments.

**Table 4: Existing and Year 2024 (Without and With Alternative 2) LOS Traffic Operating Conditions**

| Intersection | Approach/ Critical Movement | Weekday PM | | | Saturday PM | | |
|---|---|---|---|---|---|---|---|
| | | Exist | Year 2024 | | Exist | Year 2024 | |
| | | | w/o Alt 2 | w/ Alt 2 | | w/o Alt 2 | w/ Alt 2 |
| Kalakaua Ave/ Lewers St | Eastbound | C | C | C | C | C | C |
| | Northbound | D | D | D | D | D | D |
| Lewers St/ Lauula St | Eastbound | B | B | B | C | C | C |



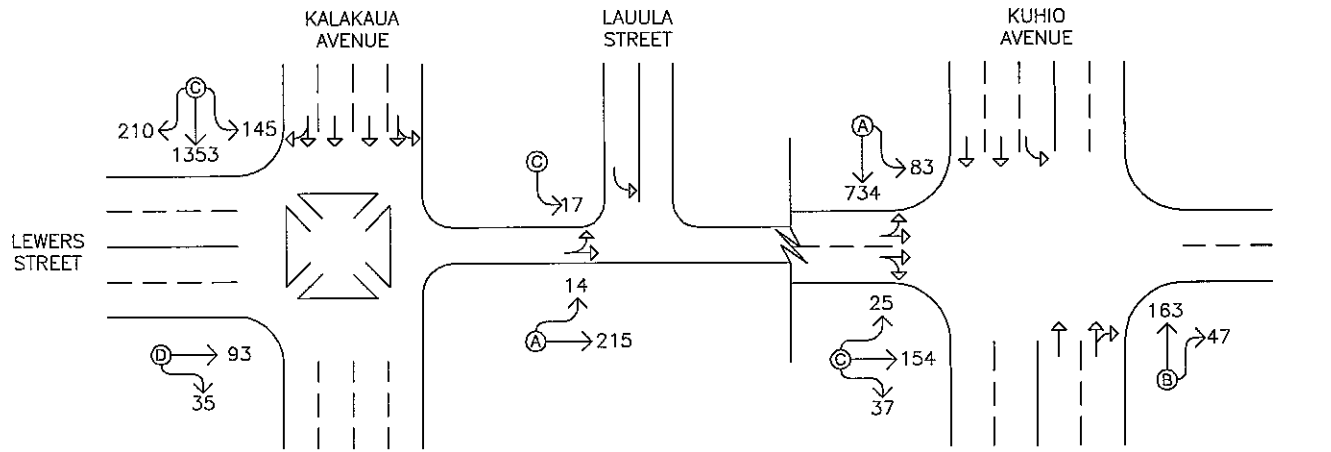

WEEKDAY PM PEAK PERIOD

LEGEND

90 TRAFFIC MOVEMENT VOLUME (VPH)

A APPROACH LEVEL OF SERVICE

LANE USAGE




SATURDAY PM PEAK PERIOD

WILSON OKAMOTO CORPORATION

**2154 LAUULA STREET DEVELOPMENT**

# YEAR 2024 PEAK HOURS OF TRAFFIC WITH ALTERNATIVE 2

FIGURE 9

**Table 4: Existing and Year 2024 (Without and With Alternative 2) LOS Traffic Operating Conditions (Cont'd)**

| Intersection | Approach/ Critical Movement | Weekday PM | | | Saturday PM | | |
|---|---|---|---|---|---|---|---|
| | | Exist | Year 2024 | | Exist | Year 2024 | |
| | | | w/o Alt 2 | w/ Alt 2 | | w/o Alt 2 | w/ Alt 2 |
| Kuhio Ave/ Lewers St | Eastbound | A | A | A | A | A | A |
| | Westbound | B | B | B | B | B | B |
| | Northbound | C | C | C | C | C | C |

With the implementation of Alternative 2, traffic operations at the study intersections are generally expected to remain similar to existing and without project conditions. Along Lewers Street, traffic operations at the intersection with Kalakaua Avenue are expected to continue operating at LOS "D" or better during the weekday and Saturday PM peak periods. At the intersection with Lauula Street, traffic operations are expected to continue to operate at LOS "B" or better during the weekday PM peak period and LOS "C" or better during the Saturday PM peak period, whereas traffic operations at the intersection with Kuhio Avenue are expected to continue at LOS "C" or better during the weekday and Saturday PM peak periods.

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. Provide adequate pedestrian connections to facilitate pedestrian traffic between off-site and on-site uses. Pedestrian facilities should be made accessible in conformance with the American with Disabilities Act (ADA).

Conclusion

The project site for the proposed 2154 Lauula Street development currently houses a parking lot. The proposed project is expected to be completed by Year 2024 and entails the replacement of existing uses with two potential development alternatives. The first alternative entails the construction of a new six-story dormitory while Alternative 2 entails the development of a hotel with 16 rooms. With the implementation of the aforementioned recommendations, traffic operations within the vicinity of the development are generally expected to remain similar to existing and without project conditions under both Alternatives 1 and 2. In addition, under both alternatives, the total traffic volumes entering the study intersections along Kalakaua Avenue and Kuhio Avenue are expected to increase by less than 1% during the PM peak periods. These increases in the total traffic volumes are in the range of daily volume fluctuations along the surrounding roadways and represent a minimal increase in the overall traffic volumes, despite the conservative considerations taken during analysis. As such, the proposed 2154 Lauula Street development under both alternatives is not expected to have a significant impact on traffic operations in the project vicinity.

Should you have any questions, please contact me at 808-946-2277.

Sincerely,

Cathy Leong, P.E.

Enclosures: Figure 1-9
Existing Traffic Count Data
Capacity Analysis Calculations

# Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu HI, 96826

Counted By:GH, LF
Counters:D4-3888, D4-3889
Weather:CLEAR

File Name : KAL LEW WEEKDAY PM
Site Code : 00000001
Start Date : 4/11/2019
Page No : 1

Groups Printed- Unshifted

| | Lewers Street Southbound | | Kalakaua Avenue Westbound | | Lewers Street Northbound | | | | Kalakaua Avenue Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Peds | App. Total | Peds | App. Total | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| 04:00 PM | 130 | 130 | 91 | 91 | 58 | 6 | 233 | 297 | 30 | 370 | 50 | 183 | 633 | 1151 |
| 04:15 PM | 89 | 89 | 119 | 119 | 32 | 27 | 207 | 266 | 31 | 374 | 56 | 151 | 612 | 1086 |
| 04:30 PM | 115 | 115 | 94 | 94 | 34 | 11 | 245 | 290 | 28 | 351 | 52 | 195 | 626 | 1125 |
| 04:45 PM | 98 | 98 | 134 | 134 | 29 | 13 | 254 | 296 | 29 | 341 | 53 | 265 | 688 | 1216 |
| Total | 432 | 432 | 438 | 438 | 153 | 57 | 939 | 1149 | 118 | 1436 | 211 | 794 | 2559 | 4578 |
| 05:00 PM | 138 | 138 | 75 | 75 | 37 | 7 | 240 | 284 | 40 | 392 | 53 | 168 | 653 | 1150 |
| 05:15 PM | 126 | 126 | 89 | 89 | 35 | 26 | 171 | 232 | 29 | 339 | 42 | 166 | 576 | 1023 |
| 05:30 PM | 130 | 130 | 90 | 90 | 30 | 5 | 209 | 244 | 24 | 363 | 56 | 219 | 662 | 1126 |
| 05:45 PM | 138 | 138 | 127 | 127 | 29 | 7 | 269 | 305 | 27 | 361 | 49 | 240 | 677 | 1247 |
| Total | 532 | 532 | 381 | 381 | 131 | 45 | 889 | 1065 | 120 | 1455 | 200 | 793 | 2568 | 4546 |
| Grand Total | 964 | 964 | 819 | 819 | 284 | 102 | 1828 | 2214 | 238 | 2891 | 411 | 1587 | 5127 | 9124 |
| Apprch % | 100 | | 100 | | 12.8 | 4.6 | 82.6 | | 4.6 | 56.4 | 8 | 31 | | |
| Total % | 10.6 | 10.6 | 9 | 9 | 3.1 | 1.1 | 20 | 24.3 | 2.6 | 31.7 | 4.5 | 17.4 | 56.2 | |

| | Southbound | Westbound | Lewers Street Northbound | | | Kalakaua Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | App. Total | App. Total | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 04:15 PM | | | | | | | | | | |
| 04:15 PM | 0 | 0 | 32 | 27 | 59 | 31 | 374 | 56 | 461 | 520 |
| 04:30 PM | 0 | 0 | 34 | 11 | 45 | 28 | 351 | 52 | 431 | 476 |
| 04:45 PM | 0 | 0 | 29 | 13 | 42 | 29 | 341 | 53 | 423 | 465 |
| 05:00 PM | 0 | 0 | 37 | 7 | 44 | 40 | 392 | 53 | 485 | 529 |
| Total Volume | 0 | 0 | 132 | 58 | 190 | 128 | 1458 | 214 | 1800 | 1990 |
| % App. Total | | | 69.5 | 30.5 | | 7.1 | 81 | 11.9 | | |
| PHF | .000 | .000 | .892 | .537 | .805 | .800 | .930 | .955 | .928 | .940 |

# Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu HI, 96826

Counted By:SS
Counters:TU-2050
Weather:CLEAR

File Name : LEW LAU WEEKDAY PM
Site Code : 00000002
Start Date : 4/11/2019
Page No : 1

Groups Printed- Unshifted

| | Lewers Street Northbound | | | | Lauula Street Eastbound | | | |
|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Peds | App. Total | Left | Peds | App. Total | Int. Total |
| 04:00 PM | 3 | 72 | 17 | 92 | 9 | 71 | 80 | 172 |
| 04:15 PM | 1 | 64 | 13 | 78 | 3 | 52 | 55 | 133 |
| 04:30 PM | 2 | 63 | 13 | 78 | 3 | 59 | 62 | 140 |
| 04:45 PM | 1 | 59 | 6 | 66 | 3 | 94 | 97 | 163 |
| Total | 7 | 258 | 49 | 314 | 18 | 276 | 294 | 608 |
| 05:00 PM | 3 | 73 | 4 | 80 | 2 | 75 | 77 | 157 |
| 05:15 PM | 2 | 62 | 10 | 74 | 1 | 56 | 57 | 131 |
| 05:30 PM | 2 | 54 | 7 | 63 | 2 | 67 | 69 | 132 |
| 05:45 PM | 2 | 59 | 9 | 70 | 5 | 86 | 91 | 161 |
| Total | 9 | 248 | 30 | 287 | 10 | 284 | 294 | 581 |
| Grand Total | 16 | 506 | 79 | 601 | 28 | 560 | 588 | 1189 |
| Apprch % | 2.7 | 84.2 | 13.1 | | 4.8 | 95.2 | | |
| Total % | 1.3 | 42.6 | 6.6 | 50.5 | 2.4 | 47.1 | 49.5 | |

| | Lewers Street Northbound | | | Lauula Street Eastbound | | |
|---|---|---|---|---|---|---|
| Start Time | Left | Thru | App. Total | Left | App. Total | Int. Total |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | |
| Peak Hour for Entire Intersection Begins at 04:00 PM | | | | | | |
| 04:00 PM | 3 | 72 | 75 | 9 | 9 | 84 |
| 04:15 PM | 1 | 64 | 65 | 3 | 3 | 68 |
| 04:30 PM | 2 | 63 | 65 | 3 | 3 | 68 |
| 04:45 PM | 1 | 59 | 60 | 3 | 3 | 63 |
| Total Volume | 7 | 258 | 265 | 18 | 18 | 283 |
| % App. Total | 2.6 | 97.4 | | 100 | | |
| PHF | .583 | .896 | .883 | .500 | .500 | .842 |

# Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu HI, 96826

Counted By:WL, TN
Counters:D4-5675, TU-0649
Weather:CLEAR

File Name : KUH LEW WEEKDAY PM
Site Code : 00000003
Start Date : 4/11/2019
Page No : 1

Groups Printed- Unshifted

| | Lewers Street Southbound | | Kuhio Avenue Westbound | | | | Lewers Street Northbound | | | | | Kuhio Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Peds | App. Total | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Peds | App. Total | Int. Total |
| 04:00 PM | 46 | 46 | 29 | 17 | 52 | 98 | 10 | 60 | 20 | 71 | 161 | 40 | 175 | 59 | 274 | 579 |
| 04:15 PM | 104 | 104 | 34 | 18 | 85 | 137 | 2 | 61 | 10 | 83 | 156 | 28 | 187 | 52 | 267 | 664 |
| 04:30 PM | 124 | 124 | 42 | 8 | 123 | 173 | 6 | 42 | 10 | 109 | 167 | 30 | 191 | 71 | 292 | 756 |
| 04:45 PM | 177 | 177 | 39 | 3 | 130 | 172 | 5 | 47 | 11 | 133 | 196 | 22 | 174 | 64 | 260 | 805 |
| Total | 451 | 451 | 144 | 46 | 390 | 580 | 23 | 210 | 51 | 396 | 680 | 120 | 727 | 246 | 1093 | 2804 |
| 05:00 PM | 111 | 111 | 42 | 7 | 86 | 135 | 3 | 58 | 19 | 63 | 143 | 28 | 185 | 59 | 272 | 661 |
| 05:15 PM | 144 | 144 | 41 | 10 | 74 | 125 | 6 | 43 | 16 | 87 | 152 | 27 | 202 | 46 | 275 | 696 |
| 05:30 PM | 151 | 151 | 40 | 22 | 89 | 151 | 8 | 49 | 9 | 101 | 167 | 22 | 214 | 57 | 293 | 762 |
| 05:45 PM | 183 | 183 | 36 | 9 | 143 | 188 | 7 | 46 | 6 | 130 | 189 | 20 | 229 | 73 | 322 | 882 |
| Total | 589 | 589 | 159 | 48 | 392 | 599 | 24 | 196 | 50 | 381 | 651 | 97 | 830 | 235 | 1162 | 3001 |
| Grand Total | 1040 | 1040 | 303 | 94 | 782 | 1179 | 47 | 406 | 101 | 777 | 1331 | 217 | 1557 | 481 | 2255 | 5805 |
| Apprch % | 100 | | 25.7 | 8 | 66.3 | | 3.5 | 30.5 | 7.6 | 58.4 | | 9.6 | 69 | 21.3 | | |
| Total % | 17.9 | 17.9 | 5.2 | 1.6 | 13.5 | 20.3 | 0.8 | 7 | 1.7 | 13.4 | 22.9 | 3.7 | 26.8 | 8.3 | 38.8 | |

| | Southbound | Kuhio Avenue Westbound | | | Lewers Street Northbound | | | | Kuhio Avenue Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | App. Total | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | App. Total | Int. Total |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 05:00 PM | | | | | | | | | | | | |
| 05:00 PM | 0 | 42 | 7 | 49 | 3 | 58 | 19 | 80 | 28 | 185 | 213 | 342 |
| 05:15 PM | 0 | 41 | 10 | 51 | 6 | 43 | 16 | 65 | 27 | 202 | 229 | 345 |
| 05:30 PM | 0 | 40 | 22 | 62 | 8 | 49 | 9 | 66 | 22 | 214 | 236 | 364 |
| 05:45 PM | 0 | 36 | 9 | 45 | 7 | 46 | 6 | 59 | 20 | 229 | 249 | 353 |
| Total Volume | 0 | 159 | 48 | 207 | 24 | 196 | 50 | 270 | 97 | 830 | 927 | 1404 |
| % App. Total | | 76.8 | 23.2 | | 8.9 | 72.6 | 18.5 | | 10.5 | 89.5 | | |
| PHF | .000 | .946 | .545 | .835 | .750 | .845 | .658 | .844 | .866 | .906 | .931 | .964 |

# Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu HI, 96826

Counted By: GH, LF
Counters:D4-3888, D4-3889
Weather:CLEAR

File Name : KAL LEW SAT PM
Site Code : 00000001
Start Date : 4/13/2019
Page No : 1

Groups Printed- Unshifted

| | Lewers Street Southbound | | Kalakaua Avenue Westbound | | Lewers Street Northbound | | | | Kalakaua Avenue Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Peds | App. Total | Peds | App. Total | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| 06:00 PM | 172 | 172 | 83 | 83 | 35 | 23 | 171 | 229 | 39 | 218 | 45 | 331 | 633 | 1117 |
| 06:15 PM | 154 | 154 | 131 | 131 | 29 | 4 | 148 | 181 | 33 | 259 | 47 | 257 | 596 | 1062 |
| 06:30 PM | 114 | 114 | 104 | 104 | 25 | 4 | 182 | 211 | 36 | 287 | 65 | 277 | 665 | 1094 |
| 06:45 PM | 139 | 139 | 95 | 95 | 26 | 7 | 179 | 212 | 36 | 327 | 53 | 290 | 706 | 1152 |
| Total | 579 | 579 | 413 | 413 | 115 | 38 | 680 | 833 | 144 | 1091 | 210 | 1155 | 2600 | 4425 |
| 07:00 PM | 184 | 184 | 125 | 125 | 22 | 12 | 237 | 271 | 30 | 321 | 47 | 354 | 752 | 1332 |
| 07:15 PM | 107 | 107 | 116 | 116 | 26 | 12 | 280 | 318 | 43 | 295 | 45 | 345 | 728 | 1269 |
| 07:30 PM | 126 | 126 | 112 | 112 | 13 | 2 | 208 | 223 | 30 | 261 | 31 | 322 | 644 | 1105 |
| 07:45 PM | 139 | 139 | 147 | 147 | 25 | 3 | 169 | 197 | 29 | 279 | 31 | 276 | 615 | 1098 |
| Total | 556 | 556 | 500 | 500 | 86 | 29 | 894 | 1009 | 132 | 1156 | 154 | 1297 | 2739 | 4804 |
| Grand Total | 1135 | 1135 | 913 | 913 | 201 | 67 | 1574 | 1842 | 276 | 2247 | 364 | 2452 | 5339 | 9229 |
| Apprch % | 100 | | 100 | | 10.9 | 3.6 | 85.5 | | 5.2 | 42.1 | 6.8 | 45.9 | | |
| Total % | 12.3 | 12.3 | 9.9 | 9.9 | 2.2 | 0.7 | 17.1 | 20 | 3 | 24.3 | 3.9 | 26.6 | 57.9 | |

| | Southbound | Westbound | Lewers Street Northbound | | | Kalakaua Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | App. Total | App. Total | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| Peak Hour Analysis From 06:00 PM to 07:45 PM - Peak 1 of 1 | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 06:30 PM | | | | | | | | | | |
| 06:30 PM | 0 | 0 | 25 | 4 | 29 | 36 | 287 | 65 | 388 | 417 |
| 06:45 PM | 0 | 0 | 26 | 7 | 33 | 36 | 327 | 53 | 416 | 449 |
| 07:00 PM | 0 | 0 | 22 | 12 | 34 | 30 | 321 | 47 | 398 | 432 |
| 07:15 PM | 0 | 0 | 26 | 12 | 38 | 43 | 295 | 45 | 383 | 421 |
| Total Volume | 0 | 0 | 99 | 35 | 134 | 145 | 1230 | 210 | 1585 | 1719 |
| % App. Total | | | 73.9 | 26.1 | | 9.1 | 77.6 | 13.2 | | |
| PHF | .000 | .000 | .952 | .729 | .882 | .843 | .940 | .808 | .953 | .957 |

# Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu HI, 96826

Counted By:SS
Counters:TU-2050
Weather:CLEAR

File Name : LEW LAU SAT PM
Site Code : 00000002
Start Date : 4/13/2019
Page No : 1

Groups Printed- Unshifted

| | Lewers Street Northbound | | | | Lauula Street Eastbound | | | |
|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Peds | App. Total | Left | Peds | App. Total | Int. Total |
| 06:00 PM | 5 | 61 | 8 | 74 | 4 | 98 | 102 | 176 |
| 06:15 PM | 2 | 61 | 30 | 93 | 3 | 96 | 99 | 192 |
| 06:30 PM | 5 | 54 | 15 | 74 | 3 | 78 | 81 | 155 |
| 06:45 PM | 2 | 59 | 15 | 76 | 4 | 98 | 102 | 178 |
| Total | 14 | 235 | 68 | 317 | 14 | 370 | 384 | 701 |
| 07:00 PM | 1 | 50 | 17 | 68 | 4 | 91 | 95 | 163 |
| 07:15 PM | 0 | 47 | 14 | 61 | 1 | 88 | 89 | 150 |
| 07:30 PM | 3 | 45 | 16 | 64 | 0 | 67 | 67 | 131 |
| 07:45 PM | 1 | 64 | 21 | 86 | 1 | 77 | 78 | 164 |
| Total | 5 | 206 | 68 | 279 | 6 | 323 | 329 | 608 |
| Grand Total | 19 | 441 | 136 | 596 | 20 | 693 | 713 | 1309 |
| Apprch % | 3.2 | 74 | 22.8 | | 2.8 | 97.2 | | |
| Total % | 1.5 | 33.7 | 10.4 | 45.5 | 1.5 | 52.9 | 54.5 | |

| | Lewers Street Northbound | | | Lauula Street Eastbound | | |
|---|---|---|---|---|---|---|
| Start Time | Left | Thru | App. Total | Left | App. Total | Int. Total |
| Peak Hour Analysis From 06:00 PM to 07:45 PM - Peak 1 of 1 | | | | | | |
| Peak Hour for Entire Intersection Begins at 06:00 PM | | | | | | |
| 06:00 PM | 5 | 61 | 66 | 4 | 4 | 70 |
| 06:15 PM | 2 | 61 | 63 | 3 | 3 | 66 |
| 06:30 PM | 5 | 54 | 59 | 3 | 3 | 62 |
| 06:45 PM | 2 | 59 | 61 | 4 | 4 | 65 |
| Total Volume | 14 | 235 | 249 | 14 | 14 | 263 |
| % App. Total | 5.6 | 94.4 | | 100 | | |
| PHF | .700 | .963 | .943 | .875 | .875 | .939 |

# Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu HI, 96826

Counted By:WL, TN
Counters:D4-5675, TU-0649
Weather:CLEAR

File Name : KUH LEW SAT PM
Site Code : 00000003
Start Date : 4/13/2019
Page No : 1

Groups Printed- Unshifted

| | Lewers Street Southbound | | Kuhio Avenue Westbound | | | | Lewers Street Northbound | | | | | Kuhio Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Peds | App. Total | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Peds | App. Total | Int. Total |
| 06:00 PM | 177 | 177 | 34 | 6 | 131 | 171 | 9 | 36 | 13 | 83 | 141 | 17 | 113 | 99 | 229 | 718 |
| 06:15 PM | 210 | 210 | 33 | 7 | 202 | 242 | 2 | 41 | 12 | 95 | 150 | 17 | 162 | 115 | 294 | 896 |
| 06:30 PM | 215 | 215 | 24 | 11 | 112 | 147 | 5 | 34 | 10 | 110 | 159 | 28 | 192 | 62 | 282 | 803 |
| 06:45 PM | 206 | 206 | 33 | 14 | 171 | 218 | 10 | 29 | 14 | 98 | 151 | 16 | 215 | 102 | 333 | 908 |
| Total | 808 | 808 | 124 | 38 | 616 | 778 | 26 | 140 | 49 | 386 | 601 | 78 | 682 | 378 | 1138 | 3325 |
| 07:00 PM | 213 | 213 | 42 | 10 | 157 | 209 | 2 | 40 | 5 | 115 | 162 | 20 | 135 | 99 | 254 | 838 |
| 07:15 PM | 236 | 236 | 49 | 12 | 133 | 194 | 4 | 27 | 7 | 153 | 191 | 19 | 125 | 93 | 237 | 858 |
| 07:30 PM | 184 | 184 | 44 | 9 | 103 | 156 | 7 | 20 | 11 | 111 | 149 | 20 | 138 | 60 | 218 | 707 |
| 07:45 PM | 201 | 201 | 41 | 15 | 176 | 232 | 5 | 47 | 8 | 114 | 174 | 20 | 128 | 100 | 248 | 855 |
| Total | 834 | 834 | 176 | 46 | 569 | 791 | 18 | 134 | 31 | 493 | 676 | 79 | 526 | 352 | 957 | 3258 |
| Grand Total | 1642 | 1642 | 300 | 84 | 1185 | 1569 | 44 | 274 | 80 | 879 | 1277 | 157 | 1208 | 730 | 2095 | 6583 |
| Apprch % | 100 | | 19.1 | 5.4 | 75.5 | | 3.4 | 21.5 | 6.3 | 68.8 | | 7.5 | 57.7 | 34.8 | | |
| Total % | 24.9 | 24.9 | 4.6 | 1.3 | 18 | 23.8 | 0.7 | 4.2 | 1.2 | 13.4 | 19.4 | 2.4 | 18.4 | 11.1 | 31.8 | |

| | Southbound | Kuhio Avenue Westbound | | | Lewers Street Northbound | | | | Kuhio Avenue Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | App. Total | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | App. Total | Int. Total |
| Peak Hour Analysis From 06:00 PM to 07:45 PM - Peak 1 of 1 | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 06:15 PM | | | | | | | | | | | | |
| 06:15 PM | 0 | 33 | 7 | 40 | 2 | 41 | 12 | 55 | 17 | 162 | 179 | 274 |
| 06:30 PM | 0 | 24 | 11 | 35 | 5 | 34 | 10 | 49 | 28 | 192 | 220 | 304 |
| 06:45 PM | 0 | 33 | 14 | 47 | 10 | 29 | 14 | 53 | 16 | 215 | 231 | 331 |
| 07:00 PM | 0 | 42 | 10 | 52 | 2 | 40 | 5 | 47 | 20 | 135 | 155 | 254 |
| Total Volume | 0 | 132 | 42 | 174 | 19 | 144 | 41 | 204 | 81 | 704 | 785 | 1163 |
| % App. Total | | 75.9 | 24.1 | | 9.3 | 70.6 | 20.1 | | 10.3 | 89.7 | | |
| PHF | .000 | .786 | .750 | .837 | .475 | .878 | .732 | .927 | .723 | .819 | .850 | .878 |

# HCM Signalized Intersection Capacity Analysis
## 1: Lewers Street & Kalakaua Avenue

10/21/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 128 | 1458 | 214 | 0 | 0 | 0 | 0 | 132 | 58 | 0 | 0 | 0 |
| Future Volume (vph) | 128 | 1458 | 214 | 0 | 0 | 0 | 0 | 132 | 58 | 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 | | | |
| Lane Util. Factor | | 0.86 | | | | | | 1.00 | 1.00 | | | |
| Frt | | 0.98 | | | | | | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Satd. Flow (prot) | | 6271 | | | | | | 1863 | 1583 | | | |
| Flt Permitted | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Satd. Flow (perm) | | 6271 | | | | | | 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) | 136 | 1551 | 228 | 0 | 0 | 0 | 0 | 140 | 62 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1883 | 0 | 0 | 0 | 0 | 0 | 140 | 62 | 0 | 0 | 0 |
| Turn Type | Perm | NA | | | | | | NA | Perm | | | |
| Protected Phases | | 1 | | | | | | 2 | | | | |
| Permitted Phases | 1 | | | | | | | | 2 | | | |
| Actuated Green, G (s) | | 45.0 | | | | | | 25.0 | 25.0 | | | |
| Effective Green, g (s) | | 45.0 | | | | | | 25.0 | 25.0 | | | |
| Actuated g/C Ratio | | 0.41 | | | | | | 0.23 | 0.23 | | | |
| Clearance Time (s) | | 5.0 | | | | | | 5.0 | 5.0 | | | |
| Lane Grp Cap (vph) | | 2565 | | | | | | 423 | 359 | | | |
| v/s Ratio Prot | | | | | | | | c0.08 | | | | |
| v/s Ratio Perm | | 0.30 | | | | | | | 0.04 | | | |
| v/c Ratio | | 0.73 | | | | | | 0.33 | 0.17 | | | |
| Uniform Delay, d1 | | 27.4 | | | | | | 35.5 | 34.2 | | | |
| Progression Factor | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 1.9 | | | | | | 2.1 | 1.0 | | | |
| Delay (s) | | 29.3 | | | | | | 37.6 | 35.2 | | | |
| Level of Service | | C | | | | | | D | D | | | |
| Approach Delay (s) | | 29.3 | | | 0.0 | | | 36.9 | | | 0.0 | |
| Approach LOS | | C | | | A | | | D | | | A | |

Intersection Summary

| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 30.1 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.43 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 15.0 |
| Intersection Capacity Utilization | 41.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis
## 1: Lewers Street & Kalakaua Avenue

10/21/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 139 | 1230 | 210 | 0 | 0 | 0 | 0 | 93 | 35 | 0 | 0 | 0 |
| Future Volume (vph) | 139 | 1230 | 210 | 0 | 0 | 0 | 0 | 93 | 35 | 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 | | | |
| Lane Util. Factor | | 0.86 | | | | | | 1.00 | 1.00 | | | |
| Frt | | 0.98 | | | | | | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Satd. Flow (prot) | | 6252 | | | | | | 1863 | 1583 | | | |
| Flt Permitted | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Satd. Flow (perm) | | 6252 | | | | | | 1863 | 1583 | | | |
| Peak-hour factor, PHF | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Adj. Flow (vph) | 145 | 1281 | 219 | 0 | 0 | 0 | 0 | 97 | 36 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1605 | 0 | 0 | 0 | 0 | 0 | 97 | 36 | 0 | 0 | 0 |
| Turn Type | Perm | NA | | | | | | NA | Perm | | | |
| Protected Phases | | 1 | | | | | | 2 | | | | |
| Permitted Phases | 1 | | | | | | | | 2 | | | |
| Actuated Green, G (s) | | 45.0 | | | | | | 25.0 | 25.0 | | | |
| Effective Green, g (s) | | 45.0 | | | | | | 25.0 | 25.0 | | | |
| Actuated g/C Ratio | | 0.41 | | | | | | 0.23 | 0.23 | | | |
| Clearance Time (s) | | 5.0 | | | | | | 5.0 | 5.0 | | | |
| Lane Grp Cap (vph) | | 2557 | | | | | | 423 | 359 | | | |
| v/s Ratio Prot | | | | | | | | c0.05 | | | | |
| v/s Ratio Perm | | 0.26 | | | | | | | 0.02 | | | |
| v/c Ratio | | 0.63 | | | | | | 0.23 | 0.10 | | | |
| Uniform Delay, d1 | | 25.8 | | | | | | 34.6 | 33.6 | | | |
| Progression Factor | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 1.2 | | | | | | 1.3 | 0.6 | | | |
| Delay (s) | | 27.0 | | | | | | 35.9 | 34.2 | | | |
| Level of Service | | C | | | | | | D | C | | | |
| Approach Delay (s) | | 27.0 | | | 0.0 | | | 35.4 | | | 0.0 | |
| Approach LOS | | C | | | A | | | D | | | A | |

Intersection Summary

| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 27.7 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.36 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 15.0 |
| Intersection Capacity Utilization | 36.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

# HCM Unsignalized Intersection Capacity Analysis
## 2: Lewers Street & Lauula Street

10/21/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 11 | 0 | 7 | 259 | 0 | 0 |
| Future Volume (Veh/h) | 11 | 0 | 7 | 259 | 0 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Hourly flow rate (vph) | 12 | 0 | 8 | 285 | 0 | 0 |
| Pedestrians | 280 | | | | 36 | |
| Lane Width (ft) | 12.0 | | | | 0.0 | |
| Walking Speed (ft/s) | 3.5 | | | | 3.5 | |
| Percent Blockage | 27 | | | | 0 | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | 225 | 435 | |
| pX, platoon unblocked | 0.94 | | | | | |
| vC, conflicting volume | 617 | 280 | 280 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 560 | 280 | 280 | | | |
| tC, single (s) | *5.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 97 | 100 | 99 | | | |
| cM capacity (veh/h) | 392 | 556 | 941 | | | |

| Direction, Lane # | EB 1 | NB 1 |
|---|---|---|
| Volume Total | 12 | 293 |
| Volume Left | 12 | 8 |
| Volume Right | 0 | 0 |
| cSH | 392 | 941 |
| Volume to Capacity | 0.03 | 0.01 |
| Queue Length 95th (ft) | 2 | 1 |
| Control Delay (s) | 14.5 | 0.3 |
| Lane LOS | B | A |
| Approach Delay (s) | 14.5 | 0.3 |
| Approach LOS | B | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.9 | | |
| Intersection Capacity Utilization | 24.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

* User Entered Value

# HCM Unsignalized Intersection Capacity Analysis
## 2: Lewers Street & Lauula Street

10/21/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 12 | 0 | 8 | 215 | 0 | 0 |
| Future Volume (Veh/h) | 12 | 0 | 8 | 215 | 0 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Hourly flow rate (vph) | 13 | 0 | 9 | 236 | 0 | 0 |
| Pedestrians | 355 | | | | 61 | |
| Lane Width (ft) | 12.0 | | | | 0.0 | |
| Walking Speed (ft/s) | 3.5 | | | | 3.5 | |
| Percent Blockage | 34 | | | | 0 | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | 225 | 435 | |
| pX, platoon unblocked | 0.96 | | | | | |
| vC, conflicting volume | 670 | 355 | 355 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 636 | 355 | 355 | | | |
| tC, single (s) | *5.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 96 | 100 | 99 | | | |
| cM capacity (veh/h) | 333 | 456 | 797 | | | |

| Direction, Lane # | EB 1 | NB 1 |
|---|---|---|
| Volume Total | 13 | 245 |
| Volume Left | 13 | 9 |
| Volume Right | 0 | 0 |
| cSH | 333 | 797 |
| Volume to Capacity | 0.04 | 0.01 |
| Queue Length 95th (ft) | 3 | 1 |
| Control Delay (s) | 16.3 | 0.5 |
| Lane LOS | C | A |
| Approach Delay (s) | 16.3 | 0.5 |
| Approach LOS | C | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.3 | | |
| Intersection Capacity Utilization | 21.8% | 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 | | | | | | | | | | | | |
| Traffic Volume (vph) | 108 | 737 | 0 | 0 | 157 | 36 | 16 | 208 | 50 | 0 | 0 | 0 |
| Future Volume (vph) | 108 | 737 | 0 | 0 | 157 | 36 | 16 | 208 | 50 | 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 | 1.00 | 0.95 | | | 0.95 | | | 0.95 | | | | |
| Frpb, ped/bikes | 1.00 | 1.00 | | | 0.93 | | | 0.93 | | | | |
| Flpb, ped/bikes | 1.00 | 1.00 | | | 1.00 | | | 0.98 | | | | |
| Frt | 1.00 | 1.00 | | | 0.97 | | | 0.97 | | | | |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | | | 1.00 | | | | |
| Satd. Flow (prot) | 1770 | 3539 | | | 3189 | | | 3147 | | | | |
| Flt Permitted | 0.56 | 1.00 | | | 1.00 | | | 1.00 | | | | |
| Satd. Flow (perm) | 1036 | 3539 | | | 3189 | | | 3147 | | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 120 | 819 | 0 | 0 | 174 | 40 | 18 | 231 | 56 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 22 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 120 | 819 | 0 | 0 | 194 | 0 | 0 | 283 | 0 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | 516 | 246 | | 424 | | | |
| Turn Type | pm+pt | NA | | | NA | | Perm | NA | | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | 2 | | | | | | 8 | | | | | |
| Actuated Green, G (s) | 55.0 | 55.0 | | | 45.0 | | | 25.0 | | | | |
| Effective Green, g (s) | 55.0 | 55.0 | | | 45.0 | | | 25.0 | | | | |
| Actuated g/C Ratio | 0.61 | 0.61 | | | 0.50 | | | 0.28 | | | | |
| Clearance Time (s) | 5.0 | 5.0 | | | 5.0 | | | 5.0 | | | | |
| Lane Grp Cap (vph) | 673 | 2162 | | | 1594 | | | 874 | | | | |
| v/s Ratio Prot | 0.01 | c0.23 | | | 0.06 | | | | | | | |
| v/s Ratio Perm | 0.10 | | | | | | | 0.09 | | | | |
| v/c Ratio | 0.18 | 0.38 | | | 0.12 | | | 0.32 | | | | |
| Uniform Delay, d1 | 7.5 | 8.9 | | | 12.0 | | | 25.8 | | | | |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | | | 1.00 | | | | |
| Incremental Delay, d2 | 0.6 | 0.5 | | | 0.2 | | | 1.0 | | | | |
| Delay (s) | 8.0 | 9.4 | | | 12.1 | | | 26.8 | | | | |
| Level of Service | A | A | | | B | | | C | | | | |
| Approach Delay (s) | | 9.2 | | | 12.1 | | | 26.8 | | | 0.0 | |
| Approach LOS | | A | | | B | | | C | | | A | |

Intersection Summary

| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 13.3 | 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 | 76.8% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 83 | 667 | 0 | 0 | 148 | 47 | 24 | 150 | 36 | 0 | 0 | 0 |
| Future Volume (vph) | 83 | 667 | 0 | 0 | 148 | 47 | 24 | 150 | 36 | 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 | 1.00 | 0.95 | | | 0.95 | | | 0.95 | | | | |
| Frpb, ped/bikes | 1.00 | 1.00 | | | 0.88 | | | 0.93 | | | | |
| Flpb, ped/bikes | 1.00 | 1.00 | | | 1.00 | | | 0.96 | | | | |
| Frt | 1.00 | 1.00 | | | 0.96 | | | 0.97 | | | | |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | | | 0.99 | | | | |
| Satd. Flow (prot) | 1770 | 3539 | | | 3008 | | | 3073 | | | | |
| Flt Permitted | 0.56 | 1.00 | | | 1.00 | | | 0.99 | | | | |
| Satd. Flow (perm) | 1043 | 3539 | | | 3008 | | | 3073 | | | | |
| 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) | 88 | 710 | 0 | 0 | 157 | 50 | 26 | 160 | 38 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 19 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 88 | 710 | 0 | 0 | 182 | 0 | 0 | 205 | 0 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | 870 | 356 | | 570 | | | |
| Turn Type | pm+pt | NA | | | NA | | Perm | NA | | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | 2 | | | | | | 8 | | | | | |
| Actuated Green, G (s) | 55.0 | 55.0 | | | 45.0 | | | 25.0 | | | | |
| Effective Green, g (s) | 55.0 | 55.0 | | | 45.0 | | | 25.0 | | | | |
| Actuated g/C Ratio | 0.61 | 0.61 | | | 0.50 | | | 0.28 | | | | |
| Clearance Time (s) | 5.0 | 5.0 | | | 5.0 | | | 5.0 | | | | |
| Lane Grp Cap (vph) | 677 | 2162 | | | 1504 | | | 853 | | | | |
| v/s Ratio Prot | 0.01 | c0.20 | | | 0.06 | | | | | | | |
| v/s Ratio Perm | 0.07 | | | | | | | 0.07 | | | | |
| v/c Ratio | 0.13 | 0.33 | | | 0.12 | | | 0.24 | | | | |
| Uniform Delay, d1 | 7.3 | 8.5 | | | 12.0 | | | 25.2 | | | | |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | | | 1.00 | | | | |
| Incremental Delay, d2 | 0.4 | 0.4 | | | 0.2 | | | 0.7 | | | | |
| Delay (s) | 7.7 | 8.9 | | | 12.1 | | | 25.8 | | | | |
| Level of Service | A | A | | | B | | | C | | | | |
| Approach Delay (s) | | 8.8 | | | 12.1 | | | 25.8 | | | 0.0 | |
| Approach LOS | | A | | | B | | | C | | | A | |

Intersection Summary

| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 12.5 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.32 | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 15.0 |
| Intersection Capacity Utilization | 75.4% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis
## 1: Lewers Street & Kalakaua Avenue

10/21/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 128 | 1604 | 214 | 0 | 0 | 0 | 0 | 132 | 58 | 0 | 0 | 0 |
| Future Volume (vph) | 128 | 1604 | 214 | 0 | 0 | 0 | 0 | 132 | 58 | 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 | | | |
| Lane Util. Factor | | 0.86 | | | | | | 1.00 | 1.00 | | | |
| Frt | | 0.98 | | | | | | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Satd. Flow (prot) | | 6281 | | | | | | 1863 | 1583 | | | |
| Flt Permitted | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Satd. Flow (perm) | | 6281 | | | | | | 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) | 136 | 1706 | 228 | 0 | 0 | 0 | 0 | 140 | 62 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 2040 | 0 | 0 | 0 | 0 | 0 | 140 | 62 | 0 | 0 | 0 |
| Turn Type | Perm | NA | | | | | | NA | Perm | | | |
| Protected Phases | | 1 | | | | | | 2 | | | | |
| Permitted Phases | 1 | | | | | | | | 2 | | | |
| Actuated Green, G (s) | | 45.0 | | | | | | 25.0 | 25.0 | | | |
| Effective Green, g (s) | | 45.0 | | | | | | 25.0 | 25.0 | | | |
| Actuated g/C Ratio | | 0.41 | | | | | | 0.23 | 0.23 | | | |
| Clearance Time (s) | | 5.0 | | | | | | 5.0 | 5.0 | | | |
| Lane Grp Cap (vph) | | 2569 | | | | | | 423 | 359 | | | |
| v/s Ratio Prot | | | | | | | | c0.08 | | | | |
| v/s Ratio Perm | | 0.32 | | | | | | | 0.04 | | | |
| v/c Ratio | | 0.79 | | | | | | 0.33 | 0.17 | | | |
| Uniform Delay, d1 | | 28.4 | | | | | | 35.5 | 34.2 | | | |
| Progression Factor | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 2.6 | | | | | | 2.1 | 1.0 | | | |
| Delay (s) | | 31.1 | | | | | | 37.6 | 35.2 | | | |
| Level of Service | | C | | | | | | D | D | | | |
| Approach Delay (s) | | 31.1 | | | 0.0 | | | 36.9 | | | 0.0 | |
| Approach LOS | | C | | | A | | | D | | | A | |

Intersection Summary

| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 31.6 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.46 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 15.0 |
| Intersection Capacity Utilization | 44.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis
## 1: Lewers Street & Kalakaua Avenue

10/21/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 139 | 1353 | 210 | 0 | 0 | 0 | 0 | 93 | 35 | 0 | 0 | 0 |
| Future Volume (vph) | 139 | 1353 | 210 | 0 | 0 | 0 | 0 | 93 | 35 | 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 | | | |
| Lane Util. Factor | | 0.86 | | | | | | 1.00 | 1.00 | | | |
| Frt | | 0.98 | | | | | | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Satd. Flow (prot) | | 6264 | | | | | | 1863 | 1583 | | | |
| Flt Permitted | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Satd. Flow (perm) | | 6264 | | | | | | 1863 | 1583 | | | |
| Peak-hour factor, PHF | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Adj. Flow (vph) | 145 | 1409 | 219 | 0 | 0 | 0 | 0 | 97 | 36 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1737 | 0 | 0 | 0 | 0 | 0 | 97 | 36 | 0 | 0 | 0 |
| Turn Type | Perm | NA | | | | | | NA | Perm | | | |
| Protected Phases | | 1 | | | | | | 2 | | | | |
| Permitted Phases | 1 | | | | | | | | 2 | | | |
| Actuated Green, G (s) | | 45.0 | | | | | | 25.0 | 25.0 | | | |
| Effective Green, g (s) | | 45.0 | | | | | | 25.0 | 25.0 | | | |
| Actuated g/C Ratio | | 0.41 | | | | | | 0.23 | 0.23 | | | |
| Clearance Time (s) | | 5.0 | | | | | | 5.0 | 5.0 | | | |
| Lane Grp Cap (vph) | | 2562 | | | | | | 423 | 359 | | | |
| v/s Ratio Prot | | | | | | | | c0.05 | | | | |
| v/s Ratio Perm | | 0.28 | | | | | | | 0.02 | | | |
| v/c Ratio | | 0.68 | | | | | | 0.23 | 0.10 | | | |
| Uniform Delay, d1 | | 26.6 | | | | | | 34.6 | 33.6 | | | |
| Progression Factor | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 1.5 | | | | | | 1.3 | 0.6 | | | |
| Delay (s) | | 28.0 | | | | | | 35.9 | 34.2 | | | |
| Level of Service | | C | | | | | | D | C | | | |
| Approach Delay (s) | | 28.0 | | | 0.0 | | | 35.4 | | | 0.0 | |
| Approach LOS | | C | | | A | | | D | | | A | |

Intersection Summary

| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 28.6 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.38 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 15.0 |
| Intersection Capacity Utilization | 38.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

# HCM Unsignalized Intersection Capacity Analysis
## 2: Lewers Street & Lauula Street

10/21/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 11 | 0 | 7 | 259 | 0 | 0 |
| Future Volume (Veh/h) | 11 | 0 | 7 | 259 | 0 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Hourly flow rate (vph) | 12 | 0 | 8 | 285 | 0 | 0 |
| Pedestrians | 280 | | | | 36 | |
| Lane Width (ft) | 12.0 | | | | 0.0 | |
| Walking Speed (ft/s) | 3.5 | | | | 3.5 | |
| Percent Blockage | 27 | | | | 0 | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | 225 | 435 | |
| pX, platoon unblocked | 0.94 | | | | | |
| vC, conflicting volume | 617 | 280 | 280 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 560 | 280 | 280 | | | |
| tC, single (s) | *5.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 97 | 100 | 99 | | | |
| cM capacity (veh/h) | 392 | 556 | 941 | | | |

| Direction, Lane # | EB 1 | NB 1 |
|---|---|---|
| Volume Total | 12 | 293 |
| Volume Left | 12 | 8 |
| Volume Right | 0 | 0 |
| cSH | 392 | 941 |
| Volume to Capacity | 0.03 | 0.01 |
| Queue Length 95th (ft) | 2 | 1 |
| Control Delay (s) | 14.5 | 0.3 |
| Lane LOS | B | A |
| Approach Delay (s) | 14.5 | 0.3 |
| Approach LOS | B | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.9 | | |
| Intersection Capacity Utilization | 24.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

* User Entered Value

# HCM Unsignalized Intersection Capacity Analysis
## 2: Lewers Street & Lauula Street

10/21/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 12 | 0 | 18 | 215 | 0 | 0 |
| Future Volume (Veh/h) | 12 | 0 | 18 | 215 | 0 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Hourly flow rate (vph) | 13 | 0 | 20 | 236 | 0 | 0 |
| Pedestrians | 355 | | | | 61 | |
| Lane Width (ft) | 12.0 | | | | 0.0 | |
| Walking Speed (ft/s) | 3.5 | | | | 3.5 | |
| Percent Blockage | 34 | | | | 0 | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | 225 | 435 | |
| pX, platoon unblocked | 0.96 | | | | | |
| vC, conflicting volume | 692 | 355 | 355 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 659 | 355 | 355 | | | |
| tC, single (s) | *5.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 96 | 100 | 97 | | | |
| cM capacity (veh/h) | 320 | 456 | 797 | | | |

| Direction, Lane # | EB 1 | NB 1 |
|---|---|---|
| Volume Total | 13 | 256 |
| Volume Left | 13 | 20 |
| Volume Right | 0 | 0 |
| cSH | 320 | 797 |
| Volume to Capacity | 0.04 | 0.03 |
| Queue Length 95th (ft) | 3 | 2 |
| Control Delay (s) | 16.7 | 1.0 |
| Lane LOS | C | A |
| Approach Delay (s) | 16.7 | 1.0 |
| Approach LOS | C | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.8 | | |
| Intersection Capacity Utilization | 22.3% | 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 | | | | | | | | | | | | |
| Traffic Volume (vph) | 108 | 811 | 0 | 0 | 173 | 36 | 16 | 208 | 50 | 0 | 0 | 0 |
| Future Volume (vph) | 108 | 811 | 0 | 0 | 173 | 36 | 16 | 208 | 50 | 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 | 1.00 | 0.95 | | | 0.95 | | | 0.95 | | | | |
| Frpb, ped/bikes | 1.00 | 1.00 | | | 0.93 | | | 0.93 | | | | |
| Flpb, ped/bikes | 1.00 | 1.00 | | | 1.00 | | | 0.98 | | | | |
| Frt | 1.00 | 1.00 | | | 0.97 | | | 0.97 | | | | |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | | | 1.00 | | | | |
| Satd. Flow (prot) | 1770 | 3539 | | | 3215 | | | 3147 | | | | |
| Flt Permitted | 0.55 | 1.00 | | | 1.00 | | | 1.00 | | | | |
| Satd. Flow (perm) | 1018 | 3539 | | | 3215 | | | 3147 | | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 120 | 901 | 0 | 0 | 192 | 40 | 18 | 231 | 56 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 22 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 120 | 901 | 0 | 0 | 213 | 0 | 0 | 283 | 0 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | 516 | 246 | | 424 | | | |
| Turn Type | pm+pt | NA | | | NA | | Perm | NA | | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | 2 | | | | | | 8 | | | | | |
| Actuated Green, G (s) | 55.0 | 55.0 | | | 45.0 | | | 25.0 | | | | |
| Effective Green, g (s) | 55.0 | 55.0 | | | 45.0 | | | 25.0 | | | | |
| Actuated g/C Ratio | 0.61 | 0.61 | | | 0.50 | | | 0.28 | | | | |
| Clearance Time (s) | 5.0 | 5.0 | | | 5.0 | | | 5.0 | | | | |
| Lane Grp Cap (vph) | 663 | 2162 | | | 1607 | | | 874 | | | | |
| v/s Ratio Prot | 0.01 | c0.25 | | | 0.07 | | | | | | | |
| v/s Ratio Perm | 0.10 | | | | | | | 0.09 | | | | |
| v/c Ratio | 0.18 | 0.42 | | | 0.13 | | | 0.32 | | | | |
| Uniform Delay, d1 | 7.5 | 9.1 | | | 12.0 | | | 25.8 | | | | |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | | | 1.00 | | | | |
| Incremental Delay, d2 | 0.6 | 0.6 | | | 0.2 | | | 1.0 | | | | |
| Delay (s) | 8.1 | 9.7 | | | 12.2 | | | 26.8 | | | | |
| Level of Service | A | A | | | B | | | C | | | | |
| Approach Delay (s) | | 9.5 | | | 12.2 | | | 26.8 | | | 0.0 | |
| Approach LOS | | A | | | B | | | C | | | A | |

Intersection Summary

| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 13.3 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.41 | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 15.0 |
| Intersection Capacity Utilization | 76.8% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 83 | 734 | 0 | 0 | 163 | 47 | 24 | 150 | 36 | 0 | 0 | 0 |
| Future Volume (vph) | 83 | 734 | 0 | 0 | 163 | 47 | 24 | 150 | 36 | 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 | 1.00 | 0.95 | | | 0.95 | | | 0.95 | | | | |
| Frt | 1.00 | 1.00 | | | 0.97 | | | 0.97 | | | | |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | | | 0.99 | | | | |
| Satd. Flow (prot) | 1770 | 3539 | | | 3420 | | | 3429 | | | | |
| Flt Permitted | 0.55 | 1.00 | | | 1.00 | | | 0.99 | | | | |
| Satd. Flow (perm) | 1027 | 3539 | | | 3420 | | | 3429 | | | | |
| 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) | 88 | 781 | 0 | 0 | 173 | 50 | 26 | 160 | 38 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 19 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 88 | 781 | 0 | 0 | 198 | 0 | 0 | 205 | 0 | 0 | 0 | 0 |
| Turn Type | pm+pt | NA | | | NA | | Perm | NA | | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | 2 | | | | | | 8 | | | | | |
| Actuated Green, G (s) | 55.0 | 55.0 | | | 45.0 | | | 25.0 | | | | |
| Effective Green, g (s) | 55.0 | 55.0 | | | 45.0 | | | 25.0 | | | | |
| Actuated g/C Ratio | 0.61 | 0.61 | | | 0.50 | | | 0.28 | | | | |
| Clearance Time (s) | 5.0 | 5.0 | | | 5.0 | | | 5.0 | | | | |
| Lane Grp Cap (vph) | 668 | 2162 | | | 1710 | | | 952 | | | | |
| v/s Ratio Prot | 0.01 | c0.22 | | | 0.06 | | | | | | | |
| v/s Ratio Perm | 0.07 | | | | | | | 0.06 | | | | |
| v/c Ratio | 0.13 | 0.36 | | | 0.12 | | | 0.22 | | | | |
| Uniform Delay, d1 | 7.3 | 8.7 | | | 11.9 | | | 25.0 | | | | |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | | | 1.00 | | | | |
| Incremental Delay, d2 | 0.4 | 0.5 | | | 0.1 | | | 0.5 | | | | |
| Delay (s) | 7.7 | 9.2 | | | 12.1 | | | 25.5 | | | | |
| Level of Service | A | A | | | B | | | C | | | | |
| Approach Delay (s) | | 9.1 | | | 12.1 | | | 25.5 | | | 0.0 | |
| Approach LOS | | A | | | B | | | C | | | A | |

Intersection Summary

| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 12.4 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.34 | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 15.0 |
| Intersection Capacity Utilization | 75.4% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis
## 1: Lewers Street & Kalakaua Avenue

10/21/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 133 | 1604 | 214 | 0 | 0 | 0 | 0 | 132 | 58 | 0 | 0 | 0 |
| Future Volume (vph) | 133 | 1604 | 214 | 0 | 0 | 0 | 0 | 132 | 58 | 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 | | | |
| Lane Util. Factor | | 0.86 | | | | | | 1.00 | 1.00 | | | |
| Frt | | 0.98 | | | | | | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Satd. Flow (prot) | | 6281 | | | | | | 1863 | 1583 | | | |
| Flt Permitted | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Satd. Flow (perm) | | 6281 | | | | | | 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) | 141 | 1706 | 228 | 0 | 0 | 0 | 0 | 140 | 62 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 2045 | 0 | 0 | 0 | 0 | 0 | 140 | 62 | 0 | 0 | 0 |
| Turn Type | Perm | NA | | | | | | NA | Perm | | | |
| Protected Phases | | 1 | | | | | | 2 | | | | |
| Permitted Phases | 1 | | | | | | | | 2 | | | |
| Actuated Green, G (s) | | 45.0 | | | | | | 25.0 | 25.0 | | | |
| Effective Green, g (s) | | 45.0 | | | | | | 25.0 | 25.0 | | | |
| Actuated g/C Ratio | | 0.41 | | | | | | 0.23 | 0.23 | | | |
| Clearance Time (s) | | 5.0 | | | | | | 5.0 | 5.0 | | | |
| Lane Grp Cap (vph) | | 2569 | | | | | | 423 | 359 | | | |
| v/s Ratio Prot | | | | | | | | c0.08 | | | | |
| v/s Ratio Perm | | 0.33 | | | | | | | 0.04 | | | |
| v/c Ratio | | 0.80 | | | | | | 0.33 | 0.17 | | | |
| Uniform Delay, d1 | | 28.5 | | | | | | 35.5 | 34.2 | | | |
| Progression Factor | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 2.7 | | | | | | 2.1 | 1.0 | | | |
| Delay (s) | | 31.1 | | | | | | 37.6 | 35.2 | | | |
| Level of Service | | C | | | | | | D | D | | | |
| Approach Delay (s) | | 31.1 | | | 0.0 | | | 36.9 | | | 0.0 | |
| Approach LOS | | C | | | A | | | D | | | A | |

Intersection Summary

| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 31.6 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.46 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 15.0 |
| Intersection Capacity Utilization | 44.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 16 | 0 | 12 | 259 | 0 | 0 |
| Future Volume (Veh/h) | 16 | 0 | 12 | 259 | 0 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Hourly flow rate (vph) | 18 | 0 | 13 | 285 | 0 | 0 |
| Pedestrians | 280 | | | | 36 | |
| Lane Width (ft) | 12.0 | | | | 0.0 | |
| Walking Speed (ft/s) | 3.5 | | | | 3.5 | |
| Percent Blockage | 27 | | | | 0 | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | 225 | 435 | |
| pX, platoon unblocked | 0.94 | | | | | |
| vC, conflicting volume | 627 | 280 | 280 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 570 | 280 | 280 | | | |
| tC, single (s) | *5.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 95 | 100 | 99 | | | |
| cM capacity (veh/h) | 385 | 556 | 941 | | | |

| Direction, Lane # | EB 1 | NB 1 |
|---|---|---|
| Volume Total | 18 | 298 |
| Volume Left | 18 | 13 |
| Volume Right | 0 | 0 |
| cSH | 385 | 941 |
| Volume to Capacity | 0.05 | 0.01 |
| Queue Length 95th (ft) | 4 | 1 |
| Control Delay (s) | 14.8 | 0.5 |
| Lane LOS | B | A |
| Approach Delay (s) | 14.8 | 0.5 |
| Approach LOS | B | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.3 | | |
| Intersection Capacity Utilization | 24.3% | 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 | | | | | | | | | | | | |
| Traffic Volume (vph) | 108 | 811 | 0 | 0 | 173 | 36 | 16 | 212 | 51 | 0 | 0 | 0 |
| Future Volume (vph) | 108 | 811 | 0 | 0 | 173 | 36 | 16 | 212 | 51 | 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 | 1.00 | 0.95 | | | 0.95 | | | 0.95 | | | | |
| Frpb, ped/bikes | 1.00 | 1.00 | | | 0.93 | | | 0.93 | | | | |
| Flpb, ped/bikes | 1.00 | 1.00 | | | 1.00 | | | 0.98 | | | | |
| Frt | 1.00 | 1.00 | | | 0.97 | | | 0.97 | | | | |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | | | 1.00 | | | | |
| Satd. Flow (prot) | 1770 | 3539 | | | 3215 | | | 3149 | | | | |
| Flt Permitted | 0.55 | 1.00 | | | 1.00 | | | 1.00 | | | | |
| Satd. Flow (perm) | 1018 | 3539 | | | 3215 | | | 3149 | | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 120 | 901 | 0 | 0 | 192 | 40 | 18 | 236 | 57 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 22 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 120 | 901 | 0 | 0 | 213 | 0 | 0 | 289 | 0 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | 516 | 246 | | 424 | | | |
| Turn Type | pm+pt | NA | | | NA | | Perm | NA | | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | 2 | | | | | | 8 | | | | | |
| Actuated Green, G (s) | 55.0 | 55.0 | | | 45.0 | | | 25.0 | | | | |
| Effective Green, g (s) | 55.0 | 55.0 | | | 45.0 | | | 25.0 | | | | |
| Actuated g/C Ratio | 0.61 | 0.61 | | | 0.50 | | | 0.28 | | | | |
| Clearance Time (s) | 5.0 | 5.0 | | | 5.0 | | | 5.0 | | | | |
| Lane Grp Cap (vph) | 663 | 2162 | | | 1607 | | | 874 | | | | |
| v/s Ratio Prot | 0.01 | c0.25 | | | 0.07 | | | | | | | |
| v/s Ratio Perm | 0.10 | | | | | | | 0.09 | | | | |
| v/c Ratio | 0.18 | 0.42 | | | 0.13 | | | 0.33 | | | | |
| Uniform Delay, d1 | 7.5 | 9.1 | | | 12.0 | | | 25.8 | | | | |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | | | 1.00 | | | | |
| Incremental Delay, d2 | 0.6 | 0.6 | | | 0.2 | | | 1.0 | | | | |
| Delay (s) | 8.1 | 9.7 | | | 12.2 | | | 26.9 | | | | |
| Level of Service | A | A | | | B | | | C | | | | |
| Approach Delay (s) | | 9.5 | | | 12.2 | | | 26.9 | | | 0.0 | |
| Approach LOS | | A | | | B | | | C | | | A | |

Intersection Summary

| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 13.4 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.42 | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 15.0 |
| Intersection Capacity Utilization | 76.8% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis
## 1: Lewers Street & Kalakaua Avenue

10/21/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 133 | 1604 | 214 | 0 | 0 | 0 | 0 | 132 | 58 | 0 | 0 | 0 |
| Future Volume (vph) | 133 | 1604 | 214 | 0 | 0 | 0 | 0 | 132 | 58 | 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 | | | |
| Lane Util. Factor | | 0.86 | | | | | | 1.00 | 1.00 | | | |
| Frt | | 0.98 | | | | | | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Satd. Flow (prot) | | 6281 | | | | | | 1863 | 1583 | | | |
| Flt Permitted | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Satd. Flow (perm) | | 6281 | | | | | | 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) | 141 | 1706 | 228 | 0 | 0 | 0 | 0 | 140 | 62 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 2045 | 0 | 0 | 0 | 0 | 0 | 140 | 62 | 0 | 0 | 0 |
| Turn Type | Perm | NA | | | | | | NA | Perm | | | |
| Protected Phases | | 1 | | | | | | 2 | | | | |
| Permitted Phases | 1 | | | | | | | | 2 | | | |
| Actuated Green, G (s) | | 45.0 | | | | | | 25.0 | 25.0 | | | |
| Effective Green, g (s) | | 45.0 | | | | | | 25.0 | 25.0 | | | |
| Actuated g/C Ratio | | 0.41 | | | | | | 0.23 | 0.23 | | | |
| Clearance Time (s) | | 5.0 | | | | | | 5.0 | 5.0 | | | |
| Lane Grp Cap (vph) | | 2569 | | | | | | 423 | 359 | | | |
| v/s Ratio Prot | | | | | | | | c0.08 | | | | |
| v/s Ratio Perm | | 0.33 | | | | | | | 0.04 | | | |
| v/c Ratio | | 0.80 | | | | | | 0.33 | 0.17 | | | |
| Uniform Delay, d1 | | 28.5 | | | | | | 35.5 | 34.2 | | | |
| Progression Factor | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 2.7 | | | | | | 2.1 | 1.0 | | | |
| Delay (s) | | 31.1 | | | | | | 37.6 | 35.2 | | | |
| Level of Service | | C | | | | | | D | D | | | |
| Approach Delay (s) | | 31.1 | | | 0.0 | | | 36.9 | | | 0.0 | |
| Approach LOS | | C | | | A | | | D | | | A | |

Intersection Summary

| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 31.6 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.46 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 15.0 |
| Intersection Capacity Utilization | 44.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis
## 1: Lewers Street & Kalakaua Avenue

10/21/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 146 | 1353 | 210 | 0 | 0 | 0 | 0 | 93 | 35 | 0 | 0 | 0 |
| Future Volume (vph) | 146 | 1353 | 210 | 0 | 0 | 0 | 0 | 93 | 35 | 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 | | | |
| Lane Util. Factor | | 0.86 | | | | | | 1.00 | 1.00 | | | |
| Frt | | 0.98 | | | | | | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Satd. Flow (prot) | | 6263 | | | | | | 1863 | 1583 | | | |
| Flt Permitted | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Satd. Flow (perm) | | 6263 | | | | | | 1863 | 1583 | | | |
| Peak-hour factor, PHF | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Adj. Flow (vph) | 152 | 1409 | 219 | 0 | 0 | 0 | 0 | 97 | 36 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1743 | 0 | 0 | 0 | 0 | 0 | 97 | 36 | 0 | 0 | 0 |
| Turn Type | Perm | NA | | | | | | NA | Perm | | | |
| Protected Phases | | 1 | | | | | | 2 | | | | |
| Permitted Phases | 1 | | | | | | | | 2 | | | |
| Actuated Green, G (s) | | 45.0 | | | | | | 25.0 | 25.0 | | | |
| Effective Green, g (s) | | 45.0 | | | | | | 25.0 | 25.0 | | | |
| Actuated g/C Ratio | | 0.41 | | | | | | 0.23 | 0.23 | | | |
| Clearance Time (s) | | 5.0 | | | | | | 5.0 | 5.0 | | | |
| Lane Grp Cap (vph) | | 2562 | | | | | | 423 | 359 | | | |
| v/s Ratio Prot | | | | | | | | c0.05 | | | | |
| v/s Ratio Perm | | 0.28 | | | | | | | 0.02 | | | |
| v/c Ratio | | 0.68 | | | | | | 0.23 | 0.10 | | | |
| Uniform Delay, d1 | | 26.6 | | | | | | 34.6 | 33.6 | | | |
| Progression Factor | | 1.00 | | | | | | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 1.5 | | | | | | 1.3 | 0.6 | | | |
| Delay (s) | | 28.1 | | | | | | 35.9 | 34.2 | | | |
| Level of Service | | C | | | | | | D | C | | | |
| Approach Delay (s) | | 28.1 | | | 0.0 | | | 35.4 | | | 0.0 | |
| Approach LOS | | C | | | A | | | D | | | A | |

Intersection Summary

| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 28.6 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.38 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 15.0 |
| Intersection Capacity Utilization | 38.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 16 | 0 | 12 | 259 | 0 | 0 |
| Future Volume (Veh/h) | 16 | 0 | 12 | 259 | 0 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Hourly flow rate (vph) | 18 | 0 | 13 | 285 | 0 | 0 |
| Pedestrians | 280 | | | | 36 | |
| Lane Width (ft) | 12.0 | | | | 0.0 | |
| Walking Speed (ft/s) | 3.5 | | | | 3.5 | |
| Percent Blockage | 27 | | | | 0 | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | 225 | 435 | |
| pX, platoon unblocked | 0.94 | | | | | |
| vC, conflicting volume | 627 | 280 | 280 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 570 | 280 | 280 | | | |
| tC, single (s) | *5.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 95 | 100 | 99 | | | |
| cM capacity (veh/h) | 385 | 556 | 941 | | | |

| Direction, Lane # | EB 1 | NB 1 |
|---|---|---|
| Volume Total | 18 | 298 |
| Volume Left | 18 | 13 |
| Volume Right | 0 | 0 |
| cSH | 385 | 941 |
| Volume to Capacity | 0.05 | 0.01 |
| Queue Length 95th (ft) | 4 | 1 |
| Control Delay (s) | 14.8 | 0.5 |
| Lane LOS | B | A |
| Approach Delay (s) | 14.8 | 0.5 |
| Approach LOS | B | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.3 | | |
| Intersection Capacity Utilization | 24.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

* User Entered Value

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 17 | 0 | 14 | 215 | 0 | 0 |
| Future Volume (Veh/h) | 17 | 0 | 14 | 215 | 0 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Hourly flow rate (vph) | 19 | 0 | 15 | 236 | 0 | 0 |
| Pedestrians | 355 | | | | 61 | |
| Lane Width (ft) | 12.0 | | | | 0.0 | |
| Walking Speed (ft/s) | 3.5 | | | | 3.5 | |
| Percent Blockage | 34 | | | | 0 | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | 225 | 435 | |
| pX, platoon unblocked | 0.96 | | | | | |
| vC, conflicting volume | 682 | 355 | 355 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 649 | 355 | 355 | | | |
| tC, single (s) | *5.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 94 | 100 | 98 | | | |
| cM capacity (veh/h) | 326 | 456 | 797 | | | |

| Direction, Lane # | EB 1 | NB 1 |
|---|---|---|
| Volume Total | 19 | 251 |
| Volume Left | 19 | 15 |
| Volume Right | 0 | 0 |
| cSH | 326 | 797 |
| Volume to Capacity | 0.06 | 0.02 |
| Queue Length 95th (ft) | 5 | 1 |
| Control Delay (s) | 16.7 | 0.8 |
| Lane LOS | C | A |
| Approach Delay (s) | 16.7 | 0.8 |
| Approach LOS | C | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.9 | | |
| Intersection Capacity Utilization | 22.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

* User Entered Value

# HCM Signalized Intersection Capacity Analysis
## 3: Lewers Street & Kuhio Avenue

10/21/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 108 | 811 | 0 | 0 | 173 | 36 | 16 | 212 | 51 | 0 | 0 | 0 |
| Future Volume (vph) | 108 | 811 | 0 | 0 | 173 | 36 | 16 | 212 | 51 | 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 | 1.00 | 0.95 | | | 0.95 | | | 0.95 | | | | |
| Frpb, ped/bikes | 1.00 | 1.00 | | | 0.93 | | | 0.93 | | | | |
| Flpb, ped/bikes | 1.00 | 1.00 | | | 1.00 | | | 0.98 | | | | |
| Frt | 1.00 | 1.00 | | | 0.97 | | | 0.97 | | | | |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | | | 1.00 | | | | |
| Satd. Flow (prot) | 1770 | 3539 | | | 3215 | | | 3149 | | | | |
| Flt Permitted | 0.55 | 1.00 | | | 1.00 | | | 1.00 | | | | |
| Satd. Flow (perm) | 1018 | 3539 | | | 3215 | | | 3149 | | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 120 | 901 | 0 | 0 | 192 | 40 | 18 | 236 | 57 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 22 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 120 | 901 | 0 | 0 | 213 | 0 | 0 | 289 | 0 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | 516 | 246 | | 424 | | | |
| Turn Type | pm+pt | NA | | | NA | | Perm | NA | | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | 2 | | | | | | 8 | | | | | |
| Actuated Green, G (s) | 55.0 | 55.0 | | | 45.0 | | | 25.0 | | | | |
| Effective Green, g (s) | 55.0 | 55.0 | | | 45.0 | | | 25.0 | | | | |
| Actuated g/C Ratio | 0.61 | 0.61 | | | 0.50 | | | 0.28 | | | | |
| Clearance Time (s) | 5.0 | 5.0 | | | 5.0 | | | 5.0 | | | | |
| Lane Grp Cap (vph) | 663 | 2162 | | | 1607 | | | 874 | | | | |
| v/s Ratio Prot | 0.01 | c0.25 | | | 0.07 | | | | | | | |
| v/s Ratio Perm | 0.10 | | | | | | | 0.09 | | | | |
| v/c Ratio | 0.18 | 0.42 | | | 0.13 | | | 0.33 | | | | |
| Uniform Delay, d1 | 7.5 | 9.1 | | | 12.0 | | | 25.8 | | | | |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | | | 1.00 | | | | |
| Incremental Delay, d2 | 0.6 | 0.6 | | | 0.2 | | | 1.0 | | | | |
| Delay (s) | 8.1 | 9.7 | | | 12.2 | | | 26.9 | | | | |
| Level of Service | A | A | | | B | | | C | | | | |
| Approach Delay (s) | | 9.5 | | | 12.2 | | | 26.9 | | | 0.0 | |
| Approach LOS | | A | | | B | | | C | | | A | |

Intersection Summary

| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 13.4 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.42 | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 15.0 |
| Intersection Capacity Utilization | 76.8% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 83 | 734 | 0 | 0 | 163 | 47 | 24 | 154 | 37 | 0 | 0 | 0 |
| Future Volume (vph) | 83 | 734 | 0 | 0 | 163 | 47 | 24 | 154 | 37 | 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 | 1.00 | 0.95 | | | 0.95 | | | 0.95 | | | | |
| Frt | 1.00 | 1.00 | | | 0.97 | | | 0.97 | | | | |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | | | 0.99 | | | | |
| Satd. Flow (prot) | 1770 | 3539 | | | 3420 | | | 3429 | | | | |
| Flt Permitted | 0.55 | 1.00 | | | 1.00 | | | 0.99 | | | | |
| Satd. Flow (perm) | 1027 | 3539 | | | 3420 | | | 3429 | | | | |
| 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) | 88 | 781 | 0 | 0 | 173 | 50 | 26 | 164 | 39 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 19 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 88 | 781 | 0 | 0 | 198 | 0 | 0 | 210 | 0 | 0 | 0 | 0 |
| Turn Type | pm+pt | NA | | | NA | | Perm | NA | | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | 2 | | | | | | 8 | | | | | |
| Actuated Green, G (s) | 55.0 | 55.0 | | | 45.0 | | | 25.0 | | | | |
| Effective Green, g (s) | 55.0 | 55.0 | | | 45.0 | | | 25.0 | | | | |
| Actuated g/C Ratio | 0.61 | 0.61 | | | 0.50 | | | 0.28 | | | | |
| Clearance Time (s) | 5.0 | 5.0 | | | 5.0 | | | 5.0 | | | | |
| Lane Grp Cap (vph) | 668 | 2162 | | | 1710 | | | 952 | | | | |
| v/s Ratio Prot | 0.01 | c0.22 | | | 0.06 | | | | | | | |
| v/s Ratio Perm | 0.07 | | | | | | | 0.06 | | | | |
| v/c Ratio | 0.13 | 0.36 | | | 0.12 | | | 0.22 | | | | |
| Uniform Delay, d1 | 7.3 | 8.7 | | | 11.9 | | | 25.0 | | | | |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | | | 1.00 | | | | |
| Incremental Delay, d2 | 0.4 | 0.5 | | | 0.1 | | | 0.5 | | | | |
| Delay (s) | 7.7 | 9.2 | | | 12.1 | | | 25.5 | | | | |
| Level of Service | A | A | | | B | | | C | | | | |
| Approach Delay (s) | | 9.1 | | | 12.1 | | | 25.5 | | | 0.0 | |
| Approach LOS | | A | | | B | | | C | | | A | |

Intersection Summary

| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 12.4 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.34 | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 15.0 |
| Intersection Capacity Utilization | 75.4% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

# Appendix E

**Draft Cultural Impact Assessment Report for the 2154 Lau'ula Street Development, Honua Consulting, January 2020**

DRAFT

**DRAFT Cultural Impact Assessment Report for the 2154 Lauula Street Development**
**Waikīkī Ahupuaʻa, Kona District, Oʻahu Island**
**TMK: [1] 2-6-018:049**

Prepared for

R.M. Towill Corporation
Van Buren and Shimizi, LLP
Waikīkī Bazaar, Inc.

Prepared by

HONUA CONSULTING

January 2020

DRAFT

## LEAD AUTHORS AND RESEARCHERS

Trisha Kehaulani Watson, J.D., Ph.D.
Kepā Maly

## ASSISTANT AUTHORS AND RESEARCHERS

Julie Au, M.A.
Kulani Elizabeth Boyne, B.S.

## NOTE ON HAWAIIAN LANGUAGE USAGE

In keeping with other Hawaiian scholars, we do not italicize Hawaiian words. Hawaiian is both the native language of the paeʻāina of Hawaiʻi and an official language of the State of Hawaiʻi. Some authors will leave Hawaiian words italicized if part of a quote; we do not. In the narrative, we use diacritical markings to assist our readers, except in direct quotes, in which we keep the markings used in the original text. We provide translations contextually when appropriate.

DRAFT

## FRONT COVER CREDIT

Newton, H. E. & Breckinridge, S. P.
1901. Portion of H.O. chart # showing parcels of land to be acquired by the U.S. Government through the Secetary sic of the Navy by condemnation, proceedings for naval purposes at Pearl Harbor, Hawaii Territory, Naval Appropriation Act, March 3, 1901. [Washington, D.C.?: s.n., ?] [Map] Retrieved from the Library of Congress, https://www.loc.gov/item/2002622183/.

## ABSTRACT

At the request of R.M. Towill Corporation and law firm Van Buren and Shimizu, LLP on behalf of the private landowner, Waikīkī Bazaar Inc., Honua Consulting is preparing a Cultural Impact Assessment (CIA) of the 2154 Lauula Street Development project. The Applicant, Waikīkī Bazaar Inc., proposes the Lauʻula Street Student Dormitory (the "Project"), a Group Living Facility in Waikīkī, Honolulu, on Oʻahu. The Applicant plants to submit applications for a Draft Environmental Assessment (DEA), Conditional Use Permit (CUP), and a Major Waikiki Special District (WSD) Permit to the Department of Planning and Permitting (DPP) for processing. The Project will be located on a 5,355-square foot (0.1229 acre) site in Waikīkī (the "Project Area") and will result in building a six-story structure with a 16-unit, 28-bed dormitory on the site of an existing commercial surface parking lot.

As an alternative use, the Applicant is considering a Hotel Development with the same Project design as the proposed the Lauʻula Street Student Dormitory. For Hotel Development, the Applicant would submit applications for a DEA, and a Major WSD Permit to DPP for processing. The Project will be located on the 5,355-square foot site and will result in building a six-story structure with a 16-unit hotel on the site of an existing commercial surface parking lot.

The area of potential effect (APE) is the 5,355 square foot project site located at TMK: [1] 2-6-018:049. The subject parcel is zoned as Resort Mixed Use Precinct and Urban State Land Use with a 280-foot height limit. The existing surface commercial parking lot and small covered pay station are proposed to be removed and replaced with the six-story (74 feet, 4 inch in height), 16-unit- 28-bed student dormitory with support uses on Level 2, including a Prep-Kitchen, indoor and outdoor seating, a Lounge area, Mailboxes, Front Desk, Unisex Bathroom, Vending Machines, Office, Laundry Room, Janitor's Closet, Storage, Mechanical Room, two decks and a landscaped recreation area. On the first level are four standard parking stalls, one Handicap parking stall, and one loading space. As an aternative, the Applicant may develop a 16-unit Hotel with similar design.

Research in preparation of this report consisted of a thorough search of Hawaiian language documents, including but not limited to the Bishop Museum mele index and Bishop Museum archival documents, including the Hawaiian language archival caché. All Hawaiian language documents were reviewed by Hawaiian language experts to search for relevant information to include in the report. Documents considered relevant to this analysis are included herein, and translations are provided when appropriate to the discussion. Summaries of interviews are also provided herein.

Based on the information gathered and the assessment of the resources conducted, the project is not anticipated to have any adverse impact on cultural resources, traditions, customs, or practices.

# TABLE OF CONTENTS

**LIST OF FIGURES** ..... **VI**

**LIST OF TABLES** ..... **VI**

**ABBREVIATIONS AND ACRONYMS** ..... **VII**

**1. PROJECT DESCRIPTION** ..... **1**
1.1 PURPOSE AND NEED ..... 2
1.2 BENEFITS OF THE PROPOSED ACTION ..... 2

**2. NEED FOR A CULTURAL IMPACT ASSESSMENT** ..... **3**
2.1 REGULATORY BACKGROUND ..... 3
2.2 COMPLIANCE ..... 3
2.3 METHODOLOGY ..... 5

**3. DESCRIPTION OF PROJECT AREA** ..... **6**
3.1 PLACES NAMES OF WAIKĪKĪ ..... 10
3.2 PHYSICAL ENVIRONMENT ..... 12
*3.2.1 Soil Composition* ..... *12*
*3.2.2 Built Environment* ..... *13*
*3.2.3 Archaeological Sites and Features* ..... *14*

**4. CULTURAL HISTORY OF WAIKĪKĪ** ..... **20**
4.1 HE MĀHELEHELE O NĀ MOʻOLELO (EXCERPTS OF TRADITIONAL ACCOUNTS) ..... 21
*4.1.1 Kou and the Honolulu Region in the Tradition of Hiʻiaka-i-ka-poli-o-Pele* ..... *22*
*4.1.2 The Traditions of Aiai – Establishment of Kūʻula and Koʻa in the Kona District* ..... *23*
*4.1.3 He Kaao no Kauilani – A Tradition of Kauilani* ..... *30*
*4.1.4 Famous Places to be Seen, Supernatural Beings, and the Chiefs of Old from Hawaiʻi to Niʻihau* ..... *36*
*4.1.5 He mau mea i hoohalahala ia no na mea Iloko o na Kaao Hawaii (There are a number of things to Criticize in Hawaiian Lore)* ..... *42*
*4.1.6 He Moolelo Kaao no Kepakailiula (A Tradition of Kepakaʻiliʻula) Events in Ancient Waikīkī and Honolulu* ..... *46*
*4.1.7 He mele no Kualii, Kalanipipili, Kulanioaka, Kunuiakea (A Chant for Kualii, Kalanipipili, Kulanioaka, Kunuiakea)* ..... *48*
*4.1.8 Kānāwai Nīʻaupiʻo Kolowalu (Royal Kolowalu Law)* ..... *50*
*4.1.9 Na Wahi Pana o Ewa i Hoonalowaleia i Keia Wa a Hiki Ole ke Ikeia (Storied Places of ʻEwa, That are Now Lost and Cannot be Seen)* ..... *51*
*4.1.10 Life with Kamehameha I in 1800-1819* ..... *52*
*4.1.11 The Honolulu-Waikīkī Region During the Residency of Kamehameha I* ..... *55*
*4.1.12 Ka Moolelo Hawaii – O kekahi mau mea i manao nui ia o ke kupapau (Hawaiian History – Some things which are of importance pertaining to the dead)* ..... *66*
*4.1.13 A Lamentation for Aupuni – Citing Noted Places of the Kona District* ..... *69*
*4.1.14 Place Name Article Series (1883)* ..... *71*
*4.1.15 Summary of Land Use in the Kahauiki – Kālia Region* ..... *75*
4.2 MĀHELE ʻĀINA (THE LAND DIVISION) OF 1848 – FEE SIMPLE PROPERTY RIGHTS IN THE AHUPUAʻA OF WAIKĪKĪ ..... 77
*4.2.1 The Kuleana Act of 1850* ..... *77*
*4.2.2 Place Names from the Ahupuaʻa of Waikīkī Cited in Records of the Māhele ʻĀina* ..... *91*

DRAFT

*4.2.3 Māhele Award Book Surveys and Plot Plans in Waikīkī* ..... *92*
*4.2.4 Palapala Sila Nui (Royal Patent Grants on Land) and Land Grants* ..... *96*
4.3 BOUNDARY COMMISSION PROCEEDINGS: AHUPUA'A OF WAIKĪKĪ ..... 105
*4.3.1 Ahupua'a and Land Division Descriptions with Certifications of Boundaries* ..... *108*

**5. MODERN HISTORY OF THE PROJECT AREA AND ITS VICINITY BEGINNING WITH FOREIGN CONTACT AND THE CHANGING LANDSCAPE OF KONA DISTRICT ..... 135**
5.1 KAMA'ĀINA AND VISITORS DESCRIPTIONS – TRAVEL IN THE WAIKĪKĪ VICINITY AND LARGER KONA DISTRICT ..... 135
*5.1.1 Archibald Campbell's Journey in 1809* ..... *136*
*5.1.2 The Hawaiian Journal of John B. Whitman in 1813-1815* ..... *137*
*5.1.3 Honolulu and Vicinity in 1818* ..... *138*
*5.1.4 Tours Made Around O'ahu in 1826 & 1828* ..... *140*
*5.1.5 Report of the General Meeting of the Sandwich Islands Mission (July 1834)* ..... *142*
*5.1.6 Notes of a Tour Around Oahu in 1839* ..... *145*
*5.1.7 United States Exploring Expedition (1840-1841)* ..... *146*
*5.1.8 Sites of Honolulu Region in 1868* ..... *148*
*5.1.9 Ka Honua Nei (About the Lay of the Land) – The Importance of the Estuaries of Honolulu and Around O'ahu* ..... *152*
*5.1.10 An Intinerary of the Hawaiian Islands (1880) by George Bowser* ..... *153*
5.2 BUSINESS VENTURES IN THE WAIKĪKĪ VICINITY ..... 154
*5.2.1 An Act to Develop Steam Railroads on the Island of O'ahu (1884)* ..... *154*
*5.2.2 The Electric Franchise (1894)* ..... *156*
*5.2.3 Burials Found at Waikīkī During Construction for Hawaiian Hotel (1898)* ..... *159*
5.3 U.S. MILITARY DEVELOPMENT OF FACILITIES ON O'AHU ..... 161
*5.3.1 Guide to Honolulu and Environs for Military Personnel* ..... *163*

**6. THE BIOCULTURAL ENVIRONMENT AND THE CULTURAL LANDSCAPE ..... 177**
6.1 HISTORIC SITES ..... 179
6.2 NATURAL RESOURCES ..... 179
*6.2.1 Flora* ..... *179*
*6.2.2 Fauna* ..... *179*
*6.2.3 Rain Names* ..... *180*
6.2.3.1 Hōli'o Rain ..... 181
6.2.3.2 Kuahine Rain ..... 181
6.2.3.3 Kūkalahale Rain ..... 181
6.2.3.4 Lehua Rain ..... 182
6.2.3.5 Līlīlehua Rain ..... 182
6.2.3.6 Luahine Rain ..... 183
6.2.3.7 Makahuna Rain ..... 183
6.2.3.8 Nāulu Rain ..... 184
6.2.3.9 Puanaea/Puanaiea/Puananaiea/Puaneiea Rain ..... 184
6.2.3.10 Uhiwai Mist ..... 184
6.2.3.11 Wa'ahila Rain ..... 185
*6.2.4 Wind Names* ..... *188*
6.3 INTANGIBLE CULTURAL RESOURCES ..... 190
*6.3.1 'Ōlelo No'eau* ..... *190*
*6.3.2 Mele* ..... *192*
6.3.2.1 At Waikīkī ..... 193
6.3.2.2 O'ahu ..... 194
6.3.2.3 Waikīkī ..... 194
6.3.2.4 Waikīkī Hula ..... 195

6.4 CULTURAL PRACTICES ..... 196
*6.4.1 Loko Iʻa (Fishponds) and Loko Paʻakai-Kula Ālialia (Salt Making Beds) on the Honolulu Region Shore Lands, Kalihi to Waikīkī Coast ..... 196*

**7. INTERVIEWS AND CONSULTATIONS ..... 200**
7.1 INTERVIEW WITH JEFFREY APAKA ..... 200
7.2 INTERVIEW WITH HINALEIMOANA WONG-KALU ..... 202

**8. IMPACT ASSESSMENT ..... 204**
8.1 IMPACTS TO FLORA ..... 204
8.2 IMPACTS TO FAUNA ..... 204
8.3 IMPACTS TO HISTORIC SITES ..... 204
8.4 IMPACTS TO INTANGIBLE CULTURAL RESOURCES ..... 204
8.5 IMPACTS TO CULTURAL PRACTICES ..... 204
8.6 CUMULATIVE AND INDIRECT IMPACTS ..... 204
8.7 MITIGATION AND BEST MANAGEMENT PRACTICES ..... 205

**9. CONCLUSION ..... 206**

**REFERENCES ..... 207**

DRAFT

## LIST OF FIGURES


Figure 1. The ahupuaʻa within the moku of Kona, Oʻahu (1902, Hawaii Government Survey Map #2374) ..... 7
Figure 2. Portion of a 1998 Honolulu U.S. Geological Survey (USGS) Topographic Quadrangle Map, showing the location of the Project Area ..... 8
Figure 3. Aerial Photo Showing the Location of the Project Area (2011 Orthoimagery) [Need updated one with correct labeling] ..... 9
Figure 4. Portion of 1998 Honolulu USGS Topographic Quadrangle Map with Soil Series Overlay, showing expected sediment types within and near the project area (Foote et al., 1972) ..... 13
Figure 5. Portion of a Honolulu 1998 USGS Topographic Quadrangle map showing previous archaeological sites in the vicinity of the project area ..... 18
Figure 6. Portion of a Honolulu 1998 USGS Topographic Quadrangle map showing previous archaeological studies in the vicinity of the project area ..... 19
Figure 7. Portion of 1938 Topographic Map of the Island of Oʻahu – Region of Ahupuaʻa around Kahauiki and Kālia, Waikīkī (Library of Congress, No. CT00069) ..... 21
Figure 8. Honolulu in 1810 (1957, Paul Rockwood & Dorothy Barrere; based on Narratives of John Papa ʻĪʻī) ..... 65
Figure 9. View of Honolulu Naval Station Wharves Taken from the Harbor and with Armored Cruisers at Dock (Evening Bulletin, 1908:2) ..... 166
Figure 10. City of Honolulu. Annotated Map Compiled for the Hawaii Promotion Committee (Evening Bulletin, 1908:28) ..... 172
Figure 11. Ka Ipu Makani o Laʻamaomao is a historic calabash in the collection at Bishop Museum that was once owned by King David Kalākaua. ..... 189


## LIST OF TABLES


Table 1. Selected Place Names of Waikīkī Ahupuaʻa in Vicinity of Project Area ..... 11
Table 2. Archaeological Sites Documented Within the Vicinity of the Project Area ..... 14
Table 3. Disposition of the Ahupuaʻa of Waikīkī as Recorded in the Buke Māhele ..... 81
Table 4. Place and Resident Names, Land Use Practices, and Description of Features in the Waikīkī Ahupuaʻa ..... 91
Table 5. Selected List of Grants, Original Grantees, Dates of Record and Land Area in Waikīkī ..... 97
Table 6. Place Names and Resident Names Cited in the Boundary Commission Proceedings of Waikīkī Ahupuaʻa ..... 106
Table 7. Māhele Claims referencing Fishponds and Salt-Making Areas in Waikīkī Region ..... 197

## ABBREVIATIONS AND ACRONYMS

A.B.C.F.M.: American Board of Christian Foreign Missions
AIS: Archaeological Inventory Survey
BMP: Best Management Practice
CIA: Cultural Impact Assessment
CUP: Conditional Use Permit
DEA: Draft Environmental Assessment
DLNR: Department of Land and Natural Resources
DPP: Department of Planning and Permitting
FL: Fill Land
HAR: Hawaii Administrative Rules
HC&S: Hawaiian Commercial & Sugar Company
HRS: Hawaii Revised Statutes
JaC: Jaucas Sand
LRFI: Literature Review and Field Investigation
MBTA: Migratory Bird Treaty Act
NOAA: National Oceanic and Atmospheric Administration
O.R. & L. Co.: Oʻahu Railway and Land Company
Prada: Prada Development
PUCDP: Primary Urban Center Development Plan
ROI: Range of Influence
SIHP: State Inventory of Historic Places
SLH: Session Laws of Hawaii
TMK: Tax Map Key
USGS: U.S. Geological Survey
WSD: Waikīkī Special District

# 1. PROJECT DESCRIPTION

At the request of R.M. Towill Corporation and law firm Van Buren and Shimizu, LLP on behalf of the private landowner, Waikīkī Bazaar Inc., Honua Consulting is preparing a Cultural Impact Assessment (CIA) of the 2154 Lauula Street Development project. The Applicant, Waikīkī Bazaar Inc., proposes the Lauʻula Street Student Dormitory (the "Project"), a Group Living Facility in Waikīkī, Honolulu, on Oʻahu. The Applicant plants to submit applications for a Draft Environmental Assessment (DEA), Conditional Use Permit (CUP), and a Major Waikiki Special District (WSD) Permit to the Department of Planning and Permitting (DPP) for processing. The Project will be located on a 5,355-square foot (0.1229 acre) site in Waikīkī (the "Project Area") and will result in building a six-story structure with a 16-unit, 28-bed dormitory on the site of an existing commercial surface parking lot.

As an alternative use, the Applicant is considering a Hotel Development with the same Project design as the proposed the Lauʻula Street Student Dormitory. For Hotel Development, the Applicant would submit applications for a DEA, and a Major WSD Permit to DPP for processing. The Project will be located on the 5,355-square foot site and will result in building a six-story structure with a 16-unit hotel on the site of an existing commercial surface parking lot.

The project area is bounded by Lauʻula Street to the southwest, Ritz Carlton Residences (Phase II) to the northwest, the City and County of Honolulu Sewage Pump Station and Municipal Parking Lot to the northeast, and Aqua Oasis Hotel to the southeast.

The area of potential effect (APE) is the 5,355 square foot project site located at TMK: [1] 2-6-018:049. The subject parcel is zoned as Resort Mixed Use Precinct and Urban State Land Use with a 280-foot height limit. The existing surface commercial parking lot and small covered pay station are proposed to be removed and replaced with the six-story (74 feet, 4 inch in height), 16-unit- 28-bed student dormitory with support uses on Level 2, including a Prep-Kitchen, indoor and outdoor seating, a Lounge area, Mailboxes, Front Desk, Unisex Bathroom, Vending Machines, Office, Laundry Room, Janitor's Closet, Storage, Mechanical Room, two decks and a landscaped recreation area. On the first level are four standard parking stalls, one Handicap parking stall, and one loading space. As an aternative, the Applicant may develop a 16-unit Hotel with similar design. The Student Dormitory is permitted in the Resort Mixed Use Precinct, subject to approval of a CUP, Major permit. The alternative Hotel is a permitted use in this Precinct. The project at 74 feet, 4 inches will be well under the 280-foot height limit.

The Project will be developed in conformance with the Land Use Ordinance, WSD development standards. The Project requires four parking stalls and the Applicant will provide four standing parking stalls and one handicap parking stall. The project area also currently provides one loading stall for the Prada Development (Prada) on Kalākaua Avenue and one loading stall will continue to be provided for Prada. The Student Dormitory will not require a loading stall, but the Hotel use would require a loading stall and through the WSD Permit application, the Applicant would request to be allowed to share the Prada loading

stall. The Project will provide 622 square feet (0.0143 acres) of landscaped open space on the ground floor and 417 square feet (0.0096 acres) of landscaped open space on Level 2.

The Project would require ground disturbance and grading for structural footing and foundations, excavation of an elevator shaft, and trenching for utilities to depths ranging from 1-6 feet.

The DEA, which is under preparation, will provide an overview analysis of the benefits and adverse impacts of the proposed development to the Waikīkī ahupuaʻa in the Kona moku and its adjacent communities.

## 1.1 Purpose and Need

The 2154 Lauula Street Development implements the City and County of Honolulu vision for Waikīkī as described in the Primary Urban Center Development Plan:

> With ongoing redevelopment and improvement, Waikīkī remains the State's largest and most popular visitor destination. An ever-growing number of visitors are drawn to Honolulu for business reasons. Many organizations travel here for conferences and meetings at the City's highly rated Hawaiʻi Convention Center. Newer hotels are located near the Convention Center and in Downtown. In addition, smaller hotels and inns are integrated into the commercial districts of several PUC neighborhoods, where local restaurants and businesses benefit from visitor spending" (PUCDP, Section 2.4).

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The proposed project will allow for a new retail option for residents and visitors in Waikīkī, while complying with design guidelines, providing landscape and building elements that will convey a Hawaiian sense of place.

## 1.2 Benefits of the Proposed Action

The proposed development project is committed to minimizing any and all environmental and cultural impacts to the current site. The following public benefits have also been identified by R.M. Towill:

- New improved Lauula Street from Lewers Street to the end of the Project Area.
- An economic and job-creating stimulus for the local economy, generating development, construction jobs and operational jobs.
- Generating additional County revenues (property taxes) that are expected to meet or exceed the associated County operating expenditures that are attributable to this project throughout its development operating periods.
- With the State government's more diverse taxing powers, the fiscal impacts of the project are expected to be consistently significant and positive in both relative and absolute terms.

# 2. NEED FOR A CULTURAL IMPACT ASSESSMENT

## 2.1 Regulatory Background

Articles IX and XII of the State Constitution, other state laws, and the courts of the state require government agencies to protect and preserve cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups. To assist decision makers in the protection of cultural resources, Chapter 343, Hawaii Revised Statutes (HRS) and Hawaii Administrative Rules (HAR) § 11-200 rules for the environmental impact assessment process require project proponents to assess proposed actions for their potential impacts to cultural properties, practices, and beliefs.

This process was clarified by the Act 50, Session Laws of Hawaii (SLH) 2000. Act 50 recognized the importance of protecting Native Hawaiian cultural resources and required that Environmental Assessments include the disclosure of the effects of a proposed action on the cultural practices of the community and state, and the Native Hawaiian community in particular. Specifically, the Environmental Council suggested the CIAs should include information relating to practices and beliefs of a particular cultural or ethnic group or groups. Such information may be obtained through public scoping, community meetings, ethnographic interviews, and oral histories.

It is important to note that while similar in their areas of studies, archaeological surveys and CIAs are concerned with distinct and different foci. Archaeological studies are primarily concerned with historic properties and tangible heritage, whereas CIAs look at cultural practices and beliefs, which can be associated with a specific location, but also often intangible in nature.

## 2.2 Compliance

The State and its agencies have an affirmative obligation to preserve and protect Native Hawaiians' customarily and traditionally exercised rights to the extent feasible.[1] State law further recognizes that the cultural landscapes provide living and valuable cultural resources where Native Hawaiians have and continue to exercise traditional and customary practices, including hunting, fishing, gathering, and religious practices. In *Ka Paʻakai*, the Hawaiʻi Supreme Court provided government agencies an analytical framework to ensure the protection and preservation of traditional and customary Native Hawaiian rights while reasonably accommodating competing private development interests. This is accomplished through:

1) The identification of valued cultural, historical, or natural resources in the project area, including the extent to which traditional and customary Native Hawaiian rights are exercised in the project area;

[1] Article XII, Section 7 of the Hawaiʻi State Constitution, *Ka Paʻakai O Ka ʻĀina v. Land Use Commission*, 94 Haw. 31 [2000] (Ka Paʻakai), Act 50 SLH 2000.

2) The extent to which those resources—including traditional and customary Native Hawaiian rights—will be affected or impaired by the proposed action; and
3) The feasible action, if any, to be taken to reasonably protect Native Hawaiian rights if they are found to exist.

The CIA was prepared under HRS Chapter 343 and Act 50 SLH 2000. The appropriate information concerning the ahupuaʻa of Waikīkī has been collected, focusing on areas near or adjacent to the project area. A thorough analysis of this project and potential impacts to cultural resources, historical resources, and archaeological sites is included in this assessment.

The present analyses of archival documents, oral traditions (chants, mele (songs), and/or hula), and Hawaiian language sources including books, manuscripts, and newspaper articles, are focused on identifying recorded cultural and archaeological resources present on the landscape, including: Hawaiian and non-Hawaiian place names; landscape features (ridges, gulches, cinder cones); archaeological features (kuleana parcel walls, house platforms, shrines, heiau (places of worship), etc.); culturally significant areas (viewsheds, unmodified areas where gathering practices and/or rituals were performed); and significant biocultural resources. The information gathered through research helped to focus interview questions on specific features and elements within the project area.

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Interviews with lineal and cultural descendants are instrumental in procuring information about the project area's transformation through time and changing uses. Interviews were conducted with recognized cultural experts and summaries of those interviews are included herein.

The DEA will provide an overview of cultural and historic resources in the project area using thorough literature review, community and cultural practitioner consultation, and high-level, project-specific surveys. The DEA will focus on identifying areas in which disturbance should be avoided or minimized to reduce impacts to historic properties or culturally important features. The paramount goal is to prevent impacts through avoidance of sensitive areas and mitigating for impacts only if avoidance is not possible.

Environmental factors potentially influencing the distribution of historic properties will also be evaluated in the DEA. The resulting data will be analyzed to develop a general settlement pattern model for the area that helps estimate the likely types and distribution of historic properties. The potential significance and required treatment of expected historic properties will also be summarized. The goal of this work is to develop recommendations to assist with future infrastructure planning that minimizes adverse effects upon historic properties.

The Range of Influence (ROI) for impacts to cultural resources and historic properties includes the project area and localized surroundings. This CIA also reviews some of the resources primarily covered by the DEA and Archaeological Literature Review and Field Investigation (LRFI). It primarily researches and reviews the range of biocultural resources identified through historical documents, traditional knowledge, information found in the

Hawaiian language historical caché, and oral histories and knowledge collected from cultural practitioners and experts.

## 2.3 Methodology

The approach to developing the CIA is as follows:

I. Gather Best Information Available

   A. Gather historic cultural information from stories and other oral histories about the affected area to provide cultural foundation for the report;
   B. Inventory as much information as can be identified about as many known cultural, historic, and natural resources, including previous archaeological inventory surveys, CIAs, etc. that may have been completed for the possible range of areas; and
   C. Update the information with interviews with cultural or lineal descendants or other knowledgeable cultural practitioners.

II. Identify Potential Impacts to Cultural Resources

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III. Develop Reasonable Mitigation Measures to Reduce Potential Impacts

   A. Involve the community and cultural experts in developing culturally appropriate mitigation measures; and
   B. Develop specific Best Management Practices (BMPs), if any are required, for conducting the project in a culturally appropriate and/or sensitive manner as to mitigation and/or reduce any impacts to cultural practices and/or resources.

While numerous studies have been conducted on this area, very few have effectively utilized Hawaiian language resources and Hawaiian knowledge. This appears to have impacted modern understanding of this location, as many of the relevant documents are native testimonies given by kānaka (Hawaiians) who lived on this land.

Puakea Nogelmeier discusses the adverse impacts of methodology that fails to properly research and consider Hawaiian language resources. He strongly cautions against a monorhetorical approach that marginalizes important native voices and evidence from consideration, specifically in the field of archaeology. For this reason, Honua Consulting consciously employs a polyrhetocial approach, whereby all data, regardless of language, is researched and considered (Nogelmeier, 2010). To fail to access these millions of pages of information within the Hawaiian language caché could arguably be a violation of Act 50, as such an approach would fundamentally fail to gather the best information available, especially considering the voluminous amount of historical accounts available for native tenants in the Hawaiian language.

# 3. DESCRIPTION OF PROJECT AREA

Kona moku is divided into six ahupuaʻa (from east to west): Waikīkī, Honolulu, Kapālama, Kalihi, Kahauiki, and Moanalua (**Figure 1**). Waikīkī ahupuaʻa contains 9 ʻili divisions: Kuliʻouʻou, Niu, Wailupe, Waiʻalaeiki, Waiʻalaenui, Pālolo, and Mānoa. The project area is located within the coastal zone of Waikīkī in the area of Kālia, approximately 10 ft (3 m) above mean sea level. The project area is appoximately 1,515 ft (462 km) mauka (inland) from Waikīkī Beach, which is the closest coastline along the southeast shore of Oʻahu, and approximately 1,035 ft (315 m) from the Ala Wai Canal, a man-made canal constructed in the 1920s (**Figures 2 and 3**).

According to *Place Names of Hawaiʻi*, Lauʻula Street in Waikīkī literally means "red leaf." There are other meanings that could be applied to this name given the various definitions of the words lau and ʻula. Lau means leaf but also means to be very much, many, or numerous. Lau is the term for four hundred, and works in reference to Hawaiian deities. The epithet goes, "lau o ke akua, mano o ke akua, kini o ke akua, lehu o ke akua" meaning, "four hundred gods, four thousand gods, forty thousand gods, four hundred thousand gods." This generally refers to the many deities within the Hawaiian belief system, thought to exceed 400,000. Lau also quantifies a characteristic. "Lau lena ka pua o ka māmane" translates to "the māmane plant is yellow with blossoms."

ʻUla is the general word for shades of red, and even brown. Hawaiians considered themselves to have ʻili ʻula, or red skin. ʻUla also refers to things sacred, regal, or royal, as red is considered to be a sacred color. ʻUla is another term for blood. ʻUla Aliʻi refers to chiefly blood and royal lineages. An ʻaha ʻula was a council of chiefs or a royal meeting. ʻUla can also refer to ghosts and spirits.

With these definitions in mind, lauʻula takes on several possible meanings. Lauʻula could be interpreted as describing the very red nature of something, perhaps a plant or blossom, or even a bloodbath following a battle. Lauʻula could also be describing a place that is considered very sacred or regal or a place having a lot of royal lineages connected to it. It could also refer to a very bloody place, or a place where chiefly blood was common or prevalent. Lauʻula could refer to a place teeming with spirits.

Lauʻula literally means "red leaf" but the kaona (hidden or figurative meaning) is just as important to consider. The names of places and people were not taken lightly, and all possible meanings, both figurative and literal, give weight to a name.

Waikīkī was once a place heavily inhabited by aliʻi and people of royal lineages. After Māʻilikūkahi became Mōʻī (King) of Oʻahu in the mid to late 1400s he moved his royal court from Waialua to Waikīkī and became the first aliʻi (chief) to rule out of the Kona moku. This trend was kept by Oʻahu aliʻi and continued into the Kamehameha monarchy. According to Native Hawaiian historian and kahu aliʻi (royal guardian in the family of a high chief), John Papa ʻĪʻī, Kamehameha I formerly dwelt part-time at Helumoa in Puaʻaliʻiliʻi in Waikīkī in a house named Kuihelani where he helped to maintain the large gardens kept there.

Kamehameha was known to be an active farmer throughout the Kona moku and had several homes kept near large farming projects. The Hawaiian monarchy ruled out of the Kona district, namely Waikīkī and throughout Honolulu, up to the overthrow of Queen Liliʻuoklani in 1893. Queen Liliʻuokalani had an estate and two homes in Waikīkī, Paoakalani and Kealohilani.

Before Kamehameha conquered Oʻahu, Kahahana, the grandson of Kūaliʻi, ruled Oʻahu as Mōʻī. Kahahana was sacrificed by his hānai (adoptive) father and aliʻi of Maui, Kahekili, in Waikīkī at Helumoa heiau in the late 1700s. Helumoa means chicken scratch which alludes to the nature of Helumoa heiau, a sacrificial heiau (place of worship). Chickens used to scratch at the earth where bodies were sacrificed in order to find maggots in the victim's bodies. Helumoa is also the name of the ʻili ʻāina (small land section) within the ahupuaʻa of Waikīkī. Lauʻula Street is situated within this ʻili ʻāina.

Waikīkī is indeed a place that recalls the kaona of lau ʻula. As a place that was heavily inhabited by aliʻi and home to a heiau where many were sacrificed, one could say, "Lau ʻula ka ʻāina o Waikīkī." The lands of Waikīkī are very sacred. They are very regal. They are very red.

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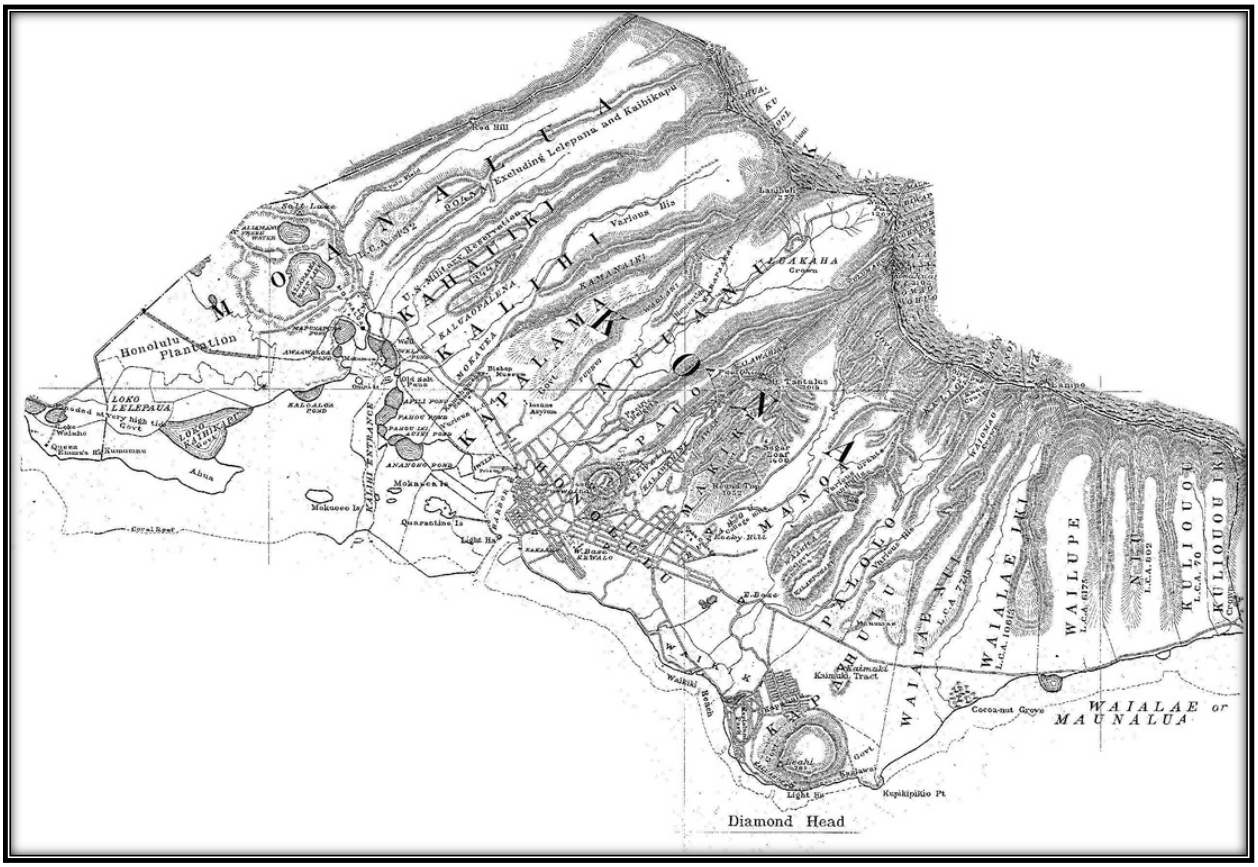


**Figure 1. The ahupuaʻa within the moku of Kona, Oʻahu (1902, Hawaii Government Survey Map #2374)**

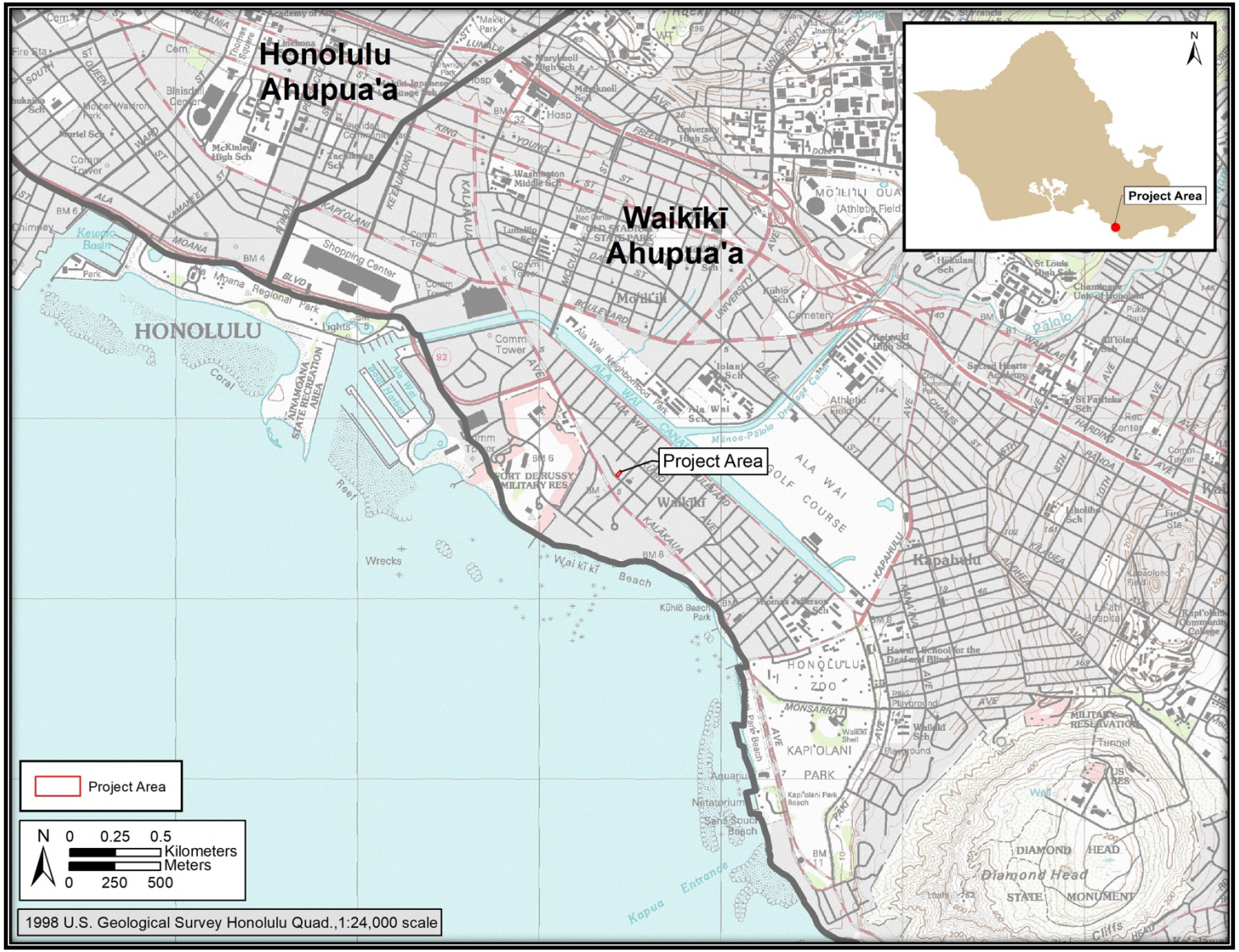


**Figure 2. Portion of a 1998 Honolulu U.S. Geological Survey (USGS) Topographic Quadrangle Map, showing the location of the Project Area**

**Figure 3. Aerial Photo Showing the Location of the Project Area (2011 Orthoimagery) [Need updated one with correct labeling]**

## 3.1 Places Names of Waikīkī

The traditional knowledge imbedded in place names reveals the history of place, people, and the depth of their traditions. Although fragmented, the surviving place names describe a rich culture. On these lands are found many place names that have survived the passing of time. The occurrence of place names demonstrates the broad relationship of the natural landscape to the culture and practices of the Hawaiian people. In "A Gazetteer of the Territory of Hawaii," Coulter observed that Hawaiians had place names for all manner of features, ranging from "outstanding cliffs" to what he described as "trivial land marks" (1935:10). In 1902, W.D. Alexander, former Surveyor General of the Kingdom (and later Government) of Hawaiʻi, wrote an account of "Hawaiian Geographic Names." Under the heading "Meaning of Hawaiian Geographic Names" he observed:

> It is very difficult, if not impossible, to translate most of these names, on account of their great antiquity and the changes of which many of them have evidently undergone. It often happens that a word may be translated in different ways by dividing it differently. Many names of places in these islands are common to other groups of islands in the South Pacific, and were probably brought here with the earliest colonists. They have been used for centuries without any thought of their original meaning… (Alexander, 1902:395)

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History further tells us that named locations were significant in past times and it has been observed that "Names would not have been given to [or remembered if they were] mere worthless pieces of topography" (Handy et al., 1972:412).

In ancient times, named localities served a variety of functions, telling people about: (1) places where the gods walked the earth and changed the lives of people for good or worse; (2) heiau or other features of ceremonial importance; (3) triangulation points such as koʻa (ceremonial markers) for fishing grounds and fishing sites (4) residences and burial sites; (5) areas of planting; (6) water sources; (7) trails and trail side resting places (oʻioʻina), such as a rock shelter or tree shaded spot; (8) the sources of particular natural resources/resource collections areas, or any number of other features; or (9) notable events which occurred at a given area. Through place names knowledge of the past and places of significance was handed down across countless generations. There is an extensive collection of native place names recorded in the moʻolelo (traditions and historical accounts) published in Hawaiian newspapers. The following narratives provide access to a rich collection of place names from the region.

Honua Consulting developed a list of 17 place names from the ahupuaʻa of Waikīkī in the vicinity of the project area, which includes but is not limited to the following places and terms, to help guide research and analyses (**Table 1**). The development of this list stemmed from extensive research into a wide range of documents related to the project area. What became clear is that at the time of the Māhele ʻĀina, few kuleana land applications were submitted by native tenants. In many cases, land divisions would be referred to as both ahupuaʻa and ʻili, depending upon the document. It was also unclear from documents where land was identified as ʻili as to if the ʻili were simply a subdivision of larger ahupuaʻa or if

they were ʻili kūpono, distinct land areas unto themselves. From the historical land records, there appeared to be little concern for specific boundaries, as foreigners, many of them missionaries who converted to businessmen, eagerly maneuvered their relationships with the new formalized government to acquire themselves strategically located parcels of land that proved valuable as new economy industries like sugar developed on Oʻahu.

**Table 1. Selected Place Names of Waikīkī Ahupuaʻa in Vicinity of Project Area**

| Inoa ʻĀina | Ahupuaʻa and Description |
|---|---|
| ʻĀpuakēhau | **Waikīkī.** Old stream near the present Moana Hotel, probably named for a rain. Cited in Pukui et al., 1974. |
| Hamohamo | **Waikīkī.** Area near ʻŌhua Avenue, once belonging to Queen Liliʻuokalani. Cited in Pukui et al., 1974. |
| Helumoa | **Waikīkī.** Old land division near the Royal Hawaiian Hotel at Helumoa Street, and site of a heiau where Kahahana was sacrificed. Cited in Pukui et al., 1974. |
| Kaihikapu or Kalihikapu | **Kālia-Waikīkī**. An ancient fishpond, passed by the trail from Waikīkī to Honolulu. Cited in ʻĪʻī, 1959. |
| Kaipunui | **Kālia-Waikīkī.** Two adjoining fishponds. Cited in Jordan and Evermann, 1901. |
| Kālia | **Waikīkī.** An ʻili land of the coastal region of Waikīkī, noted for its numerous salt works and fishponds. "The traill from Kalia led to Kukuluaeo" (ʻĪʻī, 1959). Cited in ʻĪʻī, 1959; Pukui et al., 1974; traditions and historical accounts, Māhele Claims 97 F.L., 100 F.L., 101 F.L., and 387; historical surveys; Register Map No.'s 111 and 1090. |
| Kaluahole | **Waikīkī-Honolulu.** Coast between Waikīkī and Black Point, Honolulu. Cited in Pukui et al., 1974. |
| Kapuʻuiki | **Kālia-Waikīkī.** A fishpond. Cited in Jordan and Evermann, 1901. |
| Kawehewehe | **Waikīkī.** Reef entrance and channel off Grey's Beach, just east of the Halekūlani Hotel. The sick were bathed here as treatment. The patient might wear a seaweed lei and leave it in the water as a request that his sins be forgiven, the lei being a symbol. Cited in Pukui et al., 1974. |

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| Inoa ʻĀina | Ahupuaʻa and Description |
|---|---|
| Loko Ōpū | **Waikīkī.** A land area and dune banked pond claimed by Kamehameha V, situated between Maloʻokahana and Miki. Cited in Register Map No. 1090. |
| Maloʻokahana | **Waikīkī.** A land area adjoining Kālia, and also known as "Little Britain" in the historical period. Cited in Land records, historical accounts and surveys; Register Map No. 1090. |
| Miki | **Waikīkī.** A land area awarded to native historican, John Papa ʻĪʻī. Cited in Māhele Claim 8241; historical accounts; Register Map No. 1090. |
| Pāweo | **Kālia-Waikīkī.** Two fishponds. Cited in Jordan and Evermann, 1901. |
| Piʻinaio | **Waikīkī.** Former stream to the west of Fort DeRussy. Cited in Bishop, 1881. DRAFT |
| Puaʻaliʻiliʻi | **Waikīkī.** Beach area at Waikīkī, Honolulu, approximately between ʻĀpuakēhau and Helumoa. Kamehameha I's houses were here. Cited in Pukui et al., 1974. |
| Ulukou | **Waikīkī.** Where Moana Hotel is located. Cited in Pukui et al., 1974. |
| Uluniu | **Waikīkī.** Avenue in Waikīkī. Cited in Pukui et al., 1974. |

## 3.2 Physical Environment

The project area was observed to be predominantly comprised of introduced grasses and trees during the pedestrian survey as a result of extensive commercial development; the proposed project will have no impact on endangered or native species.

The annual high temperature is 84.6°F (29.2°C) and the annual low temperature is 69.7°F (20.9°C), with an average temperature of 77.1°F (25.1°C) (NOAA, 2019). Annual precipation is 22.35 inches (56.77 cm), where December is the wettest month with an average of 4.01 inches (10.19 cm) per month and June is the driest month with an average of 0.46 inches (1.17 cm) per month (NOAA, 2019).

### 3.2.1 Soil Composition

Soils within, and in proximity to, the project area include Fill Land (FL) and Jaucas Sand (JaC) (Foote et al., 1972; **Figure 4**). The natural soil of this area was originally Jaucas sand which developed from natural erosion of the nearby coral reef. In some coastal areas of Waikīkī, the sand was naturally covered with alluvium washed down from the uplands. Fill land

"consists of areas filled with material from dredging, excavation from adjacent uplands, garbage, and bagasse and slurry from sugar mills" (Foote et al., 1972:31). Due to the extensive development of the project area and its immediate vicinity, the project area is expected to be contained within areas comprised of Fill Land and Jaucas Sand. Jaucas Sand soils are used primarily for pasture, sugarcane, truck crops, alfalfa, recreational areas, wildlife habitat, and urban development (Foote et al., 1972:48). The natural vegetation of this soil series typically consists of kiawe, koa haole, bristly foxtail, bermudagrass, fingergrass, and Australian saltbush.

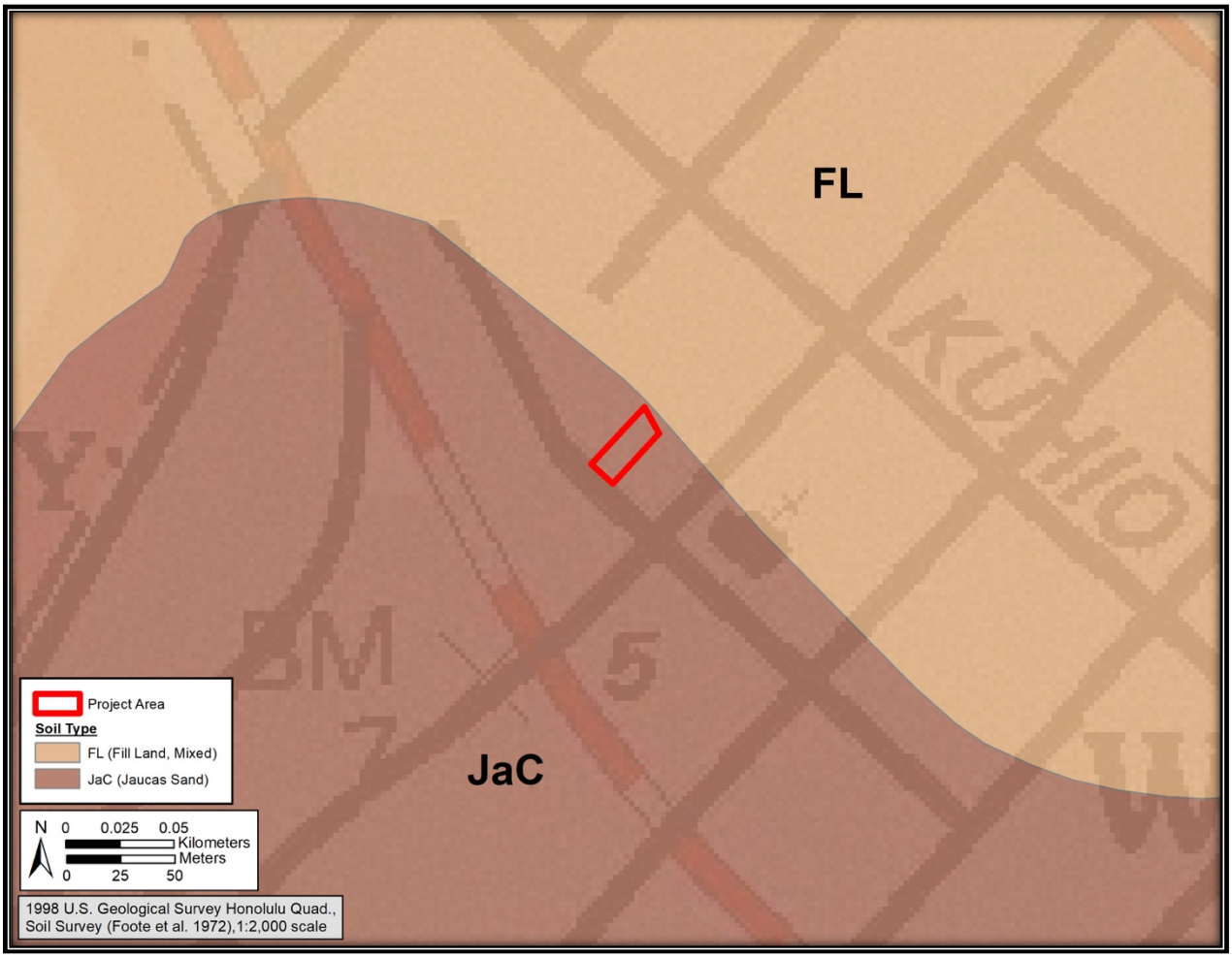


**Figure 4. Portion of 1998 Honolulu USGS Topographic Quadrangle Map with Soil Series Overlay, showing expected sediment types within and near the project area (Foote et al., 1972)**

### 3.2.2 Built Environment

The project area is bound by the City and County of Honolulu Beach Walk Wastewater pump station to the north, the Aqua Oasis Hotel to the east, Lauula Street to the south, and a manicured green space for the Ritz-Carlton Residences to the west. The project is located within the Waikīkī Beach Special Improvement District, which consists of the developed

portion of Waikīkī bounded by the Ala Wai Canal to the north and west, the ocean to the south, and Kapahulu Avenue to the east. This district was created to preserve and restore Waikīkī Beach and to provide consistent and credible management for future beach revitilization.

### 3.2.3 Archaeological Sites and Features

Honua Consulting is preparing an LRFI in concurrence with this CIA to comply with HRS Chapter 6E. Archaeological sites in the vicinity of the property are listed and described in the following table; they are identified by their State Inventory of Historic Places (SIHP) numbers (**Table 2**). A more detailed description of the sites can be found in the LRFI (DiVito et al., 2019). Following **Table 2** are maps identifying the previously documented sites and studies in the vicinity of the project area (**Figures 5 and 6**).

**Table 2. Archaeological Sites Documented Within the Vicinity of the Project Area**

| SIHP # 50-80-14 | Site Description | Site Significance | Notes | Reference |
|---|---|---|---|---|
| -060 | Waikīkī / "Waikīkī Wizard Stones" | Not stated | The McAllister area is not defined | McAllister, 1933; Paglinawan, 1995/1996 |
| -1382 | Battery Randolph | On NRHP, Artillery District of Honolulu | Southeastern portion of Fort DeRussy | U.S. Army Support Command Hawaii, 1983 |
| -3706 | Human remains and historic trash deposit | Unknown | 331 Saratoga Road | Bishop Museum, 1961 |
| -4750 | Subsurface cultural deposits, feature, and human burials | Criteria D and E | Fort DeRussy, Kālia Road | Davis, 1989, 1992; Denham and Pantaleo, 1997a/1997b; Raff-Tierney et al., 2017 |
| -4573 | Loko Kaipuni Fishpond Complex (4 ponds) | Criterion D | Fort DeRussy, Kalākaua Ave Part of the Kālia Fishponds | Davis, 1989; Putzi and Cleghorn, 2002 |

| SIHP # 50-80-14 | Site Description | Site Significance | Notes | Reference |
|---|---|---|---|---|
| -4574 | Loko Paweo I Fishpond | No longer significant | Fort DeRussy, Ala Moana Blvd. and Kālia Rd., Part of the Kālia Fishponds | Davis, 1989; Denham and Pantaleo 1997a/b; Putzi and Cleghorn, 2002 |
| -4575 | Loko Kaʻihikapu Fishpond | No longer significant | Fort DeRussy, Part of the Kālia Fishponds | Davis, 1989; Denham and Pantaleo 1997b |
| -4576 | Loko Paweo II Fishpond | Criterion D | Fort DeRussy, Part of the Kālia Fishponds | Davis, 1989; Denham and Pantaleo 1997b |
| -4577 | Loko Kapuʻuiki Fishpond | Criterion D<br>DRAFT | Fort DeRussy and 280 Beach Walk, Part of the Kālia Fishponds | Davis, 1989; Belluomini et al., 2016 |
| -4579 | L.C.A. 1758:3 | Criteria D and E | Fort DeRussy | Davis, 1989; Denham and Pantaleo, 1997b |
| -4890 | Human remains | Unknown | Intersection of Kalākau Ave. and Kuamoʻo St. | McMahon, 1994 |
| -4966 | Prehistoric cultural deposit with human burials | Criteria D and E | Fort DeRussy | Denham and Pantaleo 1997a |
| -4970 | ʻAuwai and Bund System | No longer significant | Fort DeRussy, Part of the Kālia Fishponds | Davis, 1989; Denham and Pantaleo, 1997b |
| -5796 | Prehistoric to 20th century wetland surface | Criterion D | **King Kalākaua Plaza, adjacent to the project area on two sides** | LeSuer et al., 2000; Yucha et al., 2009; Sroat et al., 2011; Pammer et al., 2014; Morris and Hammatt, 2015; Martel and Hammatt, 2017 |

| SIHP # 50-80-14 | Site Description | Site Significance | Notes | Reference |
|---|---|---|---|---|
| -5856 | Human burials | Criteria D and E | Three human burials, Features A, B, and C | Bush et al., 2002; Winieski et al., 2002 |
| -5863 | Human burials | Criteria D and E | Four human burials at two locations | Winieski et al., 2002 |
| -5864 | Human burial | Criteria D and E | Kalākaua and Dukes Lane | Bush et al., 2002 |
| -5937 | Human burial | Criteria D and E | Reinterred; left in-situ | Elmore and Kennedy, 2001 |
| -5940 | Cultural layer | Unknown | Extends from Kaʻiulani Ave. to Kealohilani Ave. | Winieski et al., 2002 |
| -6407 | Agricultural soils modified living surface | Unknown | Documented portion of a paukū/kuāuna (bank of taro patch) | Borthwick et al., 2002; Tulchin et al., 2004 |
| -6680 | Pond field or loʻi sediments | Unknown | | McIntosh and Cleghorn, 2004 |
| -6819 | Human burial | Criteria D and E | 2284 Kalākaua Ave | O'Leary et al., 2005 |
| -7015, -7016, -7017, -7018 | Human remains | Criteria D and E | Trump International Hotel Waikīkī | Mentioned in Welser and McDermott, 2018 |
| -7041 | Intact traditional Hawaiian burial | Criteria D and E | Royal Hawaiian and Sheraton Hotels | Runyon et al., 2015 |
| -7055 | Human remains | Criteria D and E | 280 Beach Walk | Belluomini et al., 2016 |
| -7065 | Kawaiahaʻo Waikīkī Branch Church and Cemetery lot | Criterion D | Princess Kaʻiulani Hotel | Runyon et al., 2010; Burke, 2014 |
| -7066 | Cultural layer | Criterion D | Princess Kaʻiulani Hotel | Runyon et al., 2010 |
| -7067 | Intact human burial | Criteria D and E | Princess Kaʻiulani Hotel | Runyon et al., 2010 |

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| SIHP # 50-80-14 | Site Description | Site Significance | Notes | Reference |
|---|---|---|---|---|
| -7068 | Cultural layer | Criterion D | Diamond Head Tower, Moana Surfrider | Thurman et al., 2009 |
| -7069 | Historic trash pit | Criterion D | Diamond Head Tower, Moana Surfrider | Thurman et al., 2009 |
| -7118 | Cultural layer | Criterion D | Royal Hawaiian and Sheraton Hotels | Runyon et al., 2015 |
| -7119 | Buried A-horizon | Criterion D | Contained pit features and disarticulated human remains; Royal Hawaiian and Sheraton Hotels | Runyon et al., 2015 |
| -7598 | Cultural layer | Criterion D | 133 Kaʻiulani St. | Inglis et al., 2014 |
| -7599 | Human remains | Unknown | Single human vertebra; 133 Kaʻiulani St. | Inglis et al., 2014 |
| -7761 | Historic refuse fill layer | Criterion D | 280 Beach Walk | Belluomini et al., 2016 |
| -7813 | Historic foundation slab and debris layer | Unknown | Waikīkī Trade Center | Manirath et al., 2015 |
| -7930 | Cultural layer and underlying wetland deposit containing disarticulated human remains | Criteria A, D, and E | 413 Seaside Ave. | Thurman et al., 2016 |
| -7952 | Loko Kaʻohai Fishpond | Criterion D | 280 Beach Walk | Belluomini et al., 2016 |
| -9500 | Human burials | Unknown | Construction of Hale Koa Hotel | Kimble, 1976 |
| -9550 | Human burial | Unknown | Fort DeRussy, Kuroda Parade Ground | Streck, 1992 |
| -9757 | Ala Wai Canal | Criterion A | | Steele, 1992 |
| -9957 | Human burials and historic trash concentrations | Unknown | Halekūlani Hotel | Neller, 1981; Davis, 1984 |

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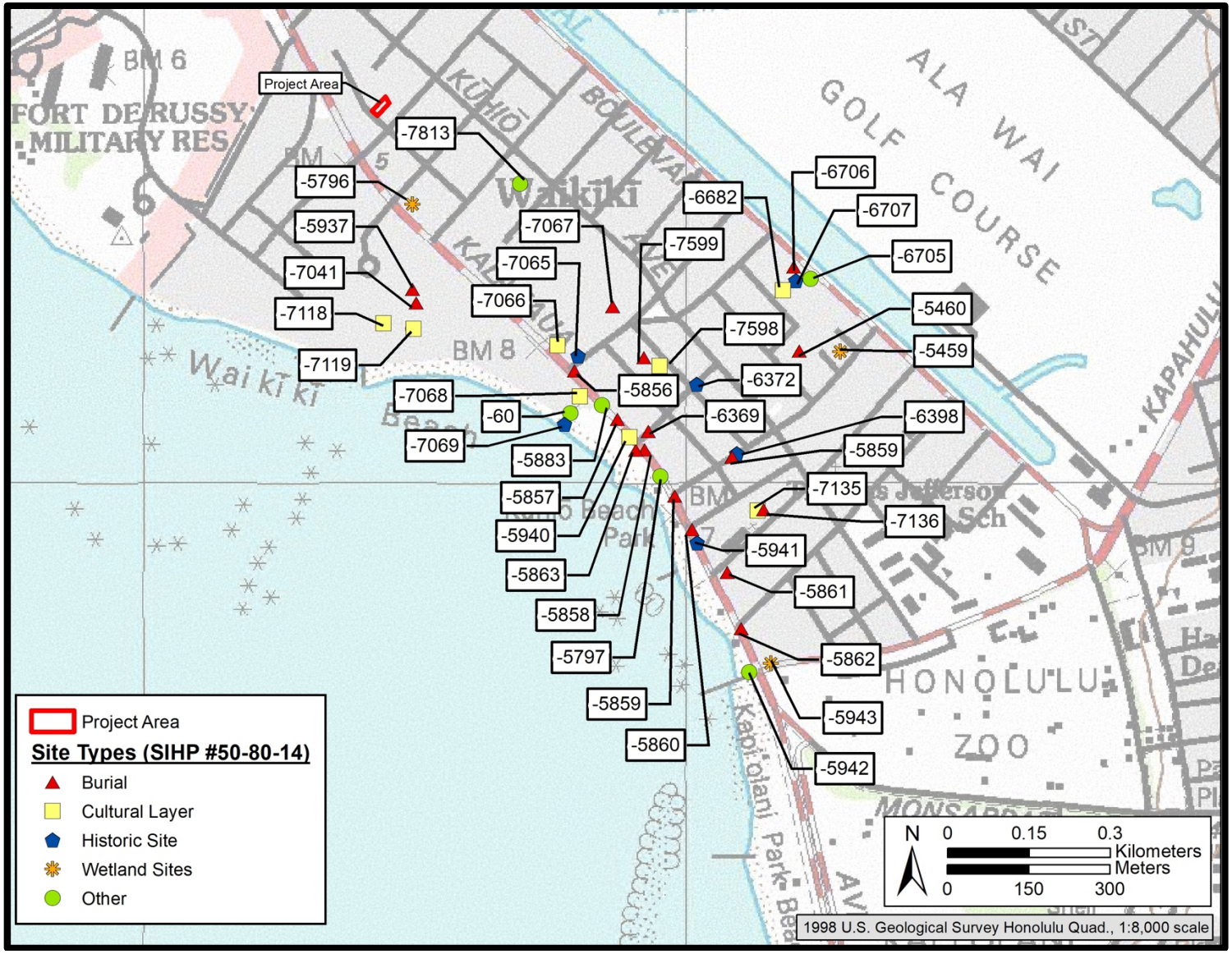


**Figure 5. Portion of a Honolulu 1998 USGS Topographic Quadrangle map showing previous archaeological sites in the vicinity of the project area**

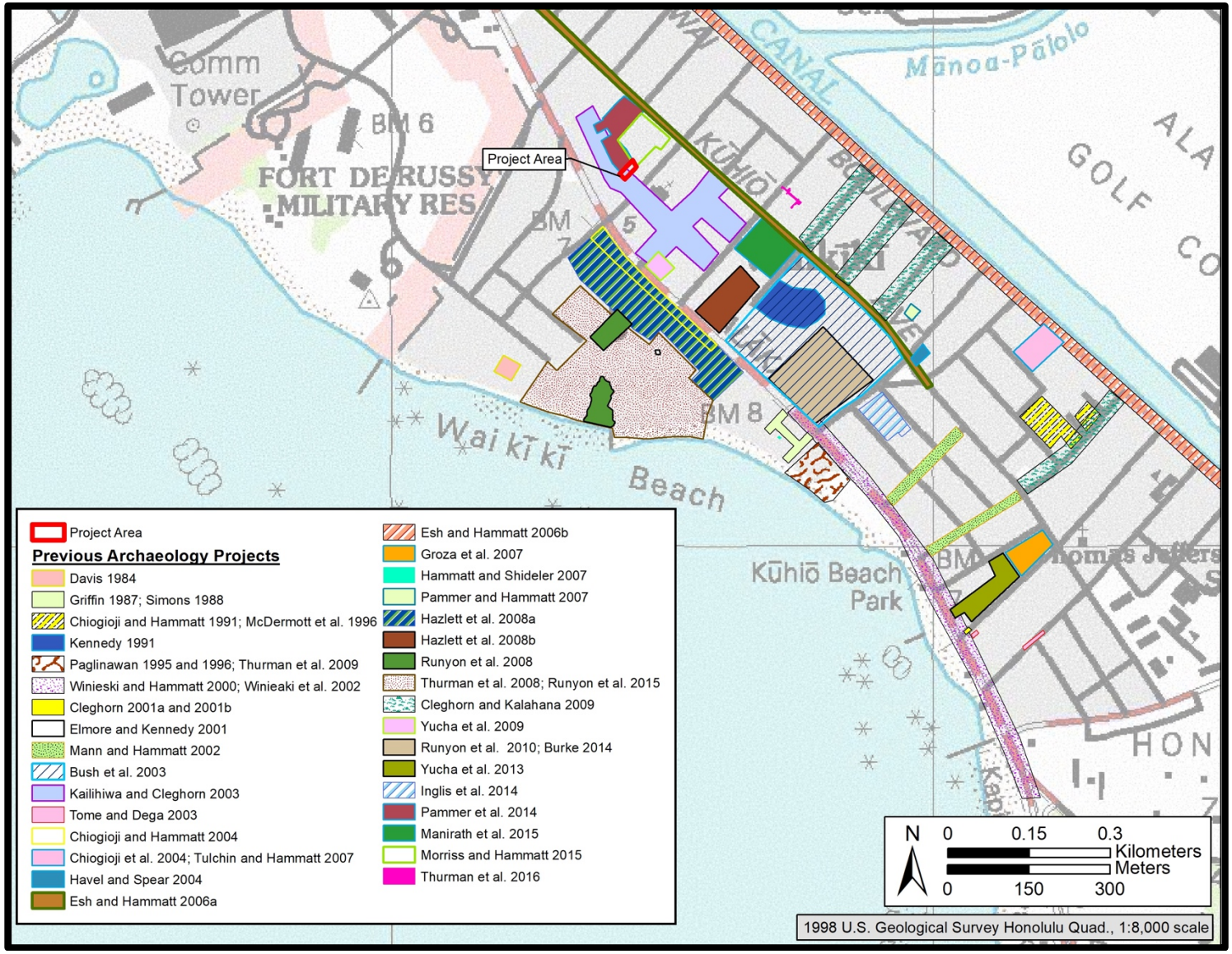


**Figure 6. Portion of a Honolulu 1998 USGS Topographic Quadrangle map showing previous archaeological studies in the vicinity of the project area**

# 4. CULTURAL HISTORY OF WAIKĪKĪ

While the bio-cultural landscape known to the ancient Hawaiians has been radically altered, it is warranted to say that the history of the land is more than what is seen on the surface. For Hawaiians, it is the very core of their being and the essence of their spirit. Place names evoke a deep cultural attachment to place and heritage and connect people to their ʻāina, moʻolelo, and kūpuna (iwi a me ka uhane pū). One such expression of this relationship is found in a speech made by then Prince David Kalākaua in 1872.

Following the death of Lot Kapuaiwa (Kamehameha V) on December 11, 1872, Prince David Kalākaua was among a group of four likely candidates to assume the rule and throne of the Hawaiian Islands. By December 28, 1872, two candidates stood ahead of the others, Prince William Charles Lunalilo and Prince Kalākaua. In a passionate speech presented by Prince Kalākaua on December 28, 1872, he called out to the Hawaiian people, referencing his own lineage and the ascendancy of Kamehameha I as the ruler of the Hawaiian Islands. In his speech, reference was made to the shores of Kuloloia fronting what is now downtown Honolulu. This call strikes a chord in the hearts of some Hawaiians in the present day.

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> …O my people, my countrymen from old, arise, this is the voice! Ho, all ye tribes and sections. Ho, mine own ancient people, the people who took hold and built up the kingdom of the Kamehamehas from the blow struck at the water of Keomo[2] to the final union of the islands at the sea beach of Kuloloia, arise, this is the voice…! (*The Daily Bulletin*, 1884:4)

While the election held on January 1, 1873 was carried by Prince (subsequently King) Lunalilo, the new King died on February 3, 1874. On February 13, 1874, Prince (become King) Kalākaua took the oath of office, and served as King until his own death on January 20, 1890.

The fact that elder natives and others wrote about the traditions of place across the length of the rail route and that the history is still accessible in the modern day—in some instances cited in the memories of oral history/consultation program participants—leads us to conclude that the traditional cultural value of the lands has not been forgotten. The lack of surface evidence in areas formerly documented as being cultural landscapes is not the evidence of absence.

Throughout the islands, places once cultivated as plantation fields, covered under roads, or built over by modern structures have been found to be rich in cultural layers, some lying just inches below the surface. Historical accounts also confirm that past construction has uncovered traditional and historic treasures, human remains, and the evidence of past generations. One must expect that the lands in the Honolulu-Waikīkī region which have been made by the filling in of former fishponds and other traditional sites are still home of once

[2] Keomo situated in Keʻei, South Kona, the "place of the great battle of Kamehameha and Keeaumoku with Kiwalao, the battle called Mokuohai" (G.L. Kapeau to Keoni Ana, March 29, 1848. HSA, Interior Department, Mics. Box No. 142).

significant traditional properties, and evidence of Hawaiian skills in resource management.

This section incorporates diverse facets of history from Kālia, in the ahupuaʻa of Waikīkī, Kona District, island of Oʻahu (**Figure 7**).

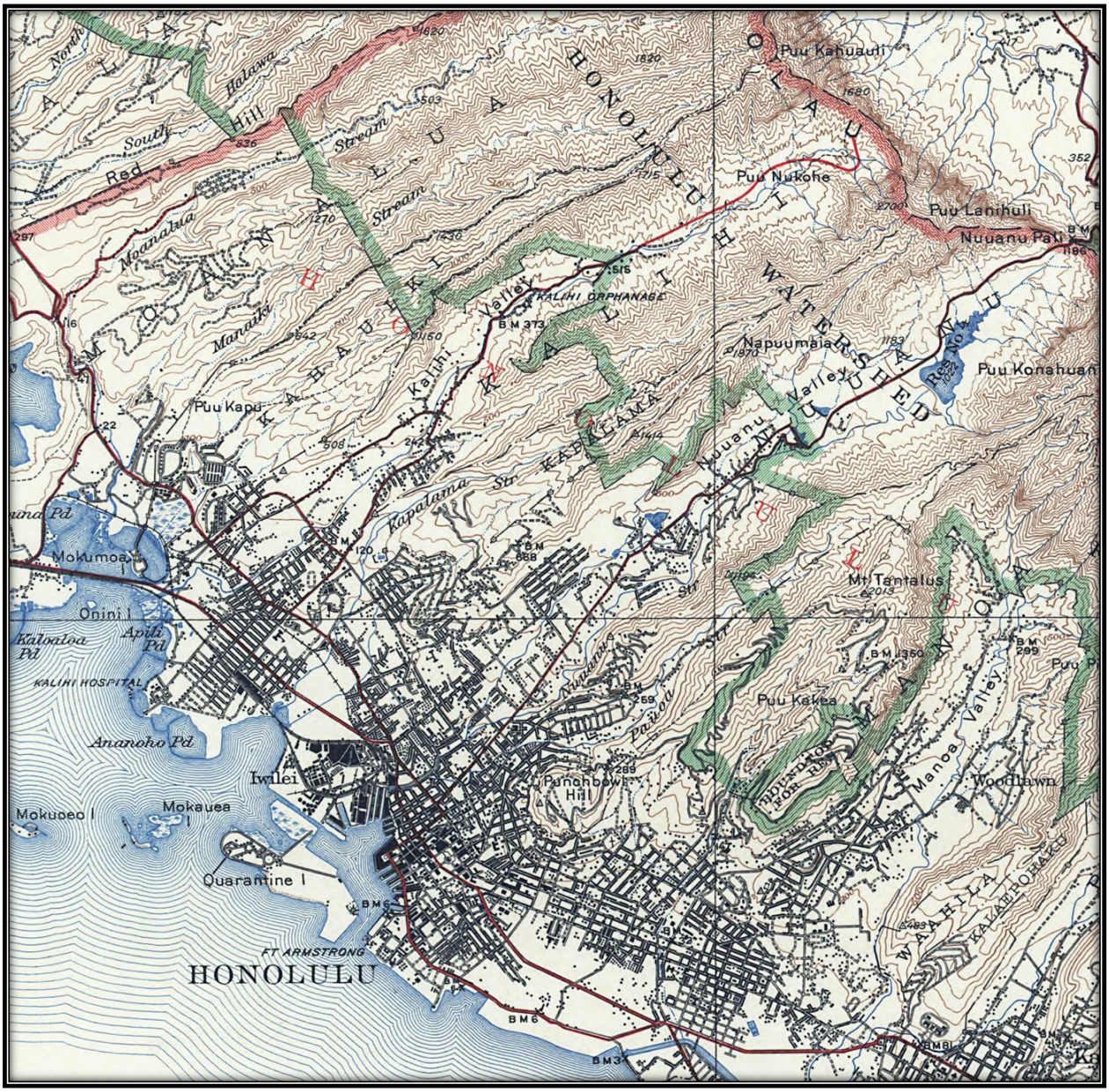


**Figure 7. Portion of 1938 Topographic Map of the Island of Oʻahu – Region of Ahupuaʻa around Kahauiki and Kālia, Waikīkī (Library of Congress, No. CT00069)**

## 4.1 He Māhelehele o Nā Moʻolelo (Excerpts of Traditional Accounts)

Hawaiian moʻolelo (traditions and historical narratives) are the record of native beliefs, customs, practices, and history. The very landscape of Hawaiʻi is storied and alive, and facets

of the land are held as sacred and storied places (wahi pana). At some point in history, each place name was associated with a tradition—ranging from the presence and interactions of the gods with people, to documenting an event, or the characteristics of a given place. Unfortunately, many of those moʻolelo have been lost. But some traditions of named places, though fragmented, have survived the passing of time. Even more place names remain in the modern vocabulary, while their origins may have been forgotten, they are still indicators of traditional cultural value. Thus, through moʻolelo we are able to glimpse into the history of the land and people of the Waikīkī region.

The narratives below are generally organized chronologically by period of time or by the events being described, such as when the gods walked the land, touching the lives of the people, or when chiefs engaged in conflicts on the land. In some instances when the moʻolelo span generations speaking of the transmission of traditional knowledge and beliefs, the narratives in history are linked together. It will also be noted that in a number of instances, wahi pana (storied and sacred landscapes) were named in the traditions as a means of commemorating notable events in history.

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Transcripts and/or translations of the Hawaiian language accounts are given either verbatim, or in summary of longer narratives, with emphasis on the key events—their association with akua (gods), ʻāina (land) and kānaka (people) of the Waikīkī region of Oʻahu. The citations span the period from antiquity to the 1920s. We have elected to include many of the Hawaiian language transcripts in this study in an effort to provide present and future generations with easy access to these important narratives as a means of fostering on-going cultural attachment to place, and for educational and interpretive purposes. In this way, the kūpuna (elders/ancestors) speak for themselves, and pass their voices on to inspire continued knowledge of place, practice and use of the native place names.

### 4.1.1 Kou and the Honolulu Region in the Tradition of Hiʻiaka-i-ka-poli-o-Pele

Noted places in the region were described in the tradition of Pele & Hiʻiaka (Kapihenui, 1861-1862; Hooulumahiehie, 2008; Desha and Keonaona, 1924-1928). Hiʻiaka-i-ka-poli-o-Pele, youngest and beloved sister of Pele, goddess of the volcano, was sent to fetch Kauaʻi chief, Lohiʻau, from Kauaʻi and return with him to Kīlauea on Hawaiʻi. This epic account includes site history, place name documentation, and accounts of noted figures throughout the Hawaiian Islands. While in the Honolulu region, events focused on games of kilu.[3] Most notable in this account is the reference to Peleʻula, a chiefess of the area, and for whom an old section of Honolulu was named. The tradition includes a number of mele (chants) and poetical references to noted places between the Kapālama and Waikīkī section of Kona, Oʻahu. Hawaiian historian John Papa ʻĪʻī observed in the early 1800s that "Peleula was covered with healing heiaus, where offerings were made, and methods of healing were taught" (ʻĪʻī, 1959:46).

[3] Kilu is a Hawaiian game in which a gourd, a coconut shell, cut in half, are tossed at an opponent's pob (something like horseshoes). The individual who successfully hits the pob that he or she had selected was the winner and could claim a kiss or some other favor from the opponent (see Malo, 1951:216).

Summarizing the tradition of Hiʻiaka's visit with the chiefess Peleʻula in the regions of Kou and Honolulu, Gessler wrote that:

> Hiʻiaka and Lohiʻau, immortal lovers of legend, entered this harbor in the course of their voyage from Kauaʻi to Hawaiʻi, and a little farther up the valley [in the Nuʻuanu and Vineyard streets vicinity] Hiʻiaka's skill at the game of kilu won her sweetheart from the wiles of the local enchantress Peleʻula (1942:6).

### 4.1.2 The Traditions of Aiai – Establishment of Kūʻula and Koʻa in the Kona District

In 1901 and 1902, the *Hawaiian Annual and Almanac* published a detailed article series with portions written by L.D. Keliʻipio, Moses (Moke) Manu, and other sections compiled by M.K. Nakuina and S.N. Emerson. These important narratives include descriptions of fishing customs, the diversity of species in the Hawaiian fisheries, and a wide range of ceremonial observances associated with the gods and practices of the lawaiʻa. The narratives also include references to resources across the main Hawaiian Islands:

> **Hawaiian Fish Stories And Superstitions.**
> **Furnished the Annual by L. D. Keliipio, ex-Fish Inspector, Board of Health, translated by M. K. Nakuina.**
>
> The following narration of the different fish here given is told and largely believed in by native fishermen. All may not agree as to particulars of this version, but the main features are well known and vary but little. Some of these stories are termed mythical, in others the truth is never questioned and together they have a deep hold on the Hawaiian mind. Further and confirming information may be obtained from fishermen and others, and by visiting the market the varieties here mentioned may be seen almost daily.
>
> In the olden time certain varieties of fish were tabued and could not be caught at all times, being subject to the kapu of Kuula, the fish-god, who propagated the finny tribes of Hawaiian waters. While deep sea fishing was more general, that in the shallow sea, or along-shore, was subject to the restrictions of the konohiki of the land, and alii's, both as to certain kinds as well as periods. The sign of the shallow sea kapu prevailing was by branches of the hau tree placed all along the shore. The people seeing this token of the kapu respected it, and any violation thereof in ancient time was said to be punishable by death. While this kapu prevailed the people resorted to the deep sea stations for their food supply. With the removal of the hau branches, indicating the kapu was lifted, the people fished as they desired, subject only to the makahiki tabu days of the priest, or alii, when no canoes were allowed to go out upon the water.
>
> The first fish caught by fishermen, or anyone else, was marked and dedicated to Kuula. After this offering was made, Kuula's right there in being thus recognized, they were free from further oblations so far as that particular variety of fish offered was concerned. All fishermen, from Hawaii to Niihau, observed this custom religiously. When the fishermen caught a large supply,

whether by the net, hook or shell, but one of a kind, as just stated, was reserved as an offering to Kuula; the remainder was then free to the people.

**Deified Fish Superstition.**
Some of the varieties of fish we now eat were deified and prayed to by the people of the olden time, and even some Hawaiians of today labor under like superstition with regard to sharks, eels, oopus, and some others. They are afraid to eat or touch these lest they suffer in consequence, and this belief has been perpetuated; handed down from parents to children, even to the present day. The writer was one of those brought up to this belief and only lately has eaten the kapu fish of his ancestors without fearing a penalty therefore.

**Story of the Anae-Holo.**
The anae-holo is a species of mullet unlike those of the shallow water, or pond variety, and this story of its habit is well known to any kupa (native born) of Oahu.

The home of the anae-holo is at Honouliuli, Pearl Harbor, at a place called lhuopalaai. They make periodical journeys around to the opposite side of the island, starting from Puuloa and going to windward, passing successively Kumumanu, Kalihi, Kou, Kalia, Waikiki, Kaalawai and so on, around to the Koolau side, ending at Laie, and then return by the same course to their starting point. This fish is not caught at Waianae, Kaena, Waialua, Waimea or Kahuku because they do not run that way, though these places are well supplied with other kinds. The reason given for this is as follows:

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Ihuopalaai had a Kuula, and this fish-god supplied anaes. lhuopalaai's sister took a husband and went and lived with him at Laie, Koolauloa. In course of time a day came when there were no fish to be had. In her distress and desire for some she bethought herself of her brother, so she sent her husband to Honouliuli to ask lhuopalaai for a supply, saying: "Go to Ihuopalaai, my brother, and ask him for fish. If he offers you dried fish refuse it by all means, do not take it, because it is such a long distance that you would not be able to carry enough to last us for any length of time."

When her husband arrived at Honouliuli he went to Ihuopalaai and asked him for fish. His brother-in-law gave him several large bundles of dried fish, one of which he could not very well lift, let alone carry a distance. This offer was refused and reply given according to instruction. Ihuopalaai sat thinking for some time and then told him to return home, saying: "You take the road on the Kona side of the island; do not sit, stay, nor sleep on the way till you reach your own house."

The man started as directed and lhuopalaai asked Kuula to send fish for his sister, and while journeying homeward as directed a school of fish was following in the sea, within the breakers. He did not obey fully the words of

Ihuopalaai for he became so tired that he sat down on the way, but noticed whenever he did so that the fish rested too. The people seeing the school of fish went and caught them. Of course not knowing that this was his supply he did not realize that the people were taking his fish.

Reaching home he met his wife and told her he had brought no fish but had seen many all the way, and pointed out to her the school of anae-holo which was then resting abreast of their house. She told him it was their supply, sent by Ihuopalaai, his brother-in-law. They fished and got all they desired, whereupon the remainder returned by the same way till they reached Honouliuli where Ihuopalaai was living, and ever afterwards this variety of fish has come and gone the same way every year to this day, commencing sometime in October and ending in March or April.

Expectant mothers are not allowed to eat of the anae-holo, nor the aholehole, fearing dire consequences to the child, hence they never touch them till after the eventful day. Nor are these fish ever given to children till they are able to pick and eat them of their own accord (Keliʻipio et al., 1901:110-113).

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**Aiai, Son of Ku-ula (1902).**
**Being part II of Ku-ula, the fish god of Hawaii.**
**Continued from the last Annual; translation completed by S.N. Emerson and the whole carefully revised and compared with the original.**

Koʻa (Fishing Stations) on the island of Oʻahu:
…Aiai then came to Oahu, first landing at Makapuu, in Koolau, where he founded a pohaku-ia (fish stone) for red fish and for speckled fish and called it Malei. This was a female rock, and the fish of that place is the uhu. It is referred to in the mele of Hiiaka, thus:

> I will not go to the stormy capes of Koolau,
> The sea-cliffs of Moeaau.
> The woman watching uhu of Makapuu
> Dwells on the ledge of Kamakani
> At Koolau. The living
> Offers grass twined sacrifices, Oh Malie!

From the time Aiai founded that spawning place until the present, its fish have been the uhu, extending to Hanauma. There were also several gathering places for fish established outside of Kawaihoa. Aiai next moved to Maunalua, then Waialae and Kahalaia. At Kaalawai he placed a white and brown rock. There in that place is a hole filled with aholehole, therefore the name of the land is Kaluahole. Right outside of Kahuahui there is a station of Aiai's where he placed a large round sand-stone that is surrounded by spawning places for fish; Ponahakeone is its name.

In ancient times the chiefs selected a very secret place wherein to hide the dead bodies of their greatly beloved, lest someone should steal their bones to make fish hooks, or arrows to shoot mice with. For that reason the ancients referred to Ponahakeone as "He Lualoa no Naʻlii"—a deep pit for the chiefs.

Aiai came to Kalia and so on to Kakaako. Here he was made a friend by a man named Apua, with whom he remained several days, observing and listening to the murmurs of the chief, named Kou. This chief was a skillful hiaku fisherman, his grounds being outside of Mamala until you came to Moanalua. There was none so skilled as he, and generous withall, giving akus to the people through the district.

As Aiai was dwelling with his friend Apua at Kakaako, he meandered off one day along the shore of Kuloloia, and so on to Pakaka and Kapapoko. But he did not return to the house of his friend, for he met with a young woman gathering limu (sea-moss) and fishing for crabs. This young woman, whose name was Puiwa, lived at Hanakaialama and was a virgin, never having had a husband. She herself, as the people would say, was forward to ask Aiai to be her husband, but he listened to her voice and they went up together to her home and saw the parents and relatives and forthwith were married. After living with this young woman some time a son was born to them whom Aiai named Puniaiki. During those days was the distribution of aku which were sent up from Honolulu to the different dwellings, but while others were given a whole fish they got but a portion from some neighbor. For this reason the woman was angry, and told Aiai to go to the brook and get some oopus fit to eat, as well as opae. Aiai listened to the voice of his wife. He dug a ditch; constructed a dam so as to lead the water of the brook into some pits, and thus be able to catch the oopu and opae. He labored some days at this work of theirs, and the fish and shrimps were hung up to dry.

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On a certain day following, Aiai and his wife went with their child to the brook. She left their son upon the bank of the stream while she engaged herself in catching opae and oopu from the pits. But it was not long before the child began to cry, and as he cried Aiai told his wife to leave her fishing, but she talked saucily to him. So Aiai called upon the names of his ancestors. Immediately a dark and lowering cloud drew near and poured out a flood of water upon the stream, and in a short time the dam was broken by the freshet and all the oopu and opae together with the child were swept toward the sea. But the woman was not taken by the flood. Aiai then rose up and departed, without thought of his wife.

He went down from the valley to Kaumakapili and as he was standing there he saw some women fishing for oopu on the banks of the stream, the daughter of the chief, Kikihale being with them. At that time, behold, there was caught by the female guardian of the daughter of Kikihale a very large oopu. This oopu she showed to her protégé who told her to put it into a large calabash with

water and feed it with limu, so that it might become a pet fish. This was done and the oopu was tended very carefully night and day.

Aiai stood by and saw the fish lifted out of the brook and recognized it at the same time as his own child, changed from a human being into an oopu.

At this point the story of Aiai gives place to that of his child.

When the oopu was placed in a large calabash with water, it was carefully tended and fed with sea-moss for some time, but one day in seeing to this duty the guardian of the chiefess, on reaching the calabash, was startled to behold therein a human child, looking with its eyes. And the water in the calabash had disappeared. She was greatly surprised and seized with a dark foreboding, and a trembling fear possessed her as she looked upon this miraculous child.

This woman went and told the chiefess of this child they knew to have the form of an oopu, and as Kikihale heard the story of her guardian she went quickly, with grave doubts, however, of this her report, but there, on reaching the calabash, as she looked she saw indeed a child therein. She immediately put forth her hands toward the child and lifted it to her, carefully examining, its form noted its agreeable features. As the thought quickly possessed this girl she said: "Now my guardian, you and your husband take and rear this child till he is grown, then I will be his woman."

DRAFT

The guardian answered her: "When this child becomes grown you will be an old woman; that is, your days will be in the evening of life, while his place will be in the early morn. Will you not thereby have lasting cause for dissatisfaction and contention between you in the future?"

Kikihale answering her guardian said: "You are not to blame, these things are mine to consider for the reason that the desire is mine, not yours, my guardian."

Just after this talking it was quickly known of this child among the chiefs and attendants, and he was nourished and brought up to adult age when Kikihale took him for her husband as she said she would, and for a time they dwelt together as man and wife without disagreement between them.

But during these days Kikihale saw plainly that her husband was not disposed to do anything for their support, therefore she mourned over it continually and angrily reproved him, finally, with these words, saying:

"Oh my husband, can you not go forth also, as others, to assist our father and the attendants in the duties of fishing, instead of eating till you are satisfied then rolling over with face upward to the ridge-pole of the house and count the ahos? It may do while my father is alive, but if he should die whence would

come our support?" Thus she spoke reproachingly from day to day and the words stung Punaiaki's heart with much pain.

And this is what he said to his wife one day: "It is unpleasant to hear you constantly talking thus. Not as wild animals is the catching of fish in the sea; they are obedient if called, and you may eat wastefully of my fish when procured. I have authority over fish, men, pigs and dogs. If you are a favorite of your father then go to him for double canoes, with their fishing appurtenances, and men to paddle them."

When Kikihale heard these words of her husband she hastened to Kou, her father, and told him all that Puniaiki had said, and the request was promptly executed. Kikihale returned to her husband and told him all she had done.

On Puniaiki's going down to the canoe place he found the men were making ready the canoes with the nets, rods, lines and the pearl fish-hooks. Here he lit a fire and burned up the pearl fish- hooks, at which his wife was much angered and cried loudly for the hiaku pearl hooks of her father. She went and told Kou of this mischievous action of her husband, but he answered her not a word at this act of his son-in-law, though he had supplied five gourds filled with them, a thousand in number, and the strangest thing is, that all were burned up save two only which Kou had reserved.

DRAFT

That night Puniaiki slept apart from his wife and he told the canoe paddlers to sleep in the canoe sheds; not to go to their homes that night, and they obeyed his voice.

It was Kou's habit to rouse his men before break of day to sail in the malaus[4] for aku fishing at the mouth of the harbor, for that was their feeding time, not after the sun had risen. Thus would the canoes enter the schools of aku and this chief became famous thereby as a most successful fisherman, but on this day was seen the sorcerer's work of this child of Aiai.

As Kou with his men set out always before dawn, here was this Puniaiki above at his place at sunrise. At this time on his awaking from sleep he turned his face mountainward and looking at Kaumakapili he saw a rainbow and its reddish mist spread out at that place, wherein was standing a human form. He felt conscious that it was Aiai his father, therefore he went there and Aiai showed him the place of the pa (fish-hook) called Kahuoi, and he said to his son: "Here will I stay till you return; be quick."

Upon Puniaiki reaching the landing the canoes were quickly made ready to depart, and as they reached Kapapoko and Pakaka, at the sea of Kuloloia, they went on to Ulukua, now the lighthouse location of Honolulu harbor. At this

[4] Light double canoe for quiet water fishing.

place Puniaiki asked the paddlers: "What is the name of that surf cresting beneath the prow of our canoes?" "Puuiki," replied the men.

He then said to them: "Point straight the prow of the canoes and paddle with strength." At these words of Puniaiki their minds were in doubt, because there were probably no akus at that place in the surf, but that was none of their business.

As they neared the breakers of Puuiki, below the mouth of Mamala,[5] Puniaiki said to his men: "Turn the canoes around and go shoreward," and in returning he said quickly, "Paddle strong, for here we are on the top of a school of akus, but strange to say, as the men looked in the water they saw no fish swimming about, but on reaching Ulukua Puniaiki opened up the fish-hook, Kahuoi, from its wrapping in the gourd and held it in his hand.

At this the akus, unprecedented in number, fairly leaped into the canoes. They became so filled with the fish, without labor, that they sank in the water as they reached Kapuukolo and the men jumped overboard to float them to the beach. The canoe men wondered greatly at this work of the son-in-law of Kou the chief, and the shore people shouted as the akus which filled the harbor, swam towards the fish-pond of Kuwili and on to the mouth of Leleo stream.

DRAFT

When the canoes touched shore Puniaiki seized two fish in his hands and went to join his father where he was staying, and Aiai directed him to take them up to where his mother lived. These akus were not gifts for her, but an offering to Kuula at a koʻa (station) established just above Kahuailanawai. Puniaiki obeyed the instructions of his father and on returning to him he was sent back to his mother, Puiwa, with a supply of akus. She was greatly surprised that this handsome young man, with his gift of akus for her to eat, was her own son and these were the first fruits of his labor.

The people marveled at the quantity of fish throughout the harbor so that even the stream at Kikihale was also full of akus, and Puniaiki commanded the people to take of them day and night; and the news of this visit of akus went all around Oahu. This unequalled haul of akus was a great humiliation to Kou, affecting his fame as a fisherman, but he was neither jealous of his son-in-law nor angry, he just sat silent. He thought much on the subject but with kindly feelings, resulting in turning over this employment to him who could prosecute it without worry.

Shortly afterwards Aiai arranged with Puniaiki for the establishing of kuulas, koas (stations) and fish-stones around the island of Oahu, which were as follows:

[5] Entrance to Honolulu Harbor.

> The Kou stone was for Honolulu and Kaumakapili; a kuula at Kupahu; a fish-stone at Hanapouli, Ewa. Ahuena was the kuula for Waipio; two were assigned for Honouliuli. Hani-o was the name of the koʻa outside of Kalaeloa; Kua and Maunalahilahi for Waianae; Kamalino for Waimea; and Kaihukuuna for Laiemaloo, Koolau (Keliʻipio et al., 1902:122-128).

In another version of the tradition of ʻAiʻai, he is born on Oʻahu near Kaumakapili. His parents tossed him into the stream of Nuʻuanu and he floated down to an area where a rock was situated in the stream, near the former Haaliliamanu Bridge. Fornander reports:

> The water carried the child to a rock called Nahakaipuaumi, just below the Haaliliamanu bridge, where it is seen to this day (of writing), where it floated. [King] Kipapalaulu was at this time living at Kapuukolo, where his palace was situated, with his daughter, Kauaelemimo by name. One day at noon she went in bathing with her maids and discovered Aiai by a large rock. Kauaelemimo took the child as her own and brought it up… (Fornander, 1917:556)

### 4.1.3 He Kaao no Kauilani – A Tradition of Kauilani

DRAFT

The tradition of Kauilani spans various islands of the Hawaiian Archipelago and follows the children of chiefly parents with a godly lineage. The parents of Kauilani and Lepeamoa were Keāhua and Kauhao, both of whose names are commemorated as places in the ʻEwa District. Kauhao's parents were Honouliuli (k.) and Kapālama (w.); the lands which bear their names were named for them. Lepeamoa, the daughter, was born in a supernatural form, possessed of both nature and human body-forms. She participated in histories of great importance during the reign of Kākuhihewa as king of Oʻahu. The original account, "He Kaao no Kauilani," was published in *Ka Nupepa Kuokoa* (September 18 – October 30, 1869), as submitted by S. Kapohu. Subsequently, Westervelt published an English translation of the tradition in 1915, excerpts of which are also cited below.

> ***Ka Nupepa Kuokoa***
> **He Kaao no Kauilani.**
>
> **September 18, 1869 (page 1)**
>
> Kauilani was the son of Keahua (k) and Kauhao (w), and he was the younger brother of Lepeamoa (w). The family resided at Wailua Kauai, where Keahua was the high chief. Kauilani was descended from high chiefs of Kahiki and Hawaii, and both Kauilani and his elder sister, Lepeamoa, were possessed of supernatural powers.
>
> The elders of Kauhao were Kapalama (w) and Honouliuli (k), and the lands on which they lived are now named for them. When Lepeamoa was born, she was born in the form of a hen's egg. Discerning the supernatural nature of her granddaughter, Kapalama and Honouliuli sailed to Kauai on their canoe, Pohakuokauai, and retrieved the egg. With the egg, they then returned to

Kapalama, where they cared for the egg until it hatched. While sailing from Kauai to Oahu, the canoe passed by Pokai, Waianae, and sailed along the fine shore of Kualakai, Ewa. From there, they sailed to the many harbored bays of Puuloa, and entered into the opening of Puuloa where they landed their canoe on the side of the bay. From there, they traveled along the plain to Kapalama…

[The story continues, describing the care given to the egg-grandchild, Lepeamoa, which when hatched, took the form of a beautiful bird with many brightly colored feathers.]

**September 25, 1869 (page 1)**

After Lepeamoa was taken to Oahu, her younger brother, Kauilani was born. He was taken and reared by his paternal grandparents, Laukaieie (k) and Kaniaula (w), in the uplands of Wailua. Kauilani was bathed in a sacred pool, which caused him to mature quickly, and his grandparents instructed him in various skills and forms of Hawaiian combat. During this time, a god Akua-pehu-ale rose up and fought against Keahua and his people, capturing them and holding them captive. Following the instructions of his grandparents, Kauilani fought against the god, and vanquished him, returning the rule of Kauai to Keahua…

**October 9, 1869 (page 4)**

After the battle, Kauilani and his father were reunited, and in this way, the youth learned that he had a sister who was being raised on Oahu, by the elders of Kauhao. Kauilani determined to go and seek out his sister, and Kauhao instructed him about the lands he would pass and how he would know his sister.

She told him that he must sail from Wailua and along the coast of Waianae, and along the shore of Puuloa, where he would find a landing and the path to Kapalama. Before his departure, Kauhao also gave Kauilani a supernatural spear named Koa-wi - Koa-wa, which would help him along his journey, and lead him to his elders on Oahu.

Departing from Wailua, Kauilani traveled to the shore at Nukolii. He threw the spear, and then took off after it, across Kaieiewaho channel, sailing to Oahu. In his canoe, Kauilani passed the coast line of Waianae, and he then drew near the shore of Kualakai where the spear had landed. While Kauilani was traveling from Kauai to Oahu, two sisters, Kamalulena and Keawalau, who had been surfing at Kualakai, returned to the shore and found the spear. Seeing the spear, and recognizing its excellent quality, the sisters hid it, seeing no man who could claim it.

Shortly thereafter, Kauilani passed the coast of Waianae and landed on the shore of Kualakai to retrieve his spear. Upon landing, Kauilani saw the two

> sisters and noted that his spear was nowhere to be seen. Kauilani inquired of the sisters if they had seen the spear, which they denied. Kauilani discerned that they were lying, and told them so, and he then called out to his traveling companion, the spear, Koa-wi Koa-wa. The spear answered from where the sisters had hidden it, and Kauilani picked it up and threw it again. It landed near the entry way to Puuloa.
>
> **October 23, 1869 (page 4)**
>
> Arriving where the spear landed, the spear then told Kauilani to climb a wiliwili tree that was growing nearby. From there, he would see a rainbow at the shore, and a person picking limpets, octopus, and other things. That person would be Lepeamoa, Kauilani's sister. Kauilani climbed the wiliwili tree and saw a red patch of a rainbow upon the water near the shore. He asked Koa-wi Koa-wa about this, and learned that it was the rainbow shroud of his sister, who was in her bird form near the shore. Before Kauilani could approach Lepeamoa, she disappeared, returning to Kapalama. Kauilani prepared to follow, and as he drew near, Kapalama knew of his arrival, and ordered food to be prepared. As Kauilani drew near the house, Kapalama saw him and cried out, greeting her grandson. They ate together, and then Kapalama inquired about the purpose of Kauilani's journey. He explained that he wished to see his sister, Lepeamoa…
>
> **October 30, 1869 (page 4)**
>
> Before meeting her young brother, Lepeamoa tested Kauilani to determine the depth of his skills and strength, and his ability to care for himself while traveling around the islands. Kauilani demonstrated exceptional strength and skill, and Lepeamoa took her human form and greeted Kauilani. After spending ten days together, Lepeamoa instructed Kauilani to go to Waikiki kai, where the king, Kakuhihewa was hosting Maui nui, king of Maui. Maui nui and Kakuhihewa were competing against one another, in the sport of cock-fighting (hoohakaka moa)… Kakuhihewa was losing and the stakes were the life of the king that lost… Learning that Kauilani had arrived on Oahu, Kakuhihewa, who was related to the chiefs of Kauai, sent his messengers to seek out Kauilani, in hopes that he might be able to help…

Westervelt (1915) provides the earliest translation of the events in the account of Lepeamoa, as they took place in the Honolulu-Wakiki region. As the events unfold, Kākuhihewa and his court were assembled at Ulukou, Waikīkī (the area of the Moana Hotel):

> …At this time Kakuhihewa was entertaining his sister and her husband, Maui-nui, who was king of the island of Maui. According to custom, the days were devoted to sports and gambling.
>
> Maui-nui had a kupua, a rooster, which was one of the ancestors of Kauilani's family, but was very cruel and destructive. He could assume a different bird

forms for each magic power he possessed. This, with his miraculous human powers, made him superior to all the roosters which had ever been his antagonists in cock-fighting. It was the custom of this king to take this kupua in his rooster body, with some other chickens, and visit other chiefs, having many battles and winning large amounts of property, such as the best canoes, the finest mats and kapas, and the most royal feather cloaks, as well as the lands of the chiefs who had not been subject to him. Sometimes, when all available property had been won, he would persuade a chief to "bet his bones." This meant that the poverty-stricken chief, as a last resort, would wager his body against some of the property lost. If defeated, his life might be taken and his body sent to the most noted heiau (temple) of his opponent and placed on an altar as a human sacrifice, or the body could be burned or cooked in a fire oven and thrown into the sea.

Kakuhihewa and Maui-nui had been passing many days in this sport. When the Maui king was afraid the game might be given up, he would let some of the ordinary chickens fight, or would select the weakest from his flock. Then a large amount of property might be returned to the original owners, but he took care to lead his opponents on until their pride or their shame compelled them to wager their very last resources.

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Thus, the betting had gone on from time to time until the Maui king had provoked Kakuhihewa into betting his kingdom of Oahu in an almost hopeless attempt to win back all that had been lost before.

The Oahu king realized that his brother-in-law was using a bird of magic power, but his bets had been made and word given, and he did not know of any way in which he could get sufficient magic to overcome his antagonist. He had heard about Kauilani, a wonderfully powerful young chief on Kauai, who had conquered a god of the seas and restored a kingdom to his father. He had sent messengers to Kauai to ask this young chief to come to his aid, promising as a reward the hand of his favorite and most beautiful daughter in marriage; but the days passed and no word came from Kauai. Meanwhile Kauilani came before Kakuhihewa and was announced as a young chief from Kapalama. No one thought of any connection with the noted warrior of Kauai.

The king was very much pleased with the young chief, and finally asked him if he had seen his chickens, and if he would like to go to the place where they were kept.

Kauilani saw the chickens and sent for water, which the keepers brought to him. Taking it, he sprinkled the eyes of the roosters. None of them had sufficient power to keep from shutting their eyes when the water struck their heads. Then he said to the keeper, "These birds will not be of any use for our chief."

> Then he went to see the king's tabu rooster, the one reserved by the king for any' last and desperate conflict. This he also tried and found wanting.
>
> The keepers then sent word to the king that a strange young man with great wisdom was looking at the chickens, and the king came out and asked Kauilani about the tests.
>
> The young chief sprinkled water as before, and then said to the king, "Perhaps your rooster has strength and perhaps he has no power."
>
> The king said: "Ah! We see that this tabu rooster has no strength for this conflict. He closes his eyes. His enemy is very strong and very quick. We shall be defeated and belong to the king of Maui."
>
> Then Kauilani said, "Perhaps I can find a bird of very great powers who can save us."
>
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>
> The king said: "If you defeat Ke-au-hele-moa[6], the magic rooster of the king of Maui, you shall become my son. My daughter shall be your wife…" (Westervelt, 1915:229-232)

Kauilani agreed and he returned to Kapālama, where he told Lepe-a-moa and his elders about the matters at hand and the threat against the life of Kākuhihewa. Kapālama explained to the children:

> "That great bird is one of our own family, and has very great power, but Lepe-a-moa has much greater power if you two work together. He must not see her until she goes out to fight with him…"
>
> Lepe-a-moa made herself very beautiful with a glistening spotted feather cloak. Her pa-u, or skirt, was like fire, flaming and flashing. Kauilani told her she must go first, as the eldest one of the family. Thus they passed in their splendid feather dresses down to Kou (Honolulu) and out to Pawaa, the people shouting and praising the beautiful girl…
>
> Kakuhihewa sent Kou, one of the highest officers in his government, to go after Kauilani. This Kou was the chief after whom Kou, the ancient Honolulu, was named. Kou found the young chief sleeping, and aroused him, telling him the king was very sorry for the anger of his daughter, and asking him to come back to the king's house and on the morrow see the day of death.
>
> Kauilani told Kou to return and tell the king to prepare everything for the day of battle, and hang a large kapa sheet between two posts. He pointed out two

[6] Westervelt writes the name "Keauhelemoa," though S. Kapohu's original texts write the name as "Kaauhelemoa," which is the same spelling as given in other place name accounts and chants.

> roosters which were to be taken first. The king was to send them one by one to fight. When they were killed the king was to ask for a time of rest. "After this will be the time for my battle." Thus he instructed Kou, who returned and told the king… (Westervelt, 1915:234-237)

The narratives describe a great battle between the two supernatural beings, in which Keauhelemoa (Kaauhelemoa) assumes many different bird-forms, is killed by Lepeamoa, and peace is brought back to the kingdom of Kākuhihewa. In the last battle, Lepeamoa—:

> …whirled around the left side [of Ke-au-hele-moa]. He struck at her. As his wing was spread out she flew in and broke it, so that it fell useless by his side. Then she struck his eye, and he was entirely blind. She dashed against him, and he fell over. She clawed and picked and tore his body until it was in small pieces and his life was destroyed.
>
> The people shouted with a loud voice: "Auwe! Auwe! [Alas! Alas!] The rooster of the king of Maui is dead! Ke-au-hele-moa is dead! The king of Maui is to die!"
>
> The name of this rooster, it is said, was given to a place far up Palolo Valley, near Honolulu.
>
> When the people shouted, Kauilani stood up in his splendid cloak and sash and cried out: "Aye! Aye! Dead to me. Dead to Kauilani, the child of Keahua and Kauhao!"
>
> His sister flew to him and he took her and disappeared in the confused, moving crowd of excited people. Thus they returned to Kapalama.
>
> The king ordered his people to make search everywhere for Kauilani… For several months the search was prosecuted. Even the mountains, hills, valleys, forests, jungles and caves were looked over as carefully as possible. By and by two chiefs, Kou and Waikiki, saw the signs of a high chief over Kapalama's group of houses, and went up to make inquiries. They saw Kauilani and told him that the king wanted him to come back.
>
> Kauilani sent the chiefs, Kou and Waikiki, back to the king with the message that he would follow the next day… (Westervelt 1915:241-244)

Reference is made to the Kaʻauhelemoa as a wahi pana in the following article:

> ***Saturday Press***
>
> **December 15, 1883 (page 5)**
>
> Kaauhelemoa: A mountain ridge and pond in the mountains at the head of Palolo Valley, Oahu. It is famous as the last resting place of the wonderful

goblin rock in the legend of Kaauhelemoa. It is one of the sights for sightseers, and is known as a wahi pana – "famous place."

### 4.1.4 Famous Places to be Seen, Supernatural Beings, and the Chiefs of Old from Hawaiʻi to Niʻihau

In a series of articles titled "No ke Kaapuni Makaikai i na Wahi Kaulana a me na Kupua, a me Naʻlii Kahiko Mai Hawaii a Niihau" (Traveling to See Famous/Storied Places, Learn of the Supernatural Begins, and the Chiefs of Old, from Hawaiʻi to Niʻihau), Samuel M. Kamakau presents a series of traditions which also add to our understanding of important places, customs, beliefs, and events in history. In the narrative collection are found accounts from the lands of Kewalo, Kukuluāeʻo, and portions of Kālia and Waikīkī. The following narratives are excerpted from the original 1865 articles and the 1991 publication of translations prepared by Mary Kawena Pukui.

| | |
|---|---|
| ***Ka Nupepa Kuokoa*** | ***Tales and Traditions of the People of Old.*** |
| **Ka Moolelo o Hawaii Nei.** | **M.K. Pukui, translator** |
| **No ke Kaapuni Makaikai i na Wahi Kaulana a me na Kupua, a me Naʻlii Kahiko Mai Hawaii a Niihau.** | |

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**Iulai 22, 1865 (aoao 1)**

| | |
|---|---|
| **No Kapoi.** | **About Kapoʻi** |
| He kanaka o Kapoi no ka aina i Kahehuna i Honolulu. I ka hele ana o Kapoi i ka uhuki pili i Kewalo, maluna aku o Pauoa, loaa iho la iaia kekahi mau hua pueo, a hoi mai la ia. A hiki i ke ahiahi, hoomakaukau iho la oia e pulehu. Kau ana ka pueo ma ka puka o ka pa o ka hale, a kahea mai la ka pueo "E Kapoi — e; ho mai au hua," Ninau aku la o Kapoi; "Ehia hua?" "E hua hiku." Olelo aku la o Kapoi; "E pulehu ana au i keia mau hua i ai naʻu." Olelo mai la ka pueo; "E Kapoi — e homai au hua;" "E pulehu ana au i keia mau hua;" Olelo aku la ka pueo; "Aloha ole oe e Kapoi i ka haawi ole mai i oʻu mau hua." Olelo aku la o Kapoi. "e kii mai i ko hua." | Kapoʻi was a man of the land at Kahehuna in Honolulu. When Kapoʻi went to gather pili grass at Kewalo, there around Pauoa, he found some owl eggs and then he returned home. In the evening he prepared to cook them. An owl landed at the entrance of his house, and the owl called out, "O Kapoʻi return my eggs to me." Kapoʻi asked, "How many eggs?" "Seven eggs." Kapoʻi then said, I am cooking these eggs for me to eat." The owl said, "Kapoʻi, you have no compassion if you do not return my eggs to me." Kapoʻi then told the owl, "Come get your eggs." |
| Ka lilo ana o ka pueo i akua no Kapoi. | The owl becomes a god of Kapoʻi. |
| Kauoha mai la ka pueo ia Kapoi e | The owl then instructed Kapoʻi to |

hana i Heiau; a e kukulu i kuahu a i lele, a o ka inoa o kahi e kukulu ai o Manoa.

make a heiau, an altar and sacrificial platform, and the name of the place where it was built was Manoa.

Kukulu iho la o Kapoi i ka Haiau a paa. A kau iho la i ka mohai a me ka maia iluna o ka lele, a kapu iho la, a noa ae la.

Kapoʻi built the heiau, and he placed offerings of banana upon the sacrificial platform, thus it was consecrated and then freed.

Kukui aku la, a lohe ke Alii o Kakuihewa, e noho ana i Waikiki, me ka olelo ia aku, ua kapu mai nei kekahi kanaka i ka Heiau o kona akua, a ua noa. He kanawai kapu, ina e kukulu kekahi Alii a kanaka paha i ka Heiau, a kapu e mamua, a noa, aole nae i noa ke kapu Heiau a ke Alii Aimoku; alaila he kipi ia, a hookahi ona hope o ka make. Nolaila, kii ia mai la o Kapoi, he lawehala, a alakai ia i Waikiki i ka Heiau o Kupalaha.

News of this reached the King, Kākuhihewa, who resided at Waikīkī, that a man had consecrated a heiau for his god, and freed it. Now it was forbidden that any chief and man could build a heiau, sanctify it, and make it free except for the chief who controlled all the island. There for it was determined that he was a rebel and that he should die. Therefore, Kapoʻi was caught and taken to Waikīkī, to the heiau of Kūpalaha.

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Ia la no, kii ia ka pueo o Hawaii, o Lanai, o Maui, o Molokai, a akoakoa i Kalapueo. O na pueo o Koolau, o Kahikiku, a akoakoa i Kanoniakapueo. O ka pueo o Kauai, o Niihau, o ke komohana, a akoakoa i Pueohulunui.

That day, the owls of Hawaiʻi, Lānaʻi, Maui, and Molokaʻi were all called together at Kalapueo. Also, the owls of Koʻolau and Kahikikū gathered at Kanoniakapueo, and the owls of Kauaʻi and Niʻihau gathered at the west, at Pueohulunui.

I ka la i o Kane ka hoouka ana o ke kaua. No ka mea, oia ka la e make ai o Kapoi; a e kau ai iluna o ka lele.

On the day dedicated to Kāne the battle (of the owls) was to occur, that was when Kapoʻi was to be killed and placed upon the altar.

I ka wanaao ka hoomaka ana o ke kaua, i ka puka ana mai o ka la: Ua uhi paapuia kona malamalama; lele mai la ka pueo a wawalu i ka maka, i ka ihu o kanaka; a lanakila ka pueo maluna o kanaka : A o ka hanalepo o ka pueo, ua paumaele na kanaka. Ua kapaia kela wahi o Kukaeunahiokapueo. Ua olelo aku o Kakuihewa ia Kapoi; he akua mana kou, a o kou akua ka oiaio.

In the early morning, the battle began, with the rising of the sun. The light was blocked out as the owls flew down, striking at the eyes and faces of the men. The owls were victorious over the men. The owls also defecated upon the men, and that place came to be called Kukaeunahiokapueo. Kākuhihewa then said to Kapoʻi, your god is powerful and a true god.

Nolaila, ua hoola ia o Kapoi; a ua hoomanaia ka pueo i akua. Oia hoi o Kukauakahi.

Thus Kapoʻi was saved and the owl came to be worshiped. It was known as Kukauakahi. [page 23]

**No Huanuiikalalailai.**
I koʻu makaikai ana i kahi i hanau ai ; ua loaa iaʻu ma ka wanana mele a ka poe kahiko. Penei:

**About Hua-nu-ka-lā-laʻilaʻi**
While visiting the place of my birth [Mokulēʻia, in Waialua, Oʻahu], I obtained a wānana mele of the ancients, ka poʻe kahiko. Here it is:

"O Huaakamapau ke lii,
O Honolulu o Waikiki,
I hanau no — la,
I Kahua la i Kewalo,
O Kalia la kahua,
O Makiki la keʻwe,
I Kanelaau i Kehehuna ka piko,

I Kalo i Pauoa ka aa,
Iuka i Kahoiwai i Kanaloahookau."

Hua-a-Kamapau the chief
Of Honolulu, of Waikīkī

Was born at Kewalo,
Kālia was the place [the site].
At Makiki the placenta,
At Kānelāʻau at Kahehuna the navel cord,
At Kalo at Pauoa the caul;
Upland at Kahoʻiwai, at Kanaloahoʻokau…

He Alii maikai o Hua, o kana puni o ka mahiai; nana i hana o Kewalo a me Koula.

Hua was a good chief. His favorite occupation was cultivating, which he did at Kewalo and at Kōʻula.

He Alii malama i na makaainana, a hoopunahele i na keiki makahiapo a puni ka aina. Ua kapa aku na makaainana, o Huanuikalalailai.

He was a chief who cared for the people and made favorites of the first-born children all over the land. The people named him Hua-nu-ka-lā-laʻilaʻi.

Aia kona kupapau i Niuula ma Honokohau i Maui. O Puukea kana Heiau, aia ma Kukuluaeo. He wahi kaulana no ia i ka wa kahiko.

His remains are at Niuʻula in Honokōhau, Maui. Puʻukea was his heiau; it is there at Kukuluāeʻo in Honolulu.

Penei ka Wanana Kahiko:

It was a place famous in olden times according to the ancient wānana:

"Ua puni ka ia — e Mokumoa,

Ua kau ia i ka nene,
Ua haa ka-lo-hanu,
Haa ka ia o Kewalo,
Haa na uala o Pahua,

…Overcome [are] the fish of Mokumoa,
Washes up fish to the nene plants;
Lays low the taro as it patters down;
Lays low the fish of Kewalo,
Lays low the sweet potatoes of Pahua,

Haa ka mahiki i Puukea.
Haa ka unuunu i Peleula,

Haa Makaho i ke ala,

E Ku — e,
Ma ke kaha kaua — e Ku."

Lays low the mahiki grass at Puʻukea,
Lays low the growing things at Peleʻula,
Lays low Makaaho [Makāhoa] in its path.
O Kū, the rain goes along the edge [of the island], o Kū…

**Ma ka mookuauhau o Huanuikalalalai; malaila e loaaʻi ka moolelo o Kana a me Niheu, no ka mea, oia kona kupuna.**
O naʻlii mahope mai o Hua i noho ma Honolulu. O Pueonuiokona; o Kapaemahu; o Oiouli ; o Oiomea; o na keiki a Paikua; o Kahonuimaeleha; o Kahonumaeleka; o na keiki a Lonoawohi; o Kapuaahiwa ma.

**In the genealogy of Hua-nu-ka-lā-laʻilaʻi will be found the stories of Kana and Nīheu, for he was their ancestor.**
The chiefs after Hua who lived in Honolulu were Pueo-nui-o-kona, Kapaemāhū, ʻOiʻouli, ʻOiomea, and the children of Paʻikua, Ka-honu-i-maʻelehā, Ka-honu-maʻelekā, the children of Lono-a-wohi, and Ka-puaʻa-hiwa ma. [page 24]

DRAFT

**No Puowaina.**
He puu kaulana o Puowaina, aia ma ka aoao Hikina o Honolulu. Me he pikawai la kona kino ke nanaʻku, a ua poepoe maikai ololo o luna o kona waha.

Ina e ku ke kanaka maluna ona, ua ike maopopo ia i ke kulanakauhale, me ka aoao hikina, a me ka aoao komohana.

Aia maluna ona ka umu ahi e puhi ia ai na ʻlii a me ma kanaka i ke ahi…

**About Pūowaina**
Pūowaina is a famous hill, it is there on the Eastern side of Honolulu. Its shape is like that of a water pitcher and it is nicely rounded above at its mouth [opening].

If a man stands atop it, he can become familiar with the town, to both the eastern side and the western side.

There at its top was an oven in which chiefs and commoners were burned in its fires. [page 25]

**No Kawaaokekupua.**
He waa keia no Kahanaiakekua ma ka Wananakoa kahi i kalai ia ai, a oki, a i ke kauo ana i kai me naʻlii a me na kanaka. Ua kauo ke akua iuka, a puepue ka waa. Aole i paa i ke akua, ua lilo i kanaka.

**About Kawaʻaokekūpua**
This was a canoe for Kahānaiakekūpua. It was cut down and carved at Wānanakoa, and it was hauled down by the chiefs and the people. But a god hauled it back towards uplands, and they fought over the canoe. The god could not hold it and it became the peoples.

I ka hiki ana i Kahookane, ua hakaka me ka moo.

He kuna ka mea i paa ai o ka waa.—(Ua oleloia he kuna ka mea nana i pani ka wai o Honolulu) ke waiho nei keia waa ma Kahookane a hiki i keia la.

Upon arriving at Kahoʻokāne, they fought with a moʻo.

It was a kuna (freshwater eel) that held back the canoe. – (It is said that this kuna is the one that held back the water of Honolulu.) And the canoe is there at Kahoʻokāne to this day… [page 28]

"Ka maiewa lauoho loloa o ka hala,
Kauna lauoho loloa o Hanalei,
I hoao mokumoku ia e ka ipo,
Ua moku ka welelau,
O kelakela ke kupu,
Mamae ka liko ua eha Kaukaopua,
Akahi o hai mai i ka eha,
Ua eha ia."

DRAFT

**No Luanuu.**

He keiki o Luanuu na Laka, o Hikawolena kona makuahine, no Waimea, i Kauai, ma Peekauai kahi i hanau ai o Luanuu.

I ka wai ula o Mahaihai, i ke one aei o luhi kahua. I luhi i kamaikeaho ka-a-a. I kona i Peapeamakawalu ke ʻewe. I ke kaha i kolo ka piko.

Ua hanai ia o Luanuu i Kauai a nui; a ua oleloia he Alii maikai oia.

O ka mahiai kana hana nui. Ua hoolilo oia ia Kauai i mahinaai momona no kona Aupuni.

I ka manawa i kokoke ai o kona makuakane o Laka e make ma Kualoa.

Ua kauohaia o Luanuu e holo mai e ike. I ka holo ana mai, ua laweia o Laka i Waikane. I ke kokoke ana e make o Laka. Ua laweia i kai o Ahua o Laka, a malaila oia i make ai.

**About Luanuʻu**

Luanuʻu is a son of Laka, and Hīkāwolena was his mother… [Continues with a short account of Luanuʻu's life, the death of his father Laka, and Luanuʻu's old age.]

A ua kapaia kela wahi ma kona inoa, a hiki i keia la. Na Luanuu i hoihoi i ka hooilina kupapau Alii, aia ma Iao, i Wailuku, Maui.

Ua hoi o Luanuu i Kauai, a malaila no oia i noho ai a elemakule.

Luanuʻu returned to Kauaʻi and resided there until he was an old man…

He Aupuni maikai kona a ua mahalo na kanaka a pau iaia. I kona kokoke ana e make ua hoihoi ia mai oia i Oahu nei. Mawaho o Mamala oia i make ai, a ua hoihoiia ma Puukea, no ka oihana a Kahuna, a ma Honuakaha kona wahi i waiho ai.

As the time of his death drew near, he returned to Oʻahu. Outside of Māmala, he died, and he was taken to Puʻukea because he was of the priesthood order, and was placed (buried) at Honuakaha.

A ke waiho nei o Luanuu i ka ua waahila o Nuuanu.

Luanuʻu is there in the Waʻahila rains of Nuʻuanu… [pages 29-30]

DRAFT

"O ka lua o Haho,
O Luanuu kameha,
O kahai o Lono,
O Keakihala o Kahalaie,
Ooe ia e Kane,
O Kane oe o kaula i ke apo lani,
O kaula hooleilei a Makalii,
Ia Makalii oki ka lua,
Kiai ka la ilaila,
Nana mai o ke kanaka a Kaukuna,
O ke kanaka a Kaukuna,
I Manuakahi i ka poipoi,
I Kahopuaiku,
I aiku i Kaiwikanihele ai.
Hele kaiwi o kalua kaʻu aloha."
(Aole i pau.)

**Waikīkī**

The ahupuaʻa of Waikīkī is at the eastern side of Honolulu. On its southeastern side is a rounded hill with a kapu bathing place in it… Waikīkī sits proudly in the calm of the Kaʻao breeze.

Waikīkī was a land beloved of the chiefs ad there are many of them lived from remote times to the time of Kalanikūpule. Board surfing could be indulged in there, and for this reason the chiefs like the place very much. At Waikīkī are the surfs of Ka-lehua-wehe, ʻAiwohi, Maihiwa, and Kapuni.

| | |
|---|---|
| I nui kai mai Kahiki | The great sea from Kahiki |
| I miha kai i ka ʻāina | Quietly surrounds the island |
| I poʻi ke kai i kohola | The sea breaks on the reef flats |
| I nehe ke kai i ka ʻiliʻili | The whispers to the pebbles |
| I kīkī ke oho i ke kai | The hair is dressed with seawater |
| I ʻehu ke oho i ke kaili | The hair is reddened by the salty sea |
| I lelo ke oho i ke kai loa | The hair is yellowed by the foamy sea |
| He kai lihaliha kō kapuʻa | A savory kai [gravy] is the of pics |
| He kai likoliko kō ka moa | An oily kai is the of fowl |
| He kai heʻe nalu kō Kahaloa | Kahaloa has a sea for surf riding |
| He kai hoʻopuni kō Kālia | Kālia has a surrounding sea |
| He kai ʻau kohana Māmala | A sea for swimming naked is Māmala |
| He kai ʻau o Kapuʻeone | A sea for sandbar swimming is Kapuʻeone |
| He kai kā ʻanae kō Keʻehi | Keʻehi has a sea for kicking out ʻanae fish |
| He kai ʻelemhi i Leleiwi… | A sea for ʻelemihi crabs is at Leleiwi… |

DRAFT

Cultivating was a great occupation of the chiefs, and the land of Waikīkī was made productive through cultivation – from the inland side to the coconut grove beside the sea. The chiefs constructed many ponds and stocked them with fish, and they made irrigation ditches about the land that led into the fishponds and the taro pond fields. In ancient times no bulrushes were see, but now – what has happened…? (Kamakau, 1991:44-45; Pukui, translator)

### 4.1.5 He mau mea i hoohalahala ia no na mea Iloko o na Kaao Hawaii (There are a number of things to Criticize in Hawaiian Lore)

In 1868, Kamakau referenced the tradition of Kana and corrected certain details that had been previously reported. Notably, there are recorded the names of certain chiefly and priestly ancestors who were the founders of lineages tied to various ahupuaʻa on Oʻahu. Kamakau also referenced the role of kōlea (golden plovers) at Moanalua and Kapapakōlea, and their recording the first census of the Hawaiian people. Original texts and excerpts from his account follow below[7]:

***Ka Nupepa Kuokoa***

**Pepeluali 15, 1868 (aoao 3)**

E Na Luna Hooponopono o ke Kuokoa e:— Ke waiho aku nei au i koʻu mahalo i ka mea kakau kaao o ko kakou mau Nupepa hai naauao o ka Lahui holookoa; a e lilo ana ia i kumu alakai i ka Lahui, a i ka poe opiopio, a e lilo ana ia mea e hoonaauao ai i ka hanauna hou aku. Aka, eia kaʻu mea kanalua, aole pololei o kekahi mau mea i kuhikuhiia no ka moolelo o Kana.

[7] Some of the references and language style are of an older form. The present translator could only provide an approximate translation on. E hui kala mai iaʻu.

O ka moolelo kuauhau o Kana. Aole he oiaio no Hawaii; no o Oahu ka oiaio maoli. O Hua a Kamapau ko lakou kupuna, oia hoi o Huanuiikalalailai ke alii i hanau i Kewalo no Honolulu. Na Huanuiikalalailai o Kuheailani nana mai o Hakalanileo. O Kamaile i Waianae ka aina o Hakalanileo.—O Hoohoakalani, he alii wahine no Hilo i Hawaii.

O na keiki i hanau i Oahu, o Kekahawalu, o Kepani, o Haka, a me Niheu. O Makaha, i Waianae ka aina o Niheu—O ke keiki hope loa o Kana, aia ma Hanaianoa i Kanowa ma Puueo ma Hilo kahi i hanau ai o Kana. Ua lilo ia Uli ka hanai o Kana, i ka makuahine o Hoohoakalani i uka o Kapahukea. E ninau i ko Hilo poe kahiko a e loaa no na kuli o Hana. Aka, aia ma Oahu ka nui o kona wahi i noho ai, e nana ma Kaneohe e kokoke ana i Kaulakola, aia kokoke malaila na maka o Kana. Aia ma Kahana, ma ka loko o Huilua kekahi wawae, aia ma Ahiu anu ai ka Hana kekahi kuli, a Kiei ke poo ma ke kuahiwi o Punaluu.

Ua olelo ke kakau kaao, he poe kanaka no Kahiki mai ka poe kanaka a Kolea ma i hai aku ai ia Moi maloko o ko lakou mele helu kanaka. Aole pololei o ia olelo ana. No o Oahu na kanaka i helu ia. Aole nae pololei loa. E hoomaka ma Waikiki ka helu ana, e helu ia ka nui o na kanaka o kela ahupuaa o keia ahupuaa a puni o Oahu. O Pepemua, o Pepemahope, o Pepeloa, o Pepekamuimui, no Waiawa ia poe kanaka; O Kiele Nahulu no Waipio; O Malamaihanee no Waikele. O Kaulu no Hoaeae; O Lekiapokii no Honouliuli, aole nae i pau pono loa na kanaka. E loaa no keia poe kanaka ma ka hula Pele a Malaehaakoa.

DRAFT

No Keoloewa ma. Aole o Nuakea a me Moi, he mau pili hoahanau no Keoloewa ma; no Ewa no Nuakea me Moi, o Laakona ko lakou mua, oia o Ewa a Laakona. O ko lakou makuwahine o Wehelani, a o ko lakou makuakane o Keaunuiamaweke. Ua lilo o Nuakea i wahine na Keoloewa, a ua hanau mai ka laua o Kupau-a-Nuakea, oia ke kuamoo alii a me ke kuamoo kahuna o Hawaii ma o Kalahumoku la. No Keoloewa ma. O Hinakeka ko lakou makuawahine, a o Kamauaua ko lakou makuakane. O Keoloewa Nui a Kamau, o Haili nui a Kamau, o Kapepee Nui a Kamau, o Ulihalanui a Kamau. Ma o Haili Nui a Kamau, oia ke kupuna o Kaululaau. O Haili nui a Kamau noho ia Nuanualolo o Kanikaniaula, noho ia Kakaalaneo o Kaululaau.

He kanaha mele wanana, he kanaha mele hiilani, he kanaha mele kau a Moi i Wanana ai iloko o na po elima, a o ka lele no ka ka poe kolea e helu i na kanaka mai Hawaii a Kauai, i kela ia i keia la, a i ka po hai ia Moi. Hoole no o Moi, pela aku no. Aia maluna aku o Moanalua ma ke komohana akau o Kapapakolea, aia maluna o ka pohaku, he holua, no ua poe kolea la, e loaa no ia ke hele e nanao.

Pela no ka moolelo o Hamanalau, o ka moolelo o Hamanalau aia iloko o ka mooalii o Oahu ; o ka mooalii o Kukaulalii aia ma ka mooalii o Hawaii.

Ina paha e hookapake ae ke kakau moolelo kaao a me na kumu kaao ana i palau mai ai.

I kaihuauwaa—
I ka peleu—a—
Lai ku ka maa—na—
U—o—ka ale—a.
A Puuloa—la—
I ke awalau—la—
I Kapakule—a—Kohepalaoa—la.

Pela ka moolelo o Pakaa. Ua pololei ka makani, he uuku ka makani i haule, aia ma ka moolelo ka hemahema a me na kupuna. O ka pololei loa ma ka moolelo o Keawenuiaumi, e hana ai, he mau lala keia a he nui loa na lala e lawa ai ka moolelo o Keawenuiaumi no ka hapalua o ka makahiki a oi aku.

He pono i ka poe kakau i ke kaao e hooponopono mua i ka mookuauhau a me ka moolelo Hawaii a maopopo kahi e alakai aku ai i ka Lahui i ka ike a me ka oiaio. O ke kakau moolelo a kaao, he kanaka oia i manao nui i ka moolelo Hawaii, i na mookuauhau, a me na mookaao kahiko o Hawaii nei.

DRAFT

I koʻu manao, i na e like na kanaka naauao me keia kanaka a hui lokahi e hana i mau Buke moolelo Hawaii a me na kaao i ku i ka oiaio, alaila, ua pomaikai na ʻLii a me na makaainana, ua loaa ka Buke Hawaii oiaio. Ina paha e make ana au, a mahope hui kekahi poe a manao e alakai i kuu moolelo i kumu alakai no lakou. Eia ka hemahema, ua haule kekahi mau makahiki, a ua komohewa ma ka hoonohonoho ana a ka poe kukulu kepau. O kekahi mau pauku ua haule. No ka mea, hookahi wale no aʻu me ka paulele ole i ka hai ike a me ka hai lohe. Ina na hai ka lawelawe a me ka hana a naʻu ke kaao mai a Kumulipo mai a hiki i ka Moi Kamehameha III. Aia a ike oukou i ka mookuauhau i keia mau pule aku paha. No kuu molowa, ua kapae koe ia e aʻu. Aole paha e loaa ka piko a me ke au.

Aloha oukou. S. M. Kamakau.
Puakoliko, Manua, Kahehuna, Ian. 31,1868.

**Summary – There are a number of things to Criticize in Hawaiian Tales**

Hail, editors of the Kuokoa: -- I extend my appreciation to the one who writes stories for our Newspaper, enlightening our nation, as a leader of the people, and for the wisdom of the youth, in the generations to come. But here is my uncertainty, some of the things pertaining to the tradition of Kana are not correct.

The genealogical tradition of Kana. It is not true for Hawaii; it is indeed true for Oahu. Hua of Kamapau is their ancestor, that is Huanuiikalalailai the chief who was born at Keawlo of Honolulu. Huanuiikalalailai the son of Kuheailani, who is the son of Hakalanileo. Kamaile in Waianae is the land of Hakalanileo. – Hooohoakalani, a chiefess was of Hilo, Hawaii.

The children born on Oahu were Kekahawalu, Kepani, o Haka, a me Niheu. Makaha at Waianae was the land of Niheu—the last child was Kana. His birth place was at Hanaianoa at Kanowa in Puueo, Hilo. Kana was raised by Uli, the mother of Hoohoakalani in the uplands of Kapahukea. Ask the old people of Hilo and you may find the deaf ones of Hana. But there on Oahu is where he mostly lived, look to Kaneohe, near Kaulakola, it is there, close to the eyes of Kana (Na Maka o Kana). There at Kahana, at the fishpond of Huilua is a footprint. There in the cold of Ahiu are deaf of Hana. Kiei is the summit of the mountain of Punaluu.

It is said by the story writer that in the census chant of Moi, that the Kolea were of Kahiki. The people counted were of Oahu. So that is not correct. The census began at Waikiki, taking count of the people from this ahupuaʻa and that ahupuaʻa, all around Oahu Pepemua, Pepemahope, Pepeloa, and Pepekamuimui, were people of Waiawa; Kiele Nahulu was of Waipiʻo; Malamaihanee was of Waikele. Kaʻulu was of Hoaeae; Lekiapokii was of Honouliuli. these are not all the people. Others are found in the Pele dance of Mālaehaʻakoa.

DRAFT

About Keoloʻewa folks. Nuʻakea and Moʻi were not close relatives of Keoloʻewa folks. Nuʻakea and Moʻi were of ʻEwa, Laʻakona came before, that is ʻEwa a Laʻakona. Their mother was Wehelani, and their father was Ke-au-nui-a-Maweke. Nuʻakea became the wife of Keoloʻewa, and there was born to them, Kupau-a-Nuʻakea, this is the lineage of the chiefs and priests and Kalahumoku. About Keoloʻewa folks. Hina-ke-kā was their mother, and Kamauaua was their father. There was Keoloʻewa Nui a Kamau, Hāili Nui a Kamau, Kapepeʻe Nui a Kamau and Ulihalanui a Kamai. Hāili Nui a Kamau dwelt with Nuʻanuʻalolo o Kanikaniaula, who dwelt with Kakaʻalaneo, (to whom was born) Kaʻululāʻau.

There are forty prophecy chants, forty exaltation chants, and forty scared chants by which Moʻi prophesized in the five nights, and then the flight of the kōlea (golden plovers) which counted all the people from Hawaiʻi to Kauaʻi on each of the days and nights that Moʻi chanted. While Moʻi denied it, it was so. It was there, above Moanalua on the north west of Kapapakōlea atop the stone hōlua (sledding track), that those kōlea went about to look… If the writer of these tales might so sprinkle the stories and traditions:

At Kaihuwaʻa,
The long canoes
In the beginning
The waves are intertwined
At Puʻuloa
The many bays,
At Kapākule and Kohepalaoa…

Love to you, S. M. Kamakau.

Puakoliko, Manua, Kahehuna, Ian. 31,1868. [Maly, translator]

### 4.1.6 He Moolelo Kaao no Kepakailiula (A Tradition of Kepakaʻiliʻula) Events in Ancient Waikīkī and Honolulu

"He Moolelo Kaao No Kepakailiula" is a tradition about a youth, Kepakaʻiliʻula, who was born in an ʻeʻepa (premature or mysterious) form and given up for dead by his parents. Kepakaʻiliʻula's father was Maka-o-Kū and his mother was Hina-ai-ka-malama, both of whom were descended from Kū and Hina, the akua – aliʻi (god-chiefs) who came from Kahiki and established the highest chiefly bloodlines of Hawaiʻi. At the time of Kepakaʻiliʻula's birth, Makaokū and Hina dwelt near Moku-ola (now called Coconut Island) and ruled the district of Hilo.

Kepakaʻiliʻula's birth was accompanied by numerous displays of natural phenomena, including fragmented rainbows that rested upon the ocean, rains that poured upon the land, and rivers that overflowed upon the land. His maternal uncles, Kiʻinoho and Kiʻihele, took these signs as omens of Kepakaʻiliʻula's supernatural nature. Without the knowledge of Makaokū or Hina, Kiʻinoho and Kiʻihele rescued Kepakaʻiliʻula and raised him while instructing him in all manner of fighting techniques, the use of his supernatural powers, and the notable events across the islands in which he would be the central figure.

DRAFT

This version of the moʻolelo was published in *Ka Hoku o Hawaii* (March 20, 1919 – December 9, 1920). The earliest published accounts of Kepakaʻiliʻula date back to ca. 1863, and this version of the legend is attributed to David Malo (*Ka Hoku o Hawaii*, March 13 and 20, 1919). This account also differs substantially from the versions published in the Fornander *Collection of Hawaiian Antiquities and Folklore* (1917, IV-III:498-517; 1919, V-II:384-405). The following narratives are paraphrased translations of the Hawaiian texts with emphasis on the main places, individuals, and events associated with lands of the Waikīkī-Honolulu region and were prepared by Kepā Maly.

When Kepakaʻiliʻula came of age, his uncles went in search of a suitably beautiful and highly ranked chiefess to whom Kepakaʻiliʻula could be married. The journey took them around Hawaiʻi, where they met with sacred chiefesses of the various districts on the island. In Kona, the uncles met with the chief Keolonāhihi and his wife Kahaluʻu, who were parents of the sacred chiefess Mākoleʻā (also the name of a heiau not far from the shore of Kahaluʻu, near the Keauhou 1st boundary). Mākoleʻā was found to be the most suitable chiefess for Kepakaʻiliʻula and a wedding was arranged. When the uncles departed, Keolonāhihi was approached by Kaikipaʻananea, a chief from Maui, and he broke the betrothal between Kepakaʻiliʻula and Mākoleʻā. This action set in motion the events which are at the heart of the story. By association with other figures identified in the tradition, the time period seems to be set around the sixteenth century in the time of Lono-i-ka-Makahiki.

When it was learned the Keolonāhihi and Kaikipaʻananea had broken the promise made for Mākoleʻā and Kepakaʻiliʻula, Kepakaʻiliʻula traveled to Maui and confronted Kaikipaʻananea. A battle took place and Kepakaʻiliʻula was the victor. After a period of time, in setting the rule on Maui in order, Kepakaʻiliʻula secretly departed from Maui and sailed by canoe until he was

outside of Maunalua, Oʻahu. Kepakaʻiliʻula waited in his canoe until daylight began to appear and with the coming of dawn, he saw the island of Oʻahu. He then continued in his canoe until he was directly outside of Waikīkī. It was here that Kepakaʻiliʻula landed his canoe on the shore. While Kepakaʻiliʻula had been out on the ocean, a rainbow had arched over the spot where he waited, and when he landed, the rainbow accompanied him to the shore. Because of this sign, the people on the land had known that an aliʻi of a very high blood line was on the canoe.

> ***Ka Hoku o Hawaii***
>
> **April 22, 1920 (page 1)**
>
> The chief who reigned over Oʻahu at this time was Kaumōʻali, and he was a close relation of Kepakaʻiliʻula's father, Makaokū.
>
> When the battle between Kepakaʻiliʻula and Kaikipaʻananea was being fought on Maui, news of the conflict spread to Oʻahu, and Kaumōʻali knew that this stranger was his nephew. Understanding the sacred nature of the rainbow symbol of Kepakaʻiliʻula's lineage, Kaumōʻali made ready to welcome his nephew.
>
> As Kepakaʻiliʻula landed his canoe on the shores of Waikīkī, six men took up the canoe, with Kepakaʻiliʻula still in it, to carry it to the place of the canoes. Now the reason the men did this was to be helpful, for these commoners saw that the passenger was truly fair to look upon, and they did not know his status as a high chief. When the makua aliʻi (royal father/uncle) Kaumōʻali arrived near the shore, he saw that the men had taken up the canoe; and though they did not know the sacred nature of Kepakaʻiliʻula, Kaumōʻali had the men taken up and killed, and placed on the lele (altar).
>
> Although these men had only been trying to be helpful, they were put to death, and Kaumōʻali had this done without first conferring with Kepakaʻiliʻula. The action of his chiefly uncle was something for which Kepakaʻiliʻula had no respect, and it was because of this that Kepakaʻiliʻula determined not to stay long on the island of Oʻahu. The killing of those men who simply carried the chief's canoe, shows how severe the restrictions of sacred ali'i of high blood lines were…

After a period of time, Kepakaʻiliʻula departed from Oʻahu and traveled to Kahiki (the ancestral home of the gods). After some years, he had a dream about the plight of Mākoleʻā and returned to Hawaiʻi.

> **November 25, 1920 (page 1)**
>
> …Kepakaʻiliʻula departed from the "ʻāina akua o Kuaihelani" (the land of the gods at Kuaihelani), and returned to the island of Hawaiʻi. He passed along the windward side of Molokaʻi and then saw the island controlled by the chief

> Kākuhihewa [Oʻahu]. He sailed along the side of the Koʻolau peaks, passing near Molokaʻi. He then landed his canoe on the shores of Waikīkī, which was the home of the chiefs of this island. The people knew that the canoe was one belonging to the sacred high chief of Hawaiʻi. The people greeted him with the honors befitting an island king. A great feast was held and Kepakaʻiliʻula ate with the aliʻi of Oʻahu. During the feast, the aliʻi told Kepakaʻiliʻula about Mākoleʻā's journey in search of her husband [Kepakaʻiliʻula himself], and how the chiefess had been taken by the aliʻi of Kauaʻi. Upon hearing the chief's words, Kepakaʻiliʻula thought of the dream he had while he was at Kūkulu o Kahiki (the foundation of Kahiki). Kepakaʻiliʻula then enlisted the assistance of the king of Oʻahu, asking that war canoes and warriors be given to him so that he could go get the wife of his beardless days, the wife of his youth.
>
> **December 9, 1920 (page 1)**
>
> Kepakaʻiliʻula also asked that one canoe be dispatched to go to Maui and fetch his maternal uncles, Kiʻinoho and Kiʻihele. It was Kepakaʻiliʻula's wish that his uncles be upon a canoe with warriors as they traveled from Oʻahu to fight with the "large handed" (thieving) chief of the island of Kauaʻi...
>
> Following a tearful reunion with his uncles and attendants, everything was made ready for the journey to Kauaʻi. As the war canoes moved together the ocean of Māmala [Honolulu] was completely covered by the great numbers of assembled war canoes ("ua uhi pū ʻia ke kai o Māmala i ka nui lehulehu maoli o nā waʻa kaua"). Departing from Waikīkī, the canoes crossed the ocean and landed on the shore near Wailua river. The warring sides met, and Kepakaʻiliʻula defeated the aliʻi of Kauaʻi, reuniting with Makoleʻā.
>
> Kepakaʻiliʻula returned to Oʻahu in the company of Makoleʻā, his uncles, and the warriors and chiefs of Oʻahu and Maui. Kepakaʻiliʻula and companions remained at Waikīkī for a short time where they enjoyed the famous surf of Kalehuawehe before returning to Hawaiʻi nui o Keawe – Great Hawaiʻi, Island of Keawe.

### 4.1.7 He mele no Kualii, Kalanipipili, Kulanioaka, Kunuiakea (A Chant for Kualii, Kalanipipili, Kulanioaka, Kunuiakea)

Kūaliʻi is cited as a great chief who was born on the island of Oʻahu in ca. 1555. He lived for 175 years, reportedly dying in ca. 1730. In his lifetime he became proficient in the art of war and rule and is credited with having unified the Hawaiian Islands under one rule several generations prior to the time of Kamehameha I. His son and heir was Peleioholani, also a noted chief of Oʻahu. In her collection and synthesis of *Hawaiian Mythology*, Martha Beckwith offered the following comments on the tradition of Kūaliʻi:

> Certain elements in the Kualiʻi tradition give the impression that we have here the legend not of a single chief but of a political movement led in the name of

> a god, perhaps belonging to the ancient Ku line and directed against the Lono worshipers. The names Ku-aliʻi, Ku-nui-akea, Ku-i-ke-ala-i-kaua-o-ka-lani (Ku in the stone in battle of the heavenly one) and the repeated assertion of divinity suggest that some symbolic object is here impersonated as a god, like the feather god Kaili, who became in Kamehameha's day the war god Ku-kaili-moku, and was similarly handed down in a family line as a god of victory in battle. The impression is strengthened by the chronological uncertainty of Kualiʻi's period, the length and character of his chant, the story of his birth, ushered in by the sacred pahu drums, the boast of his speed, and by the fact that his antagonists on Oahu bear Lono names. His early act of rebellion in taking upon himself a ceremony which belonged to the ruling chief to perform was in itself an assumption of superior divinity (Beckwith, 1970:396-397).

In his series of articles on the history of Hawaiʻi, Samuel M. Kamakau introduced a mele extolling the heritage of Kūaliʻi and his association with wahi pana across the islands, including those of the Honolulu region.

***Ka Nupepa Kuokoa***

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| **Mei 23, 1868 (aoao 4)** | **May 23, 1868 (page 4)** |
|---|---|
| Ua hanau ia o Kualii ma Kalapawai, ma Kailua, Koolaupoko, i ka A. D. 1555. | Kūaliʻi was born at Kalapawai, At Kailua, Koʻolaupoko, A.D. 1555. |
| O Mahuluanuiokalani ka makuahine, a o Kauakahi a Kahoowahaokalani ka makuakane. | His mother was Mahuluanuiokalani, and his father was Kauakahi a Kahoʻowahaokalani. |
| Ua waiho aku au i ke Kumuuli me Kumulipo no ka mohai ole ka! | I leave to the rest to the Kumuuli and Kumulipo. |
| Pela paha oukou. — S. M. Kamakau. | Or perhaps for you. — S.M. Kamakau. |
| … Mai hoohaluwa ia oe–o Halawa, | You should not be troubled at Hālawa, |
| E noho kaua i ka lua–o Moanalua, | Let us stay at the crater/pit of Moanalua, |
| Hoopiopio hau kaua–o Kahauiki, | We shall bend the hau of Kahauiki, |
| Hookeekee lihi kaua–o Kalihi, | We two shall go zigzagging along the edge of Kalihi, |
| E pii kaua i ka lama–o Kapalama, | We two shall ascend to the lama tree of Kapālama, |
| E nunu a paa hoawe–o Honolulu, | Gathering and holding fast to the bundle of Honolulu, |
| Kiki kuu oho ilaila–o Waikiki… | My hair is moistened at Waikīkī… |
| …O Kuikealaikauaokalani, | O Kuikealaikauaokalani |
| A puni – Amama – ua noa. | It is encircled, Released, it is free. |

### 4.1.8 Kānāwai Nīʻaupiʻo Kolowalu (Royal Kolowalu Law)

One of the notable traditions associated with Kūaliʻi is thought to be connected to the place called Kolowalu in the area of Kukuluāeʻo. Kolowalu is connected by trails that cross Waikīkī and the Honolulu Region and is the name of a law that was established by Kūaliʻi. In Fornander's *Hawaiian Antiquities and Folk-lore*, the "Kānāwai Nīʻaupiʻo Kolowalu" (Royal Kolowalu Law) is described as:

> ...[T]he best law during the reign of Kualii Kunuiakea Kuikeaakaikauaokalani. It was strict, unvarying and always just. It was for the care and preservation of life; it was for the aged men and women to lie down in the road with safety; it was to help the husbandmen and the fishermen; to entertain (morally) strangers, and feed the hungry with food. If a man says, "I am hungry for food." feed [him] with food, lest he hungers and claims his rights by swearing the kolowalu law by his mouth, whereby that food becomes free, so that the owner thereof cannot withhold it... (1917, Volume IV - Part II:432-433)

In another account penned by S.M. Kamakau, additional history of Kūaliʻi are found in a mele wānana (prophetic mele).

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> ***Ka Nupepa Kuokoa***
> **Na S. M. Kamakau. Helu 11.**
>
> **Ka Moolelo o Kamehameha I**
> **Ianuali 19, 1867 (aoao 1-2)**
>
> …Eia kekahi, o na mele a ka poe kahiko, he mau mele ano nui, he mau mele wanana, he mau mele pule, he mau mele kaua, he mau mele aina noho wale, a he nui wale ke ano. Aka, o na mele o keia wa a ka poe opiopio, he mau mele hooipoipo ka nui, he mau mele hoohiehie hoalaala puuwai.
>
> Mapuna hou mai la keia wanana o Kualii.
>
> "No wai ke kai? No Ku no,
> Inu kai i Tahiti,
> I piha kai i ka moana,
> I poi ke kai i ke kohola,
> I nehe ke kai i ka iliili,
> He kai lihaliha ko ka puaa,
> He kai likoliko ko ka moa,
>
> **The History of Kamehameha I**
> **January 19, 1867 (pages 1-2)**
>
> …Here also is this, the chants of the ancients were of many kind; there were prophetic chants, prayer chants, chants of war, chants of settled land, and many other kinds. But the chants of the young people in these days are largely love songs, songs to ennoble and excite the heart.
>
> This prophecy of Kualii again comes to mind:
>
> "Whose is the sea? For Ku indeed.
> Tahiti drinks the sea;
> The ocean embodies the sea;
> The sea covers the shoals;
> The sea rumbles over the pebbles.
> Greasy is the soup of the hog;
> Glistening is the soup of the fowl.

| | |
|---|---|
| I kiki ke oho i ke kai, | Greased is the hair by the sea; |
| I ehu ke oho i ke kailiu, | Red is the hair by the very salt sea; |
| I lelo ke oho i ke kailoa, | Brown is the hair with the foamy sea. |
| He kai heenalu ko Kahaloa, | The sea for surfing is at Kahaloa; |
| He kai hopuni ko Kalia, | The enticing sea is at Kalia; |
| He kai au kohana Mamala, | The sea for swimming naked is at Mamala; |
| He kai au aku ko Kapueone, | The sea for swimming is at Kapueone |
| He kai ka anae ko Keehi, | The sea for kicking up mullet is at Keehi |
| He kai elemihi i Leleiwi, | The sea for small crabs is at Leleiwi; |
| He kai awalaukee Puuloa, | The sea of many crooked harbors is at Puuloa. |
| He kai puhinehu puhilala…" | A sea that blows up nehu and lala…" |
| Owau no o ko oukou wahi lolo hai moolelo–E aloha no i ka poe heluhelu me ka noonoo, ia lakou koʻu Aloha. S. M. Kamakau | I am your exponent of traditions. Regards to the people who read carefully, they have my salutation. S.M. Kamakau [Pukui, translator] |

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### 4.1.9 Na Wahi Pana o Ewa i Hoonalowaleia i Keia Wa a Hiki Ole ke Ikeia (Storied Places of ʻEwa, That are Now Lost and Cannot be Seen)

Between June 3, 1899 and January 13, 1900, the Hawaiian newspaper *Ka Loea Kalaiaina* published a series of articles titled "Na Wahi Pana o Ewa i Hoonalowaleia i Keia Wa a Hiki Ole ke Ikeia." The author of the series is not identified, but it is a rich resource of traditions, named places and history across the lands of ʻEwa. Also notable are references made by the author to the rapid loss of wahi pana, largely a result of the vast acreage being turned over to sugar cane cultivation.

Within the series may be found a mele which is presented in the form of a riddle, in which certain things are described and place names are the answer. The mele is cited in the issue of January 13, 1900 while discussing traditions of Puʻu o Kapolei and Kamapuaʻa. The mele encircles a portion of Oʻahu and includes lands of the Kahauiki-Waikīkī region. Excerpts from the article with the mele follow:

***Ka Loea Kalaiaina***
**Na Wahi Pana o Ewa i Hoonalowaleia i Keia Wa a Hiki Ole ke Ikeia**

| **Ianuali 13, 1900 (aoao 1)** | **January 13, 1900 (page 1)** |
|---|---|
| …E nee mai kakou i Puuokapolei. O keia pu kekahi puu kaulana loa i ka wa kahiko. Mai keia puu mai i haku ia ai kekahi mele i kamaaina i ka poe lealea o ka wa kahiko, ua haku | …Let us go on to Puu-o-Kapolei. This was one of the most famous hills in ancient times. It is from this hill that chant was composed by the natives, and those who were skilled in the games of |

| | |
|---|---|
| ia apuni Oahu nei, a ma ia mele e oli ai ka poe Pukaula a me ka poe Ukeke laau, ka poe kimo pohaku, hua Noni, hua kukui paha. | olden times. It was composed to go around the Oahu. It was with this chant that the people who played pukaula (a guessing game) and those who played the wooden ukeke (a native bow string instrument), and those who juggled stones, noni fruit or kukui nuts. |
| Ua helu ia ka inoa o keia mele ma kainoa o ka aina, a oia kaʻu e panee aku nei imua o ka poe aole i loaa a paa naau i neia mele. E like me na mele kahiko i loaa ole i kekahi poe, a loaa hoi kahi i kekahi poe: | This is a chant to recount land names, and I present it before the people, who may not have it memorized. It is like the old chants that are not known by some people, though it is familiar to other people [the chant is presented in a riddle style, stating a question and answering it by speaking the place name]: |

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| | |
|---|---|
| E Kawelo e, e Kawelo — e | O Kawelo, o Kawelo — e |
| E Kawelo mainui o Puuokapolei | Kawelo with the large genitals, of Puu-o-Kapolei, |
| O Puuokapolei… | It is Puuokapolei... |
| E kipa kaua e ai — | Let be hosted to eat — |
| O Aiea | It is Aiea |
| Mai hao halawa ia kaua — | We two were almost plundered — |
| O Halawa | It is Halawa |
| E hoi kaua e noho i ka lua — | Let us two go and dwell in a pit — |
| O Moanalua | It is Moanalua |
| Hooipoipo hau kaua — | We make love in the hau — |
| O Kahauiki | It is Kahauiki… |
| E pii kaua i ka lama | Let us go up for lama wood— |
| O Kapalama | It is Kapalama |
| E nunu a haawe kaua | Let us bundle it and take it on our back |
| O Honolulu | It is Honolulu |
| Kiki kuoha ilaila | Their affection pours forth |
| O Waikiki | It is Waikiki |
| Kike ka hua a kaalae | Cracked is the egg of a mud hen |
| O Waialae… | It is Waialae… |

### 4.1.10 Life with Kamehameha I in 1800-1819

Gideon Laʻanui was born in ca. 1794 in Hilo, as Kamehameha I was preparing the "peleleu" war canoe fleet to carry his battle of conquest on to Maui and Oʻahu. His family was associated with the household of Kamehameha I and traveled with the king to Oʻahu. Between 1800 and 1819, Laʻanui lived in the presence of the king and royal court. In 1837, he penned an account of his memories of those earlier years that people would know about

the things that happened at the time. His Hawaiian account was published in the paper *Ke Kumu Hawaii* on March 14, 1838. Excerpts from the original Hawaiian narratives follow below, with excerpts from a translation first published in the *Hawaiian Annual and Almanac of 1930*.

> ***Ke Kumu Hawaii***
> **He Pepa Hoikeike i na mea e Pono Ai ko Hawaii Nei.**
>
> **Maraki 14, 1838 (aoao 81-83)**
>
> "O ka pono ka mea e ai ka lahuikanaka; aka, o ka hewa ka mea e hoinoia'i na aina." Waialua, Detemaba 26, 1837.
>
> He manao hoakaka wale no keia no ko'u hanau ana, a me ko'u kamalii ana, a me ko'u hookanaka ana, a me ka ike ana i kekahi mau mea oloko o ke aupuni o Kamehameha. Kaua aku o Kamehameha, a make o Namakeha ia Kamehameha, o ka pau no ia o ke kaua ana, lanakila loa o Kamehameha.
>
> …hiki no i Kaalaa, e noho ana no o Kaohele ma, mamua a hiki no i Kaalaa, e noho ana no o Kaohele ma, mamua mai no lakou mauka mai no ma Nuuanu mai, a noho iho la no hoi au ilaila e kamalii ana no owau. Ua moe o Kekai i ke kane o Nawailau ke kane mua, pau ia. Holo aku la ke alii a Waianae noho ilaila. Hele o Kekai me ke kane. Noho makou i ka Paeli, ilaila, ko makou mau hale, makemake kuu wahi kahu e hele hou e kaapuni hou ia Oahu nei, hahai au i kuu wahi kahu i ke aloha, hele aku la makou mahope o ke akua makahiki a hiki makou i Waianae, kaohi mai o Kekai, aole au e noho, hele aku la no makou a Kaneohe. Ma Nuuanu no makou ka hoi ana a kiki i Kaalaa io Kaohele ma. Noho iho la no wau me o'u makua a hoi aku la makou a Waikiki noho me ke alii o Kaohai ko makou wahi i noho ai. A make no o Kanihonui i Waikiki, i moe me Kaahumanu, pepehiia no e Kamehameha, he keiki no na kona kaikuahine na Piipii. A hoi no makou a uka o Kaalaa noho no ilaila, a hoi mai ke alii Honolulu, mai Waikiki mai.
>
> A iho aku la makou a Honuakaha he wahi loko no Kaalaa o Puuokapolei ka inoa, ku na wahi hale o makou ilaila, noho ilaila, hooholo i ka ia, ilaila Kalaimoku i kauhale i ke ahi, i ke aloha ia Kuwahine o ke kaikuahine no ia o Kanihonui, i moe ia no e Boki e kona kaikaina, a me ke kaikuaana no ona e Kuakini. Nolaila pupuhia i i ke ahi kauhale e Kalaimoku, ae aku ao o Kahi no hoi a pau i ka wela, a pau ia, hoi aku la makou iuka i Kaalaa e noho ai, a loaa ka laau hale. Hoi mai la makou i kai o Kou me kuu makuwahine kulu iho la ka hale o makou ma kahi e ku nei ka hale pule haole, ma kai iho olaila i kahi no ia Hoaai ma, malaila no kahi i ku ai o kauhale o makou no Kaainahuna ma wale no ia, a paapu kauhale, a ka hale puali hoi mai, ko lakou wahi. Ilaila no ko makou wahi i noho ai a ku mai ai o Kaumualii mai Kauai mai, maluna mai o ka moku haole, o ka inoa o ka haole nana i lawe mai, Unihepa, o ka moku o Kena ka inoa. A ku no hoi iwaho o Mamala. A holo no hoi o Kamehameha i kai e ike ai me Kaumualii, a ike no

hoi iluna o ka moku. A holo mai iuka, a Pakaka noho a hoike o uka nei, a pau i ka hookupuia Haakulou, a pau ka hookupu ana, a hoi o Kaumualii i Kauai, poalua no iuka, pau ia. A mahope iho o ia wa, ua nui ae hoi au, he keiki no nae ke ano, a ohiia he kamalii, owau kekahi, no Oahu nei kekahi poe kamalii, no Hawaii no hoi kekahi. Oia kou noho ana me ke alii me Kamehameha, haalele au i kuu makuwahine, Hele aku la maua me kuu wahi kanaka a noho i ka hale o Kaihekukui, ilaila maua kahi i noho ai, a ao makou i ka lonomakaihe, he pa okoa ka makou o Keauhulikuli ka makou kumu lonomakaihe, a hoi mai la maua a me Kinopu ma, noho ilaila i huhu ke kane a Kapihe o Maioea, haalele maua, noho maua i kahi o Kinopu ma, hele no hoi i ka ahaaina a ke alii, hele no hoi ke alii i ka mahiai, hele no, hele i ka holahola, hele no i ka hiaku, hele no wau, mai na alii aku o makou e ai ai me Pauelua ma kekahi ai ana o makou, owau o Kekuaokalani, o Kamaha. Pela no ka noho ana, moku o Unihepa, a me ko Kewiti, a iho, hoomakaukau kau moku, ka peleleu, a me ka moku o ke alii me Keoua ka inoa ia o ua moku la, pau ia, moe au me Kekuanaoa i kahi hale palama ona, hookahi po. I ka wanaao, hele mai o Kamehameha io Kekuanaoa la e moe e moe nei? I aku la o Kekuanaoa o Laanui no, a pau ia hoi aku la i ka hale, pau ia...

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### *Hawaiian Annual and Almanac of 1930* (pages 86-93) [Translation]

This is just a plain account of my birth, youth and adult periods, and certain observation noted in the government of Kamehameha. Kamehameha battled against Namakeha, in which the latter was killed, thus ending the war, with Kamehameha victorious [1794]… There I was born, Hilo being the birth place…

[Laʻanui's narratives describe completion of the peleleu fleet, and travels to Maui and Oʻahu, with various activities and experiences in traveling around the island.]

…We returned again to Honolulu, above Kaalaa, where our father died from his illness [maʻi ʻōkuʻu]. Such was the sickness. My mother was taken by my uncle, father's brother… reaching Kaalaa, where Kaohele's folks lived… I reside there with them, being yet a child… I lived with my parents till moving to Waikiki where I resided with the chief Kaohai. After the death of Kanihonui at Waikiki for undue intimacy with Kaahumanu, killed by Kamehameha, thou as son of his sister Piipii, we went up to Kaalaa and lived, and the king moved to Honolulu from Waikiki.

Shortly thereafter we went down to Honuakaha, a fishpond of Kaalaa, called Puuokapolei, and built our house and there lived during the run of fish. Kalaimoku burned a number of houses in sympathy for Kawahine, the sister of Kanihonui, living with Boki, a younger brother, and his older brother, Kuakini. For that reason, Kalaimoku burned a number of houses to the ground to which Kamehameha consented, after which we went up to Kaalaa to reside while getting house timbers.

> We came down to the shore of Kou (Honolulu Harbor), my parents and I. The king was awake night and day. My father was drilling with him. Our house was erected where the foreign church [Bethel] stands. Below that was the place of Hoaai folks. There stood the cluster of houses belonging to Kaainahuna folks. Adjoining the drill house, their place. There we lived till the arrival of Kaumualii from Kauai on a foreign ship, commanded by Winship. The vessel was named O'Cain. It anchored outside Mamala. Kamehameha went down to meet Kaumualii on the vessel. On landing at Pakaka they held audience there, after which was a prostration hookupu, at the close of which Kaumualii sailed for Kauai.
>
> After that time (I had grown somewhat but still of youthful appearance) there was a gathering together of children. I being one, some of Oahu and some of Hawaii. That was my living with the king Kamehameha. I forsook my mother. I and my male companion went and stayed at the house of Kaihekukui, where we were taught spear practice. We had a distinct enclosure. Keauhulikuli was our spear instructor. We came with Kinopu folks and stayed there till Maioea, the husband of Kapaihe, getting angry, we left and stayed with Kinopu. Went to the feast of the king. The king went to cultivated food, we accompanied; went to the spreading [fishing with ʻauhuhu or ʻākia on the reefs]; went aku fishing, I also. From our bowling went to the feast, us children following, and the chiefs off on one side eating with Pauelua folks, some of our food, Manono and I, with the chiefs, also Kekuaokalani and Kamaha. Such was our living, till loading sandalwood on the vessels of Winship [Unihepa] and Davis [Kewiti] for Makao, China. Shortly after they sailed my vessel, the peleleu, was made ready, and the vessel of the king called Keoua. When done I slept with Kekuanaoa, at his Palama house one night. At dawn Kamehameha came over to Kekuanaoa, who was asleep with me, he asked "Who is this sleeping here?" Kekuanaoa replied, "It is Laanui," with that he went to the house. It is finished…

DRAFT

### 4.1.11 The Honolulu-Waikīkī Region During the Residency of Kamehameha I

Native historian John Papa ʻĪʻī was one of the preeminent Hawaiian authors of the 1860s. His writings were based on personal experiences as a member of the Kamehameha household and a key figure in the evolving Hawaiian Kingdom of the period. ʻĪʻī penned a series of articles titled "Na Hunuhuna no ka Moolelo Hawaii" (Fragments of Hawaiian History) in the native language newspaper *Ku Okoa*. The narratives provide important details on the history of noted places and people across the Kona District landscape of the Honolulu-Waikīkī region. ʻĪʻī's history is written from personal experiences, observations and firsthand accounts and cites many named localities crossed by the rail corridor. These named places are a part of the storied landscape with their significance spanning traditional times through the historic period. While the events of the later period erased physical remains from the surface of the ʻāina, the spirit of place survives and in many instances is embodied in place names that are still used in the modern day.

**Peleʻula a site of many Healing Heiau**

Peleula was covered with healing heiaus, where offerings were made and methods of healing were taught. The locations of all diseases they had sought and found in man were marked by the placing of pebbles. This helped them to recognize the nature of the disease. Feeling with the hands indicated whether the disease would be fatal or was curable if treated then. They learned the proper remedy, the methods of treatment, the results to expect, and the island where a disease was first discovered. For instance: "It appeared on the island of Niihau (or Kauai, or another island); such-and-such was the place; such-and-such is the pig to offer; such-and-such is the clothing; such-and-such is the disease; and such-and-such is the remedy."

This went on until all the islands were mentioned, with the diseases and medicines, the kinds of pigs, and the clothing suitable for offerings. All of these things composed and arranged for memorizing were learned by all the students of the art of healing. These were among the things they recited to the medical instructors, including the names of the ʻaumakua gods of healing from remote times. This was done in front of the heiaus we have mentioned, and if the recitation was perfect, it was believed that such a person would attain skill in treating various diseases. A live pig, squealing on the way, was brought to the kahuna as a gift from the patient. If there were many kinds of diseases in a patient, the methods of treatment were many and it was understood that the expense would be great… (ʻĪʻī, 1959:46)

DRAFT

**The Fishponds of Kālia – Kamehameha's Disdain for Waste of Fish**

Once Kinopu gave a tribute of fish to Kamehameha's son, Kinau, at Moehonua's fish pond in Kalia. While Kinau and his wife Kahakuhaakoi (Wahinepio) were going to Waikiki from Honolulu, the sea came into the pond and fishes of every kind entered the sluice gate. Kinopu ordered the keepers of the pond to lower fish nets, and the result was a catch so large that a great heap of fish lay spoiling upon the bank of the pond.

The news of the huge catch reached Kamehameha, who was then with Kalanimoku, war leader and officer of the king's guard. The king said nothing at the time, but sat with bowed head and downcast eyes, apparently disapproving of such reckless waste. Had they caught enough for a meal, perhaps forty or twenty, nothing would have been said. However, Kalanimoku, apparently knowing why the king kept his head bowed, commanded Kinopu to release most of the fish. Kinopu's act became common knowledge, and the report caught up with the two travelers, Kinau and Kahakuhaakoi… (ʻĪʻī, 1959:49)

**Noted Sites of the Honolulu Vicinity, and Practices in the Time of Kamehameha:**

…Kamehameha, with the members of his court, also gave much attention to farming, especially in Nuuanu, from Niolopa to Hapuu. He also farmed at Ualakaa in Manoa, in Waikiki, and in Kapalama.

When Kamehameha went to Nuuanu, mounted on his horse, Kawaiolaloa, many of the children, including Ii, followed him with great interest. They found innumerable people all over the farming area, from down below the present road at Niuhelewai to the bend in the road where the houses of the Portuguese now stand. The bulrushes were as nothing, for they were cleared away in a single day. Some men cut the rushes, some dug them out, some built mounds, and others covered the mounds with the rushes. Much food was provided for the noonday meal of the workers, who then resumed their work until evening. The actual planting was reserved for the caretaker of the land.

So it was on the following day, at Kahoikekanaka, close to Kamanuwai at Peleula. It, too, was teeming with men, though there had been more people at Nuuanu. The men, scattered systematically from a spot on the upland side to a place on the seaward side, dug and beat on the banks with dried coconut-leaf stems. The next day they trampled in the wet patches and planted taro. When the workers and Kamehameha ate, Ii shared in the food, for among the men in the crowd were his mother's own brothers. All he did was watch the horse, but actually he just wanted to be there.

DRAFT

After these projects, three schools for lua fighting (pa kuʻi-a-lua) were established by Kamehameha, and perhaps there were some smaller ones. Hahakea was the instructor at one of them, Namakaimi was the instructor at another, and Napuauki and his assistant were teachers at the third. At the school taught by Napuauki and his assistant were twenty-four boys from Kamehameha's court who were trained for more than two months. Among them was the king's own son Kekuaiwa, who was older than the chiefess Kinau. Ii also attended this school, as did Kekuanaoa, father of Kamehameha IV and V. Twenty-three of these boys are dead at this writing.

Earlier, some of Kamehameha's warriors had been organized into a company called the Kulailua (Knocked Over). It was so named for the force by which the discharging of a rifle on the shoulder made one fall backward…

We have already seen some things accomplished under Kamehameha, but some not mentioned previously were fishing, canoe-making, paddle-making, and the like. His craftsmen were as well cared for as were his farmers, and there were many of them. His wish was to obtain prosperity for the people.

Here let us return briefly to farming. The places Kamehameha farmed and the houses he lived in at those farms were show places. His farmhouses in Nuuanu stood several hundred fathoms away from the right side of Kapaehala, a knoll on the western side of Nuuanu Street and Hanaiakamalama House. Perhaps the location was chosen to enable him to look both inland and seaward to his food patches. Some elevated houses seem to have been for that purpose. So it was with Puupueo, directly below Ualakaa. He dwelt part of the time at Helumoa in Puaaliilii, Waikiki (in the house mistakenly called Kekuaokalani;

Kuihelani is the correct name) to till the famous large gardens there. He also lived in Honolulu, where his farms at Kapalama, Keoneula, and other places became famous. These tasks Kamehameha attended to personally, and he participated in all the projects.

Kamehameha was often seen fishing with his fishermen in the deep ocean, where the sea was shallow, and where fish-poison plants were used. He took care of the canoe paddlers who went out for aku fish, bringing in supplies from the other islands for them, and sent ships to-and-fro fetching nets, lines, olona fibers, and other things. Part of his goodly supply of such necessities he divided among his chiefs and among those he had conquered. Because of his generosity, all of the chiefs worked too and gave him a portion of the products of their lands.

…While Ii was at court, there were two other occasions when sports and games were held in the royal town of Honolulu. These occurred when the makahiki gods went forth from the luakini heiau at Leahi…

DRAFT

…In the evening of the day on which the wooden gods departed to go on their circuit of the island, the chiefs who had fed the attendants remained secluded with their possessions from daylight to dark. The attendants of the gods carried them facing backward when they traveled. Therefore it was said that the eyes of Lono remained upon the activities of the people when the gods left the presence of the chiefs for the circuit of the island. The procession went from Honolulu toward Ewa, and when the procession reached the boundary between Honolulu and Kapalama, the akua loa stopped with its two alai markers, two sticks that were used to mark the area that was made kapu for the god. This area was forbidden to the people, but not to the attendants. As the akua loa stood on its designated place, the persons in charge of the land of Kapalama brought all the taxes of the land. If the taxes were sufficient, the tapa of the aku[a] loa was gathered in (papioʻia) and the god proceeded to the next ahupuaʻa. The akua paʻani was placed where the akua loa had stood to inspire the men to box (ʻĪʻī, 1959:68-75).

**Places and People on Oahu – Trails of the Kona District:**

…Perhaps it would be well to follow the Honolulu trails of about 1810, that they may be known, and to determine whether the houses were many or few. Let us begin looking.

The trail from Kalia led to Kukuluaeo, then along the graves of those who died in the smallpox epidemic of 1853, and into the center of the coconut grove of Honuakaha. On the upper side of the trail was the place of Kinau, the father of Kekauonohi. His houses were made kapu after his death, and no one was permitted to pass in front of them. Piopio and others were in charge.

The trail came out of the coconut grove and went on to Kaoaopa. Mauka of the

spot where it came out of the coconut grove was a bare place, like a plain, and below this spot were Keopuolani's houses. Back of her houses was a long stone wall, beginning outside of the grove and going north to the edge of the pond of Umukanaka, as far as a cluster of houses there.

The trail went by Papa's heiaus of healing, and in front of them was Hookuku, the residence of the heir to the kingdom. His houses were separated from all the others there because of the strict kapu surrounding them. Four kapu sticks were set up, one at each corner, about 2 chains away from the houses; and the trail was about 5 fathoms beyond the sticks. When those approaching drew near to the kapu sticks, they observed the rules we have mentioned previously.

We have spoken of Kaoaopa before as the location for the homes of attendants to the heir to the kingdom. Their houses stood on both the makai and mauka sides of the trail, set apart from the others like those of the heir. From the makai side of Kaoaopa was a trail to the sea at Kakaako, where stood the homes of the fishermen. Below the trail lived Hewahewa and his fellow kahunas. The trail led to the spot where the ship Namahana was berthed, then went on to Kaholoakeahole. The Namahana was in the charge of Leleahana, father of Abel Wahineahi, and was berthed on the north side of Naahu's place, where Halakika later resided. North of where this trail branched off from Kaoaopa, and close to the home of Ii's mother, was a coconut tree on which the boy made a swing. Here he and his companions whiled away hours each evening. The person who could chant the most pleasingly swung the most often.

DRAFT

Also on the north were Leleahana's houses, then those of the attendants of Kekuaiwa, son of Kamehameha. Kekuaiwa's home was set apart with four kapu sticks. Next came Kekumanoha's place, then a vacant place that reached as far as the bathing pool of Honokaupu, above Queen Street, north of a pier at the corner where Queen and Alakea Streets now meet. There were two houses above this bathing pool which belonged to Kaiwikokoole; and north of the pool was one house, on the mauka side of the trail. Many bathers gathered of ten at this pool.

The trail went on above the spring of Honokaupu to the loku site at Merchant and Alakea Streets. Just above this spot it joined the trail from Waikiki which came over a wall and branched off to the two drilling sites mentioned earlier. Beyond them, to the west of the drilling sites, were the king's houses. A trail joined the one from Waikiki above the field where maika rolling and foot racing were held, on the mauka side of the king's houses, and came out at Pakaka.

West of the Honokaupu spring was the pond owned by Mataio Kekuanaoa, where the coconut trees later grew. The houses of the king's stewards were there, in the charge of Kamokupanee. Makai, and south of the drilling field, was

a temporary house for those of the Kulailua company. On the makai side of the temporary house were the houses of the gods Kalaipahoa, Kihawahine, and others. Just beyond the houses of the gods were Kalanimoku's houses, close to the edge of the sea. The trail there was always used to reach the drilling field, for by going between the houses of the gods and the heiaus one escaped death. Mauka of Kalanimoku's houses were Kalaimamahu's houses, and there he had died. Next to Kalanimoku's houses were those of Kalaniakua, Liliha, Kekauonohi, and Namahana.

Let us return to where the trail from Waikiki met the trail from Honuakaha, mauka of the Honokaupu spring. The trail ran on from there until it reached above Aienui, going by the big stone house of Kimo Pakaka, or James Robinson. It went to the maika field of Kikihale, and then on to the stream above Lepekaholo (Liberty Hall). Adjoining Kikihale and stretching from Kaumakapili to the south side of John Meek's yard was the maika field of Kalanikahua. On the south side of Kalanikahua were Kaoleioku's houses and those of Kekuaokalani, son of Keliimaikai. Each side of this maika field was bordered with houses, as was the maika field of Kikihale. A loku site at King and Nuuanu Streets, mentioned before, was where the two maika fields joined, and that place was without a house.

DRAFT

On the mauka side of the place where the trails met at Honokaupu, houses occupied both sides of the trail. The stone wall mentioned before ran on mauka of the church at Polelewa to the upper corner of King and Nuuanu Streets. Then the stone wall turned and went on up to Beretania Street. The fence on the mauka side was made of hau wood, and it led to the corner of Emma Street. There it turned and came down to meet the edge of the trail from Waikiki. That was the enclosure of the yam farm called Kapauhi mentioned earlier.

The trail to Nuuanu began at Kalanikahua and led north of Kaumakapili Church to below the little stream which flowed out of Kamanuwai pond. There the trail turned slightly to the right, went along the edge of the pond, and down into the water. Then, coming up on the bank onto Waiakemi, it led on to Waaakekupua, along the bank of the taro patches, to the Pauoa stream, up to Pualoalo, and on to the gap at Nuuanu Pali.

Our description of the trails of the royal town is finished, but we have not yet told of the trails going to lower Waikiki, Kamoilili, and Manoa. A trail led out of the town at the south side of the coconut grove of Honuakaha and went on to Kalia.

From Kalia it ran eastward along the borders of the fish ponds and met the trail from lower Waikiki. At Kawaiahao a trail passed in front of the stone house of Kaina, late father of Kikaha. The trail went above Kalanipuu's place, along the stream running down from Poopoo to the sea, close by Kaaihee in Makiki, to Puu o Manoa, then below Puupueo, where a trail branched off to go

to upper Kaaipu and Kahoiwai, and another to go below Kaahulue, to Kapulena and Kolowalu.

The trail from Kawaiahao which led to lower Waikiki went along Kaananiau, into the coconut grove at Pawaa, the coconut grove of Kuakuaka, then down to Piinaio; along the upper side of Kahanaumaikai's coconut grove, along the border of Kaihikapu pond, into Kawehewehe; then through the center of Helumoa of Puaaliilii, down to the mouth of the Apuakehau stream; along the sandy beach of Ulukou to Kapuni, where the surfs roll in; thence to the stream of Kuekaunahi; to Waiaula and to Paluki, Kamanawa's house site. The latter was named for the Paluki in Punahoa, Hilo. Perhaps that was where Kamanawa lived when the king resided in Hilo during the battle called Puana, prior to the building of the great peleleu fleet.

From Paluki the trail ran up to Kalahu, above Leahi, and on to the place where the Waialae stream reached the sand. The trail that ran through Kaluahole...

...Let us now examine the remainder of the places in the royal town, for we have not yet seen them all. There were many people living in those other places. Perhaps we should glance first at the spot below Kikihale's maika field. Many people who lived here at Kapuukolo were fishermen who fished with draw nets and with the many other kinds of nets needed in their profession.

DRAFT

Kuihelani was an important person there, for he was of high station. He had many people to serve him, his wives were many, and his household was large. Ii went often with his mother to see Kuihelani, who was related to them, perhaps through Kaaloakaulani or perhaps through their makuahine. This large family was related to the family of Luluka. Perhaps that was why the mother and the boy went to these places often and were known by many of the people in the household of each wife, who lived there as a retainer. Because of his skill in handling the property of the king, Kuihelani attracted prosperity to himself. The keeping of a multitude was as nothing to a man so wealthy. The king's faith in him never changed, for the king's lands in his charge were cared for by his kinsmen, and they were obedient to Kuihelani's commands. Therefore the kinsmen also held good positions and were well known.

Among these people was the Spaniard Paula Marin, a friend of the king, who lived wherever the king's relatives lived. On his place—which was surrounded on the sides, back, and part of the front by Kuihelani's property—he had two or three horses, one a mare, and a young cow. Marin was very fond of fishing, perhaps because he saw Kamehameha doing it. And he was also an expert in the stick hula.

Makai of Kuihelani's own home was Keliimaikai's home, which was on the coral point where the first custom house stood. On the south side of this place was berthed the Kaaloa, a ship belonging to Kuihelani, which lay at the extreme

north of all the ships previously discussed.

Near the Kaaloa and in the vicinity of the custom house at the beach was a house for the very first Chinese ever seen here. There were two or three of them and they prepared food for the captains of the ships which took sandalwood to China. Because the faces of these people were unusual and their speech—which is now commonly heard—was strange, a great number of persons went to look at them.

On the south of Kuihelani's residence was that of George Isaac Davis and his company of people. The chiefs' places extended from there, above the maika field to the Honokaupu trail junction. Near there, too, were the houses for the king's stewards, and above that group of houses were the houses of the warriors. These stood on the upper side of the trail. Among the chiefs' houses were those of Kuakini, of Kaiko, and of Kaukuna Kahekili, Kaiko's younger brother.

Let us turn to look at the trail going to Ewa from Kikihale, up to Leleo, to Koiuiu and on to Keoneula. There were no houses there, only a plain. It was there that the boy Ii and his attendants, coming from Ewa, met with the god Kaili and its attendants who were going to Hoaeae. When the kapu moe was proclaimed, they all prostrated themselves on the plain until the god and his attendants passed by.

DRAFT

When the trail reached a certain bridge, it began going along the banks of taro patches, up to the other side of Kapalama, to the plain of Kaiwiula; on to the taro patches of Kalihi; down to the stream and up to the other side; down into Kahauiki and up to the other side; turned right to the houses of the Portuguese people; along the plain to Kauwalua, Kalaikoa's house of bones; down to a coconut grove and along the taro patches of Kahohonu; over to the other side, and from there to a forded stream and up to Kapapakolea, an established resting place for travelers.

From there the trail went to Kaleinakauhane, then to Kapukaki, from where one could see the irregular sea of Ewa; then down the ridge to Napeha, a resting place for the multitude that went diving there at a deep pool. This pool was named Napeha (Lean Over), so it is said, because Kualii, a chief of ancient Oahu, went there and leaned over the pool to drink water… (ʻĪʻī, 1959:89-95)

**Kuloloia – The Home of Namahana and Naming of the Family**

…The good royal mother Namahana, mother of Kaahumanu ma, also died at Kuloloia, where she had a home. During her life she was known for herself control, and she was considered the best behaved and the noblest of persons. As she was beautiful in appearance, so were her deeds. Perhaps that was why she was espoused by Kamehamehanui. As we have seen, they were both the children of Kekaulike, and so they were brother and sister through the one

parent. When Kamehamehanui died, Namahana was taken at once by Keeaumoku, who was a relative and who is said to have been a handsome man.

Namahana was a fine old lady when she died. A younger cousin of Namahana's children, who was present at her death, was named Kuloloia for the place in which Namahana died. This was a custom of those who loved their chiefs in the olden days. While the cries of lamentation arose and Namahana's body was on view, someone came from Waialua or thereabouts to die with her and share the same grave, which was another ancient custom with some who loved their chiefs and sought peace of mind. The heir to the kingdom was kept at Waikiki during the period of mourning, for Honolulu was defiled by the royal corpse (ʻĪʻī, 1959:100-101).

**First Stone Houses Built in Honolulu**

Aikona's first stone house, which was built in Honolulu before the company left Oahu [ca. 1811], stood near W. N. Ladd's stone house. On its north was the first custom house. For this house, the chiefesses and men and women of the royal household brought earth for mortaring from Kanelaau [site of a heiau on Pūʻowaina]. They formed a large procession, and by time for the morning meal, the earth was in such a great heap that they had enough. This well-built house was the only large stone building of that time. Marin's house was built like it, for Aikona was his son-in-law, through marriage with Miela, Marin's oldest daughter.

DRAFT

When Aikona began building the end and side walls of the house at Kamakahonu he built a third wall between them and arranged stones in the center of this middle wall to form a door. The walls rose together until the house, from one end to the other, was finished. When Aikona later removed the stones set up in the doorway of the center wall, the doorway looked like the fine arched bridge of Pualoalo at Peleula in Honolulu… This house was well completed. In the stone house were stored the king's valuables and those of Aikona. These valuables were kegs of rum and gunpowder and guns, of which the guns and powder were placed on the inside near the inner wall. Rum distilled on Oahu accounted for most of the freight aboard the ship Keoua when it returned to Hawaii (ʻĪʻī, 1959:120).

**Noted Surfing Spots**

Kapua and Kaihuwaa are surfs on Oahu. Kapuni and Kalehuawehe are at Waikiki, and Ulakua is a surf at Honolulu (ʻĪʻī, 1959:135).

**Naming of Nihoa at Honolulu**

The British Consul, Richard Charlton, said in a speech that W. P. Kalanimoku had leased him the land of Nihoa in Honolulu and declared that J. A. Kuakini had seen the document. This greatly puzzled the chiefs and they questioned the existence of such a lease, for that land belonged to Kaahumanu, who had named it Nihoa in remembrance of the visit that she and Kaumualii had made

> to that island. When the king and the premier, Kekauluohi, went to Lahaina in January or February of 1840, Ii went along for the purpose of seeking Kuakini and finding out about the alleged lease. After the king reached Lahaina, Ii went on with the premier to Kailua in Kona, Hawaii, where he found Kuakini. He emphatically denied associating with the consul in conjunction with the lease (ʻĪʻī, 1959:166).

John Papa ʻĪʻī's original texts were translated by native Hawaiian ethnographer Mary Kawena Pukui of the Bishop Museum, with editing and research assistance from Dorothy Barrere, also of the museum's staff (1959). Working with these translations, Bishop Museum's Paul Rockwood and Dorothy Barrere wrote a paper on the Honolulu region and Rockwood drew a map depicting the region as described (Rockwood, 1957; **Figure 8**). Rockwood also added several of the key road ways in the town as a means of understanding exactly where features were located.

The following narratives from the paper prepared by Barrere and Rockwood provides clarity as to the locations of wahi pana in the downtown Honolulu district:

DRAFT

> Kamehameha I, who had been living at Waikiki since 1804, moved his court to Honolulu in 1809. His immediate court consisted of high-ranking chiefs and their retainers, but in the area also lived those who contributed to the welfare and enjoyment of court members, from fishermen and warriors to whites and the chiefs of lesser rank. In those days, the area was not called Honolulu. Instead, each land section had its own name.
>
> Beginning near the mouth of Nu'uanu Stream, makai of King Street was Kapu'ukolo, "where white men and such dwelt." Among them were Francisco de Paula Marin, the Spaniard who introduced horticulture to Hawai'i, and Isaac Davis, friend and co-advisor with John Young to Kamehameha. Here too lived Kuihelani, a relative of I'i and an important chief who had charge of many of the king's lands. Near his place was the home of Keli'imaika'i, full brother of Kamehameha, on the coral point "where the first custom house stood." There on the beach was a house for "the very first Chinese ever seen here." Mauka of Kapu'ukolo were two maika fields and a loku site. A loku site contained a house for the enjoyment of various indoor games and amusements such as kilu, puhenehene, chanting, or dancing. The two maika fields at Kikihale were bordered with houses, notably those of Kaoleioku and Kekuaokalani, son and nephew respectively of Kamehameha.
>
> Next to their homes was one wall of a large yam field, where in 1812 the first Fourth of July celebration in Honolulu was held by the captains of three trading vessels just returned from China. Makai of the yam field [Kapauhi] were homes of warriors and lesser chiefs and on the shore at Nihoa, "between Ka'ahumanu and Nu'uanu streets", was a shipyard where foreign style vessels were being made by the Hawaiians under the tutelage of whites.

HONOLULU IN 1810
Streets (shown in red) are of 1870
Drawn by Paul Rockwood
from data compiled by Dorothy Barrere
BISHOP MUSEUM PRESS, 1957
Nuuanu Stream
PA UHI (Yam field)
Kaleleiohu
Kekuaokalani
Kuihelani
Davis
Marin
Keliimaikai
Kamehameha
Kaahumanu
Chief's houses
Warriors houses
Loko Site
Kaahumanu St.
Nuuanu St.
Maika Field
Spear Throwing Field
Kalimoku
Kaleimoku
Hoolulu
Hoolulu Stream
Hoolulu Stream
Hoolulu Stream
Kaumakapili
Kaumakapili
Kaumakapili

Next along the shoreline "surrounded by a fence" was the establishment of Kamehameha himself, consisting of many houses, for himself, for Ka'ahumanu and other chiefesses, and for his gods and his personal attendants. Close by were two drilling sites and a "foot racing" and maika field, where the king kept a personal eye on the performances of his warriors and chiefs. Near the shore, "in front of the courthouse," was a Hale-o-Lono, where Liholiho, later Kamehameha II, regularly kept the kapus of the gods therein.

Next along the beach of Kuloloia was the home of the chiefess Namahana, mother of Ka'ahumanu; that of Liliha, mother of Keopuolani, Kamehameha's sacred wife and mother of Kamehamehas II and III; then that of Kalaniakua, sister or cousin of Liliha. Then came the residence of Kalanimoku (also written as Kalaimoku), the king's prime minister, known to the foreigners as "Billy Pitt." His residences were called Papakanene and Moku'aikaua, and the land long bore the name Moku'aikaua. Mauka of his place was that of Kalaimamahu, Kamehameha's half-brother and his war leader in early battles for supremacy over Hawai'i. Though his houses remained, Kalaimamahu had died some years before. Nearby were a gods' house and houses for the king's stewards, as well as a temporary house for the lua wrestlers.

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Mauka of this area was a "cluster of houses" and another loku site "at Merchant and Alakea streets." Beyond, along the shoreline, was the home of Kekumanoha, uncle of Ka'ahumanu, "on the south side of Richards street." Next came the establishment of Kekuaiwa - a son of Kamehameha by Kaheiheimalie - who died in young manhood. Farther along were the homes of kahunas, headed by Hewahewa, high priest of Kamehameha, and the same man who abetted in the overthrow of the kapu system after the king's death. At Kaka'ako were the homes of fishermen who, together with those who lived at Kapu'ukolo, supplies the needs of the court...

Only for a short while did Honolulu appear as is shown here, for in the latter part of 1812 Kamehameha and most of his court, including Liholiho and I'i, went to Hawai'i, where he remained until his death in 1819.

### 4.1.12 Ka Moolelo Hawaii – O kekahi mau mea i manao nui ia o ke kupapau (Hawaiian History – Some things which are of importance pertaining to the dead)

Care for the dead (kupapaʻu), respect of the graves (ilina), and traditions associated with the spirit after death are subjects of great significance to Hawaiians – past and present. In his history of the Hawaiian people, Samuel M. Kamakau shared a collection of traditions and practices pertaining to the dead and identified some of the places of importance in these practices. These narratives are of particular importance to lands and specific wahi pana of the Kahauiki-Honolulu-Waikīkī region.

***Ke Au Okoa***

**Ka Moolelo Hawaii. Na S.M. Kamakau. Helu 43.**
**O kekahi mau mea i manao nui ia o ke kupapau.**

**Okatopa 6, 1870 (aoao 1)**

…Hookahi anahuna kaulana ma Oahu. O Pohukaina ka inoa, aia ma ka pali o Kanehoalani mawaena of Kualoa a me Kaaawa, ai ka puka i manao ia ma ka pali o Kaoio e huli la i Kaaawa, a o ka lua o ka puka aia ma ka punawai o Kaahuula-punawai. He anahuna alii keia, a he nui ka waiwai huna iloko a me naʻlii kahiko. O Hailikulamanu, oia kekahi puka, aia a kokoke makai o ke ana Koluana i Moanalua, aia ma Kalihi, ma Puiwa, oia na puka ekolu o Pohukaina ma Kona, a o Waipahu ma Ewa, aia ma Kahuku i Koolauloa kekahi puka, a o kauhuhu o kaupaku o keia hale anahuna, oia no ka mauna o Konahuanui a iho i Kahuku. Ua olelo ia ma ka moolelo a kanaka, ua nui ka poe i komo iloko me na ihoiho kukui, mai Kona aku nei a puka i Kahuku…

Na uhane mahope o ka make ana o ke kino. O ke ao kuewa: a o ke ao auana kekahi inoa. I ka make ana o ke kanaka kuleana ole, ua auana kuewa hele kona uhane me ka lalau hele i ka nahelehele, a ua hele wale i Kamaomao, a i ka wiliwili o Kaupea, a hiki kona uhane i Leilono, aia malaila ka Uluolaiowalo; a i loaa ole kona uhane aumakua i maa mau ia ia, a aumakua kokua hoi, alaila, e lele kona uhane ma ka lala ulu popopo a haule ilalo liko i ka po pau ole i o Milu la…

O Leiolono, oia kekahi wahi e make ai na uhane i ka po pau ole. Aia o Leiolono kokoke i ka pohaku o Kapukaki a ma nae aku, e kupono ana i puu hoilina kupapau o Aliamanu, a huli i ka aoao akau o Hokupaa, aia ma ke kapaluna o ke alanui kahiko, aia he hapapa pahoehoe pohaku, a ia maluna he wahi ponaha, he alua paha kapuai ke anapuni, oia ka puka e iho ai ilalo, o ka nuu ia o Papa-ia-Laka he ao aumakua ia wahi, aia ma ka puka e iho ai o ka puka o Leiolono, he ulu o Leiwalo, elua lala ma ka hikina kekahi a ma ke komohana kekahi, he mau lala ulu hoopunipuni keia, a o kekahi lala niu, he lala e lele ai i ka po pauole, a o ka lua o ka lulu ulu, aia a kokua ia mai e ka uhane aumakua kokua, alaila, e ike auanie maia ao aumakua, i na kupuna i olelo ia o Wakea a me ka huina kupuna a pau, a me ko ke ao holookoa e hele nei, i ka lakou huakai; a o kekahi hapa, aia ma kela alala ulu hoopunipuni i ka po pauole. O ka palena o Leilono, o Kapapa-kolea ka palena hikina, he peelua nui launa ke kiai hikina o Keleana; a o Napeha ka palena komohana, a he moo ke kiai malaila, a i makai i keia mau kia, alaila hoi hou i hope, a i kokua hou ia e na uhane aumakua, alaila, ua hou, a ua alakai ia i ke ao aumakua.

A i makau i ka peelua e alai ana i ke alanui mai kela aoao mai o Alia, kiei je poo ma ka pali o Kapakolea, alaila makau ke uhane a auwana, a pili aoao ma ke kahawai ma ka hale hana ili, aole he alanui aupuni mamua, aka, he alanui kamaaina no Kauhilaele, a ua olelo ia aia a komo ka auwana maloko o na palena, he make wale no kona uhane, a o ke lele i ka po pau ole; aka, ua oleloia

ua ola mai no kekahi poe uhane auwana ke loaa i na uhane aumakua kokua, a o ka poe kokua, a o ka poe kokua ole, e make no i ka po pauole, a i o Milu la. Aia ma ke kula o Kaupea, ma ke kaha o Puuloa, e hele ai na uhane auwana e poipoi pulelehua, a e poipoi nanana, oiai aole e hele loa na uhane auwana i na wahi i olelo ia mamua, a i loaa paha i na uhane aumakua e poipoi nanana ana, a ua hoopakeleia, a o ka poe uhane kokua ole, he poe uhane haukae lakou, a mai ka wiliwili i Kaupea, i Kanehili, he nui no na wahi i oleloia ma keia inoa. O Kalea-a-kauhane [Ka-leina-a-ka-uhane], a me ka Ulu o Leiwalo, aia ma Hawaii, ma Maui, ma Molokai, ma Lanai, ma Kauai a me Niihau, hookahi no moolelo like no keia mau wahi…

**Translation — Hawaiian History: Some things which are of importance pertaining to the dead**

There is only one famous hiding cave, *ana huna*, on Oahu. It is Pohukaina. The opening on Kalaeokaʻoʻio that faces toward Kaʻaʻawa is believed to be in the *pali* of Kanehoalani, between Kualoa and Kaʻaʻawa, and the second opening is at the spring Kaʻahuʻula-punawai. This is a burial cave for chiefs, and much wealth was hidden away there with the chiefs of old. On the Kona side of the island the cave had three openings, one at Hailikulamanu—near the lower side of the cave of Koleana in Moanalua—another in Kalihi, and another in Puʻiwa. There was an opening at Waipahu, in Ewa, and another at Kahuku in Koʻolauloa. The mountain peak of Konahuanui was the highest point of the ridgepole of this burial cave "house," which sloped down toward Kahuku. Many stories tell of people going into it with kukui-nut torches in Kona and coming out at Kahuku. Within this cave are pools of water, streams, creeks, and decorations by the hand of man (*hana kinohinohiʻia*), and in some places there is level land (Kamakau, 1964:38).

The leina a ka ʻuhane on Oahu was close to the cape of Kaʻena, on its right (or north, ʻakau) side, as it turns toward Waialua, and near the cutoff (alanui ʻoki) that goes down to Keaokuʻukuʻu. The boundaries of this leina a ka ʻuhane, it is said, were Kahoʻihoʻina-Wakea, a little below Kakaheʻe, and the leaping place (kawa-kai) of Kilauea at Keawaʻula. At these places would be found helpful ʻaumakua souls who might bring back the spirit and restore life to the body, or if not, might welcome it to the realm of the ʻaumakua. Places within the boundaries mentioned were where souls went to death in the po pau ʻole, endless night.

Leilono at Moanalua, Oahu, was close to the rock Kapukaki and easterly of it (a ma ka naʻe aku), directly in line with the burial mound of Aliamanu and facing toward the right side of the North Star (a huli i ka ʻaoʻao ʻakau o ka Hokupaʻa). On the bank above the old trail there was a flat bed of pahoehoe lava, and on it there was a circular place about two feet in circumference. This was the entrance to go down; this was the topmost height (nuʻu) of Kapapaialaka, a place in the ʻaumakua realm. Here at the entrance, ka puka o Leilono, was a

breadfruit tree of Leiwalo, he ʻulu o Leiwalo. It had two branches, one on the east side and one on the west.

These branches were deceiving. From one of them, the soul leaped into the po pau ʻole; if he climbed the other, it would bring aid from helpful ʻaumakua (ʻaumakua kokua). From that branch the soul would see the ʻaumakua realm and the ancestors spoken of, Wakea and all the rest, and those of the entire world who had traveled on this same journey.

The boundaries of Leilono were, Kapapakolea on the east, [with] a huge caterpillar (peʻelua nui) called Koleana as its eastern watchman, and the pool Napeha on the west, with a moʻo the watchman there. If the soul was afraid of these watchmen and retreated, it was urged on by the ʻaumakua spirits, then it would go forward again and be guided to the ʻaumakua realm. If a soul coming from the Alia (Aliapaʻakai) side was afraid of the caterpillar, whose head peered over the hill Kapapakolea, and who blocked the way, it would wander about close to the stream by the harness shop. This was not the government road (alanui aupuni) of former times, but was a trail customarily used by "those of Kauhilaʻele" [figuratively, the common people; the laʻele, old taro leaves, as contrasted with the liko, the new and choicer leaves—that is, the chiefs]. It was said that if a wandering soul entered within these boundaries it would die by leaping into the po pau ʻole; but if they were found by helpful ʻaumakua souls, some wandering souls were saved. Those who had no such help perished in the po pau ʻole of Milu.

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On the plain of Kaupeʻa beside Puʻuloa, wandering souls could go to catch moths (pulelehua) and spiders (nanana). However, wandering souls would not go far in the places mentioned earlier before they would be found catching spiders by ʻaumakua souls, and be helped to escape. Those souls who had no such help were indeed friendless (he poʻe ʻuhane haukaʻe lakou), and there were many who were called by this name, poʻe ʻuhane haukaʻe.

There were Leina-a-ka-ʻuhane and ʻUlu-o-Leiwalo on Hawaii, Maui, Molokai, Lanai, Kauai, and Niihau as well as on Oahu. The traditions about these places were the same. They were where spirits were divided (mahele ana) to go into the realm of wandering spirits, the ao kuewa or ao ʻauwana; or to the ancestral spirit realm, the ao ʻaumakua; or to the realm of endless night, the po pau ʻole.

The places said to be for wandering spirits were: Kamaʻomaʻo for Maui; Uhana [Mahana] at Kahokunui for Lanai; Maʻohelaia for Molokai; Mana for Kauai; Halaliʻi for Niihau; in addition to Kaupeʻa for Oahu. In these places the friendless souls (ʻuhane makamaka ʻole) wandered (Kamakau, 1964:48-49; M.K. Pukui, translator).

### 4.1.13 A Lamentation for Aupuni – Citing Noted Places of the Kona District

With the advent of writing and the publishing of native language newspapers in the Islands, the Hawaiian people began sharing their grief at the loss of loved ones with others across the islands. These kanikau and uwē helu (lamentations, dirges and wailing), such as the kanikau of Aupuni (f.), describe the cultural attachment that people of old shared with their environment and are significant sources of cultural knowledge. The mele (chant-formed) laments are rich with information about wahi pana, named places, sites, resources, winds, rains, and traditional knowledge of the land.

The context of the memories composed into mele is in the form of remembrances of places loved at and visited, of experiences, and places that the two shall never again visit together.

***Ka Nupepa Kuokoa***
**He kanikau.**

| **Apelila 19, 1862 (aoao 4)** | **April 19, 1862 (page 4)** |
|---|---|
| Feberuari, la 2, 1862, ma Kualoa, | February 2nd, 1862, at Kualoa, |
| Koolaupoko, make o ke Aupuni w., | Koʻolaupoko, Aupuni (f.) died, |
| oia ka la Sabati, hora 9 o ka po. | it was the Sabbath, 9 o'clock at night. |
| Haku iho au i wahi kanikau nona. | I composed this lament for her. |
| Eia malalo iho kona wahi kanikau. | Here, below is a lamentation for her. |
| Kanikau aloha no ke Aupuni, | This lamentation is for Aupuni, |
| Kuu wahine mai ka po loloa o ka Hooilo, | My wife of the long winter nights, |
| Mai ka makani anu he Hoolua… | from the cold Hoʻolua winds… |
| …Kuu wahine mai ka Ikiiki o Honolulu, | My wife from the sticky heat of Honolulu, |
| Mai ka piha kanaka i Polelewa, | From the fullness of people at Polelewa, |
| Mai ka ululaau nahele i ka moana, | From the forest grove [descriptive of the masts of the sailing fleet] on the sea, |
| Hooluana aku i kai o ka makeke, | Meeting at the shore side market, |
| Auwe kuu wahine. | Alas my wife. |
| Kuu hoa pili mai ka ua kukalahale o Honolulu, | My close companion in the rains that announce their arrival at Honolulu, |
| Kuu wahine mai ke ola o ka wai o ke ki, | My wife from the waters of life of the ti plants, |
| Mai ka hui-kau-lua a na haole, | From the complications of the foreigners, |
| Kuu wahine mai ka lai o ke Kaona, | My wife from the tranquility of the town, |
| Komo aku kaua o ka olu o Kaumakapili, | We two entered into our peace at Kaumakapili, |
| Kuu wahine mai ka waa a ke Kupua, | My wife from Ka waʻa a ke kūpua, |
| Oia wahi a kaua e hele ai, | That place where we two traveled… |

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| | |
|---|---|
| Kuu wahine o na hale aikane nui, | My wife at the homes of man friends, |
| Akahi au a ike i ka mea nui he aloha, | I have just come to know the greatness of the love |
| Kuu wahine mai ka wai nuhou o ke Aupuni, | My wife of the news (waters) of the Nation |
| Mai ka piina o Maemae, | From the ascent of Maʻemaʻe |
| Hoomaha aku kaua i Puiwa, | We reested at Pūʻiwa. |
| Kuu wahine mai ke kula wela la o Kahua, | My wife from the hot plains of Kahuʻa |
| Komo aku kaua o ka malu o ka niu o Waikiki, | We two entered the shade of the coconut trees of Waikīkī, |
| Auwe kuu wahine. | Alas my wife, |
| Kuu wahine mai ka wai o Kahapaakai, | My wife from the ponds of Kahapaʻakai, |
| Mai ka piina o Luakaha, | From the ascent of Luakaha, |
| Kuu wahine mai ka wai o Kahualana, | My wife from the waters of Kahua[i]lana, |
| Mai ka uka anu o Hapuu, | From the cold uplands of Hāpuʻu, |
| Kuu wahine mai ka ua o Nuuanu — e, | My wife from the rains of Nuʻuanu, |
| Hai ke kawelu holu i ka makani, | The kawelu grans sways, nodding in the wind, |
| Kuu wahine mai ka nuku o Nuuanu… | My wife from the summit of Nuʻuanu… |
| …Noho au me ka u me ka minamina, | …I remain here in tears with regret, |
| Me ke kaumaha ia oe, | With sadness for you, |
| Auwe kuu wahine. | Alas my wife. |
| Na Konaaihele. | By Konaaihele. |
| Kualoa, Koolaupoko, Apr. 19, 1862. | Kualoa, Koolaupoko, Apr. 19, 1862. |

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### 4.1.14 Place Name Article Series (1883)

In 1883-1884, the *Saturday Press* ran a series of articles under the heading "Dictionary of Hawaiian Localities," in which were published a number of place names from around the islands. The introduction to the articles shared:

> The names given below are Hawaiian geographical names of towns, districts, ridges, mountains, valleys, bays, rivers, etc., which English readers are likely to encounter in historical or newspaper reading. Translation are given when a satisfactory English rendering is possible. This dictionary will be continued as complete as possible… (*Saturday Press*, December 29, 1883)

Selected place names and then modern street names of the Honolulu-Waikīkī region have been excerpted from the series. It should be noted here that the author (not named) was not

conversant in Hawaiian language and some of the translations are inconsistent with native thought. In some instances, the translations offered are acceptable.

***Saturday Press***
**Dictionary of Hawaiian Localities.**

**July 28, 1883 (page 5)**

Aala – "Sweet smelling:" All that part of Honolulu beyond Smith's bridge and the Chinese wash-houses, and this side of Leleo, and extending towards the valley as far as the Honolulu Poi Factory.
Apua – "A purse net or shrimping basket:" That portion of Honolulu below Queen Street, and immediately opposite the government house premises, and of about the same width. The name more especially belongs to the premises belonging to the late Princess Keelikolani.
Auwaiolimu – "The mossy stream:" The district above School Street, and bounded by that street, Punchbowl, the Pauoa stream and Kaalaa, Honolulu.
Alewa – "Swinging:" Between Waikahalulu and Puunui Street, Honolulu.
Ainahou – "New land:" The Esplanade, Honolulu.
Alakani – "The sounding way:" Land in Kalihi, Oahu.
Apili – "Caught, snared or struck:" Land surrounding the fish pond in Kalihi, Oahu, belonging to the Adams' family. It was there that Capt. Alexander Adams had his famous gardens, which was quite a place of resort for strangers and whale-men, about 1850. The fish pond is yet famous for the superior flavor of its fish, particularly the awa, which, eaten raw, is esteemed a rare treat by native epicures.

**August 11, 1883 (page 4)**

Alakea – "The white or light way:" Alakea Street, Honolulu.
Alii – King Street, Honolulu.
Aliiwahine – Queen Street, Honolulu.
Alaliilii – Palace Walk, Honolulu.
Akamu – Adam's Lane, Honolulu.
Ahua – "Little hill:" Land in Moanalua, Oahu.

**August 25, 1883 (page 4)**

Iwilei – "Yard, 3 feet:" Land in Honolulu adjoining Kawa and just beyond the slaughter houses. It includes a fishing right.
Umi – "To suffocate or to suppress:" Land in Kalihi, Oahu.

**September 8, 1883 (page 5)**

Haipu – "All broken into:" Land in Honolulu.
Honuakaha – "Marked ground:" Land in Honolulu.
Hamohamo – "Feeling, brushing or smoothing:" The residence of H.R.H. Liliuokalni, Waikiki, Oahu.

Honolulu – The capital of the kingdom, Oahu.
Haunapo – Land in Kalihi, Oahu.

**September 22, 1883 (page 5)**

Hauhaukoi – "Struck with an axe:" Land bordering on Liliha Street, Honolulu, Oahu.
Honokaupu – Land in Honolulu on Queen Street, and between Fort and Alakea Street.
Halimaile – "Strewn with maile:" One third of the palace grounds on the Ewa side.

**October 6, 1883 (page 5)**

Kou – "Cordia:" The former name of Honolulu. One of the finest specimens of wood.
Kawaiahao – "The water of Hao:" A district of Honolulu about where the old Stone Church now stands and from there eastward.
Koula – "Red sugar cane:" The region about the Catholic burying ground and Mrs. Ward's "Old Plantation."
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Kewalo – A fish pond and surrounding land on the plains below King Street, and beyond Koula. It contains a spring rather famous in the times previous to the conversion to Christianity, as the place where victims designed for the Heiau of Kanelaau on Punchbowl slopes, was first drowned. The priest when holding the victims head under water would say to her or him on any signs of struggling, "Moe malie i ke kai o ko haku." "Lie still in the waters of your superior." From this it was called "Kawailumalumai," "Drowning waters."
Kaumakapili – "The clouded eyes:" The district of Honolulu above Smith's bridge and about where the new native Protestant church stands.
Kikihale – "Mended house:" District in Honolulu between Maunakea and King Street.
Kakaako – Where the salt work is, and the leper hospital, Honolulu.

**November 17, 1883 (page 3)**

Kukuluaeo – "Tall, slim or slender:" Also the name of a sea bird. District adjoining Kakaako in Honolulu.
Kaakopua – "Picking flowers:" District of Honolulu on the west of Emma Street and about where Princess Ruth's palace is. It was also the place where Kahaniakeaku's canoe was dropped for the last time by the demons in the legend of Kaala.
Koleaka – The district on School Street, Honolulu, about the bridge between Fort and Nuuanu streets.
Kahehuna – "The hidden water way:" About where the Royal school is, Honolulu.
Kuwili – "Hugging, or telling a thing over and over:" A fish pond on the mauka side of the prison, Honolulu.

Kapahaha – "Spreading out:" Land in Honolulu.
Kaliu – "Salty:" Land in Honolulu.
Kaoawai – Literally "The water crack" Really, a natural "water course:" Land in Honolulu.
Kamakela – "Died from sunstroke" or "killed by the sun:" Land in Honolulu.
Kuhimana – "Pointing in different directions:" Land in Palama, Oahu.
Kahawale – "Soft branch or stalk:" Land in Palama, Oahu.
Keoneula – "Red sands:" Where the Reformatory school is, Palama, Oahu.
Kukanaka – "Standing men:" Land in Palama, Oahu.
Kalawahine – "Forgiven woman:" Land in Palama, Oahu.
Kauluwela – "Hot groves:" Land in Palama, Oahu.
Kawaiki – "Little water:" Land in Palama, Oahu.
Kunawai – Spring and surrounding land between Liliha street and Insane Asylum. A large spring of considerable value, and considered sacred by natives as the residence of a moo (water spirit). Land in Honolulu.
Kuaiula – "Red bargain:" Land in Honolulu.
Kumuhau – "Hau tree:" Land in Honolulu.
Kaimuohena – "Mound of Hena:" Where a chief was baked in an underground oven in the olden times. Land in Honolulu.
DRAFT
Kapauhi – "Covered yard" or "yam enclosure:" The lower end of the square between the Fort and Emma streets and above Beretania, Honolulu.
Kaikahi – "Very scarce:" Land in Honolulu.
Kawananakoa – "The brave prophecy:" Where the royal mausoleum is, Honolulu.
Kaluapalena – "The ending hole:" Land in Kalihi, Oahu.
Keonepanei – "Moving sand:" Land in Kalihi, Oahu.
Keauhou – "The new current," or "The new regime:" Land in Kalihi, Oahu.
Kahui – "A society or club:" Land in Kalihi, Oahu.
Kukahi – "Standing alone:" Land in Kalihi, Oahu.

**December 1, 1883 (page 5)**

Kalia – Land in Waikiki about where Moehonua's cottage is and including land bordering the Piinaio stream to the sea.

**December 29, 1883 (page 6)**

Names of the streets in Honolulu.

Alanui Berekane – Beretania Street.
Alanui Chaplain – Chaplain Street.
Alanui Hokele – Hotel Street.
Alanui Kihapai – Garden Street.
Alanui Kalepa – Merchant Street.
Alanui Kawaiahao – "Hao's water:" Kawaiahao Street.
Alanui Kamika – Smith's Street.
Alanui Marine – Marine Street.

Alanui Maunakea – "The white mountain:" Maunakea Street.
Alanui Nuuanu – "The cold step or peak:" Nuuanu Street.
Alanui Puowaina – Punchbowl Street.
Alanui Paipalapala – Printer's Lane.
Alanui Rikeke – Richard Street.
Alanui Waikahalulu – The extension of School Street.

### 4.1.15 Summary of Land Use in the Kahauiki – Kālia Region

In the 1930s, Bishop Museum's E.S.C. Handy conducted research of Hawaiian land use and history, including work with native informants in the field. In his account of "Native Planters" (1940) is the following description of lands in the region covered by this study. Handy's summary includes the following narratives (organized west to east):

> **Kahauiki**. Kahauiki Stream irrigated a moderate-sized area of terraces extending from the sea inland for about half a mile…
>
> **Kalihi**. Extensive terraces covered all the flatland in lower Kalihi Valley for approximately 1.25 miles on both sides of the stream. Above this the valley is too narrow for terraces for a mile or more; but in upper Kalihi there are numerous small areas that were developed in terraces. Bennett (4, vol. 1, p. 202) says of this valley: "Human dwellings and cultivated lands are here very few, or scattered thinly over a great extent of probably the finest soil in the world." McAllister (44, site 72) notes that "on the Ewa side of the stream the home site is still to be seen at a place called Kupehau where the chiefs of Hawaii resorted because of the delicious poi and tender taro tops to be had there. Kamehameha the first was one of the chiefs who visited the spot."
>
> **Kapalama**. Kapalama had two streams watering its terrace area, which was almost continuous from Iwilei up to the foothills above School Street, an area measuring about three quarters of a mile both in depth inland and in breadth.
>
> **Nuuanu.** In upper Nuuanu there are many small valleys which open into the main valley on either side of the stream… From Waolani to Kapalama the terraces were continuous on the level and gently sloping land between the Nuuanu and Waolani Streams, past Wyllie and Judd Streets and throughout the section on the north side of the valley, down what is now Liliha Street. In many vacant lots, yards, and gardens above and below Judd Street traces of terraces may still be seen…
>
> Of this section Meyen, continuing his Oahu observations, says (50) :
>
>> Scarcely had we left the gardens of the capitol, which were for the most part planted with beautiful flowers, when we arrived at broad fields of Arum macrorrhizon, which are known by the name of "tarro patches" here. What a sight for us to view such large fields of this valuable economic

> plant… Nearby lie fields planted with sugar cane, which is only used for eating here, and whose bluish green makes a vivid contrast with the bright green of the banana leaves and the velvety color of the tarro plants. How beautiful is the sight of these tropical plants in their own country! [page 78]

...The newspaper "Kuokoa" of June 22, 1865 (32) has this reference to a famous taro terrace in the district:

> I turn to view Kamanuwai [near the junction of Nuuanu and Beretania Streets]. This is an ancient taro patch said to have belonged to Keopuolani or to someone earlier. The food from this taro patch is the food of the sow belonging to the chief. Kupanihi was the name of the sow, so named for the father of the red-eyed chief Kahaoi.

**Honolulu**. Of the specific section in early days known as Honolulu, Meyen (50) writes:

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> If one were to visit the great plains of Honoruru and see all the beautiful cultivated land in the transverse valleys, that extends onto the plains of Honoruru, and also the tremendous quantity of food plants that are cultivated in the valley of the Pearl River, one might perhaps be persuaded to believe that a great excess of food prevails here, although it is not the case. The tarro plantations occupy a great deal of space and yield far less nourishment than our potato and grain fields. In fact, the high price of fresh supplies at the market of Honoruru we might directly ascribe to inadequate cultivation.

Kotzebue, traveling in the islands from 1815 to 1818, was more impressed. He writes (42, vol. 3, p. 236):

> Woajoo is the most fertile of the Sandwich Islands, from which Owhyee receives a part of the taro necessary for its consumption. The cultivation of the valleys behind Hanarura is remarkable; artificial ponds support, even on the mountains, the taro plantations, which are at the same time fish ponds; and all kinds of useful plants are cultivated on the intervening dams.

Elsewhere Kotzebue describes the method of taro cultivation in greater detail (42, vol. 1, pp. 340-341):

> The artificial taro fields, which may justly be called taro lakes, excited my attention. Each of them forms a regular square of 160 feet, and is enclosed with stone all round like our basins… In the spaces between the fields, which are from three to six feet broad, there are very pleasant shady avenues, and on both sides bananas and sugar cane are planted. ...I have seen whole mountains covered with such fields, through which the water

> gradually flowed; each sluice formed a small cascade, which ran through avenues of sugar cane, or bananas, into the next pond, and afforded an extremely picturesque prospect. [page 77]

**Waikiki**. The extensive terrace areas that covered the level land between what are now Kalakaua Avenue, Kapiolani Park, and Moiliili were watered by Palolo Stream and Manoa Stream, the lower courses of which formerly met in the midst of this area. In former days this was one of the most extensive single terrace areas on the island. It was developed by the chief, Kalamakua. Some of the area has been filled in for fair grounds and building sites, while the remaining terraces now in cultivation are in rice. (In 1931 these were all in Chinese bananas.) Of taro cultivation in Waikiki in 1865 a correspondent of the Hawaiian-Ianguage newspaper "Kuokoa" writes (33): [page 74]

Farming was one of the principal duties of the chiefs, and the land [in Waikiki] was rich under cultivation. It was planted from the upper part to its entering the coconut grove [along the shore]… Water courses were made throughout the land, thereby feeding the taro patches and fishponds… A good chief was Kalamakua, who was well-known for his farming. He constructed the large taro *loʻi* of Keokea, Kalamanamana, Kualualu and others at Waikiki (Handy, 1940:73-79).

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## 4.2 Māhele ʻĀina (the Land Division) of 1848 – Fee Simple Property Rights in the Ahupuaʻa of Waikīkī

Prior to Western contact, all land in the Hawaiian Islands was held by the chiefs as descendants of the gods—no one owned the land. After Western contact, some foreigners were granted gifts of land for services to Kamehameha I or his heirs. With a growing number of foreigners arriving and establishing business interests or in service of the mission stations, many petitioned for fee-simple title to land upon which they lived or worked. In 1848, Kauikeaouli-Kamehameha III agreed to the Māhele ʻĀina which defined the land interests of the King, some two hundred and fifty-two high-ranking Aliʻi and Konohiki (including several foreigners who had been befriended by members of the Kamehameha line), and the Government. As a result of the Māhele, all lands in the Kingdom of Hawaiʻi and associated fisheries came to be placed in one of three categories: (1) Crown Lands (for the occupant of the throne); (2) Government Lands; and (3) Konohiki Lands. The "Enabling" or "Kuleana Act" of the Māhele (December 21, 1849) further defined the frame-work by which hoaʻāina (native tenants) could apply for and be granted fee-simple interest in "Kuleana" lands (cf. Kamakau, 1961:403). The Kuleana Act reconfirmed the rights of hoaʻāina to: access, subsistence and collection of resources from mountains to the shore, which were necessary to sustain life within their given ahupuaʻa. Though not specifically stated in this Act, the rights of piscary (to fisheries and fishing) had already been granted and were protected by earlier Kingdom laws.

### 4.2.1 The Kuleana Act of 1850

The Kuleana Act, remains the foundation of law pertaining to native tenant rights and prescribed:

**August 6, 1850**

An Act confirming certain resolutions of the King and Privy Council passed on the 21st day of December 1849, granting to the common people allodial titles for their own lands and house lots, and certain other privileges.

Be it enacted by the Nobles and Representatives of the People of the Hawaiian Islands in Legislative Council assembled;

That the following sections which were passed by the King in Privy Council on the 21st day of December A.D. 1849 when the Legislature was not in session, be, and are hereby confirmed, and that certain other provisions be inserted, as follows:

Section 1. Resolved. That fee simple titles, free of commutation, be and are hereby granted to all native tenants, who occupy and improve any portion of any Government land, for the land they so occupy and improve, and whose claims to said lands shall be recognized as genuine by the Land Commission; Provided, however, that the Resolution shall not extend to Konohikis or other persons having the care of Government lands or to the house lots and other lands, in which the Government have an interest, in the Districts of Honolulu, Lahaina and Hilo.

Section 2. By and with the consent of the King and Chiefs in Privy Council assembled, it is hereby resolved, that fee simple titles free of commutation, be and are hereby granted to all native tenants who occupy and improve any lands other than those mentioned in the preceding Resolution, held by the King or any chief or Konohiki for the land they so occupy and improve. Provided however, this Resolution shall not extend to house lots or other lands situated in the Districts of Honolulu, Lahaina and Hilo.

Section 3. Resolved that the Board of Commissioners to quiet Land titles be, and is hereby empowered to award fee simple titles in accordance with the foregoing Resolutions; to define and separate the portions belonging to different individuals; and to provide for an equitable exchange of such different portions where it can be done, so that each man's land may be by itself.

Section 4. Resolved that a certain portion of the Government lands in each Island shall be set apart, and placed in the hands of special agents to be disposed of in lots of from one to fifty acres in fee simple to such natives as may not be otherwise furnished with sufficient lands at a minimum price of fifty cents per acre.

> Section 5. In granting to the People, their House lots in fee simple, such as are separate and distinct from their cultivated lands, the amount of land in each of said House lots shall not exceed one quarter of an acre.
>
> Section 6. In granting to the people their cultivated grounds, or Kalo lands, they shall only be entitled to what they have really cultivated, and which lie in the form of cultivated lands; and not such as the people may have cultivated in different spots, with the seeming intention of enlarging their lots; nor shall they be entitled to the waste lands. [Generally wet lands, ponds and fallow fields (see citations later in this section).]
>
> Section 7. When the Landlords have taken allodial titles to their lands the people on each of their lands shall not be deprived of the right to take firewood, aho cord, thatch, or ti leaf from the land on which they live, for their own private use, should they need them, but they shall not have a right to take such articles to sell for profit. They shall also inform the Landlord or his agent, and proceed with his consent. The people shall also have a right to drinking water, and running water, and the right of way. The springs of water, and running water, and roads shall be free to all should they need them, on all lands granted in fee simple. Provided, that this shall not be applicable to wells and water courses which individuals have made for their own use.

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> Done and passed at the Council House, Honolulu this 6th day of August 1850. (Copied from original hand written "Enabling Act"[8] – Hawaii State Archives, DLNR 2-4.)

At the outset of the Māhele, King Kamehameha III (Kauikeaouli) invited prominent aliʻi and konohiki, as well as a group of foreigners—individuals who had provided service to Kamehameha I and/or the Kingdom—to lay their personal land claims before a committee. The resulting record is a book known as the *Buke Māhele* (Division Book) of 1848 (copy of 1864). It is a record of the agreements made between the King, Kamehameha III, family members, supporting chiefs, and others who supported Kamehameha I and his heirs in the period between the 1790s to the 1840s. The *Buke Māhele* also lists the lands granted by the King to the Government land inventory—financial returns from sales and leases of such were dedicated to the support of government operations—and for conveyance through Royal Patent Grants to Hawaiians and other parties in leasehold and fee-simple interests. The *Buke Māhele* is also the primary source for identifying the Crown and Government land inventory now known as the "Ceded Lands."

**Table 3** is a compilation of the records filed in the *Buke Māhele* between Kamehameha III, the Chiefs, and selected foreigners, and provides the general disposition of the Waikīkī ahupuaʻa. At the close of the King's Māhele, ʻaina (ahupuaʻa and ʻili) which claimants had

[8] See also Kanawai Hoopai Karaima no ko Hawaii Pae Aina (Penal Code) 1850.

relinquished to the King, were again "māhele ʻia" (divided) between the King and the Aupuni (Kingdom/Government), with the formal record being entered and signed on March 8, 1848. In this way various parcels of land in the four ahupuaʻa cited below were conveyed to the Aupuni, and from those ʻāina, Palapala Sila Nui (Royal Patent and Land Grants) were sold to various parties or maintained in the land inventory. Following the overthrow of the Queen Liliʻuokalani as sovereign ruler of the islands, the latter lands which were still held by the kingdom or government became a part of the "Ceded Lands" inventory after annexation in 1898.

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**Table 3. Disposition of the Ahupuaʻa of Waikīkī as Recorded in the Buke Māhele**

| Ko Kamehameha III | | | | Ko Vitoria Kamamalu | | | | Date/ Page(s) |
|---|---|---|---|---|---|---|---|---|
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Ianuari 27, 1848 (3-4) |
| Kalia | Ili i Waikiki | Kona | Oahu | Kanewai | Ili ma Waikiki | Kona | Oahu | |
| ~~Paakea~~ | ~~Ili i Waikiki~~ | ~~Kona~~ | ~~Oahu~~ | Kapaakea | Ili ma Waikiki | Kona | Oahu | |
| Kahaole | Ili i Waikiki | Kona | Oahu | Komoawaa | Ili ma Waikiki | Kona | Oahu | |
| ~~Komoawaa~~ | ~~Ili i Waikiki~~ | ~~Kona~~ | ~~Oahu~~ | | | | | |
| Kaluahole | Ili i Waikiki | Kona | Oahu | Waialae | Ili ma Waikiki | Kona | Oahu | |
| Kaluaalaea | Ili i Waikiki | Kona | Oahu | | | | | |
| Kapuna | Ili i Waikiki | Kona | Oahu | | | | | |
| Nukunuku-aula | Ili i Waikiki | Kona | Oahu | | | | | |
| Kaaumoa | Ili i Waikiki | Kona | Oahu | | | | | |
| Aauaukai | Ili i Waikiki | Kona | Oahu | | | | | |
| Waihinalo | Ili i Waikiki | Kona | Oahu | Haiku | Ahupuaa | Hamakua loa | Maui | |
| Mookahi | Ili i Waikiki | Kona | Oahu | | | | | |
| Pawaa o Maalo | Ili i Waikiki | Kona | Oahu | | | | | |
| Kaluaolohe | Ili i Waikiki | Kona | Oahu | | | | | |
| ~~Kaluahone-wai~~ | ~~Ili i Waikiki~~ | ~~Kona~~ | ~~Oahu~~ | | | | | |
| Waiaka | Ili i Waikiki | Kona | Oahu | | | | | |
| Kumuulu | Ili i Waikiki | Kona | Oahu | | | | | |
| 2 Kahoiwai 1,2 | Ili i Waikiki | Kona | Oahu | | | | | |
| Waihi | Ili i Waikiki | Kona | Oahu | | | | | |

| Ko Kamehameha III | | | | Ko Lota Kapuaiwa Kamehameha | | | | Date/ Page(s) |
|---|---|---|---|---|---|---|---|---|
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Ianuari 27, 1848 (7-8) |
| Kukuluaeo | Ili ma o Waikiki | Kona | Oahu | Moanalua | Ahupuaa | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Keohokalole** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Ianuari 28, 1848 (11-12) |
| Waiomao | Ili ma Waikiki | Kona | Oahu | Hamohamo | Waikiki | Kona | Oahu | |
| Hamama | Ili ma Waikiki | Kona | Oahu | Kahana | Ahupuaa | Koolau loa | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Iona Piikoi** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Ianuari 28, 1848 (11-12) |
| Kepuhi | Ili ma Waikiki | Kona | Oahu | Kaluaoopu | Ili ma Waiau | Ewa | Oahu | |
| **Ko Kamehameha III** | | | | **Ko William Lunalilo** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Ianuari 28, 1848 (21-22) |
| Kaaawa | Ahupuaa | Koolau loa | Oahu | Pau | Ili i Waikiki | Kona | Oahu | |
| | | | | Kamoku | Ili i Waikiki | Kona | Oahu | |
| Koolau | Moku | | Maui | Kaluaokau | Ili i Waikiki | Kona | Oahu | |
| | | | | Kapahulu | Ili i Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko William P. Leleiohoku** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Ianuari 28, 1848 (23-24) |
| Halelena | Ili no Waikiki | Kona | Oahu | | | | | |
| **Ko Kamehameha III** | | | | **Ko Mikahela Kekauonohi** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Ianuari 28, 1848 (25-26) |
| Puahia | Ili i Waikiki | Kona | Oahu | Waimalu | Ili i Honouliuli | Ewa | Oahu | |

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| Ko Kamehameha III | | | | Ko Ioane Ii | | | | Date/ Page(s) |
|---|---|---|---|---|---|---|---|---|
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Ianuari 27, 1848 (29-30) |
| Paikahawai | Ili i Kapaa | Puna | Kauai | Pawaa | Ili i Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Charles Kanaina** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Ianuari 28, 1848 (31-32) |
| Makeanehu | Ahupuaa | Kohala | Hawaii | Kalowalu | Aina kalo ma Manoa | Waikiki | Oahu | |
| Puehuehu | Ahupuaa | Kohala | Hawaii | Pamoa | Aina kalo ma Manoa | Waikiki | Oahu | |
| Kaohe | Ahupuaa | Kapalilua | Hawaii | Kukuio | Aina kalo ma Manoa | Waikiki | Oahu | |
| Ilikahi | Ahupuaa | Lahaina | Maui | Kalehua | Aina kalo ma Manoa | Waikiki | Oahu | |
| Luakaha | Ili i Honolulu | Kona | Oahu | Kalokoeli | Ili i Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Pehu** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Ianuari 31, 1848 (37-38) |
| Okai | Ili no Mananaiki | Ewa | Oahu | Kekio | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Davida Kauliokamoa** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Ianuari 31, 1848 (43-44) |
| Laaumana | Ahupuaa | Kohala | Hawaii | Kaiwiokaihu | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Kamaha** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Ianuari 31, 1848 (45-46) |
| ½ Wailupe | Ili no Waikiki | Kona | Oahu | ½ Wailupe | Ili no Waikiki | Kona | Oahu | |

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| Ko Kamehameha III | | | | Ko Samuela Kuluwailehua | | | | Date/ Page(s) |
|---|---|---|---|---|---|---|---|---|
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Ianuari 31, 1848 (47-48) |
| Kalawao | Ahupuaa | | Molokai | Kamoku | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Kahanaumaikai** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Ianuari 31, 1848 (47-48) |
| 2 Kealia | Ahupuaa | | Lanai | Kaluaolohe | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Kalaimoku** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Ianuari 31, 1848 (49-50) |
| Mookahi | Ili no Waikiki | Kona | Oahu | Nini | Ili no Honolulu | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Kekualoa** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 1, 1848 (53-54) |
| Piliamoo | Ili no Waikiki | Kona | Oahu | Kaliu | Ili no Honolulu | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Kaihiwa** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 1, 1848 (53-54) |
| Kahalaa | Ili no Waikane | Koolau Poko | Oahu | Kauhiko | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko H. H. Haalilio** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 1, 1848 (55-56) |
| Kaloiki | Ili no Waikiki | Kona | Oahu | Ohua | Ili i Waikele | Ewa | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Nakookoo** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 1, 1848 (57-58) |
| ½ Mauluki-kepa | Ili no Waikiki | Kona | Oahu | ½ Mauluki-kepa | Ili no Waikiki | Kona | Oahu | |

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| Ko Kamehameha III | | | | Ko Paukuwahie | | | | Date/ Page(s) |
|---|---|---|---|---|---|---|---|---|
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 1, 1848 (59-60) |
| Lahuiiki | Ili no Kukuipahu | Kohala | Hawaii | Kiki | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Haumea** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 2, 1848 (63-64) |
| Kiapu | Ahupuaa | Hilo | Hawaii | Keauhou | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Kealohapauole** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 2, 1848 (69-70) |
| ½ Kaualaa | Ili no Waikiki | Kona | Oahu | ½ Kaualaa | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Naeole** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 3, 1848 (77-78) |
| Maluaka | Ili no Waikee | Koolau Poko | Oahu | Kamoo-muku | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Kekukahiko** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 3, 1848 (79-80) |
| Kaalawai | Ili no Waikiki | Kona | Oahu | Kaalawai | Ili no Waikiki | Kona | Oahu | |
| Kaalawai | ke kula a me ke poho na mea i lilo | | Oahu | Kaalawai | aina kalo a me ka ia hoomalu | | Oahu | |
| Kaalawai | ole ia Kekuakahiko | | Oahu | | | | | |
| **Ko Kamehameha III** | | | | **Ko Kaunuohua** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 4, 1848 (91-92) |
| Kalahea | Ahupuaa | Kona | Kauai | Puulena | Ili no Waikiki | Kona | Oahu | |

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| Ko Kamehameha III | | | | Ko Ioba Napahi | | | | Date/ Page(s) |
|---|---|---|---|---|---|---|---|---|
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 4, 1848 (93-94) |
| Kapano | Ahupuaa | Koolau Loa | Oahu | Mookahi | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Davida Kalanikahua** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 4, 1848 (95-96) |
| Papohaku | Ahupuaa | Kau | Hawaii | Kaahaloa | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Maalahia** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 4, 1848 (97-98) |
| Kahoa | Ili no Kailua | Koolau Poko | Oahu | Kalae-pohaku | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Kauhao** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 4, 1848 (99-100) |
| Mauinoni | Ili no Waihee | Koolau Poko | Oahu | Niukukahi | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Kapu** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 4, 1848 (99-100) |
| Halekou | Ili no Kaneohe | Koolau Poko | Oahu | Kalae-pohaku | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Samuela Kanae** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 7, 1848 (101-102) |
| Mokuhoo-niki | Ahupuaa | Hilo | Hawaii | Kiokapu | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Aikake Lui** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 7, 1848 (103-104) |
| Pukele | Ili no Waikiki | Kona | Oahu | Mapulehu | Ahupuaa | Kona | Molokai | |

| Ko Kamehameha III | | | | Ko Kanehiwa | | | | Date/ Page(s) |
|---|---|---|---|---|---|---|---|---|
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 7, 1848 (109-110) |
| ½ Kahau-makaawe | Ili no Waikiki | Kona | Oahu | ½ Kahau-makaawe | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Piianaia** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 7, 1848 (115-116) |
| Kaluaolohe | Ili no Waikiki | Kona | Oahu | Keaalii | Ahupuaa | Hamakua Loa | Maui | |
| **Ko Kamehameha III** | | | | **Ko Pahau** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 8, 1848 (119-120) |
| ½ Kahau-makaawe | Ili no Waikiki | Kona | Oahu | ½ Kahau-makaawe | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Kamakahonu** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 8, 1848 (121-122) |
| Lupehu | Ili no Hakipuu | Koolau Poko | Oahu | Kamooiki | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko T. Kuke** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 8, 1848 (123-124) |
| Kahalau-luahine | Ili no Waikiki | Kona | Oahu | Oneawa | Ili no Kailua | Koolau Poko | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Aarona Kealiiahonui** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 9, 1848 (131-132) |
| Kaneloa | Ili no Waikiki | Kona | Oahu | Kalihikai | Ahupuaa | Halelea | Kauai | |
| **Ko Kamehameha III** | | | | **Ko Wm. Beckley a me na Hooilina o George Beckley** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 10, 1848 (135-136) |
| Pualoalo | Ili no Halawa | Kohala | Hawaii | Wailele | Ili no Waikiki | Kona | Oahu | |

| Ko Kamehameha III | | | | Ko Abenera Paki | | | | Date/ Page(s) |
|---|---|---|---|---|---|---|---|---|
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 11, 1848 (153-154) |
| Mookahi | Ili no Waikiki | Kona | Oahu | Waialae | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko G.L. Kapeau** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 12, 1848 (155-156) |
| ½ Pawaa | Ili no Waikiki | Kona | Oahu | ½ Pawaa | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko G.P. Judd** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 12, 1848 (155-156) |
| ½ Pawaa | Ili no Waikiki | Kona | Oahu | ½ Pawaa | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Keoni Ana** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Feberuari 12, 1848 (161-162) |
| | | | | Pahoa | Ili no Waikiki | Kona | Oahu | |
| **Ko Kamehameha III** | | | | **Ko Ke Aupuni** | | | | Date/ Page(s) |
| Na Aina | Ahupuaa | Kalana | Mokupuni | Na Aina | Ahupuaa | Kalana | Mokupuni | Maraki 8, 1848 (211-212) |
| | | | | Kalia | Ili no Waikiki | Kona | Oahu | |
| | | | | Haole | Ili no Waikiki | Kona | Oahu | |
| | | | | Kaluahole | Ili no Waikiki | Kona | Oahu | |
| | | | | Kaluaalaea | Ili no Waikiki | Kona | Oahu | |
| | | | | Kapuna | Ili no Waikiki | Kona | Oahu | |
| | | | | Nukunuku-aula | Ili no Waikiki | Kona | Oahu | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Kaaumoa | Ili no Waikiki | Kona | Oahu | |
| | | | | Auauakai | Ili no Waikiki | Kona | Oahu | |
| | | | | Waihinalo | Ili no Waikiki | Kona | Oahu | |
| | | | | Mookahi | Ili no Waikiki | Kona | Oahu | |
| | | | | Pawaa | Ili no Waikiki | Kona | Oahu | |
| | | | | Kaluaolohe | Ili no Waikiki | Kona | Oahu | |
| | | | | Kahalelena | Ili no Waikiki | Kona | Oahu | |
| | | | | Waiaka | Ili no Waikiki | Kona | Oahu | |
| | | | | Kumuulu | Ili no Waikiki | Kona | Oahu | |
| | | | | Kahoiwai 1 | Ili no Waikiki | Kona | Oahu | |
| | | | | Waihi | Ili no Waikiki | Kona | Oahu | |
| | | | | Pahupahu-apuaa | Ili no Waikiki | Kona | Oahu | |
| Waiomao | Ili no Waikiki | Kona | Oahu | ½ Kaalawai | Kula waiho no | Kona | Oahu | Maraki 8, 1848 (213-214) |
| Hamama | Ili no Waikiki | Kona | Oahu | ½ Pawaa | Ili no Waikiki | Kona | Oahu | |
| Puahia | Ili no Waikiki | Kona | Oahu | Kukuluaeo | Ili no Waikiki | Kona | Oahu | |
| ½ Wailupe | Ili no Waikiki | Kona | Oahu | | | | | |
| Mookahi | Ili no Waikiki | Kona | Oahu | | | | | |
| Piliamoo | Ili no Waikiki | Kona | Oahu | | | | | |
| Kaloiki | Ili no Waikiki | Kona | Oahu | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ½ Maulu-kikepa | Ili no Waikiki | Kona | Oahu | | | | | |
| Pukele | Ili no Waikiki | Kona | Oahu | | | | | |
| ½ Kahau-makaawe | Ili no Waikiki | Kona | Oahu | | | | | |
| Kaluaolohe | Ili no Waikiki | Kona | Oahu | | | | | |
| ½ Kahau-makaawe | Ili no Waikiki | Kona | Oahu | | | | | |
| Kahalau-luahine | Ili no Waikiki | Kona | Oahu | | | | | |
| Kaneloa | Ili no Waikiki | Kona | Oahu | | | | | |
| ½ Poloke | Ili no Waikiki | Kona | Oahu | | | | | |
| Mookahi | Ili no Waikiki | Kona | Oahu | | | | | |
| Pawaa Loi | Ili no Waikiki | Kona | Oahu | | | | | |
| Halelena | Ili no Waikiki | Kona | Oahu | | | | | |
| Kaalawai Loi | Ili no Waikiki | Kona | Oahu | | | | | |

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### 4.2.2 Place Names from the Ahupuaʻa of Waikīkī Cited in Records of the Māhele ʻĀina

As discussed earlier, inoa ʻāina (land or place names) are a significant indicator of cultural attachment and knowledge of place. The names are often descriptive of: (1) the terrain, (2) an event in history, (3) the kind of resources a particular place was noted for, or (4) the kind of land use which occurred in the area so named. Sometimes an earlier resident of a given land area was also commemorated by place names.

The named localities extend from the shore to the mountain slopes. In some instances, the place names identify a specific site on the land, while others describe regions or strips of land. Other parcels of land identified in the records include ʻili, kula, moʻo ʻāina, loʻi or kīhāpai. These parcels of land were established as smaller subdivisions or management parcels which might include a quarter acre parcel for a single house site or garden plot, or hundreds of acres.

Following below is a compilation of 8 place names from Waikīkī as identified in the claims of native tenants in the ahupuaʻa.

**Place Names of Waikīkī from Records of the Māhele ʻĀina**

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| | | |
|---|---|---|
| Kālia | Loko Kauamoa | Waialala |
| Kewalo | Loko Kewalo | Waikīkī |
| Kukuluaeo | Punahou | |

**Waikīkī Claimants Provided Testimony of the Following Uses and Features:**

- ʻAuwai (irrigation channels/ditches)
- Hale (houses and house lots)
- Kiʻo pua (fish fingerling ponds)
- Kula lands (dryland agricultural parcels)

**Table 4. Place and Resident Names, Land Use Practices, and Description of Features in the Waikīkī Ahupuaʻa**

| Place Name | Claimant & Individual Names | Features/Uses |
|---|---|---|
| Waikiki | **Kapapa – LCA 97 F.L.** | House |
| Kalia | Kamakee Piikoi | Fish pond |
| Kukuluaeo | | Kiopua (Fingerling pond) |
| Kewalo | | Auwai / Shoreline |
| Waikiki | **Kekaula – LCA 100 F.L.** | Loi |
| Kalia | Kaluaoku | Fish ponds |
| Waialala | Kamakee Piikoi | Fingerling ponds |
| Kewalo | Wm. Miller | Kula land |
| Loko Kauamoa | | |

| Place Name | Claimant & Individual Names | Features/Uses |
|---|---|---|
| Waikiki | **Kaluaoku – LCA 101 F.L.** | Loi |
| Kalia | Kekaula | Fish pond |
| Loko o Kewalo | Kamakee Piikoi | Auwai |
| Waikiki | Sandwich Island Mission – LCA 387 | Shoreline |
| Kukuluaeo | Kauhi | |
| Punahou | Wahineino | |
| Kewalo | Henry Dimond | |
| Kalia | Pehu | |

### 4.2.3 Māhele Award Book Surveys and Plot Plans in Waikīkī

In the process of transferring title of kuleana lands to applicants in the Māhele, surveys of the parcels to be awarded were required. These surveys, including plot plans, resulted in the volumes of books known as the "Mahele Award Books." The entire process of recording the Māhele was extremely complex, in many ways confusing, and often settled to the disadvantage of native tenants. The laws governing the Māhele ʻĀina limited the scope of claims made by commoners – their house lots were to be no more than one-quarter acre in size; the land claimed was that which they actively cultivated or used; and the native tenants were unable to pursue claims for fisheries. Native tenants could not claim lands that traditionally had been allowed to lie at rest (fallow) between planting times, or which were used seasonally in adaptation to environmental zones. Typically, the people of the land utilized detached parcels (lele) extending from the shore to the uplands, where cultivation of crops and collection of natural resources supported daily life and the needs of their chiefs.

The traditional and customary manner of land use and management presented many problems to those appointed to survey the lands claimed by the native tenants. In the process of the Māhele surveys, surveyors were authorized to simplify their work by consolidating lands of the claimants, often taking multiple parcels, spread across the land at varying elevations, to create single, or fewer lots of comparable acreage as that originally claimed in multiple parcels.

The following examples present copies of the original surveys for kuleana which were identified within Waikīkī ahupuaʻa. Each survey for kuleana given in the notes below includes metes and bounds and plot plans, with reference to place names, identification of tenants on the sides of the claimed parcels, source of land rights, and features on or around the cited lands. Additional research through the claims cited in this study will provide many more names of individuals with generational ties to lands of the Waikīkī region, and also provide further information on place names, land use, features, and practices.

**Helu 97 F.L.**
**Kapapa**

**Kalia, Waikiki, Oahu**
**Royal Patent Helu 3782**
**Book 16:323-324**
**["See Quit Claim Deed Record Office Vol. 880 p. 202 Apr. 21, 1927 # 2908"]**

…Parcel 1. House lot, Pond and Kiopua (fingerling pond) at Kalia.

Begin at the W. corner on the makai side of this place adjoining Kalia, Kukuluaeo and Kewalo, along the E. edge if the auwai at a stone marked X and run South 314 links; South 33º E 220 links along Kukuluaeo to the sandy shore. Then North 77º E. 1170 links along Kalia for the Government to the E. boundary of the auwai stone marked X; North 8º W. 689 links along the pond of Kewalo for the Government; Then South 85º 30' W. 493 links along Kewalo for Kamakee; North 36º W. 178 links along the W boundary of the auwai; South 45º W. 170 links to the house lot of Kapapa, South 40º W. 411, running between the house lot of Kapapa at Kewalo on all these boundaries to the point of commencement. Being 6 ½ acres…

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June 24, 1857…

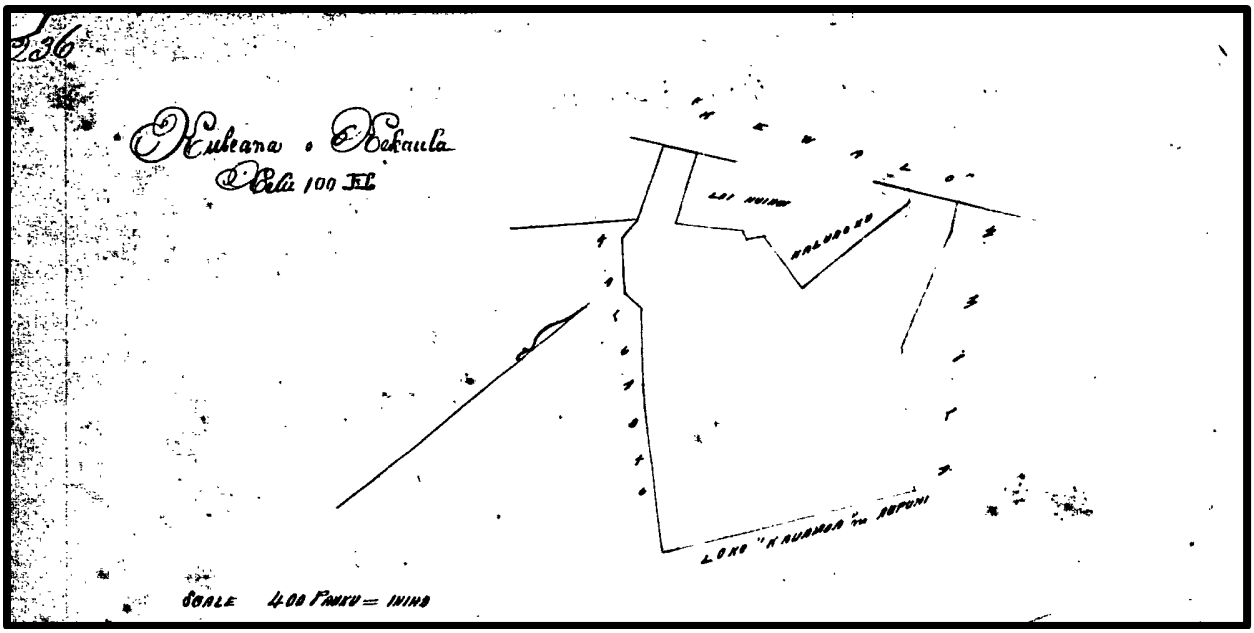
[For Plot Plan see Register Map No. 1090]

**Helu 100 F.L.**
**Kekaula**
**Kalia, Waikiki, Oahu**
**Mahele Award Book 10:235-236**
…His parents received this place in the time of Kamehameha I…

Land at Kalia, Waikiki Oahu.

1 Loi (taro pond field), 2 Loko (ponds), 5 Kiopua (fingerling fish ponds) & Kula (dryland parcel).

Begin at the South corner of this land, adjoin that of the Government and of Kaluaoku, and run North… along Kaluaoku; Then North… along Waialala for the Government; then North… along "Kewalo" of Kamakee; Then South… along the Loi division; Then South along the auwai and Loi of Kaluaoku; The South… along the Loi of Kaluaoku; Then North… along Kewalo to the Northern gate of Wm. Miller; Then South… along W. Millers place; Then South… along Loko Kauamoa of the Government to the beginning. Containing 8 ½ acres.




**Helu 101 F.L. / Royal Patent Helu 3781**
**Kaluaoku**
**Kalia, Waikiki, Oahu**
**Royal Patent Book 16:321-322**
Kuleana Helu 101 F.L.
Kaluaoku at Kalia, Waikiki, Oahu.

Parcel 1. Three loi.

Beginning at the mauka E. corner of the adjoin the Government land and that of Kekaula, at a stone marked X and run South 28º W. 377 links; South along the government land; North 46º 30' W. 442 links along the Loko o Kewalo for the Aupuni; North 41º E 4 chains. South 51º [illegible] along Kewalo for Kamakee; then South 38º 15' E. 123 links. South 31º E. 122 links along Kekaula's place to the first point. 1 ½ Acres.

Parcel 2. Three loi.

Beginning at the mauka N. corner of this, adjoining with Kekaula and Kewalo for Kamakee, at the stone marked X and run along Kekaula's place, S. 51º E. 22 links; South 1º E. 463 links. North 87º W. 202 lines. S. 32º 30' W. 59 links. No 74º W. 34 links to the auwai. South 44º 45' W. 202 links. North 34º 15' W. 238 links along Kekaula's place. These boundaries all to Kewalo of Kamakee. Then No. 47º E. 5 chains. North 58º 45' E. 2 chains along Kewalo to the point of commencement. 1 8/10 Acres.

3 3/10 Acres Total…
June 24, 1857…

**[For Plot Plan see Register Map No. 1090]**

**Helu 677, 680 & 683**
**M. Kekuanaoa**
**Honuakaha, Honolulu; and Waikiki, Oahu**
**Mahele Award Book 2:75**
Helu 677 received before enacting the Law in 1832…

Surveyed by C.J. Lyons

3 lots at Honuakaha, Honolulu.

Beginning at the Northern corner adjoining Alanui Aliiwahine (Queen Street), and running S. 62º W. 3.26 ch… along the lot of Kekuanui; then S… 1.17 ch. along the lot of Kaahumanu; then S… 93 links along the lot of Aimaka to the pond of Kinimaka; then S… 6.42 ch. along the pond of Namakeha; then S… 6.73 ch. along the pond of Kekuanaoa; then N. 1.37 ch. & W… 4 ch. along the land of Kukoo; then N… 7.08 ch. along the Government land; then N… 8.82 ch. along Alanui Aliiwahine to the point of commencement. Containing therein 8 9/10 Acres…

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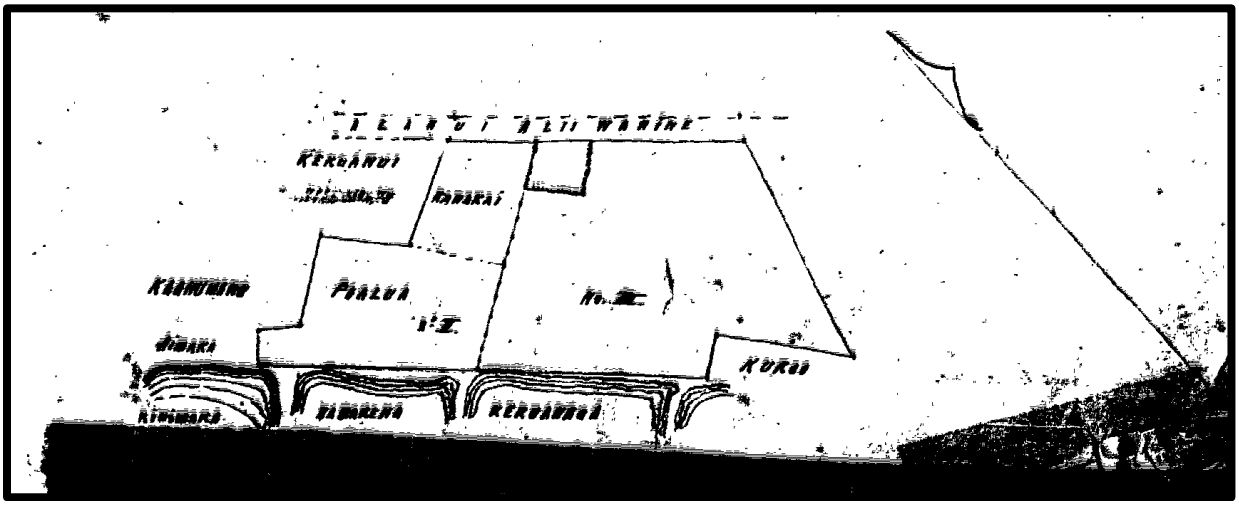

### 4.2.4 Palapala Sila Nui (Royal Patent Grants on Land) and Land Grants

Even as it was underway, the Māhele ʻĀina was met with mixed results that left a large number of hoaʻāina landless. The King and Hawaiian government officials saw that across the islands, many of the applications made by native tenants for kuleana had been rejected by the Land Commission. Furthermore, many of the parcels being confirmed as kuleana—particularly in dry regions—were inadequate to support the needs of families as larger areas were required to grow crops for sustenance, and keep newly introduced animals fed. As a result, Kamehameha III initiated a program that allowed native and foreign residents to apply for grants of land—in fee-simple interest—which were a part of the Government land inventory. The process of applying for "Grant Lands" was set forth by the "Enabling Act" of August 6, 1850, which set aside portions of government lands for grants—

> **Section 4**. Resolved that a certain portion of the Government lands in each Island shall be set apart, and placed in the hands of special agents to be disposed of in lots of from one to fifty acres in fee simple to such natives as may not be otherwise furnished with sufficient lands at a minimum price of fifty cents per acre. ["Enabling Act" – DLNR 2-4]

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The Kingdoms' policy of providing land grants to native tenants was further clarified in various communications like this one dated February 23, 1852, from Interior Department Clerk, A. G. Thurston, on behalf of Keoni Ana, Minister of the Interior, to the Government Surveyor, J. Fuller:

> **February 23, 1852**
>
> …You will entertain no application for the purchase of any lands, without first receiving some part, say a fourth or fifth of the price; then the terms of sale being agreed upon between yourself and the applicant you will survey the land, and send the survey, with your report upon the same to this office, for the Approval of the Board of Finance, when your sales have been approved you will collect the balance due of the price; upon the receipt of which at this office, the Patent will be forwarded to you.
>
> Natives who have no claims before the Land Commission have no Legal rights in the soil.
>
> They are therefore to be allowed the first chance to purchase their homesteads. Those who neglect or refuse to do this, must remain dependent upon the mercy of whoever purchases the land; as those natives now are who having no kuleanas are living on lands already Patented, or belonging to Konohikis.
>
> Where lands have been granted, but not yet Patented, the natives living on the land are to have the option of buying their homesteads, and then the grant be located, provided this can be done so as not to interfere with them.

> No Fish Ponds are to be sold, neither any landing places.
>
> As a general thing you will charge the natives but 50 cents pr. acre, not exceeding 50 acres to any one individual. Whenever about to survey land adjoining that of private individuals, notice must be given them or their agents to be present and point out their boundaries… (Thurston, 1852:210-211)

Digital copies of surveys of Palapala Sila Nui or Land Patent Grants (following the overthrow of the Hawaiian Monarchy) in the Waikīkī region are cited below. They provide further documentation on the nature of, and changes in, land use in the historic period. The Royal Patent Grant parcels were identified through the use of historical maps and in grant records digitized by Kumu Pono Associates LLC from the Hawaiʻi State Bureau of Conveyances collections. The following notes include the Grant Number, name of grantee, acreage, primary place names covered by the grant, and date of issuance. A digital copy of the Grant is also provided with the full metes and bounds, as well as a copy of a plot plan when available.

**Table 5. Selected List of Grants, Original Grantees, Dates of Record and Land Area in Waikīkī**

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| Grantee | Helu | Location | Year | Acreage |
|---|---|---|---|---|
| Jules Dudoit | 301 | Kulaokahua, Waikiki | 1850 | 1672 fathoms, 3302 feet |
| Wm. Miller | 2341 | Malookahana, Waikiki | 1857 | 2.97 acres |
| Lot Kamehameha | 2790 | Kalia, Waikiki | 1861 | 82 acres |

**Royal Patent Grant No. 301. Area of 1672 fathoms and 3302 feet**
**Jules Dudoit at Kulaokahua, Waikiki. Register Map No. 1090. June 12, 1850**

(No neighboring land names cited)

Helu 301

231

PALAPALA SILA NUI.

Ma keia palapala sila nui ke hoike aku nei o Kamehameha III, ke Alii nui a ke Akua i kona lokomaikai i hoonoho ai maluna o ko Hawaii Pae Aina, i na kanaka a pau, i keia la, nona ilio, a no kona mau hope alii, ua haawi lilo loa aku oia ma ke ano alodio ia Jules Dudoit
i kona wahi kanaka i manao pono ia ia i kela apana aina a pau e waiho la ma Kula o Kahua Waikiki ma ka Mokupuni o Oahu
a penei hoi ka waiho ana o na Mokuna
Na Helu. 88.. 89.. 102.. 103.
E hoomaka ma ke kihi makai Hema o ka Helu 87 {ko Penhallow} a e holo Hema 78° 30' Hik. 203½ Kap. ma Alanui Waena a hiki i ke kihi Hema makai o Ka Helu 89 - alaila Akau 11° 15' Hik 295½ Kap. ma na Helu 90 a me 101 a hiki i ke kihi Hik. mauka o Ka Helu 102 ma Alanui mauka - Alaila Akau 78° 15' Kom. 203½ Kap. ma Alanui mauka a hiki i ke kihi Hik. mauka o Ka Helu 104 {Penhallow's} alaila Hema 11° 15' Kom. 295 10/12 Kap. ma na Helu 104 a me 87 a hiki i Kahi i hoomakai.

a maloko o ia Apana 1672 Anana 30 Kapuai eka a oi iki aku, emi iki mai paha. Eia ke kumu o ka lilo ana; ua haawi mai oia iloko o ka waihona waiwai o ke Aupuni i na Dala he $172.—
Aka, ua koe i ke Aupuni na mine minerala a me na mine metala a pau.
No Jules Dudoit, ua aina la i haawiia, nona mau loa aku no, ma ke ano alodio, a no kona mau hoolilina, a me ko na waihona, ua pili nae ka auhau a ka Poe Ahaolelo e kau like ai ma na aina alodio a pau i kela manawa i keia manawa.
A i mea e ikea'i ua kau wau i ko'u inoa, a me ka sila nui o ko Hawaii Pae Aina ma Honolulu, i keia la 12 o June, 1850.
(Inoa) Kamehameha
(Inoa) Keoni Ana.

**Royal Patent Grant Number 2341**
**The Land of Maloʻokahana**
**General William Miller's "Little Britain." March 20, 1857**

On March 20, 1857, Kamehameha IV granted fee simple interest to in two parcels of land (2 acres 2 rods & 26 acres) to British Consul General, William Miller. The land, situated at Maloʻokahana (Waikīkī), is just inland of the Ala Moana Center Station. Its history is of interest as it seem to have set the stage for the modern uses of Waikīkī. The property was described in the following survey:

> Commencing at the north angle at second post of General Millers wire fence and running south 21 1/2 degrees west 12 chains 98 links along land purchased by General Miller from M. Kekuanaoa; then south 26 degrees west 4 chains 32 links past by along General Miller's land and partly along land belonging to the King; then south 50 degrees east 2 chains 63 links along Government land; then north 25 degrees east 2 chains 46 links, then north 6 degrees east 3 chains 55 links; then north 40 degrees east 1 chain 6 links; then north 28 degrees east 2 chains 10 links; then north 88 degrees east 59 links; then north 7 degrees east 7 chains along the taro patches of the native proprietors to the point of commencement. [See digital copy of Grant documents on following pages.]

Register Map Number 1910 (M.D. Monsarrat, 1897) identifies Miller's "Malookahana" parcel by the name "Little Britain." Forbes (1991) describes the setting in the following lines:

> "Little Britain," a long-vanished establishment comprising the bristling cluster of buildings in the center [of the picture], was the most prominent (and almost only) development on "the Plains," the then-marginal grazing lands that stretched from Alapai Street out to Waikiki, and on which much of central Honolulu is now built. This property was located at Pawaa, on the boundary of Waikiki, and fronted what is now King Street...
>
> It ran down to what is today the gigantic Ala Moana Shopping Center. Keeaumoku neatly dissects the property today, and the wall that runs off the right margin of the view is the boundary of the present Sheridan Street. ..."Little Britain" was the country home of the British Consul, General William Miller. Its proprietor, famous as the "Hero of Peruvian Independence," arrived at Honolulu as Consul General for great Britain aboard HMS Hazard, on February 3, 1844. With him was his private secretary, Robert C. Wyllie, who was to figure so prominently in Hawaiian government circles for the next 20 years. General Miller took up "city" residence at the Consulate on Beretania Street, next to Washington Place. Several years after his arrival, Miller began piecing together the lots that would, eventually, comprise his country seat, and which, logically, he named "Little Britain" after his native land...
>
> Adjoining Miller's original purchase was the property of John Michener, a

pioneer Waikiki hotel and tavern keeper, whose extensive establishment, part of which shows here, was advertised for sale in March 1847. It was described as featuring a "spacious adobe-built bowling alley, dwelling house, store, and cook's house, also built with adobe, in excellent order and now much under let for the annual rent of $180."

All this Miller acquired and made improvements of his own, including a new dwelling house and a hospital. There he spent most of his time "looking after a few cows and gardening."

Miller's hospital, really a private sanitarium, filled a real need at the time, and cottages for hire on the grounds made it a place of resort for the well as much as for the invalids of the town. In short, it was one of the earliest resort hotels in the islands...

...The property stayed in possession of the Miller family until the last quarter of the nineteenth century and, while under lease by others, continued for many years as a popular semi-public resort (Forbes, 1991:42-44).

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Due to ill health, Consul General Miller left Hawaiʻi in 1858 and he died in Chile in 1861. On his death, his Waikīkī estate went to his niece. In 1884, John N. Wright purchased the tract called "Little Britain" (Hawaiian Registry of Deeds, Liber 89:280-281). In 1892, Sanford B. Dole, acting as trustee of Anna Wright (widow of J.N. Wright) sold her trust estate to Charles N. Spencer, Minister of the Interior; "for the use and benefit of the Hawaiian Government, all of those two tracts of land situated at "Little Britain" (HSA Department of Interior Files, 1892).

**Royal Patent Grant Number 2341, to William Miller at Malookahana**
**2.97 Acres. Grant Book No. 11, Pages 371-372. March 20, 1857**

371

NO. 2341

# ROYAL PATENT.

KAMEHAMEHA IV, By the grace of God, King of the Hawaiian Islands, by this His Royal Patent, makes known unto all men, that he has, for himself and his successors in office, this day granted and given, absolutely, in Fee Simple, unto William Miller his faithful and loyally disposed subject, for the consideration of One hundred dollars paid into the Royal Exchequer, all that piece of Land situated at Malookahana in the Island of Oahu and described as follows:

Commencing at the north angle at second post of General Miller's house and running south 21° West 12 chains 75 links along land purchased by General Miller from Mr. Kekuanaoa then South 25 West 4 chains 32 links post by along General Miller's land and partly along land belonging to the King then South 50° East 2 chains 63 links along Government land then North 25 East 2 chains 45 links then North 8 East 3 chains 55 links then North 12 East 2 chains 25 links then North 40 East 1 chain 6 links then North 28 East 2 chains 50 links then North 88 East 57 links then North 7 East 7 chains along the two patches of Native proprietors to the point of commencement

Private rights reserved

372

See original survey
0A 3R 35P. = 2.97 Acs

Containing Two Acres two Roods & twenty six Acres Acres, more or less: excepting and reserving to the Hawaiian Government, all mineral or metallic Mines of every description.

To have and to hold the above granted Land in Fee Simple, unto the said William Miller, his Heirs and Assigns forever, subject to the taxes to be from time to time imposed by the Legislative Council equally, upon all landed Property held in Fee Simple.

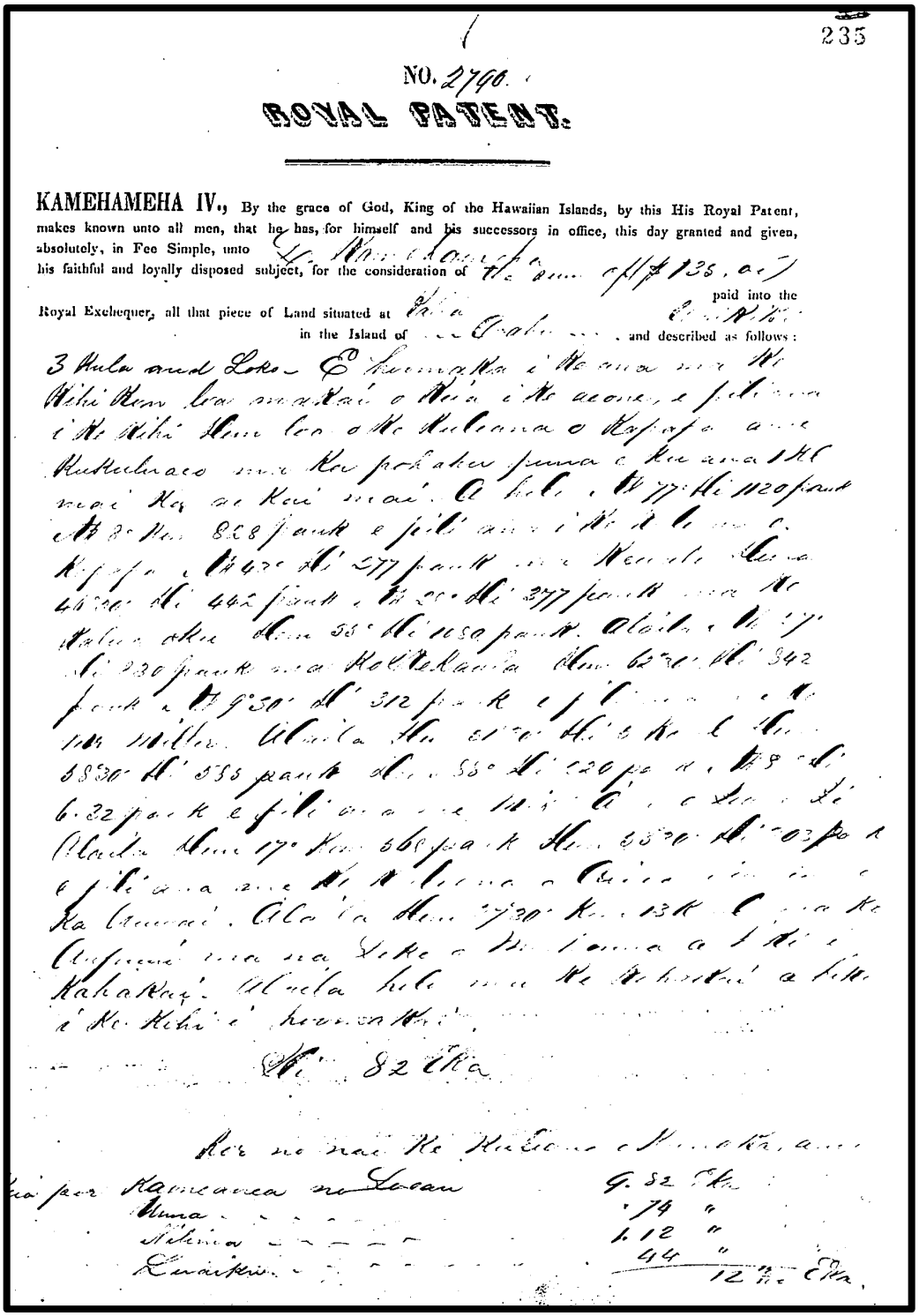
In Witness whereof, I have hereunto set my hand and caused the Great Seal of the Hawaiian Islands to be affixed, at Honolulu, this 20 day of March 1857

Kamehameha

Kekauonohi

**Royal Patent Grant No. 2790. Area 82 acres to Lot Kamehameha Kalia, Waikiki. Register Map No. 1090. June 24, 1861**

Neighboring lands and features include: aeone/beach, auwai and Government Land.



235

NO. 2790.

ROYAL PATENT.

KAMEHAMEHA IV., By the grace of God, King of the Hawaiian Islands, by this His Royal Patent, makes known unto all men, that he has, for himself and his successors in office, this day granted and given, absolutely, in Fee Simple, unto [illegible] his faithful and loyally disposed subject, for the consideration of [illegible] paid into the Royal Exchequer, all that piece of Land situated at [illegible] in the Island of [illegible], and described as follows:

[illegible]

82 [illegible]

[illegible]

| | |
|---|---|
| [illegible] | 9.82 [illegible] |
| [illegible] | .74 " |
| [illegible] | 1.12 " |
| [illegible] | .44 " |
| | 12 [illegible] |

236

82

Containing Acres, more or less:
excepting and reserving to the Hawaiian Government, all mineral or metallic Mines of every description.

To have and to hold the above granted Land in Fee Simple, unto the said L. Kamehameha, Ino Heirs and Assigns forever, subject to the taxes to be from time to time imposed by the Legislative Council equally, upon all landed Property held in Fee Simple.

In Witness Whereof, I have hereunto set my Hand, and caused the Great Seal of the Hawaiian Islands to be affixed, at Honolulu, this 24 day of June 18 61.

L. Kamehameha
Na Ka Aliʻi Kuhina Nui

Kaahumanu

L. Kamehameha

## 4.3 Boundary Commission Proceedings: Ahupuaʻa of Waikīkī

Following the Māhele ʻĀina, there was a growing movement to fence off large tracts of land which had been awarded to the aliʻi and foreigners, as a means of controlling access to resources which had been traditionally used by native tenants. In the 1860s, land owners and business interests petitioned the Crown to have the boundaries of their respective ahupuaʻa, which became the foundation for plantation and ranching interests, settled. In 1862, the King appointed a Commission of Boundaries (the Boundary Commission), and tasked them with collecting traditional knowledge of place, land boundaries, customary practices, and deciding the most equitable boundaries for each ahupuaʻa that had been awarded to Aliʻi, Konohiki, and foreigners during the Māhele.

Across the islands, commission proceedings were conducted over the course of several decades under the courts as formal actions under law. When the commissioners on the various islands undertook their work, the kingdom hired or contracted surveyors to begin the surveys. In 1874, the commissioners were authorized to certify the boundaries for lands brought before them (Alexander, 1891:117-118).

DRAFT

Documents from Kālia, Waikīkī were recorded between 1865 to 1925. The records inclue testimonies of: (1) elder kamaʻāina who were either recipients of kuleana in the Māhele; (2) holders of Royal Patent Land Grants in the ahupuaʻa of interest; (3) individuals who were direct descendants of the original fee-simple title holders; (4) subsequent holders of title; residents of the land with direct knowledge of the boundaries and practices; and individuals who had learned of the lands from elder residents.

The narratives that follow include several types of documentation, such as the preliminary requests for establishing the boundaries, letters from the surveyors in the field, the record of testimonies given by native residents of the given ahupuaʻa, and the certificate of the Commission in establishing the boundaries of the land. Native witnesses usually spoke in Hawaiian, and in some instances, their testimony was translated into English and transcribed as the proceedings occurred. Selected translations of the proceedings have been translated by Maly.

The Boundary Commission proceedings documented place names along the boundaries of Waikīkī and smaller land divisions. These names demonstrate Hawaiian familiarity with the resources, topography, sites and features of the entire island; sharing the broad relationship of the natural landscape to the culture and practices of the early residents in the region.

**Table 6** provides a compendium of place names recorded in Waikīkī and names of residents, as documented in the Boundary Commission proceedings. Many of the place names remain in use on maps or among some residents, while others are no longer in use. A number of the place names are found in traditional narratives and historical accounts that are of "national" significance to the Hawaiian people and history of Hawaiʻi.

**Table 6. Place Names and Resident Names Cited in the Boundary Commission Proceedings of Waikīkī Ahupuaʻa**

| Place Name | Resident Names | Year of Record |
|---|---|---|
| **Hamohamo (Ili)** | **A. Keohokalole** | **1865** |
| Apuakehau | W.C. Lunalilo | 1920 |
| Kalia | C. Kanaina | |
| Auaukai | Mamala | |
| Kaluakau (Part of Kalia) | Pupule | |
| Kaneloa | Naihekukui | |
| Makua | Aikanaka | |
| Paliki | M. Kekuanaoa | |
| Keonioku | C. Kapaakea | |
| Puaaliilii | Pukaana | |
| Pohaku o Kauai | Kamaukoli | |
| Lae Pohaku | Hookaia | |
| Kukaunahi | Kailio | |
| Kekio | Kekupuohi | |
| Kalamanamana (Loko) | Umalele | |
| Pahoa | Paulokia | |
| Hoolu | Kailikoli | |
| Kamookahi | Piiwi | |
| | Kaneloa | |
| | Kahiawiawi | |
| | Hanaumaikai | |
| | Kailielulu | |
| | Piikoi | |
| | Nahalau | |
| | Hooku | |
| | Kaaua | |
| | Kekauluohi | |
| | Mahuka | |
| | Kaholoipua | |
| | Charlotte Kaholoipua | |
| | Iaukea | |
| | Wm. Sumner | |
| **Kaiwiokaihu (Ili)** | **D. Kauilokamoa** | **1874** |
| Opu | E. Maui | |
| Maunalaha | Roke Keanui | |
| Keaniani | Kaohimaunu | |
| Makiki | Poloke | |
| | Piikoi | |
| **Kamoku (Ili)** | **W.C. Lunalilo** | **1873** |
| Kuilei | Keolaloa | |
| Hapuna | S. Kauluwailehua | |

DRAFT

| Place Name | Resident Names | Year of Record |
|---|---|---|
| Maui (Loko) | Kaaimoi | |
| Kalia | Kauhane | |
| Kuwalu | Nuhi | |
| Kaooiliili | Palaualelo | |
| Kiona | Kupele | |
| Papaiki o Kepahu | Jos. Kawainui | |
| Kapaeli | Kalaula | |
| | Kaaimanu | |
| **Kalia (Ili)** | | **1882** |
| Waiaka | Hookaia | |
| Mookahi | Opunui | |
| Kaokapokii | Nakohana | |
| Kaluaolohe | Hookahi | |
| Pau | Makuaole | |
| Makoku | Kaleiapo | |
| Maulukikepa | Haumea | |
| Alanaiao (Auwai) | Nauhana | |
| Kauamoa (Ili of Kalia) | Kaluopo | |
| Kaaipuaa | Heami | |
| Paakea | Kahiki | |
| Kapahulu | Elama | |
| Kookahi | Kalama | |
| Kanukuaula | Nakookoo | |
| | Kahakai | |
| | Nakai | |
| | Kuaana | |
| | Paukuwahie | |
| | Kalaeone | |
| | Kaihoolua | |
| | W.K. Kawaihapai | |
| | M. Kekuanaoa | |
| | Keoneanea | |
| | Kumoanahulu | |
| | Kahiloaha | |
| | Kanemakua | |
| | Ainoa | |
| | Kao | |
| | Kawelohelii | |
| | Huikau | |
| | Hakau | |
| | Kalakoa | |
| | Pahau | |
| | C. Kapaakea | |
| | Paoa | |

DRAFT

### 4.3.1 Ahupuaʻa and Land Division Descriptions with Certifications of Boundaries

The narratives that follow are verbatim transcripts of records from the commission proceedings. They include entire ahupuaʻa or subdivision parcels (such as ʻili, lele, loko, and kula) as recorded for the lands of Waikīkī (with neighboring lands). The narratives provide a larger, traditional context of the relationship Hawaiians share with the honua ola (living environment).

**Waikiki Ahupuaa, Ili of Hamohamo**
**District of Kona, Island of Oahu**
**Boundary Commission, Oahu, Volume 1, pages 13-20**
[Excerpt provide historical overview of residency and the cultural landscape in the Ahupuaʻa of Waikiki – the ili of Hamohamo is bounded by Kālia along one side.]

Record of Proceedings on Application of His Excellency, John O. Dominis, to decide & certify to the boundaries of Hamohamo, Waikiki, Oahu.

January 4, 1865, Received & filed application.

DRAFT

January 5. Notified Honorable C. Kanaina & J.W. Austin, trustees of the Estate of His Royal Highness, W.C. Lunalilo, that a meeting of the Board of Commissioners would be held at the house of Keohokalole (Waikiki) on Wednesday, January 11 at 10 a.m. to examine the boundary of Hamohamo, adjoining Kaluakau.

January 11. Board met at 10 a.m. at house occupied by Keohokalole at Waikiki.

Present: J.O. Dominis, C. Kanaina &c.

The following testimony was introduced by J.O. Dominis, Esquire.

Pupule, sworn.
Has lived on Hamohamo since 1840. Was Luna of the land under Keohokalole & has remained in charge of it up to the present time. He learned the boundaries of Hamohamo from Mamala, an old man now dead, who was Luna of the land under Naihe. The boundary on the Honolulu side, commenced at the muliwai of Apuakehau, then follows up then follows up a certain old auwai to the auwai Kalo of Kalia, thence following said auwai to the River Kualelua.

Keohokalole, sworn.
Hamohamo was my property. I received it from Aikanaka, my father, who lived on it & previous to Aikanaka, Naihe, his father, my grandfather lived also on the land & occupied it. I lived here with my father. When I came here, Kaahumanu was living near the mouth of the muliwai, Apuakehau, in some small houses. At that time, the natives living on the present kuleana of

Kekuanaoa worked under Naihe, being a part of Hamohamo.

After Kaahumanu died, Kekuanaoa occupied that part of the land as a kuleana. The natives on Hamohamo had a right to take fish in the muliwai of Apuakehau.

Cross-examined, I do not know who gave the name of Auaukai. [page 14]

Paakea, sworn.
I was married to Keohokalole in 1835. At that time Hamohamo was the property of Keohokalole. Aikanaka was living on Hamohamo. His father, Naihe sometimes lived here & a part of the time on Hawaii. After I was married I lived on Hamohamo.

I learned the boundaries of Hamohamo from Puakaana & Mamala, Lunas of the land. The boundaries were at that time as laid down on the map.

In 1842, Kekuanaoa came here with witnesses to the house of Kamaukoli, to arrange the boundaries to his kuleana, which he claimed as having received from Kaahumanu. I was present. When the Kanakas were all together, Kekuanaoa said this land is a Panalaau.

DRAFT

Hookeia, sworn.
I live on Hamohamo, I came from Hawaii with Naihe. I was Luna of Hamohamo & Mamala was before me. I learned the boundaries of Hamohamo from Puuakaana & other natives. This boundary was on the muliwai & ran mauka according to the map.

Kailio, sworn.
I live on Hamohamo, came here with Aikanaka, from Hawaii. The boundaries were well known by the natives in old times & ran up by side of the muliwai, to a certain stone wall & then followed it to an auwai & then mauka to the auwai of the kalo land. The natives of Hamohamo fished in the muliwai of Apuakahau.

Kamaukoli, sworn.
I came with Kaahumanu to Hamohamo. Kekupuohi, the other of Kaahumanu, gave Auaukai to Kaahumanu, Auaukai is an old name for that piece of land. I always understood that Kalia was a separate land.

Umalele, sworn.
I have lived five years on Hamohamo. When Mr. Pease surveyed the land, Kamaukoli was present & pointed out the boundaries of Hamohamo next to Kaluakau. He showed the boundaries to be the same as those on the map. [page 15]

Kamaukoli, recalled.
I was mistaken when I pointed out the boundaries to Mr. Pease.

Pauloika, sworn.
I was with Mr. Pease, when he surveyed the boundary between Hamohamo & Kaluakau & Kamaukoli was with us. When we got up to the fence, Kamaukoli told us the boundary of Hamohamo ran along the fence to an auwai & then up to the auwai on the Kalo land. Mr. Pease wished to follow straight up, but he objected.

Pupule, sworn.
Was with Mr. Pease, when he surveyed the boundaries of Hamohamo & Kamaukoli was with us. I went mauka & carried the flag to the corner of the stone wall, where it turns & after Mr. Pease reached that point, he said (Kamaukoli) that the boundary of Hamohamo followed along an old auwai, leading off towards Honolulu.

Kahiawiawi, sworn (for Kanaina).
DRAFT
I live on Kalia & have lived there 14 years. I learned the boundaries of Kaluakau from Hanaumaikai, with whom I lived many years. He was the Luna of the land. The boundary of Kaluakau, next to Hamohamo, follows up the muliwai & river of Kalia.

June 14, 1865. The Commissioners held a meeting at the residence of Keohokalole at Waikiki & the following testimony taken, as regards the boundary of the fishing grounds of Hamohamo, which adjoin the property of His Majesty, the King.

Kailikoli, sworn (for H.M.).
I was born on Hamohamo & live there now. I was old enough to carry sand when the fort in Honolulu was built. Piiwi was Luna on the Kaneloa in time of Kamehameha I. Kailielulu next; then Piikoi & then Nahalau. [page 16]

The boundary on the beach is at a stone, from thence it runs out to a certain coral rock on the inner reef, called Makua, on the Honolulu side, the sea of Hamohamo commenced at the mouth of the muliwai of Apuakehau. I do not know the name of the makai corner of that side, but it runs to a spot, on the inner reef which is sometimes bare.

The boundary between the two makai corners follows along the inner reef & does not extend to the outer reef. The sea between the inner & outer reef belongs to Kaneloa. I learned the above boundaries from my parents & from the Lunas of the land.

Hooku, sworn (for H.M.).
I was konohiki of Kaneloa in 1851. I learned the boundaries of the sea of

Hamohamo from Kailielulu. The boundary on the easterly side commences at a certain rock near a place called Paliki & runs out from there to a coral rock, on the inner reef. It runs along in front of Hamohamo, on edge of inner surf or reef.

The sea outside of the inner reef belong to Kaneloa. Paakea, nor his Luna, did not object to my disposing of the fish caught there & Nahalau done the same when he was konohiki, without opposition.

The sea next to Hamohamo on the Honolulu side, is Keonioku, belonging to Kekuanaoa.

The corner of the sea of Hamohamo on that [side] is at the muliwai & runs out to a rock called Pualiilii.

Pupule, sworn (for Jo. Dominis).
I know the boundary of the sea between Kaneloa & Hamohamo. The easterly corner is at a certain rock on the beach & thence the boundary runs out to a coral rock on the reef inner, called Pohaku o Kauai; thence to a rock on outer reef called Lae Pohaku. On the Honolulu side it commenced at the muliwai & thence makai to a rock called Pualiilii & thence to the outer reef. I do not know the name of the corner but the boundary is straight. When Jarrett was Luna & Kailielule & Nahalau, the fish I caught were divided between the Konohikis of Kaneloa & Hamohamo; that is those caught between the inner & outer reefs.

DRAFT

Cross-examined: I was born on Molokai & lived there till 1844 & then moved to Lahaina & lived there 4 years, then moved to Nuuanu & to Hamohamo in 1849. Mamala showed me the boundaries of the sea. [page 17]

Hookaia, sworn (for J.O. Dominis).
The sea of Hamohamo, on the east, commenced at a rock, makai nearby of a cattle pen, & runs out makai to a rock on outer reef & thence along outer reef to a point opposite the muliwai. I came to Hamohamo when the chiefs came from Hawaii. I lived sometimes at Honolulu & sometimes at Hamohamo. The squid taken by the women belonging to other lands, on the inner reef, were divided with the Luna of Hamohamo.

The outer reef, I supposed belonged to the Government & have heard that the Konohiki of Kaneloa, claimed to a right to fish on the outer reef. I did not claim the squid taken on the outer reef. I have heard that the sea of Hamohamo is on the inner reef & that Kaneloa runs along outside of it. The persons who told me so are dead. Kailielulu was one.

Kailio, sworn.
I came here from Hawaii with Aikanaka. I learned the boundaries of the sea of Hamohamo from Kapua & Aikanaka. The corner on Kaneloa is at a rock on the

beach, near Paliki, & runs to a rock called Pohaku, at a fishing place.

The Kuuna [net fishery] belongs to Kaneloa. On the Honolulu side the corner is at the muliwai & runs to a point on the reef. I do not know the name of [it]. I have heard that the outer reef belongs to Kaneloa. Pupule, the Luna of Hamohamo, took the squid, from only inside of the inner reef.

Kaaua, sworn.
I lived on Hamohamo with Naihe. The corner of the sea of Hamohamo is just beyond Paliki & runs out to a rock on the inner reef & thence along inner reef to Keonioku & thence to the mouth of the River. I have been told that the outer reef belongs to the Government.

Paakea, sworn.
The boundary of the sea of Hamohamo on the East is near Paliki, from thence it runs to a coral rock called Pohaku o Kauai & to a point on outer reef called Pohaku. From thence it runs to a point on inner reef called Pualiilii & thence to the muliwai. The kuuna [kuauna] near Pohaku belongs to Kaneloa.

DRAFT

Hamohamo

Jan 21, 1866.
The following testimony at office in Honolulu.

C. Kanaina, sworn.
I came to Honolulu in 1823. I know the lands of Hamohamo & Kaluakau. They are Ilis of Honolulu. The land of Kaluakau originally belonged to Kamehameha. He gave it to Kamamalu & she gave it to Kekauluohi.

The boundary of Kaluakau, commences on the sea near the koa trees & runs mauka between the church & the River & thence to a bend in the River & thence up River. The old auwai, running along the westerly boundary, as claimed by Dominis, was dug in 1854 by Kamakoli. I had a dispute with him about the above auwai & he left the auwai & went over to the river. Kamaukoli claimed the land between the above auwai & the river, as a part of Kalia.

I have never heard any dispute as regards the boundaries of Kaluakau, excepting the above.

Jan 23, 1866.
The Comm. met at the house of M. Kekuanaoa.

M. Kekuanaoa.
I do not know the boundaries of Hamohamo & Kaluakau. They do not join. Kaluakau is a part of Kalia.
Jan 25, 1866.

The following testimony was recd at office.

Kaaua, sworn.
I formerly lived with Naihe on Hamohamo. The boundary of Hamohamo at that time extended to the muliwai of Apuakehau & thence ran mauka, following the easterly side of the muliwai & auwai or river to the Loko Kalamanamana.

The natives living on the land owned by Kekuanaoa on the easterly side of the muliwai lived under Naihe.

Hamohamo does not cross the muliwai towards Honolulu. [page 18]

**Hamohamo No. 31**
**The following award of Boundaries of Hamohamo, was issued to J.O. Dominis.**
see also No. 118, Bk 3, page 110

Ap 1.
DRAFT
Commencing at the sea, at the South & Easterly corner of this land, a short distance east of the mouth of the muliwai called Kukaunahi, running from thence N 35° 15' E 30 chains, bounded by land called Kekio (this line runs to the end of a certain coral wall, which forms the northerly boundary of Kekio & 31 links beyond) thence N 45° E 74 links bounded by Kaneloa, thence N 54° E 3 92/100 chains to the middle of the auwai, which separates this land from Kaneloa, at the point which said auwai turns eastwardly, thence N 53° 30' E 9 80/100 chains passing along the middle of said auwai to the point where said auwai turns westwardly, thence N 30° W. 1 51/100 chains & N 34° W. 19 34/100 chains along the middle of the auwai separating this land from that belonging to Mahuka & the Govt to the middle of the auwai, bounding the Loko called Kalamanamana on the East, thence S 42° W. 14 09/100 chains passing down the middle of said auwai to the auwai of Luakau. Thence N 62° W. 1 70/100 chains N 17° West 1 80/100 chains N 55° W. 4 24/100 chains, N 81° W. 2 71/100 chains, following always the middle of the auwai to the point, where it turns southerly at the land called Kaluakau thence S 36° W. 6 50/100 chains, following along middle of the auwai separating this land from Kaluakau to a point near a coral wall which crosses said auwai at its mouth, thence S 70° W. 9 10/100 chains & N 80° W. 1 chain to a stone wall crossing the muliwai, at its head, following the stream of water through its middle, which connects the auwai called Luakau with the muliwai called Apuakehau, Thence S 58° 30' W. 4 78/100 chains, along the easterly side of the muliwai to the upper side of the Govt Road at the bridge, thence following along the easterly side of the muliwai of Apuakehau to the sea, thence following along the sea at low water mark to point of commencement.

Ap. 2.
Commencing at a stone on the easterly side of the River of Pahoa, running from

thence S 35° 30’ E 5 67/100 chains, bounded by land called Kaohiwai to a large coral stone, thence S 44° W. 6 52/100 chains, bounded by land called Hoolu belonging to Wahinekapu, thence N 48° W. 3 55/100 chains to the River Pahoa, bounded by land called Kamookahi, belonging to Napahi, from thence following River of Pahoa to commencement… [page 19]

DRAFT

**Waikiki Ahupuaa, Ili of Hamohamo**
**District of Kona, Island of Oahu**
**Boundary Commission, Oahu, Volume 3, 110-115**
**No. 118**

Before M.D. Monsarrat, Commissioner of Boundaries for the First Judicial Circuit, Territory of Hawaii, U.S.A.

In the Matter of the boundaries of two portions of the Lele of Hamohamo, Waikiki, Kona, Oahu

Honolulu, September 24th 1920

Proper application having been made to me September 24th 1920 by Curtis P. Iaukea, Esquire, Managing Trustee Liliuokalani Trust for the trustees of the Liliuokalani Trust for the settlement of the boundaries of two portions of the Lele of the Ili of Hamohamo, Waikiki, Kona, Oahu, Territory of Hawaii.

DRAFT

The application being as follows:

(Copy)

Liliuokalani Trust, 314 S. Beretania
Honorable A.G.M. Robertson, President, Honorable W.O. Smith, Vice President & Secretary, C.P. Iaukea, Treasurer
Honolulu, September 24th 1920

Mr. M.D. Monsarrat, Commissioner of Boundaries, First Judicial Circuit, Honolulu, Territory of Hawaii

Dear Sir,

I desire on behalf of the Trustees of the Liliuokalani Trust to have the boundaries of certain portions of the Lele of Hamohamo at Waikiki, Oahu, decided and certified to.

The portions referred to are covered by Land Commission Award 8452, Apana 3, to Keohokalole, and more particular[ly] described as Sections 4 and 5 in the accompanying map and survey. The name of the adjoining land is Hooulu, Grant 2615 owned by Charlotte Kaholoipua Iaukea.

Respectfully yours
(Signed) Curtis P. Iaukea, Managing Trustee, Liliuokalani Trust… [page 111]

Two portions of Hamohamo continued

Description of Sections 4 and 5 of Apana 3, of Land Commission Award 8452 to Keohokalole, being portions of a lele of Hamohamo, Waikiki, Kona, Oahu.

Apana 3, Section 4

Beginning at the South corner of this piece and the East corner of Land Commission Award 8452, Apana 3, Section 2 to Keohokalole, the coordinates of said point of beginning referred to Government Survey Trig. Station "Punchbowl" being 10390 feet South and 10930 feet East, and running by true azimuths:

154° 10 315.0 feet along Land Commission Award 8452, Apana 3, Section 2 to Keohokalole, to a point in the East bank of the Pahoa stream;
233° 00' 21.6 feet along the East bank of the Pahoa Stream;
324° 45' 310.0 feet along Land Commission Award 154, Apana 2 to W. Sumner;
53° 40' 73.0 feet along Grant 2615 to Kahaloipua to the point of beginning.
Area 0.34 acre

DRAFT

Apana 3, Section 5
Beginning at the East corner of this piece and the South corner of Land Commission Award 8452, Apana 3, Section 2 to Keohokalole; said point of beginning being by true azimuth and distance 53° 40' 430.3 feet from the South corner (or initial point) of land described in Section 4, and running by true azimuths.

53° 40' 155.0 feet along Grant 2615 to Kahaloipua;
323° 40' 30.4 feet along Grant 2615 to Kahaloipua;
56° 10' 358.4 feet along Grant 2615 to Kahaloipua to a point in the East bank of the Kalia stream; thence along the East bank of the Kalia and Pahoa Streams to the West corner of Land Commission Award 8452, Apana 3, Section 2 to Keohokalole, the direct azimuth and distance being 192° 15' 664.4 feet;
321° 40' 425.0 feet along Land Commission Award 8452, Apana 3, Section 2 to Keohokalole, to the point of beginning
Area 2.80 Acres

Excepting and reserving therefrom Land Commission Award 10535, Apana 2 to Napahi, within this lot, containing an area of 0.90 Acre

Leaving a net area of 1.90 Acres

(Signed) H.E. Newton, Surveyor,
Honolulu, Territory of Hawaii, September 21, 1920… [page 112]

**Waikiki Ahupuaa, Ili of Kaiwiokaihu (with Keaniani and Mauna Laha)**
**District of Kona, Island of Oahu**
**Boundary Commission, Oahu, Volume No. 1 pp. 263-264**
[This inland section of Kaiwiokaihu, is part of a larger, Lele (detached land area) that shares common boundaries with Kewalo.]

In the Matter of the Application of E. Maui for settlement of the boundaries of portions of Kaiwiokaihu viz. - Keaniani, and Mauna Laha.

Application
To L. McCully, Esq
Commissioner of Boundaries for the Island of Oahu H.I.

The petition of E. Maui of Honolulu, Oahu, respectfully represents as follows: That he is the present owner of two pieces of taro land belonging to the ili of Kaiwiokaihu, and situated in Makiki Valley, known as "Keaniani" and "Maunalaha" and that the same were awarded to the late Davida Kauliokamoa by the Minister of Interior in the Mahele Award No. 24, dated June 30th 1862 in the following words "Ka Ili of Kaiwiokaihu, Waikiki, i paa i ka pa a me na loi iuka".

DRAFT

That the first mentioned land called Keaniani, was conveyed to your petitioner by Roke Keanui widow of Kauliokamoa by a deed dated March 1st 1869 and recorded in Liber 36 page 263 and the second piece of land by a deed dated Jan. 1, 1873 and recorded on same page.

That the said pieces of land are situated in Makiki Valley and are bounded by the Kula of Kaiwiokaihu, belonging to the Government, the Ili of Opu claimed for the Estate of Kamehameha V, and the half Ili of Poloke belonging to the Crown.

(The petition has a survey annexed - and prays for an award accordingly, & that a time & place be set for the hearing &c).
Signed. E. Maui

**Court House, Honolulu**
**April 3d 1874**
Present E. Maui, the petitioner, Prof Alexander, the surveyor who represents Crown Lands, the Government & "Opu" of Kam. V Estate

Kaohimaunu, sworn. (say 50 years old)
Am kamaaina about Makiki. I know the place called Keaniani. It is a part of Kauliokamoa's land. His widow sold it to petitioner, who now holds it. It is in Makiki. I went with Alexander to survey it, and pointed out the boundaries of it to him - I was a man under Kauli-o-Kamoa. He surveyed as I pointed out, and as petitioner [page 263] holds. It is bounded on the makai side by "Opu"

of Kam. V - by Poloke on upper side (Ewa side) a piece of Crown Lands maheled by Piikoi as surveyed. The division being an auwai. The boundary on the Waikiki side & mauka is the Kahawai of Makiki - the other side of the stream is the Kula of Opu.

Prof Alexander statement: The survey herewith presented and made by me, according to the testimony of the witness, as claimed and now held by the petitioner. I am authorized to represent the adjoining lands, and I assent to this boundary between them, so far as they are concerned.

Mr. Judd for John Ii's Estate assents where the corner of this land touches that Estate.

Award accordingly.

Mauna Laha
Same witness - I was formerly in charge of this - cultivated it for Kauliokamaoa. It is up the right hand branch of Makiki valley. I pointed out the boundaries to A. Bishop who surveyed ti many years ago and pointed out the same to Prof Alexander lately. He followed the marks laid down by Mr. Bishop. They are the ancient boundaries and are as occupied now by the petitioner. We started at stone marked by Bishop; thence around to another principal corner marked along line of stone wall &c. The piece is surrounded by the land of Opu, although formerly this piece had a kula attached, now lapsed. Both pieces in this petition are leles of Kaiwiokaihu.

DRAFT

Prof Alexander states, followed the direction of witness finding Mr. Bishop's marks at the two principal corners and otherwise distinct lines. It is surrounded by the land claimed as Opu, and I am authorized on part of Kam. V Estate to assent to the boundary as given in my survey.

The two pieces are therefore awarded according to the survey presented.

Award No. 15
Office of the Commissioner of Boundaries Oahu

In the matter of the application of E. Maui for the settlement of "Keaniani" and "Mauna Laha"

Upon the foregoing application due notice having been given to all parties in interest, the matter came on to be heard on the 3d day of April A.D. 1874 at the Court House in Honolulu and it was made to appear that the pieces of land ap- [page 264] applied for are included in "Na loi uka" of the award of Minister of Interior No. 24 to Kauliokamoa of the Ili of Kaiwiokaihu, Waikiki. And upon the proofs given I find the boundaries as follows, to wit:

(the petitioner holding by deed from the widow of the Grantee)

Keaniani, Maikiki

Beginning at the West corner of this land adjoining Poloke, at an angle in the fence, the boundary runs:

North 69° 55' East 282 feet along Poloke, along auwai;
South 27° 04' East 86' feet along the Kahawai
South 61° 01' West 250 feet along the Kahawai
South 40° 05' West 132 feet along Opu to place of beginning
Containing 648/1000 acre

Mauna Laha
Beginning at a marked rock by two Hala trees near a spring the boundary runs:

South 57° 04' West true 612 feet to marked rock;
North 30° 29' West true 184 feet across valley to marked rock
North 62° 44' East true 390 feet
North 67° 11' East true 281 feet
South 0° 54' East true 116 feet to place of beginning, and containing 2 178/1000 acres.

DRAFT

In witness whereof I have hereunto set my hand at Honolulu this 8th day of April A.D. 1874 Lawrence McCully, Commissioner of Boundaries, Oahu…. [page 268]

**Waikiki Ahupuaa, Ili of Kamoku**
**District of Kona, Island of Oahu**
**Boundary Commission, Oahu, Volume 1 pp. 134-136**
[The ili of Kamoku shares common boundaries with the ili of Kālia.]

Boundaries of Kamoku Ili aina ma Waikiki

Application of Charles R. Bishop, for His Majesty
Filed July 14th 1873

Honolulu, Jan'y 14th 1873
L. McCully, Esq
Commissioner of Boundaries for the Island of Oahu

Sir,
Enclosed herewith I hand you the Plan and Notes of survey of His Majesty's land "Kamoku," an Ili in two pieces, at Waikiki, Kona, Oahu, and request you to define and settle the boundaries of the same, according to law.

DRAFT

The names of the lands bounding His Majesty's land, Kamoku, and that of the owners thereof, appear in this survey, as far as I know them.

Respectfully Yours,
Charles R. Bishop,
Acting for His Majesty

Survey filed with above
He Moolelo o ke ana ia Kamoku, Ili Aina o W.C. Lunalilo ma Waikiki Waena, Kona, Mokupuni, Oahu.

Apana 1.
E hoomaka ana i ke ana ma ke kihi Hikina Akau, mauka o keia ma ka lihi Komohana o ke Kahawai o Kalia e pili ana me Kuilei Aina o Keolaloa, ma ka huina o ke Kahawai me ka Auwai ma ka pohaku X a holo ka aoao mua:

Hema 68° Kom. 220 pauku
Akau 59° Kom. 2 ½ Kaulahao ma Kuilei
Hem. 52° Kom. 409 pauku
Hem. 58° 30' Kom. 402 pauku
Hem. 65° 30' Kom. 402 pauku
Hem. 69° 30' Kom. 212 pauku; [page 134]
Hema 58° Kom. 125 pauku, ma Kuauna e pili ana me Hapuna a hiki i ke Akaakai, alaila
Hem. 58° Kom. 869 pauku
Hem. 61° 30; Kom. 192 pauku
Hem. 41° 30' Kom. 482 pauku ma kaha puna a hiki I ke kihi Hik. Ak. o Maui

Loko alaila Ak. 59° Kom. 270 pauku
Ak. 45° Kom. 62 pauku
Ak. 71° Kom. 105 pauku
Hem. 77° Kom. 781 pauku ma Kuilei a me Kalia a i ke Kihi Komohana loa o keia aina alaila Hem. 5° 30' Hik. 238 pauku
Hem. 39° 30' Hik. 357 pauku
Hem. 83° Hik. 73 pauku
Ak. 76° Hik. 158 pauku
Hem. 58° Hik. 44 pauku
Ak. 81° Hik. 342 pauku
Ak. 43° 30' Hik. 427 pauku ma Kalia
Hem. 55° Hik. 3 ½ kaulahao
Ak. 55° 30' Hik. 983 pauku
Ak. 51° Hik. 206 pauku
Ak 61° 30' Hik. 232 pauku
Ak. 71° Hik. 160 pauku
Ak. 59° Hik. 2 kaulahao
Ak. 69° 45' Hik. 51 pauku
Ak. 50° 30' Hikina 638 pauku
Ak. 69° Hik. 86 pauku
Ak. 86° 30' Hik. 140 pauku
Ak. 43° Hik. 160 pauku
Ak. 57° Hik. 366 pauku ma Kuauna e kaawale ai o Kamoku o S. Kuluwailehua a hiki i ke Kahawai o Kalia ma ka pohaku X he 194 pauku mai ka pohaku mai i Kapa
ia o Kuwalu aliala Ak. 19° 30' Hik. 203 pauku hiki i ke kihi i hoomakai.
Oia kona Ili 18 Eka.

DRAFT

Apana 2
E hoomaka ana i ke ana ma ke kihi Komohana Hema makai o keia, ma ke lihi Hikina o ke Kahawai o Kalia ke kihi Komohana Hema hoi o ka loi I Kapaia o Kapaeli, a holo:
Hema 43° 30' Hik. 896 pauku ma ko Kaaimanu
Ak. 44° 30' Hik. 113 pauku ma Kaaimoi
Ak. 36° Hik. 149 pauku ma ko Kauhane
Ak. 35° Kom. 69 pauku ma ko Nuhi [page 135]
Ak. 43° Hik. 65 pauku alaila
Ak. 40° 30' Kom. 294 pauku ma ko Kauhane
Ak. 37° 30' Kom. 460 pauku ma ko Palaualelo
Alaila Hem. 57° Kom. 162 pauku
Hem. 48° Kom. 243 pauku ma ka lihi luna o ke Kahawai o Kalia a hiki I ke Kihi i hoomakai.
Eia Kona Ili 3 3/10 Eka.
Me na Apana Elua 21 3/10 Eka

J.W. Makalena

Ana aina
Ana ia Maraki 15 1856

October 30th 1873
In company with J.W. Makalena, the former surveyor on behalf of petition, and Prof. Alexander in Kamooiliili, Waikiki, having with us the survey with diagram. First examined Apana 1. The corner on the Kalia stream is marked by a stone like a post and at the other mauka point by the junction of an ancient auwai. Went round the land, principally guided by Kupele, who did not however profess to be an old kamaaina. It was said they are all dead. Going down the east side of the land from stone post on the East lies the land of Kawailehua, now Jos. Kawainui, apparently Award No. 1281, R. P. 166 & 403, which will determine this boundary. The first part of it is marked by Kuaunas between taro patches - then it strikes into rush land (just burnt over) where the line was not so apparent - below the Kawailehua land, gov't land border this – Kalia. Gov't land is perhaps at makai end of this, and going back on the west side. Gov't land joins then some land said to belong to Kanaina - then W. Sumner for Kuilei, Award No. 154 - Lines should be run out.

DRAFT

II Apana. On makai side of stream is bounded by land of Mo's widow, Kalaula - on East side by Kiona - on mauka side by Papaiki o Kepahi. Did not get very definite information about this piece/ Lines will have to be run & compared with adjacent Roy. Patents.

The surveyor's memory not full.

To Folio 252 [page 136]

**Waikiki Ahupuaa, Ili of Kamoku**
**District of Kona, Island of Oahu**
**Boundary Commission, Oahu, Volume 1 pp. 252-253**
From folio 136.
Court House
January 27th 1874
No adjacent proprietor appearing to contest the line as laid in the survey and the said survey having been made at a time when the boundary was more clearly defined than at present and no verification of this survey being to this date presented and from the whole result of the personal inspection, and examination on the spot of the people of the vicinage, as well as from the character of the land itself. I deem it proper to award the boundary according to the terms of the survey presented in the application.

Award No. 42

Office of the Commissioner of Boundaries – Oahu

In the Matter of the boundaries of Kamoku an Ili Aina of His Majesty – Lunalilo at Waikiki.

Proper application having been made as above and notice having been given to all parties concerned upon examination of the premises, and of testimony, I find the boundaries of said Ili, in conformity with the survey—presented, and award as follows:—

E hoomaka ana i ke ana ma ke kihi Hikina Akau, mauka o keia ma ka lihi Komohana o ke Kahawai o Kalia e pili ana me Kuilei aina o Keolaloa, ma ka huina o ke Kahawai me ka auwai ma ka pohaku X a holo ka aoao mua Hem 68° Kom. 220 pauku Ak. 59° Kom. 2 ½ kaulahao ma Kuilei Hem. 52° Kom. 409 pauku Hem. 58° 30' Kom. 402 pauku Hem. 65° 30' Kom. 324 pauku Hem. 69° 30' Kom. 212 pauku Hem 58° Kom. 125 pauku, ma Kuauna e pili ana me Hapuna a hiki I ke Akaakai, alaila Hem. 58° Kom. 869 Pauku Hem. 61° 30' Kom. 192 pauku Hem. 41° 30' Kom. 482 pauku ma Kahapuna a hiki I ke kihi Hikina ak. o Maui Loko, alaila Ak. 59° Kom. 270 pauku Ak. 45° Kom. 62 pauku Ak. 71° Kom. 105 pauku Hem. 77° Kom. 781 pauku ma Kuilei a me Kalia a I ke Kihi Komohana loa o keia aina, alaila Hem. 5° 30' Hik. 238 pauku Hem. 39° 30' Hik. 357 pauku Hem. 83° Hik. 73 pauku, Ak. 76° Hik. 158 pauku. Hem. 58° Hik. 44 Pauku, Ak. 81° Hik. 342 pauku, Ak. 43° 30' Hik. 427 pauku ma Kalia Hem. 55° Hik. 3 ½ kaulahao, Ak. 55° 30' Hik. 983 [page 252]

DRAFT

From fol. 252

Pauku, Ak. 51° Hik. 206 pauku, Ak. 61° 30' Hik. 232 Pauku Ak. 71° Hik. 160 pauku, Ak. 59° Hik. 2 Kaul. Ak. 69° 45' Hik. 51 pauku, Akau 50° 30' Hik. 638 pauku, Ak. 69° Hik. 86 pauku Ak. 86° 30' Hik. 140 pauku, Ak. 43° Hik. 160 pauku, Ak. 57° Hik. 366 pauku, ma Kuauna e Kaawale ai o Kamoku o S. Kuluwailehua a hiki i ke Kahawai o Kalia ma ka pohaku X he 194 pauku mai ka pohaku mai i Kapaia o Kuwalu Alaila Ak. 19° 30' Hik. 203 Pauku, hiki i ke kihi i hoomakaʻi.

Eia kona Ili 18 Eka.

Apana 2

E hoomaka ana i ke ana ma ke kihi Komohana Hema makai o keia, ma ke lihi Hikina o ke Kahawai o Kalia ke kihi Komohana Hema hoi o ka loi i Kapaia o Kapaeli, a holo Hem. 43° 30' Hik. 896 Pauku ma ko Kaaimanu Ak. 44° 30' Hik. 113 pauku ma Kaaimoi Ak. 36° Hik. 149 pauku ma ko Kauhane Ak. 35° Kom. 69 pauku ma ko Nuhi Ak. 43° Hik. 65 Pauku, Alaila Ak. 40° 30' Kom. 294 pauku ma ko Kauhane, Ak. 37° 30' Kom. 460 pauku, ma ko Palaualelo, alaila Hem. 57° Kom. 162 pauku, Hem. 48° Kom. 243 pauku ma ka lihi luna o ke Kahawai o Kalia a hiki i ke Kihi i hoomakai.

Eia Kona Ili 3  3/10 Eka.

Ma na Apana Elua 21 3/10 Eka.

J.W. Makalena
Ana aina
Ana ia Maraki 15, 1856

In witness whereof I have hereunto set my hand this 27th day of January A.D. 1874.

Lawrence McCully
Com Boundaries Oahu. [page 253]

DRAFT

**Waikiki Ahupuaa, Ili of Kalia (various sections with other Ili)**
**District of Kona, Island of Oahu**
**Boundary Commission, Volume 1 pp. 430-444**
In the matter of the application of W. Alexander for the settlement of the boundaries of the following described lands to Wit:

1. Keauhou and Wahinalo, adjacent to Paakea, in two parts viz., Part I and Part II
2. Waiaka, a tract adjoining Kamooiliili church
3. The "Kula & Kaaipuaa" in Kalia makai of Kaluaolohe
4. Tract A of Rice Land in Kalia, Waiaka and Mookahi. This includes Loi o Kaokapokii, and adjoins Pau & Kamoku
5. Tract B. Rice Land in Kalia adjoins "Auwai of Alanaio
6. "Kauamoa" adjoins Pau.

Hon R.F. Bickerton
Commissioner of Boundaries for the Island of Oahu

DRAFT

Sir

I am instructed by His Excellency the Minister of the Interior to make an application to your Honor to decide and certify the boundaries of the following pieces of Government land in Waikiki, viz.:

1. Keauhou and Wahinalo, adjacent to Paakea, in two parts
2. Waiaka, a tract adjoining Kamooiliili church
3. The "Kula & Kaaipuaa" in Kalia makai of Kaluaolohe
4. Tract A of Rice Land in Kalia, Waiaka and Mookahi. This includes the "Loi o Kaokapokii," and adjoins Pau & Makoku;
5. Tract B of Rice Land in Kalia, adjoining the "Auwai of Alanaio";
6. "Kauamoa," which adjoins Pau.

As far as appears from the survey of Waikiki, the only unsettled boundaries of the above mentioned pieces of Govt land are those adjoining Paakea, awarded to V. [page 430]

Kamamalu and now belonging to H.R.H. Luka Keelikolani, and the land of Pau belonging to the Estate of W.C. Lunalilo.

There are however claimants for portions of Keauhou and Mookahi.

The maps and descriptions of the above mentioned pieces of land are herewith submitted, and are believed to be strictly correct, and your Honor is respectfully requested to appoint a day for the hearing of the case and that all parties interested may have due notice.

I have the honor to be your obedient Servant

(Signed) W.D. Alexander, Supt of Govt Survey

The above mentioned lands were surveyed by Reverend S.E. Bishop who will be in town about the end of December,

Office of the Boundary Commissioner of the Island of Oahu
No. 38 Merchant Street
January 6th 1882

Due notice having been given to adjoining owners:

Present: S.E. Bishop, Haumea, Opunui, Mika Sole, Hookaia and Honorable S.K Kaai.

Hon S.K, Kaai notified by written notice.

1st Keauhou and Waihinalo, Mr. Bishop offers map made by him from his survey dated Oct 1881.

DRAFT

S.E. Bishop Sworn, states.

I made these surveys of these two lands. The Boundaries on the North & East sides were made from former survey of adjoining lands; the boundary in the Southeast side between these lands & Paakea is given from testimony of kamaaina, viz. Hookaia, Opunui & Nakohana; these people went with me and pointed out these old Boundaries;

Hookahi Sworn, states.

I have lived at Waikiki since 1847 I know these lands but am not well acquainted with the Boundaries. I can not say if this survey is correct. The stone wall on Northeast side I helped to build under Kekuanaoa about 1854 & it ran down to Makuaole's kuleana, after passing Kaleiapo's kuleana; it ran directly to Makuaole's kuleana. I only know all this from what I have been shown.

Haumea Sworn, states.

I have lived at Waikiki since 1832. I can't see this plan. I am not certain as to the Boundaries between Paakea and Wahinalo. I am the owner of Keauhou and Nauhana was the owner of Waihinalo.

Opunui Sworn, states.

I have heard what the other witnesses said. One boundary of Keauhou starts from Makuaole's kuleana & runs to Kaleiapo's wall. I don't know boundaries of Waihinalo. Mahuka had [page 431] charge of Paakea. I had charge under the Kamehamehas. I always thought Kapaakea included these lands.

On these lands the matter stands over, Heami then called on by the Government.

2nd Waiaka. Mr. Bishop offers a map made by him from his survey made in October 1881

Heami Sworn, states.
I know Waiaka & Paakea there is the Kuleana of Kauha, the boundaries run along this kuleana to a stone, on the one side bounded by Maulukikipi & on the other side by Kiki.

Mr. Kaai states he is satisfied with this survey.

DRAFT

Certificate granted.

#3 The Kula of Kaaipuaa.
Mr. Bishop offers a map of this land made by him. S.E. Bishop Sworn States. I made this survey and all boundaries are taken from adjoining Royal patents the line adjoining Kapahulu was agreed upon between the Government and Lunalilo Estate. I found some of the original marks of adjoining lands.

Certificate granted.

#4 Tract A of Rice land in Kalia, Waiaka and Hookahi.
Mr. Bishop offers a map made by himself.

S.E. Bishop Sworn States. I made this map mainly from information from kamaaina & from a thorough survey of adjoining lands, having Grants of Kuleanas adjoining between this land and Crown land of Mookahi. I followed kuaunas.

Mr. Kaai states he makes no objection to this survey.

Certificate granted.

#5 Tract B Rice land in Kalia adjoins Auwai of "Alanaio."
Mr. Bishop offers map made by him.
Further time is granted to get evidence as to a portion of this land.

#6 Tract B Kauamoa adjoins Pau
S.E. Bishop States, I made this survey from adjoining surveys.

Certificate granted.
March 13th 1882
Second hearing
Present: Prof Alexander, S.K. Kaai, and others.

The matter of Keauhou and Wahinalo was taken up:

[name illegible] Sworn, states.

I am acquainted with these lands Keauhou & Wahinalo join the mauka boundary of Wahinalo is on Beretania St. opposite a house that belongs to Kahiki, who is now dead.

The Commissioner finds there is no evidence to support the survey and cannot arrive at any conclusion for want of evidence.

#5 Tract B Rice Land in Kalia adjoins Auwai of Alanaio.

DRAFT

Elama Sworn, states.
I am acquainted with these lands, but am not certain as to boundaries & I know these 3 taro patches belong to Paakea, and join Hapuna; the Boundaries of these patches are the [page 432] taro banks.

Certificate to be granted, not including the 3 patches marked with red line in map.

No. 1 Keauhou and Wahinalo adjacent to Paakea in two parts, viz.: Part I and Part II. Judgment to wit:

The Commissioner finds there is no evidence to support the survey and cannot arrive at any conclusion for want of evidence.

No. 2.

No. 61
Certificate of Boundaries of the land of the Ili of Waiaka, District of Kona, Island of Oahu,

L.C. Award

Commission of Boundaries
1st Judicial Circuit, R.F. Bickerton, Esq. Commissioner

In the matter of the Boundaries of the Land in the Ili of Waiaka District of Kona, Island of Oahu

Judgment
An application to decide and certify the boundaries of the land in the ili of Waiaka, District of Kona, Island of Oahu, having been filed with me on the 23rd day of November 1881 by W.D. Alexander Supt of Government Survey & in accordance with the provisions of an Act to facilitate the settlement of Boundaries & approved on the 22nd day of June A.D. 1865 now, therefore having duly received and heard all the testimony offered in reference to the said boundaries and having endeavored otherwise to obtain all information possible to enable me to arrive at a just decision, which will more fully appear by reference to the records of this matter by me kept in Book No. 1, pages 433 & 434, and it appearing to my satisfaction that the true, lawful and equitable boundaries are as follows, viz.:

Beginning at the North corner of this piece, at a flat rock marked A and running thence:

1. S 28° 20' W. (true) 304 feet, along Paakea of V. Kamamalu L.C.A. 7713 Apana 39 to E angle of Kaaha's wall
2. S 43° 0' W. (true) 208 feet along L.C.A. 1816, Ap 1 of Kaaha to S angle of same
3. S 36° 50' W. (true) 69 feet along Paakea of V. Kamamalu
4. S 55° 30' E (true) 112 feet along Maulukikepa R.P. 3579 of Kalama & Nakookoo
5. S 34° 0' E (true) 694 feet along Maulukikepa R.P. 3579 of Kalama & Nakookoo
6. N 59° 0' E (true) 122 feet along L.C.A. 9001, Ap 2 of Kahakai
7. N 42° 30' W. (true) 49 feet along L.C.A. 1268 Ap 2 of Nakai
8. N 47° 0 E (true) 176 feet along L.C.A. 1268,Ap 2 of Nakai
9. N 47° 0' E (true) 235 feet along L.C.A. 9001 Ap 4 of Kahakai
10. N 36° 0' W. (true) 30 feet along L.C.A. 1525 of Kuaana
11. N 52° 0' E (true) 140 feet along L.C.A. 1525 of Kuaana
12. N 44° 0' W. (true) 876 feet along L.C.A. 5937 of Paukuwahie to the initial point, containing an area of 11 2/10 Acres. [page 433]

No. 63
Certificate of the Boundaries of the land in the Ili of Kalia, District of Kona, Island of Oahu,

Land Commission Award No. _____

Commission of Boundaries
1st Judicial Circuit, R.F. Bickerton, Esq Commissioner

In the matter of the boundaries of the land in the Ili of Kalia, District of Kona, Island of Oahu

Judgment
An application to decide and certify the boundaries of the land in the ili of Kalia, District of Kona, Island of Oahu, having been filed with me on the 23rd day of November 1881 by W.D. Alexander, Supt of Government Survey & in accordance with the provisions of an Act to facilitate the settlement of Boundaries & approved on the 22nd day of June A.D. 1865; now, therefore, having duly received and heard all the testimony offered in reference to the said boundaries and having endeavored otherwise to obtain all information possible to enable me to arrive at a just decision, which will more fully appear by reference to the records of this matter by me kept in Book No. 1, pages 434 and it appearing to my satisfaction that the true, lawful and equitable boundaries are as follows, viz.:

Beginning at the East angle of this piece, being the south angle of Kaluaolohe L.C.A. 5873 of Kahanaumaikai at a low rock marked +, whence Leahi Trig. Station bears 275° 24' True azimuth from south and Waikiki bears 80° 17' and running thence

DRAFT

1. S 36° 30' W. (true) 500 feet, along Kaluaolohe, to rock marked + being the Et angle of Grant 2608 of W. Webster;
2. S 72° 30' W. (true) 585 feet along Grant 2608 of W.. Webster;
3. S 37° 0' E (true) 768 feet along L.C.A. 35 F.L. Ap 2 "Kanukuaula" of Mahuka, to flat rock marked whence large solitary rock bears S 66° W. 164 feet distant;
4. N 45° 20' E (true) 54 feet along Kapahulu of W.C. Lunalilo to initial point containing an area of 7 and 97/100 Acres.

No. 62
Certificate of Boundaries of the land of Mookahi, District of Kona Island of Oahu.

L.C.A.

Commission of Boundaries
1st Judicial Circuit, R.F. Bickerton, Esq Commission

In the matter of the Boundaries of the land of [Mookahi] District of Kona Island of Oahu. [page 434]

Judgment
An application to decide and certify the Boundaries of the land of Mookahi District of Kona Island of Oahu having been filed with me on the 23rd day of November 1881 by W.D. Alexander Supt of Government Survey in accordance with the provisions of an Act to facilitate the settlement of Boundaries &c approved on the 22nd day of June A.D. 1865 now therefore having duly received and heard all the testimony offered in reference to the said

boundaries and having endeavored otherwise to obtain all information possible to enable me to arrive at a just decision which will more fully appear by reference to the records of this matter by me kept in Book No. 1 pages and it appearing to my satisfaction that the true lawful and equitable boundaries are as follows, viz.:

Beginning at the North angle of this tract being the East angle of lele No. 1 of "Pau," and the S angle of "Loko Kuilei" of W. Sumner from which point Kaimuki Trig. Station bears 284° 8' True azimuth from South and running thence as follows:

1. S 43° 55' W. (true), 363 feet along L.C.A. 8559B Apana 29 being Lele No. 1 of "Pau" of W.C. Lunalilo
2. S 39° 50' W. (true) 163 feet along L.C.A. 8559B, Apana 29 being Lele No. 1 of "Pau" of W.C. Lunalilo
3. S 47° 30' E (true) 384 feet along L.C.A. 1738 Ap 2 of Kalaeone
4. S 44° 0' W. (true) 160 feet along L.C.A. 1738 Ap 2 of Kalaeone
5. S 45° 15' E (true) 394 feet along L.C.A. 1515 Ap 1 of Kaihoolua
6. S 49° 0' E (true) 262 feet along Grant 3118 of W.K. Kawaihapai
7. N 41° 45' E true 216 feet along L.C.A. 104 F.L. Ap 4, of Kekuanaoa
8. S 48° 30' E (true) 372 feet along L.C.A. 104 F.L., Apana 4, Kekuanaoa
9. N 48° 45' E (true) 187 feet along Crown Ili of Mookahi
10. N 48° 45' E (true) 132 feet along Crown Ili of Mookahi
11. N 51° 0' E (true) 400 feet along Crown Ili of Mookahi
12. N 52° 0' E (true) 256 feet along L.C.A. 2081 Ap 1 of Keoneanea
13. N 43° 0' E (true) 63 feet along L.C.A. 1442 Ap 2 Kumoanahulu
14. N 43° 0' E (true) 64 feet along L.C.A. 2083 Ap 3 Kahiloaha
15. N 5° 0' W. (true) 18 feet along L.C.A. 2083 Ap 3 Kahiloaha
16. N 49° 0' E (true) 61 feet along L.C.A. 2083 Ap 3 Kahiloaha
17. N 49° 0' E (true) 73 feet along L.C.A. 1445 Ap 4 of Kanemakua
18. N 41° 0' W. (true) 90 feet along L.C.A. 2880 of Keaka
19. S 54° 30' W. (true) 64 feet along L.C.A. 1386 Ap 2 of Ainoa
20. S 54° 30' W. (true) 84 feet along L.C.A. 4537 of Kauhao
21. S 61° 30' W. (true) 179 feet along L.C.A. 4537 of Kauhao
22. S 62° 0' W. (true 125 feet along L.C.A. 1421 Ap 1 of Kao
23. S 67° 0' W. (true) 104 feet along L.C.A. 1421 Ap 1 of Kao
24. S 65° 0' W. (true) 119 feet along L.C.A. 4942 of Kawelohelii
25. N 28° 0' W. (true) 54 feet along L.C.A. 4942 of Kawelohelii
26. N 60° 0' E (true) 44 feet along L.C.A. 4942 of Kawelohelii
27. N 40° 0' W. (true) 64 feet along L.C.A. 5937 Ap 1 of Paukuwahie
28. N 60° 0' E (true) 144 feet along L.C.A. 5937 Ap. 1 of Paukuwahie
29. N 33° 0' E (true) 104 feet along L.C.A. 1430 of Huikau
30. N 59° 0' E (true) 102 feet along L.C.A. 1430 of Huikau [page 435]
31. N 30° 0' W. (true) 64 feet along L.C.A. 2076 Ap 1 of Kauai
32. S 60° 30' W. (true) 502 feet along L.C.A. 1281 Ap 4, being Kamoku II of Kuluwaihlehua

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33. N 24° 30' W. (true) 468 feet along L.C.A. 1281 Ap 4 being Kamoku II of Kuluwaihlehua
34. S 65° 30' W. (true) 184 feet along L.C.A. 8559B being Kamoku I of W.C. Lunalilo
35. N 39° 15' W (true) 328 feet along L.C.A. 8559B being Kamoku I of W.C. Lunalilo

To the Initial point, containing an Area of 24 and 57/100 Acres
No. 65

No. 5
Certificate of Boundaries of the Land In the Ili of Kalia Govt. land District of Honolulu Island of Oahu;

L.C. Award No.

Commission of Boundaries
1st Judicial Circuit, R.F. Bickerton, Esq Commissioner

DRAFT

In the matter of the Boundaries of part the Govt land in the Ili of Kalia District of Honolulu Island of Oahu

Judgment

An application to decide and certify the Boundaries of the land in Ili of Kalia District of Honolulu Island of Oahu having been filed with me on the 23rd day of November 1881 by W.D. Alexander Supt of Government Survey & in accordance with the provisions of an Act to facilitate the settlement of Boundaries & approved on the 22nd day of June A.D. 1865; now, therefore, having duly received and heard all the testimony offered in reference to the said boundaries and having endeavored otherwise to obtain all information possible to enable me to arrive at a just decision which will more fully appear by reference to the records of this matter by me kept in Book No. 1, page and it appearing to my satisfaction that the true, lawful and equitable boundaries are as follows, viz.:

Beginning at the north angle of this tract at the junction of the S. W. boundary line of L.C.A. 6235, Apana 1st of C. Kapaakea, with the auwai of Alanaio and running thence:

1. S 45° 10' W. (true) 80 feet along the middle of Auwai Alanaio
2. S 53° 0' W. (true) 80 feet along the middle of Auwai Alanaio
3. S 58° 0' W. (true) 100 feet along the middle of Auwai Alanaio
4. S 64° 45' W. (true) 160 feet along the middle of Auwai Alanaio
5. S 63° 0' W. (true) 251 feet along the middle of Auwai Alanaio
6. S 55° 0' W. (true) 84 feet along the middle of Auwai Alanaio

7. S 44° 45' W. (true) 232 feet along the middle of Auwai Alanaio [page 436]
8. S 52° 0' W. (true) 168 feet along the middle of Auwai Alanaio
9. S 51° 30' W. (true) 133 feet along the middle of Auwai Alanaio
10. S 28° 0' E (true) 198 feet along L.C.A. 6716 Ap 3 of Haumea
11. N 38° 30' E (true) 120 feet along L.C.A. 4605 of Hakau
12. N 74° 0'E (true) 130 feet along L.C.A. 4605 of Hakau
13. S 68° 0' E (true) 78 feet along L.C.A. 4605 of Hakau
14. S 27° 0' E (true) 196 feet along L.C.A. 4605 of Hakau
15. S 50° 0' E (true) 63 feet along L.C.A. 4605 of Hakau
16. S 10° 15' E (true) 143 feet along L.C.A. 4605 of Hakau
17. N 86° 45' E (true) 98 feet along L.C.A. 8559B Ap 29, "Pau" of W.C. Lunalilo
18. N 63° 0' E (true) 264 feet along L.C.A. 154 of W. Sumner
19. S 29° 40' E (true) 240 feet along L.C.A. 154 of W. Sumner
20. N 56° 0' E (true) 224 feet along L.C.A. 8559B Ap 30, Kamoku I of W.C. Lunalilo
21. N 29° 30' W. (true) 226 feet along L.C.A. 7713 Ap 39 Paakea of V. Kamamalu
22. N 60° 30' E (true) 490 feet along L.C.A. 7713 Ap 39 Paakea of V. Kamamalu
23. N 77° 30' E (true) 100 feet along L.C.A. 7713 Ap 39 Paakea of V. Kamamalu
24. N 18° 0' W. (true) 204 feet along L.C.A. 2549 Ap 2 of Luaiku
25. S 65° 0' W. (true) 14 feet along L.C.A. 1270A Ap 2 of Kalakoa
26. N 31° 45' W. (true) 77 feet along L.C.A. 1270A Ap 2 of Kalakoa
27. N 66° 10' E (true) 246 feet along L.C.A. 1270A Ap 2 of Kalakoa
28. N 18° 0' W. (true) 160 feet along feet along L.C.A. 1270A Ap 1 of Kalakoa
29. N 34° 0' W. (true) 52 feet along L.C.A. 6252 "Kaalawai" of Kukahiko
30. N 42° 0' W. (true) 22 feet along L.C.A. 2619 of Pahau
31. S 67° 0' W. (true) 366 feet along L.C.A. 6235 Ap 1 of C. Kapaakea
32. N 31° 40' W. (true) 283 feet along L.C.A. 6235 Ap 1 of C. Kapaakea to the Initial point and containing an Area of 22 22/100 Acre

DRAFT

No. 64
Certificate of Boundaries of the land of Kauamoa in the District of Kona Island of Oahu

L.C. Award No. _____

Commission of Boundaries
1st Judicial Circuit, R.F. Bickerton, Esq Commissioner

In the matter of the Boundaries of the land of Kauamoa Ili of Kalia District of Kona, Island of Oahu

Judgment
An application to decide and certify the boundaries of the land of Kauamoa Ili of Kaila District of Kona Island of Oahu having been filed with me on the 23rd day of November 1881 by W.D. Alexander Supt of Government Survey & in accordance with the provisions of an Act to facilitate the settlement of

Boundaries & approved on the [page 437]

22nd day of June A.D. 1865 now, therefore having duly received and heard all the testimony offered in reference to the said boundaries and having endeavored otherwise to obtain all information possible to enable me to arrive at a just decision which will more fully appear by reference to the records of this matter by me kept in Book No. 1 page and it appearing to my satisfaction that the true lawful and equitable boundaries are as follows, viz.:

Beginning at the South East angle of this piece being also the S angle of L.C.A. 6716 Apana 3 of Haumea and running thence:

1. N 42° 45' W. (true) 499 ft. along L.C.A. 6716 Ap. 3 of Haumea
2. S 80° 15' W. (true) 145 ft. along the middle of auwai Alanaio
3. S 12° 20' E (true) 103 ft. along L.C.A. 1409 Ap. 2 of Nakoko
4. S 38° 40' E (true) 148 ft. along L.C.A. 1409 Ap. 2 of Nakoko
5. S 43° 30' E (true) 132 ft. along L.C.A. 1775 Ap. 2 of Paoa
6. S 62° 15' E (true) 71 ft. along L.C.A. 1775 Ap. 2 of Paoa
7. S 46° 45' E (true) 55 ft. along L.C.A. 1775 Ap. 2 of Paoa
8. N 77° 0' E (true) 178 ft. along L.C.A. 8559B Ap 29 "Pau" Lele 1 of W.C. Lunalilo to the Initial point and containing an Area of 1.97 Acres… [page 438]

…Witness my hand this 13th day of March 1882
Richard F. Bickerton Commissioner of Boundaries for Island of Oahu. [page 439]

# 5. MODERN HISTORY OF THE PROJECT AREA AND ITS VICINITY BEGINNING WITH FOREIGN CONTACT AND THE CHANGING LANDSCAPE OF KONA DISTRICT

Since the early 1800s, the cultural landscape of the Honolulu-Waikīkī region of Oʻahu has been radically altered on the surface. Most of the significant changes in Hawaiian culture, religion, subsistence lifeways, politics, land tenure, and self-determination were played out on landscape of the Honolulu-Waikīkī region. The impacts of this cultural transformation and loss of Hawaiian identifiers may never be fully understood. On the following pages are excepts from eyewitness historical accounts in the years between 1790s and the 1920s that set the foundation for the Hawaiʻi in which we now live. The accounts were penned by native Hawaiians, foreign visitors, and residents. These narratives provide a chronology of events documenting: (1) changes in the landscape; (2) the decreasing Hawaiian presence; (3) loss of wahi pana and noted places; (4) concerns about United States control over lands of Honolulu and other areas on the island; (5) development of industrial business interests in the Waikīkī region; (6) the changing make-up of the communities; and (7) travel on the land.

The texts are generally cited chronologically, by period or activities being described. A number of the accounts are presented as article clippings from primary sources. These help set a foundation for interpretive and educational initiatives to promote awareness of, and appreciation for, the history of our island home. What is most noticeable in the narratives is how quickly nearly all facets of Hawaiian life were altered, obscured, and even erased from the landscape. Most of the significant history in the Hawaiian Kingdom after 1800 was initiated at places which today are commonly known as the City of Honolulu or downtown. Places such as ʻAiʻēnui, Hale Hui, Hale Kauwila, Hauhaukoʻi, Honokaʻupu, Honolulu, Honuakaha, Kapuʻukolo, Kīkīhale, Kou, Kuloloia, Mauna Kilika, Pākākā, Pūlaholaho and Waikahalulu were at the epicenter of foreign dominance over the little island kingdom and landscape.

Today, the history of the Honolulu-Waikīkī region is a reflection of many cultures, economic pressures and sentiments which are not friendly towards Hawaiian culture. While the physical remains of traditional places and the pursuance of traditional and customary practices may not be readily evidenced, there is belief among many Hawaiians that the poʻe kahiko (ancient people) still walk the earth and that the wahi pana still exist through their names and in the beliefs of native families.

## 5.1 Kamaʻāina and Visitors Descriptions – Travel in the Waikīkī Vicinity and Larger Kona District

The historical record shares a wide range of descriptions of the Waikīkī, life of the people, expressions of aloha for place, and the cultural attachment shared by Hawaiians in their living environment. The narratives below were found in Hawaiian and English language sources and reflect both native and foreign experiences and observations on the land. The texts include some of the earliest descriptions of the native communities shortly after Western contact; provide descriptions of travel across the Kona District; include mele

(chants) describing the cultural landscape; and cite first-hand accounts of the challenges faced by native residents and loss of access and title to the land. The excerpts of articles help us understand how quickly change came to the land and lifeways of the people.

### 5.1.1 Archibald Campbell's Journey in 1809

In 1809, Archibald Campbell visited Oʻahu from the Aleutian Islands while recovering from frost bite, which led to the amputation of both his feet. Campbell wrote about the beauty of the Waikīkī-Honolulu region and the genuine concern and love of the Hawaiians. Below follow excerpts from Campbell's journals during his residency in Kou, where he lived for a few months in the residence of Isaac Davis (one of Kamehameha I's two highly trusted foreign advisors):

> Upon landing I was much struck with the beauty and fertility of the country, so different from the barrenness of the Fox islands. The village of Hanaroora [Honolulu], which consisted of several hundred houses, is well shaded with large cocoa-nut trees. The king's residence, built close upon the shore, and surrounded by a palisade upon the land side, was distinguished by the British colours and a battery of sixteen carriage guns, belonging to his ship, the Lily Bird, which at this time lay unrigged in the harbour. This palace consisted merely of a range of huts, viz. the king's eating-house, a store, powder magazine, and guard-house, with a few huts for the attendants, all constructed after the fashion of the country.
>
> At a short distance were two extensive storehouses, built of stone, which contained the European articles belonging to the king. [page 91]
>
> …His [Isaac Davis'] house was distinguished from those of the natives only by the addition of a shed in front to keep off the sun; within, it was spread with mats, but had no furniture, except two benches to sit upon. He lived very much like the natives, and had acquired such a taste for poe [poi], that he preferred it to any other food.... His wealth, consisting of mats, feathers, and cloth, the produce of the island, and a large assortment of European articles, which he had acquired by trading with the ships that touched here; these were contained in a large storehouse, built of stone, adjoining his dwelling. [page 98-99]
>
> …Three miles to the west of Whyteete [Waikīkī] is the town of Hanaroora, now the capital of the island, and residence of the king. The harbour is formed by the reef, which shelters it from the sea, and ships can ride within in safety in any weather, upon a fine sandy bottom. There is a good channel through the reef, with three or four fathoms water; but if there is a swell it is not easily discovered, as the sea often breaks completely across. Pilots, however, are always to be had; John Harbottle, captain of the Lily Bird, generally acted as such. The best anchorage is in five fathoms water, about two cables length from the shore, directly in front of the village. Ships sometimes anchor on the

> outside of the reef, but they run the risk of having their cables cut by the coral.
>
> The entrance to this harbour may probably, at no very distant period, be filled up by the growth of the coral, which must be rapid indeed, if Harbottle, the pilot, was correct, when he informed me that he knew a difference of three feet during the time he had been at Hanaroora… (Campbell, 1967:91-113)

### 5.1.2 The Hawaiian Journal of John B. Whitman in 1813-1815

With little information on the author, "The Hawaiian Journal of John B. Whitman, 1813-1815" (1979) presents early glimpses into the landscape and life of lands in the Honolulu region. Editor John Dominis Holt observed: "If you can ignore Whitman's irksome and fanatical views common to American Calvinists of the time, the 'notes' or 'Journal' may be read with great pleasure. It presents a unique view of Hawaii and Honolulu a few years before the death of Kamehameha" (Whitman, 1979:9):

> …Honoruru [Honolulu] is the most fertile district on the Island. It extends about two miles from the Harbour where it is divided into two valleys by a ridge of high land. The district is highly cultivated and abounds in all the productions of these Islands. The village consists of a number of huts of different sizes scattered along the front of the Harbour without regularity [page 67] and the natives have lost much of the generous hospitality and simplicity that characterize those situated more remotely from this busy scene. One of the valleys formed by the ridge of land is called To [Kou] or sugar cane and is about one mile long. At the head of this valley great quantities of the Tee or Tea rood grows to perfection.
>
> Whytete [Waikīkī] is a large district extending from Diamond Hill to Hanoruru. About one mile from Dimond Hill there is a large area enclosed by a stone wall about ten feet high as it is a tarbooed Morair [Heiau]. I watched an opportunity to enter it and perceived a quantity of bones and coca nui shells scattered about and on one side there was a pile of human skulls reaching half way to the top of the wall. I afterwards learned that the skulls and bones were the remains of victims sacrificed to the Etour [Akua]. The walls of this charnel house were decorated with skulls placed along on the top at intervals of a foot with the face outward to warn the unwary of their doom if their feet encroached upon the sacred spot.
>
> There is in Hanoruru several objects worthy of notice and the contemplative mind in viewing the various productions of nature and the works of man displayed in this beautiful spot is forcibly impressed with the goodness of providence who alike distributes his bounties to the heathen to whose ear his name is an unknown sound and to the Christian… everything necessary for the subsistence and comfort of man is found in the valley, watered by a rivulet it produces the best taro in great abundance, the ridge dividing the taro patches are covered with sugar cane. The high ground yields sweet potatoes and yams

> and all the other productions of the Island are found in the various situations and soils adapted to their nature.
>
> Whytete is said to have been a favorite residence of Tamaahaah [Kamehameha] while on Woahoo and the facilities it affords for the exercise of the various athletic sports which he delighted in in his younger days makes it doubtful whether he could have chosen a more appropriated residence. A grove of trees planted along the beach in three parallel rows nearly a quarter of a mile long, the branches of which meet and for a cool shade, sheltered [page 68] him from the sun, while he amused himself in witnessing the sports of the young Chiefs who assembled here to display before him their activity in throwing the spear, rolling of stones, wrestling and playing on the surf board.
>
> Between the village of Whyteetee and the Harbour, there is a level plain of near two miles extent, near the centers stand an isolated hut in which lies the remains of an European. A yearly sacrifice is made to the Etour supposed to preside over them and suspended in front of the hut, this generally consists of a small pig or dog and a bunch of plantain. He was long a resident on the Island and a favourite with Tamaamaah who places the most undoubting confidence in his veracity, revering his memory and averring that he never knew Isaac Davis to tell a lie (Whitman, 1979:67-69).

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### 5.1.3 Honolulu and Vicinity in 1818

In 1818, Peter Corney resided on Oʻahu as a representative of the Northwest Company, which was engaged in trade of sandalwood and various items. During his residency on Oʻahu, Corney traveled in the company of chiefs and Francisco de Paula Marin. His journal notes include rich historical observations and provide firsthand accounts describing the environment of the Waikīkī-Honolulu region (including the Fort on the Honolulu waterfront), native practices, beliefs and customs, and changes taking place in the Kingdom at the time.

> The Island of Woahoo is by far the most important of the group of the Sandwich Island, chiefly on account of its excellent harbours and good water. It is in a high state of cultivation; and abounds with cattle, hogs, sheep, goats, horses, etc., as well as vegetables and fruit of every description. The ships in those seas generally touch at Ohwhyhee, and get permission from Tameameah, before they can go into the harbor of Woahoo. He sends a confidential man on board to look after the vessel, and keep the natives from stealing; and, previous to entering the harbor of Honorora (Honolulu), they must pay eighty dollars harbor duty, and twelve dollars to John Harbottle, the pilot… [page 96]
>
> …On rounding Diamond hill the village of Wyteetee (Waikiki) appears through large groves of cocoanut and bread-fruit trees; it has a most beautiful appearance, the land all round in the highest state of cultivation, and the hills

covered with wood; a beautiful plain extending as far as the eye can reach. A reef of coral runs along the whole course of the shore, within a quarter of a mile of the beach, on which the sea breaks high; inside this reef there is a passage for canoes. Ships frequently anchor in the bay, in from sixteen to twenty fathoms, over a sand and coral bottom. Several of the king's old vessels are hauled upon shore and sheds built over them. His Majesty formerly resided at this village, but of later years has preferred his native place, Owhyhee. About four miles to the westward of Wyteetee is the village and harbor of Honorora; it is the largest on the island, as the natives collect from all other parts to be near the shipping. The harbor is known by a deep and remarkable valley over the village, through which the N.E. trade wind blows very strong. The island is not more than five leagues across at this part. The best time to get into the harbor is early in the morning, before the wind set violently in a contrary direction; the chief generally sends a number of large double canoes to tow the ship in, as the entrance of the harbor is not more than a quarter of a mile wide. Small vessels, when about to enter, run close to the east side of the [page 97] reef, where hundreds of the natives are collected, and, by throwing a rope to them, the ship is pulled up to the anchorage.—Ships can moor close to the shore, so as to have a stage from thence, and be as safe as if they were in the London Docks.

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A fine round battery on the S. E. flat, or point, mounting about sixty guns, protects the village and harbor. The fort occupies about eight acres of ground; the facing of the wall is stone, about eighteen feet high, and about the same breadth on the top, gradually sloping to make a base of about thirty feet. It is constructed of hard clay and dry grass and sand well cemented together; on the top of this wall are embrasures built of the same materials, without stone; the guns are mounted all round, and are from four to eighteen pounders, the heaviest guns facing the sea. the magazine is under ground and well secured; and in the middle of the fort stands a flag-staff, on which the island colours are displayed, consisting of a union jack, with a red and blue stripe for each island. Round the flag-staff are the chiefs houses, and barracks for the soldiers. The strictest discipline is observed; the guard relieved very regularly in the night, and the word "All is well," sung out in English every ten minutes! The Americans supply them with powder and stores, for which they get sandal wood, rope, hogs, vegetables, etc. The village consists of about 300 houses regularly built, those of the chiefs being larger and fenced in. Each family must have three houses, one to sleep in, one for the men to eat in, and one for [page 98] the women,—the sexes not being allowed to eat together. Cocoanut, bread-fruit, and castor-oil-nut [kukui] trees, form delicious shades, between the village and a range of mountains which runs along the island in a N. W. and S. E. direction.

The ground is laid out in beautiful square patches, where the tarrow grows, round which they plant sugar canes and Indian corn. They have also a number of fine fish ponds, in which they keep mullet and a fish they call ava. On the N.

> W. side of the harbor is a fresh water river, where a ship's long boat can go up about two miles and fill the water casks in the boat. About three miles to westward of Honorora is a second harbor, easier of access and superior to the other in every respect, except the want of a watering place. There are but few farmers' and fishermen's houses hereabouts, and for this reason, it is not frequented; in fact few ships know anything of it. About six miles to the westward of this harbor, is Wy Momi, or Pearl Water… (Corney, 1896:96-99)

### 5.1.4 Tours Made Around Oʻahu in 1826 & 1828

In 1820, the first contingent of Protestant missionaries associated with the American Board of Christian Foreign Missions (A.B.C.F.M.) arrived in the Hawaiian Islands. The Honolulu station became the focal point of the missionary's operations, with sub-stations on the major islands, in the largest population centers. Periodically, the Honolulu station managers would travel around Oʻahu to inspect the progress being made in the outlying stations, including church work, educational endeavors, and facilities to support the foreign missionaries living situation. Levi Chamberlain made tours of Oʻahu in 1826 and 1828, writing fairly detailed descriptions of the districts he visited, including lands of the Kalihi-Honolulu-Waikīkī region. Excerpts of Chamberlain's original handwritten notes (digitized from the A.B.C.F.M. archives at Harvard, by Kumu Pono Associates LLC in 2004) records the continued decline of the Hawaiian population, the diminished use of the land in traditional agricultural development, and the increasing Westernization of the kingdom.

DRAFT

> **September 12, 1828**
> **Levi Chamberlain to Rufus Anderson**
> **A Visit to ʻEwa to Examine the Schools and Determine Progress in Education of the Natives.**
> (Typed from a copy of the original handwritten letter in the collection of the A.B.C.F.M., Houghton Library, Harvard – Reel 794)
>
> About two years ago I performed a tour around this island, and I have recently made another. It was my intention to give you a brief account of my first tour, but I could not find time to do it while the scenes that passed under my observation and the events that transpired were fresh to my mind & retained their hold upon my feelings.
>
> I propose now to give you a history of my last tour, and in doing it I may refer to my minuets of the former tour. I feel utterly inadequate to the task I have imposed upon myself, and I should perhaps not have undertaken it, but for the request contained in one of your letters. I take the liberty to address the communication to you, as I shall feel more freedom in writing to a private friend than in making out a formal communication or report for the Corresponding Secretary. I doubt whether I shall be able to write anything that will be worth of your perusal, but as coming from an old friend, your candor will incline you to overlook what is amiss in style or deficient in matter.

Soon after the examination at this place in July last, a plan was adopted for visiting at stated seasons all the schools throughout the island. Sixteen persons approved by the Governor and the other chiefs [page 1] were appointed as a visiting committee to undertake at stated seasons the tour of the island for the purpose of inquiring into the state of the schools, and of giving instruction and advice to the teachers. They were moreover directed faithfully to examine the scholars in spelling and reading, encourage punctual attendance, and to excite, as far as possible, in all, an attention to instruction. The persons appointed were divided into two companies to perform alternately the duties assigned them; and the plan was carried into immediate effect, and with the prospect of promoting improvement.

In the month of January I set out with one division of the committee to make the tour of the island & examine the schools.

I shall now attempt to give some account of the tour, and of the schools which I visited. I will begin my mentioning the names of my hoahele, [fellow travelers] which were as follows: Jesse Kahananui, Lazarus Kamakahiki, Abraham Naaoa, members of the church, Kaukaliu & Kauhikoa, serious and intelligent native teachers, each of whom had one or more attendants to accompany them & to carry food and baggage. I was also furnished by Kaahumanu with a suitable number of persons to carry my food & bedding, and to attend to my wants on the way.

DRAFT

We started from the mission house on Thursday January 29th at 10 o'clock A.M. and to the direction [page 2] towards the East end of the island. Our course for about a mile and a half lay over a smooth level road, the race ground of Honolulu, about half a mile from the sea and three quarters from the point where the sloping sides of the mountains are lost in the plain on a part of which the village of Honolulu is built. Near the pleasant establishment of Mr. Allen we took a path on our right, leading through a grove of tall cocoanut trees towards Waikiki. Our path led along the borders of extensive plots of marshy ground, having raised banks on one or more sides, and which were once filled with water, and replenished abundantly with excellent fish, but now over grown with tall rushed waving in the wind. The land all around for several miles has the appearance of having been once under cultivations. I entered into conversation with the natives respecting its present neglected state. They ascribed it to the decrease of population. There have been two seasons of destructive sickness, both within the period of thirty years, by which according to the account of the natives, more than one half of the population of the island was swept away. The united testimony of all of whom I have ever made any inquiry respecting the sickness has been that "Greater was the number of the dead than of the living." Making due allowance for the hyperbolic manner in which the natives sometimes express themselves, it may, I think be sagely asserted that since the discovery of these islands by Capt. Cook, there has [page 3] been a decrease of population by desolating

wars, the ravages of disease and other causes, of at least one half of the number of the inhabitants that might have been fairly estimated at the time that celebrated voyager last visited these islands.

On arriving at Waikiki I found the schools in the district assembled, 9 in number. They were however, small, containing, in all, only 158 scholars, and were under the general superintendence of William Kamohoula… [page 4]

…Monday Feb. 11th. At 25 min, past 12 o'clock, we set out from the school house, and at 15 min. before 2 o'ck arrived at Moanalua a small well cultivated valley distant about 4 miles from Honolulu. We waited about half an hour for the assembling of the scholars which took place at the house of Hoomoeapule, the head man. Having attended to the examination, with which upon the whole I was well pleased, at 10 min after 3 o'ck I set out with my attendants for Honolulu; on our way thither we stopped at Kalihi & Palama, and attended to the examination of 4 small schools. Just as the sun was sinking below the horizon, I reached the mission house after an absence of 13 days & 8 hours; having experienced during the whole of my journey the divine protection and favor, & having examined sixty three schools containing 1,583 scholars; of whom 629 could read in place reading; 307 in spelling; 460 were acquainted with the alphabet, but not able to spell, and 189 in the alphabet, but not perfectly acquainted with the letters. In the whole number I found 150 able to write upon the slate… [page 32]

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### 5.1.5 Report of the General Meeting of the Sandwich Islands Mission (July 1834)

Members of the Sandwich Island Mission attended annual meetings each year and developed reports for transmittal to the headquarters in Boston (A.B.C.F.M. records digitized by Kumu Pono Associates LLC from collection of the Houghton Library, Harvard). The report of 1834 describes ongoing efforts in the Honolulu-Oʻahu Station with details of population and "progress" in the transformation of Honolulu and vicinity.

**…Oahu.**
**Honolulu station.**
**Question 1.**
How large is boundary and how many people is it possible for your present number of missionaries to supply with preaching and pastoral care?

Connected with this station at Honolulu are two ordained missionaries. Besides these there are at present at this station five lay members of the mission, whose time is about entirely taken up in their appropriate departments.

The village of Honolulu contains about 6,000 inhab. And the town of Honolulu in the rear of the village, with a few of the settlements in the vicinity contains about 4,500 more. For these is furnished one Place of public worship, and one

meeting on the Sabbath; but week day meetings have been for some [A.B.C.F.M. 796_0988] time part maintained in the rear of the village of Honolulu. With the congregation at Honolulu is connected a church of 208 members embracing many chiefs & persons of influence. The amount of pastoral labors required for this church is not less than that connected with a church of similar size in America. Some think that the pastoral labor really needed in a church at the island is much greater than in a church of similar size in America.

Honolulu is the residence of the King and principal chiefs, attention to whom necessarily increase the labor of the missionaries at the station. Honolulu is also the residence of most of the foreign population, and the principal place of resort for shipping. With regard to foreign residents and visitors, we are much relieved by the labor of the Rev. H. Diell; but attention in this class of our fellow men must still consume not a little of our time.

The printing department, schools, &c; call for much attention from the ordained missionaries as well as from the members of the station. It is plain, therefore, that the whole time of two ordained missionaries can be well occupied without going beyond the land, of Honolulu. There is indeed much more work crowd- [A.B.C.F.M. 796_0989] ing upon their hands than they are able to perform.

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**...Question 3.**

The territory to the east of Honolulu extending about 12 miles embraces a population of about 3,000 inhabitants. The most important place in this territory is Waikiki, three or four miles from the village of Honolulu. A missionary might be established here to good advantage. Waikiki is itself a land as large as a common township in New England and contains 2,571 inhabitants. This place might be supplied with preaching a part of the time on the Sabbath by one of the missionaries at Honolulu, unless another place of worship should be opened in the rear of the village of Honolulu, called Honolulu aina. But very little pastoral care could be performed for them. There is a good carriage road east from Honolulu to this place.

Besides Honolulu and Waikiki the limits of Ewa, and Palikoolau are at present connected with the station at Honolulu; but it is evident from the answer to the first question that these two districts together with Waikiki may be regarded as unprovided with preachers of the gospel. Ewa can be visited occasionally by one [A.B.C.F.M. 796_0990] of the missionaries at Honolulu by regulating work nearer home. Koolau is more deficient of access, & can be visited but seldom from Honolulu. The district of Ewa extends ten or twelve miles on the coast and containing according to the late census 4,015 inhabit. They nearly all live within a mile of the sea, and, are scattered, about equally, over the whole extent of coast. Waiawa is perhaps the most important place and is near the center of the district. This place is easily accessible from Honolulu by land or water. The climate is such the same as at Honolulu, but

probably a little cooler. Several head men and others are very desirous that a missionary should be established among them… [A.B.C.F.M. 796_0991]

**Question 4.**
The field described under questions 1 & 3 may all be regarded as in an inviting state to receive missionary labor. We would advise as a supply for this field including the two ordained mis- [A.B.C.F.M. 796_0992] sionaries now at Honolulu, and ordained missionaries are lay teachers (in addition to the present lay member of the station) for Honolulu village; and one ordained missionary for that part of Honolulu called Honolulu aina; – one missionary and one teacher for Waikiki; – one missionary and one teacher for Ewa, and one missionary and one teacher for Palikoolau. The geographical portion of these places have already been described. The soil & climate are good. The people are poor and ignorant, living in miserable straw huts. They are naturally ignorant, insolent and in their general character, resemble the people in other parts of the islands. Many of the people at Honolulu, however, are more hardened in view than the people of the islands, generally. In all these proposed stations there are few professions of religion and several others who wish to be regarded as on the side of the Lord. The expense of living would probably be about the same as at our present stations. It would be necessary to lay out 1000 or 1200 dollars for buildings at each station. In addition to this the annual expenses of a family could probably amount to $400 or $500 dollars.

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The productions of the island for one or two families, at each of three places could be procured with less expense [A.B.C.F.M. 796_0993] than at some of our present stations, and if books should be in demand much help could be obtained from them. It would probably be more expensive transporting supplies to Kaneohe than to most of our present stations, as a vessel must be chartered, on purpose. Many things, however could be conveyed by land, with little expense. The character and qualifications of the missionaries or the station should be such as required in other parts of the Islands. They should be diligent, self-denying, patient, and wholly devoted to their work.

Summary

| Islands | | Missionaries |
|---|---|---|
| Honolulu village | . . . | 1 Missionary paired laymen |
| Ditto | . . . | 1 Teacher not included |
| Honolulu aina | . . . | 1 Missionary |
| Ewa | . . . | 1 Missionary |
| Ditto | . . . | 1 Teacher |
| Palikoolau | . . . | 1 Missionary |
| Ditto | . . . | 1 Teacher |
| Waikiki | . . . | 1 Missionary |
| ditto | . . . | 1 Teacher (A.B.C.F.M., 1834) |

### 5.1.6 Notes of a Tour Around Oahu in 1839

In 1839, E.O. Hall and a group from the mission in Honolulu traveled around the island of Oʻahu, visiting various localities. His notes from the journey were published in Volume II, No. I of the *Hawaiian Spectator* under the title "Notes of a Tour around Oahu." Hall's narratives include descriptions of places visited, changes in agricultural endeavors, and living conditions. Hall referenced the route traveled along the former coast of the Kalihi-Moanalua vicinity, now buried under new land.

> The objects of the tour were, principally, to become better acquainted with the people, by seeing them at their own houses; and, by being cut off from the English language for a time, to acquire of the people among whom I expect to spend the remainder of my days…
>
> As the journey from Honolulu to Ewa, or Pearl River, is so frequently made, it will be unnecessary to dwell on that part of the route; unless it be merely to say, that after the first mile is passed, most of which is through the sea where one has to ride in a most uncomfortable position or get at least his feet wet, the road is quite pleasant. After leaving the sea, and galloping for half a mile or more over a level formation of coral, elevated a few feet above the level of the sea, and partially covered with soil, you arrive at a small valley where the road in the wet season is very uncomfortable, but in the dry, is passed without difficulty. A mile or two farther on, and you come suddenly upon the edge of a precipice which is so high that you find yourself far above the tops of the cocoa nut trees, with which the valley below is filled.
>
> To one unaccustomed to such excursion, and such road, the descent into this and other vallies on the island, on horseback, requires some nerve to get along comfortably; for it is sometimes almost perpendicular, and accomplished by a winding path, where the faithful animal on which you ride dares hardly venture to raise his feet from the ground, lest the downward tendency should give him an impulse beyond his control… [page 95]
>
> But to return to the little valley [Moanalua], about three miles from Honolulu on the road to Ewa, overlooking which we left you a moment ago. On looking down, you behold a large grove of cocoanut trees, some of which give evidence of having been blown upon with no ordinary breath; appearing to have been nearly prostrated when about twenty feet high, they again shot up in perpendicular direction, and now present the curious phenomenon of living trees, the upper half of whose trunks are almost at right angles with the lower. It is a little remarkable that the surrounding trees on every side are perfectly straight… (Hall, 1839:95-96)
>
> **Census of Oahu.**
> The following table will give the result of a census of the island, taken in the year 1836. Although not strictly accurate, it probably nearly approximates the

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truth; being supposed by some, who have the best opportunities for judging, to fall somewhat short of the actual number of inhabitants. In round numbers, 30,000 is the general estimate of the population of this island at the present time.

| | |
|---|---|
| Honolulu and Waikiki | 12,994 |
| Ewa | 3,423 |
| Waianae | 1,654 |
| Waialua | 2,415 |
| Koolauloa | 2,681 |
| Palikoolau | 4,631 |
| Total | 27,789 (Hall, 1839:112) |

### 5.1.7 United States Exploring Expedition (1840-1841)

In 1840 and 1841, Commander Charles Wilkes of the United States Exploring Expedition toured the Hawaiian Islands (Wilkes, 1845, Vol. IV; reprint 1970). During the month of July 1840, Wilkes and other members of his party toured the Kona District on Oʻahu. Notes complied by Wilkes from the various exploration trips provide good descriptions of the region. Through the narratives, cultivation of the land, the abundant flow of water from springs and streams, use of fishponds, various marine and forest resources, the making of salt, and the continued decline of the native Hawaiian population are learned.

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**Graves Situated in the Kawaiahao Vicinity**
In the neighbourhood of the old churches, near the mission, is the burying-ground, which is a mere common, and the graves are exposed to every kind of neglect. Foreigners, as well as natives, are buried here. The only grave that was pointed out to me was that of Douglas, the botanist, which was without any inscription whatever. He was gored to death, on Hawaii, having fallen into one of the cattle-pits, where a wild bull had been entrapped. The skull of the bull was lying in the yard of an inhabitant of Honolulu. It is to be hoped that when the new church shall be finished, the space which adjoins it will claim from the authorities some attention, and be suitably enclosed. [page 54]

**Hawaiian Games and Sports Observed on the Fields of Honolulu**
The native games formerly practiced were all more or less those of hazard, which doubtless gave them their principal zest.

The governor was kind enough, at my request, to have the game of maika played. This was formerly a favourite amusement of the chiefs, and consists in the art of rolling a stone of the above name. I had heard many extraordinary accounts of the distance to which this could be thrown or rolled, which was said to be sometimes upwards of a mile.

In some places they had trenches dug for this game upwards of a mile in length, about three feet wide and two deep, with the bottom level, smooth, and hard.

The game is still practiced, (although none of the trenches remain), on any level ground that may be suitable. In the present instance, the governor selected the road in front of the house I occupied. There was a large concourse of spectators, and several men were chosen by the governor to throw. The maika is a piece of hard lava, in the shape of a small wheel or roller, three inches in diameter and an inch and a half thick, very smooth and highly polished. The greatest distance to which they were thrown by the most expert player, was four hundred and twenty yards. Many were extremely awkward, and it was necessary for the spectators to stand well on the side of the road for fear of accidents. All of them threw the maika with much force, which was evident from its rebounding when it met with obstruction. The crowd, which amounted to three thousand persons, were greatly amused. This was their great gambling game, and such was its fascination, that property, wives, children, their arm and leg bones after death, and even themselves while living, would be staked on a single throw in the heathen time (Wilkes, 1970:54-55)

**Fishponds, Fishing and Cultivation of Crops in the Honolulu Vicinity**

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In the neighbourhood of Honolulu, there are a number of fish-ponds belonging to the king, in which are bred several kinds of fish. There are many other ponds belonging to individuals. The taro-patches are used occasionally for this purpose, and not un-frequently are seen to contain large fish; thus poe [poi] and fish, their principal food, though of such opposite natures, are raised together.

They have several modes of taking fish, with the net and hook, and sometimes with poisonous herbs.

They likewise take shrimps and small fish by forming a sort of pen in the soft mulch, in one corner of which a net is placed; the shrimps and fish leap over the enclosure of the pen, which is gradually contracted towards the net, which acts like a large seine.

**Leahi, the Heiau (Papaʻenaʻena), and Village of Waikiki Described**

The most conspicuous point about Oahu, is the noted crater on its east end, called Lealu [Leahi] or Diamond Hill. This lies about four and a half miles from Honolulu, and forms a very picturesque object from the harbor. It is the largest coast-crater on the island, and was visited by many of us. The rock, for the most part, consists of vesicular lava, very rough and black. The ascent to it is somewhat difficult. On the margin of the crater, calcareous incrustations are formed. It is quite shallow, and between a half and a third of a mile in diameter. There is no appearance of a lava-stream having issued from it. Its surface is thickly strewn with lava-blocks, which were also found embedded in the coral rock along the shore. The raised coral reef was also seen here, where it is partially decomposed, so as to resemble chalk, and had been quarried. This rock was found to contain fossils of recent species.

At the foot of this hill, on the western side, are the remains of a heiau or ancient temple. Certain ceremonies were performed on the consecration of these temples, a description of which my friend Dr. Judd obtained for me, from the best native authorities, and for which I must refer the reader, who may be curious in such matters, to Appendix III. The mode of building these structures, if so they may be called, was for each of the inhabitants, both high and low, to bring stones by hand. They are usually quadrangular. The one above noticed was on the hill-side overlooking the plain lying towards Honolulu, on which is the village or town of Waikiki.

Off the village of Waikiki there is an anchorage, and the reef between it and Honolulu is extensive. The natives derive great advantage from this reef in the way of food. [page 85]

**Salt Making Ponds of the Kewalo-Kakaʻako Vicinity**
Between Waikiki and Honolulu there is a vast collection of salt-ponds, and I was greatly surprised to find the manufacture of it so extensive. It is piled up in large heaps, in which there was, when I saw them, from one to two hundred tons. The salt is now exported to California, China, Oregon, Kamtschatka, and the Russian settlements at Sitka. The natives use it for salting fish and pork, an art which it is said they have long practiced.

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The women are also frequently seen collecting, in the salt-ponds, Confervae and Fuci (sea-weed) for food (Wilkes, 1970:85-86).

### 5.1.8 Sites of Honolulu Region in 1868

***Ka Nupepa Kuokoa***
**He wahi huakai makaikai ma ka aoao Komohana Akau Oahu**

**August 8, 1868 (aoao 4)**

E Ka Nupepa Kuokoa;—Aloha Oe.
I ka la 16 o Iulai nei, ua hoomaka aku ka hele ana mai Palolo aku ma ke alahele ma Ewa, e hiki aku ai ma Keawaula i Waianae, he la malie no ia, ua kalae pono ka lani, ua hoomalamalama mai keʼlii o ke ao i kona mau kukuna olinolino; i ka hala ana ae o ka hora 5 a me ka hapa, pane aku au i ko'u wahi keiki hoahele; E hoomakaukau mai oe i ka haliilii o ko kaua mau wahi palaumoena, i lawa no i ka makaukau ana, oia no ka hora 5 3/4, o ke kau iho la noia o maua maluna o ua mau wahi palau moena nei; e panee aku ana kela i ka loa, he noho malie wale no ka maua hana; i ikea hoi keia mea he hele makaikai, i ka hele hoi o ka wawae, he hoololo pu wale iho la no e noho malie ai, na kahi moena no e panee, (he lio a me kona mau lako,) ua hala hope o Palolo.

Waikiki-Waena.
Ua hala mai ke kula, a ke hoea mai la ka halelaau kiekie o J. Kahai ma ke

Ahupuaa a Ili paha o Pahoa, ma keia aoao o Kaupapaloi, (aoao hema,) he mau uapo nui elua e halii hope mai ia oe, a loaa aku ke ahua maloo i noho mauia e na pohaku iliili, a nolaila paha kona inoa hanohano Kamoiliili, he halepule nui malaila e ku ana no ka ekalesia e pili ana me Kawaiahao, ua maalo ae kona helehelena ma ko'u lima hema, a he mau kauhale laau, a hale pili e ae no kekahi no na kamaaina oia wahi. Ua hala ihope lakou a pau, hoea mai ana he wahi haalu kaulana, oia hoi o Kaluaohau, a he uapo pohaku aku i hanaia mawaena o ka loko pohopoho, a pae ma kela aoao, he kula papaakea aku o Kapaakea no kona inoa, a hala ihope ia mau wahi.

Ke Kula o Kahua.
Ua halawai mai la oe me ka aoao manae o ke kula kaulana o Kahua, he kula maikai keia; he akea, a me ka palahalaha, he pohopoho a hakukele nae kekahi wahi i ka wa ua nui, elua mile a keu paha e hiki aku ai oia iloko o ke kulanakauhale Alii, ke nana ae la oe ma kou aoao akau mauka, e waiho kahelahela mai ana ke awawa nani o Manoa, e kupuni mai ana ka ua kaulana o ua aina uka la, oia hoi ka uakuahine, a mauka pono ae e ku kelakela mai ana me kona hanohano nui ka hale kula keikie o Kapunahou, a me kona mau pa e hoopuni ana, a ma ke Komohana ae olaila, o Makiki me kona hale halawai maikai, a me kekahi hale kiekie nani e ae, no Rev. P.J. Kulike, a eia paha i ko lakou mau luaui ikeia manawa, a makai ae e pili kokoke ana i ke alanui, ka hale kula kaikamahine kaulana o Makiki, o Ululani ua wahi la.. A manae koke mai o ua hale kula la ke alapii o Manoa, Makiki, Kapunahou. Ua pau paha kau alawa ana mauka, a e nana ae kaua makai, he nani a he mea hou no hoi no keia mau makahiki hope mai nei no, he pa laau nui a hanohano no Makale, (Mr McCully.) kakauolelo o ka Ahakiekie, he huilawai nui malaila, a me ka e-a maia o ka wao, a makai ae he pa mauu nui ai a ka lio, he mau haneri kanaka paha e hana mau ana malaila i kela a me keia pule, a he mau hale nui e waiho ai na mauu i hoonoho papa ia, a he mau kaledesona paakai ke hoopau ia ma ia hana, ma ke kopi ana i mea e makaala maikai ai ka mauu, aole e punahelu a popopo paha; a makai ae o Pawaa ma, a ke hele aku nei kakou i waena pono o ke kula, aia mauka kahi heihei lio, a makai mai o Kewalo, a kokoke komo i ke kulanakauhale. Aia no mauka ka puu kaulana o Puawaina, a ma ka aoao makai, au-i komohana ka luakini kaulana o Kawaiahao.

No Honolulu.
Ua komo aku la kakou iloko o ke kulanakauhale nui o keia pae aina, a kulanakauhale alii hoi, kahi e ku nei ka hale alii o ka Moi, a kahi hoi e noho mau nei na poo Aupuni, a me na oihana nui a hanohano e ae o ke Aupuni, he mau alanui loaloa maikai e ae e moe kapakahi ana mai ka hema hikina ike ae, a ka akau komohana ae, o ke alanui waena, oia ke alanui alii a hele loa i Ewa, a mai ka puka pa o Halealii aku e mana ana a hele hou ua alanui a hiki i Ulakoheo, oia ke alanui kalepa, a makai ae ke alanui Moi-wahine e hiki ana i Ulakoheo kekahi aoao, a e puka loa ana i ke kaha alialia o Kukuluaeo ma, a mauka ae o ke alanui alii. he wahi alanui e hoomaka uuku ana mai ka halepaipalapala mua iho nei o na misionari, e hele ana mauka o na pa Alii, a hiki i Monikahaae, a i ka Nekina,

a poomuku mai i ka huina o Alanui Maunakea, a ua kapaia keia Alanui, o Alanui Hotele, a mauka ae kekahi alanui, e hoomaka ana mai kula mai o Kahua a hele loa i Kekaha, a komo hoi i ke kulanakauhale a hiki aku i ka muliwai o Kaumakapili i ka uapo a Kamika, (L.S.) Ua kapaia kela alanui, Alanui Beritania. A mauka ae kekahi alanui e kokoke ana i ka halekula alii; a he mau alanui kekahi ma ka laula, e pili ana i ke kula o Kahua, oia ke Alanui Alapai, a mawaena aku ke Alanui Puowaina, e holo ana i uka a hiki i ka halemai Moiwahine, a hoohualala loa aku i Pauoa, a hooiho loa iho makai o Apua, Kakaako ma, a mawaena ae hoi ke Alanui Rikeke, mai ka hale noho o W. Rikeke e pili ana i ke Alanui Beritania, a Limaikaika ma i noho iho nei, aole i puka loa aku iuka, a hooiho loa aku la makai o Huehue a hiki i ke kahakai; a mawaena aku ke Alanuikea, e hui ana kona lihi makai me Alanui Moiwahine, a hoopale koke ia mai la e na pa hale no M. Kekuanaoa paha, a hooholo loa kona pua mauka a hui me Alanui Ema, a hui me Alanui Beritania. O ke alanui Ema hoi, ua hoomaka aku mai Alanui Beritania a hui me Alanui hele i Pauoa.

A mawaena aku ke Alanui Papu, maikai loa mai o Ainahou a hiki i Monikahaae a hala loa'ku i uka, ua okiia e ia ke Alanui Moiwahine, ke Alanui Kalepa, ke Alanui Alii, ke Alanui Hotele, ke Alanui Beritania a mauka aku. A mawaena aku o laila, he mau alanui liilii a pokole, Alanui Kaahumanu, mai na hale mahoe mai makai o ka uapo, a hiki i ka hale leta, a malaila pau mai, ua okiia mai ke Alanui Moiwahine, a me Alanui Kalepa. A he wahi alanui mawaena o ka halepaipalapala o ke Aupuni a me ke Keena Kuokoa; oia ke Alanui Betera, a he mau wahi alanui liilii aku mai ka halekuai o Kakela me Kuke, a holo kapakahi a hiki i ka Nekina, a hookapakahi nohoi manae e kokoke ana i Monikahaae. A mawaena aku no hoi ke Alanui Nuuanu, e hoomaka ana mai ka uapo mai, a holo loa i uka ma ke awawa o Nuuanu a hiki aku i Koolau. A ma o aku ke Alanui Maunakea, e hoomaka ana mai Ulakoheo mai, a e hui ana me Alanui Beritania, e kokoke ana i ka halepule i Kaumakapili, a he wahi Alanui uuku mai ka hale pule ponoi mai a hui me Alanui Hotele, a he wahi Alanui uuku kekahi mai Alanui Papu mai a hiki i Alanui Nuuanu, kokoke i ka halepule o Roma. (Aole i pau)

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**Summary – A little journey to the North West side of Oahu**

To the Newspaper Kuokoa—Aloha:

On the 16th day of this past July, the trip was started from Palolo along the road to Ewa, out to Keawaula at Waianae…

<u>Waikiki-Waena (Middle Waikiki)</u>.
Passing the flat land, I arrived at the wooden house of J. Kahai in the Ahupuaa or perhaps ili of Pahoa, on this side of Kaupapaloi, (south side) where two large bridges are set behind you, and you arrive at the dry hillock where are found the little stones. That is perhaps how it came to be called by the distinguished name of Kamoiliili. There is a large church found there which is associated

with Kawaiahao. I passed it on my left side and there are some wooden houses and thatch houses belonging to the natives of that place. Leaving them behind I arrived at the famous hollow (low area in the land), which is Kaluaohau, and there is a stone bridge made between the ponds and the side where is the coral plains known by the name, Kapaakea. Then I passed those places.

Ke Kula o Kahua (The Plain of Kahua).
You then meet with the eastern side of the famous plain of Kahua, this is a fine kula land; wide and long, there are depressions and boggy areas in places, particularly in times of great rain. Some two miles beyond, you arrive at the Chiefly city. Looking to the uplands on the right, you see the beautiful open valley of Manoa, surrounded by the famous rain of the uplands, that is the Uakuahine, and right above you is the distinguished high school of Kapunahou, surrounded by its wall. On the West is Makiki with the fine meeting house, and the majestic house of Rev. P.J. Gulick. And here at this time, one may know that makai, you are close to the road and the famous girl's school of Makiki. That place is Ululani. And nearby on the east of that school is the ascent to Manoa, Makiki and Kapunahou. This is perhaps enough of our looking to the uplands. Let us now look to the lowlands. There is a new thing of beauty in these last few years, at large wooden wall of Mr. McCully, Secretary of the Legislature. There is a large grinding wheel there, and growth of the e-a banana's of the wild, and below is a large hay lot for horse feed. There are perhaps several hundred men working there all the time from week to week, and many large houses in which the hay is kept, and the salt stored so that it will not go bad. Below there is Pawaa, and we then go between the kula land, where above is the horse race track, and makai is Kewalo. Now we come near the entry of the city. There above is the famous hill, Puowaina, and on the makai and west side is the famous church of Kawaiahao.

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About Honolulu.
We have now entered the great town of this island group, the chiefly city, where the palace of the King stands, and where the leaders of this nation reside. Where the distinguished work of the nation is done. There are many long streets and those that cut across them south to east, and north to west. The central street is King Street which runs to Ewa, and from the gate of the Palace, there are branches of new roads going to Ulakoheo, that is Market Street, and shoreward of Queen Street to Ulakoheo on one side, and running all the way to the salt flats of Kukuluaeo. And above King Street is a little street that begins at the first print house of the missionaries, running along the Royal enclosure to Monikahaae, and to Nekina; then to the intersection at the top of Maunakea Street, and the street called Hotel Street. Then the road mauka of there is where the plain of Kahua begins, running all the way to Kekaha. Now coming into the city, you reach the estuary of Kaumakapili and the Smith Street Bridge. That street is called Beretania. Just upland is a street near the royal school; and there are several roads across the expanse adjoining Kula o Kahua, Alapai Street, and between there Punchbowl Street, running upland to the

Queen's Hospital, rounding up to Pauoa, and descending down to Apua, Kakaako and such. Also, between is Richards Street, from the residence of W. Richards next to Beretania Street, and where Armstrong folks resided. It does not go far inland, but it goes makai of Huehue to the shore; and between is Alakea Street, with its shoreward section joining with Queen Street, and perhaps ending at the house lot of M. Kekuanaoa. At its upper limit it joins with Emma Street, and joins with Beretania Street. Emma Street begins at Beretania Street and joins with the road that goes to Pauoa.

Then in the middle is Fort Street, the shoreward extreme is Ainahou and it reaches up to Monikahaae, cutting off Queen Street, Merchant Street, King Street, Hotel Street, Beretania Street and above. Between there, there are many short, little streets. Kaahumanu Street, from the twin houses, shoreward at the wharf, to the post office, and from there cutting across Queen Street. There is a little street between the Government print house and the office of the Kuokoa; being Bethel Street, and other little streets from the store of Castle and Cooke, running at an angle to Nekina, and at an east angle to near Monikahaae. Also running between is Nuuanu Street which begins at the wharf, and runs upland to the valley of Nuuanu and on to Koolau. And next is Maunakea Street, beginning at Ulakoheo and intersecting Beretania Street near Kaumakapili Church, as well as little streets from the church over to Hotel Street. There are also little streets from Fort Street to Nuuanu Street close to the Catholic Church…

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### 5.1.9 Ka Honua Nei (About the Lay of the Land) – The Importance of the Estuaries of Honolulu and Around Oʻahu

J.H. Kānepuʻu, a native writer and frequent contributor of traditions and historical narratives to native newspapers, shares with readers of *Ka Lahui Hawaii* his thoughts about the geography of the Hawaiian Islands and the important muliwai (estuary bays) which occur.

***Ka Lahui Hawaii***
**Ka Honua nei.**
**A me na Mea a Pau Maluna Iho. (Kakauia e J. H. Kanepuu)**

**Aukake 16, 1877 (aoao 4)**

No Oahu.—Ua olelo ia ma ka Hoikehonua a Rev. H. Binamu ma me kona mau hoa i unuhi mai ai, he 28 muliwai o Oahu. E nana kakou, Kikihale mawaena o Honolulu me Kapalama, aia kona welau mauka o Nuuanu a me Manoa,—Apuakehau ma Waikiki-kai, aia kona welau mauka o Manoa, a mana ae la kekahi ma Palolo, aia kekahi ma Waialae a me Wailupe; a ma Kuliouou, apana o Kona, Honolulu, Oahu. Aia ma Puha, Waimanalo, aia kekahi ma Kalapawai ma Kailua, aia kona welau ma na loko nui o Kawainui a me Kaelepulu, aia kekahi ma Kaneohe ke kahawai o Puiwa paha. Aia kekahi ma Kahaluu malalo aku o ka halekula aupuni, ina nae paha no Waihee ia muliwai. Aia ma Kaalaea, Waiahole, Waikane ma Koolaupoko. Aia ma Kahana he muliwai nui me kona uapo kiekie

> ua olelo ia, he komo ka mano iloko oia muliwai. Aia ma Laie-wai kekahi muliwai, aia ma Waimea kekahi muliwai ma Koolauloa, Oahu. Aia he ekolu muliwai ma Waialua, ke huiia me ka muliwai o Kaiaka, aia kona welau mauka o Wahiawa paha, a ma Kaukonahua mai, oia paha ka muliwai loihi ma Oahu nei. Ua manao ia, aohe paha muliwai ma Waianae; aia ma Ewa kekahi mau muliwai ma Waikele, Waipio a me Waiawa, a me kekahi wahi e ae paha. Aia ma Moanalua, Kalihi a me Niuhelewai. Ina kakou e hoomaopopo ae, 1 Kikihale, 2 Apuakehau, 3 Waialae, 4 Wailupe, 5 Kuliouou, 6 Puha Waimanalo, 7 Kalapawai, 8 Kaneohe, 9 Waihee, 10 Waiahole, 11 Waikane, 12 Kahana, 13 Laie-wai, 14 Waimea, 15, 16, 17, Waialua, 18, Waikele, 19 Waiawa, 20 Moanalua, 21 Kalihi, 22 Niuhelewai.
>
> Ina he 22 muliwai ma Oahu nei ma keia papahelu, e lawe he 22 noloko o ka 28, koe 6 muliwai ma keia papa; na ka poe ike e hai mai i ke koena, a e hoomaopopo iho no paha. He mea waiwai nui na muliwai ma Hawaii nei. Pakele loa aku na aina haole, aia a hiki aku ko kakou olelo ana ilaila, e hai aku no au i na muliwai o laila, ka loa, ka laula, a me ka hohonu, he mau tausani mile ka loa…
>
> J.H. Kanepuu.
>
> **Summary – Valued Estuary Bays of Oʻahu**
>
> About Oahu. As translated from the geography by Rev. H. Bingham, there are 28 estuaries on Oahu. Let us look at Kikihale between Honolulu and Kapalama, its highest point (source) is at Nuuanu and Manoa. Apuakehau, at Waikiki kai, its source is split between Manoa and Palolo… …There are also estuaries at Moanalua, Kalihi and Niuhelewai… All these are of great value in Hawaii…

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### 5.1.10 An Intinerary of the Hawaiian Islands (1880) by George Bowser

George Bowser compiled and published *The Hawaiian Kingdom Statistical and Commercial Directory and Tourists Guide* in 1880. He described his journey across the Hawaiian Islands and provided descriptions of the landscape, life of the people, Western influences and development in the islands. The narratives include the history of change in Honolulu, the rise and fall of Western businesses through 1880, and layering of the cultural-historical landscape. Excerpted is his description of Waikīkī:

> To complete my tour of the Island I had now to visit the southeastern coast. For this purpose I made a fresh start by the King Street road. This road follows for some distance the shore line of the bay, at the head of which the harbor of Honolulu is situated. The first object of interest is the Kapiolani Park. On the way there we passed Waikiki, at which place, and all along the road hereabouts, are the Summer residences of many of the principal personages of Honolulu both native and foreign, together with many native houses of less pretension, not that any of these houses are of a pretentious character. The

fashion here appears to be rather to have a number of low buildings in a group rather than one large one if any considerable amount of accommodation is required, and I have no doubt it is a custom well suited to this balmy climate. There is a good beach for bathing at Waikiki; it is, in fact, the chief bathing resort of the people of Honolulu… (Bowser, 1880:498)

## 5.2 Business Ventures in the Waikīkī Vicinity

### 5.2.1 An Act to Develop Steam Railroads on the Island of Oʻahu (1884)

By the 1870s, businessmen had developed plans for the development of a steam rail system in the Kingdom as a means of further opening lands to plantations, ranching, and other endeavors that would benefit from easier access to delivering goods to Honolulu. King David Kalākaua and the Legislature enacted a law to promote acquisition of land for the development of the rail line. Notice and description of the new law was announced in the *Hawaiian Gazette* in the following article:

***The Hawaiian Gazette***
**Session Laws of 1884**
**An Act.**

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**September 24, 1884 (page 8)**

To promote the construction and operating or steam railroads on the island of Oahu.

Be it Enacted by the King and the Legislative Assembly of the Hawaiian Islands, in the Legislature of the Kingdom assembled:

Section 1. The Minister of the Interior is hereby authorized, with the advice and consent of the King in Privy Council to grant Chas. B. Wilson and... his associates and successors, upon their fulfilling the necessary conditions there for, as provided by the corporation Act of the Kingdom, a Charter of Incorporation, which shall in terms, confer upon such Corporation the privilege for the term of thirty years of constructing and operating entirely at the expense of such corporation without any subsidy or allowance from the Hawaiian Treasury, steam railroads for carrying passengers and freight, of not less than thirty inches gauge, under the powers, rights and liabilities set forth in an act to promote the construction of railways, the same being Chapter 29 of the Laws of 1878, as amended by Chapter 41 of the Laws of 1880, as follows:

"From the south easterly side of Fort Street in said Honolulu at its junction with Halekauila street easterly along said Halekauila street and the back bay of Honolulu harbor across the flats makai of King street to Waikiki and through Waikiki to Kapiolani Park and through Kapiolani Park on to Niu, passing makai of Diamond Head and from the same point on to the north westerly side of

Maunakea street makai of King street in said Honolulu, westerly makai of King street, to and along the shore of Pearl River Lagoon to any point at or near the said Lagoon."

Section 2. Such steam railroads shall not be constructed with any grade over the rate of eighty feet per mile nor with any curve on less than a three hundred feet radius.

Section 3. The railroads shall not run so near the public road, except at necessary crossing as to interfere with the same or as to make the use of the public road with horses insecure; nor shall the railroad in more than one place on the route; and such rules and precautions for the crossing shall be required in the Charter as will secure the safety and convenience of the public.

Section 4. The construction and equipment of the railroads must be approved by the Minister of the Interior by and with the advice of the King in Privy Council.

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Section 5. The Charter shall define by survey the entire route of railroads provided for by this Act, which survey must be approved by the King in Privy Council.

Section 6. The said Corporation shall, within one year from the date of their charter, begin the construction of that part of the said steam railroad lying between said Fort street and the Kapiolani Park, and shall within two years from the date of the Charter complete and furnish with rolling stock, and open to the public such section of the said road lying between Fort street and Kapiolani Park, and after the expiration of three years from the date of the charter, this privilege for all that portion of the proposed lines not at that time occupied by tract shall be forfeited.

Section 7. Except as herein otherwise provided, the rights and privileges mentioned in the foregoing sections are granted to the said Charles B. Wilson and his associates and assigns upon such terms, conditions and restrictions as are now imposed or may hereafter be imposed by the Laws of the Hawaiian Kingdom in relation to the matter of constructing and maintaining railroads in this

Kingdom, and a strict compliance on the part of the said Charles B. Wilson his associates and assigns and successors with all the provisions of such laws are hereby required.

Section 8. This Act shall take effect and become a Law from and after the date of its approval.

Approved this 29th day of August, A. D. 1884

Kalakaua Rex.

In 1885-1886, James Campbell and Benjamin Franklin Dillingham entered into a partnership to implement a "great land colonization scheme" for Honouliuli (Thrum, 1886:73). Initially, there was little interest in the effort, but within a few years, Dillingham was developing the Oʻahu Railway and Land Company (O.R. & L. Co.). By 1889, the rail system ran from the Honolulu Harbor to Mānana, ending near the old ʻEwa Court House in Waiawa (Whitney, 1890:155). The railroad opened up lands west from the environs of Honolulu to new business opportunities. The ʻEwa Sugar Plantation Company was chartered on January 29, 1890 and operations set in motion. The region that had formerly been described as a "veritable desert," grew "into a full-fledged sugar venture" (Conde and Best, 1973:278). Within ten years, two other plantations and various businesses were being built up and the transportation of goods, supplies and passengers had become well established.

### 5.2.2 The Electric Franchise (1894)

***The Hawaiian Gazette***
**The Electric Franchise – What the Projectors Intend to Do for Honolulu Streets the Cars Will Traverse.** DRAFT

**September 25, 1894 (page 5)**

What the Road will be Capitalized at—Work on the System will be Commenced within a year after the Franchise is Granted to the Company.

At the meeting of the Councils on Thursday, an Act to grant a franchise for an electric railway in Honolulu was introduced. Following will be found the most important portions of the bill.

Section 1. James Dunsmuir, John H. Turner, Thomas B. Hall, Frank W. McCrady, Robert Menaugh, Clinton Graham Ballentyne, all of the City of Victoria, in the Province of British Columbia; William N. Armstrong and James B. Castle, of the City of Honolulu, in the Hawaiian Islands; and any other persons who may hereafter become associated with them, are hereby constituted a body corporate under the name of the "Honolulu Electric Railway and Power Company, Limited."

Section 3. The capital stock of the company shall be six hundred and twenty-five thousand dollars (of which one hundred and twenty-five thousand dollars shall be non-assessable), and shall be issued in such manner as the directors may determine. The liability of any shareholder of assessable stock shall be limited to the unpaid portion, if any, of his or her shares in the capital stock of the company. The non-assessable stock may be issued by the directors for the compensation and profit of the undertakers and promoters of the objects for which the company is formed, and no stock in excess of the amount of the capital stock shall be issued without the consent of the Executive Council of the Republic of Hawaii, upon good reason shown therefor, and with the

approval of a majority, in value, of the shareholders. The stock may be issued as above provided, with a preferential or qualified right to dividends.

Section 12. The Company are hereby authorized and empowered to construct, complete, equip, maintain and operate a single or double track street railway, with all the necessary switches, side-tracks, turn-outs, poles, wires, underground wires, conduits and other requisite appliances in connection therewith, for the passage of cars, carriages and other vehicles adapted to the same upon and along the following streets in the city of Honolulu, and upon and along the road or roads adjacent to the said City: Commencing at the junction of Judd and Liliha streets, thence in a south westerly direction along Liliha street to King street, thence along King street in a southerly direction to the bridge crossing the Nuuanu stream, thence diverging across the Nuuanu stream to the north westerly end of Hotel street, thence south easterly along Hotel street to Punchbowl street, thence to Young street through the intervening block bounded by Beretania and King streets, thence along Young street and through Thomas square to Keeaumoku street.

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Commencing again at the intersection of Alapai and Young streets, then northeasterly along Alapai street to Lunalilo street, thence along Lunalilo street to Pensacola street, thence northeasterly along Pensacola street to Wilder avenue to Beckwith street, and along Beckwith street to Metcalf street; or in the alternative continuing easterly along Lunalilo street, from Pensacola street to Keeaumoku street, instead of Pensacola street to Wilder avenue and Wilder avenue to Keeaumoku street.

Commencing again at the intersection of Wilder avenue and Keeaumoku street, thence southerly along Keeaumoku street to King street, thence westerly along King street to Sheridan street, thence along Sheridan street to the Beach road.

Commencing again at the junction of Hotel and Union streets, thence along Union street to and across Beretania street to Emma street, thence along Emma street to Punchbowl street, thence northerly along Punchbowl street to a point near Pauoa stream or road, thence through the intervening land to Judd street or Nuuanu avenue, thence along Nuuanu avenue to the Pali; or in the alternative, commencing at the intersection of Alakea and Hotel streets, thence northeasterly along Alakea street to and across Beretania street to Emma street, thence along Emma street as aforesaid, instead of Union street as aforesaid; also in the alternative, School street from its junction with Emma street, to Nuuanu avenue and Nuuanu avenue to the Pali, instead of Punchbowl street and intervening lands to Judd street or Nuuanu avenue.

Commencing again at the junction of Bethel and Hotel streets, thence along Bethel street to Merchant street, thence southeasterly along Merchant street to Richard street, thence southwesterly along Richard street to Queen street,

thence south easterly along Queen street and intervening lands to the Beach road and intervening lands to the Waikiki road, Thence along the Waikiki road to Kapiolani park.

Commencing again at the intersection of Hotel and Richard streets, thence south-westerly along Richard street to the water front, and upon and along such other streets and roads as the said Company, with the consent and approval of the President and Council shall determine, and for that purpose to enter into and upon the said streets and roads, and to do all necessary excavations and alterations upon the said streets and roads, subject, however, to the approval and supervision of the Minister of the Interior, or other officer duly appointed for that purpose, as to the location of all tracks, poles and other works of said Company; and to take, and transport and carry passengers, freight express and mails upon the said railway, by the force of electricity, either by overhead wires, storage battery, or underground conduits, or by such other motive power, other than horse or steam power, as the said Company may from time to time deem expedient, and to construct and maintain all necessary works, buildings, appliances, and conveniences connected therewith.

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Section 17. The Company shall have the right to buy, sell, manufacture electric motors, cars, locomotives, electric heaters and electrical appliances of all kinds and to be general dealers in electrical supplies and apparatus of any kind whatsoever.

Section 18. The said Company shall commence the construction of the said tracks or railway lines not later than one year from the date of the charter herein granted, and shall complete and have thoroughly equipped, and in running order, not less than fifteen miles of such track or railway within two years from the said date, and if the said Company shall fail to comply with the provisions herein made, in this regard, they shall forfeit the right to use and occupy any streets not at the time used or occupied by them unless an extension of the time herein specified shall be granted to them by the Executive Council; but delays owing to litigation, strikes or other cause for which the said Company is not responsible, after exercising due diligence, shall not be included in the foregoing time limit.

Section 23. The style of rail to be employed by said Company in constructing and laying down the several railway tracks shall be such as is used in the best modern practice in the United States of America, and subject to the approval of the said Minister of the Interior, or other officer appointed for that purpose, as to the manner of laying the said rails.

Section 30. Wires along which the trolleys run shall be at a distance of not less than fourteen feet above the street.

Section 31. The said company shall have the right, and it shall be lawful for them, to cross the track or tracks of any street or other railway in the city of Honolulu or Island of Oahu, and for that purpose to lay their rails across the track or tracks of such other railway, subject to the supervision and approval of the Minister of the Interior, or other officer appointed for that purpose, as to the manner of laying the said rails.

Section 32. The said company, in addition to the powers hereinbefore expressed, may lay, construct and operate a single line of street railway over and along any bridge on the line of said railway in the said city of Honolulu or Island of Oahu, the tracks of such railway on any bridge to be flush with the flooring of the same; provided, that the location of any such bridge line, and the work done therein, and the material provided therefor, shall be to the satisfaction of the Minister of the Interior or other officer duly appointed for that purpose.

Section 33. The company shall have the power to purchase, lease, take over or otherwise acquire, all or any part of the property, real and personal, rights, privileges and franchises, of any other electric railway or lighting, or power, or other electrical company or companies, or any company having objects altogether, or in part, similar to those of this company, and shall have, when the same are acquired, all the powers, privileges, rights and franchises of any such company or companies under its charter or act of incorporation, so that the same shall be held, exercised and enjoyed by the company as fully as if specially conferred hereby.

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Section 34. The company may unite, amalgamate and consolidate the stock, property, business and franchises, may enter into working engagements with, or may enter into a lease of, or take and hold shares in, or the right to operate the works of, any other electric railway, or lighting, or power, or other electrical company or companies, or any company having objects altogether, or in part, similar to those of this company, or any company generating, using or supplying electricity for any purpose whatsoever.

Section 35. The said company may purchase, lease, hold or acquire and transfer any real or personal estate necessary for carrying on the operations of the company.

### 5.2.3 Burials Found at Waikīkī During Construction for Hawaiian Hotel (1898)

***Evening Bulletin***
**A Golgotha at Waikiki – Several Human Skeletons Found in "One Burial Blent."**
**Evidence That They Are Remains of Heroes of the Defense of Oahu Against Kamehameha the Great.**

**May 11, 1898 (page 5)**

It is a strange coincidence that, while Minister Damon's bill to provide for the preservation of ancient heiaus and puuhonuas is pending in the Legislature, a heiau not hitherto heard of in these days should have been unearthed in the suburbs of Honolulu. That is what happened yesterday.

Col. Geo. W. Macfarlane, who lately leased the Bishop premises at Waikiki, whereon to establish a seaside annex to the Hawaiian Hotel, had a gang of seven Japanese at work yesterday morning leveling off some mounds in the cocoanut grove. They had occasion to remove a tree and adopted the method of cutting off the roots. There was not much left to hold up the tree when they knocked off work for the noon hour.

As the Japanese were approaching the spot at one o'clock, the elements performed a regular freak. A gale rattled the foliage of the tall palms like castanets. The undermined tree shivered in the blast and began to reel to its fall. Even the ground rumbled and, it is authentically stated, the awa and mullet in an adjacent pond leaped upon their fins clear out of the water.

The Japanese happening to be coming along on the lee side of the tree retreated for their lives before the falling besom of destruction. Then an uncanny thing happened in reality which would have made a bold exploit of the imagination even for a Stevenson or a Verne. Flung high in the air by the catapultic motion of the roots was a mass of human bones —entire skulls, femurs, vertebra, ribs, everything. One skull struck a Jap in the back, and when he turned to see the missile he almost died of fearsome horror.

It was in vain to try to get that gang to resume work at the same spot. Only the foreman, through fear of losing the whole employment, returned. He began delving in the soil—a whitish substance, either volcanic ash or decomposed coral sand—when close to the surface he found an entire skeleton. It was in a sitting posture with arms extended over the head, as if the subject had been warding off a blow when struck down to his ultimate tomb.

There was another skeleton disframe. When a Bulletin reporter inspected the scene at six o'clock the bones had been placed in a heap, the most conspicuous feature of which was a row of five skulls. Some of these had perfect sets of teeth intact. Only one was badly broken. Another had a temple dinged in, as if from a spear thrust.

The Golgotha thus exhumed is situated by the marshes at the Ewa corner of the Bishop premises within an easy stone's throw of the main Waikiki road. It is in a long uncared for and unimproved section of the demesne, some considerable distance from the residence structures to compose the hotel annex.

> Col. Macfarlane very much doubts if Mr. Bishop himself knew of the existence of this remarkable deposit on the premises. There is not, however, entire absence of light upon the subject. Kaohi, a very aged native woman who was a retainer of the late Mrs. Pauahi Bishop, is still living on the place. She was in fact born there. Kaohi says there was a heiau on the spot, and that the bodies of Hawaiians slain in battle were buried within its walls. There is therefore a strong presumption that the remains now disinterred are those of brave defenders of the island of Oahu against the conquest of Kamehameha the Great. If such is the case they show remarkably good preservation after more than a hundred years of entombment.
>
> The site of the heiau is known as Puuoʻniihau. It was at the mouth of the stream adjacent, close to the Long Branch baths, that Vancouver landed on this island. That stream was then so free as to admit the great navigator's boats up as far as Ainahau, the residence now of Princess Kaiulani and her father, Hon. A.S. Cleghorn. Two natives were hanged in the vicinity to render satisfaction to Vancouver for some pilfering from his ship. Mr. Cleghorn, it is understood, has collected a considerable body of authentic tradition regarding events of early Hawaiian history of the modern era in that neighborhood.
>
> Close to the lane leading from the road to the Bishop residence there is well preserved the grass house in which Kamehameha V. is reputed to have prepared the new constitution which he forced upon the surprised Legislature that had failed to agree in attempting to frame the desired instrument.

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## 5.3 U.S. Military Development of Facilities on Oʻahu

In the early 1840s, Commander Chas. Wilkes identified Pearl Harbor as a potential asset for large American ships in the Pacific, stating that "it would afford the best and most capacious harbor in the Pacific" (Wilkes, 1970:80). In the 20 years prior to Wilkes' visit and several decades afterwards, Honolulu Harbor was a regular port of call for American and other foreign navy powers.

By 1851, the U.S. expressed its interest in the potential of Pearl Harbor, but took no direct action (c.f. U.S. Congress - The Bates Bill, in *The Hawaiian Gazette*, 1908:2). Then on September 9, 1876, under much pressure from foreign resident-businessmen and representatives of the United States, King David Kalākaua entered into an agreement granting the U.S. Navy the exclusive rights to Pearl Harbor as a naval base. Also known as the "Reciprocity Treaty," the agreement covered a period of seven years and granted both the emerging sugar plantation interests and rice growers a special status of exporting Hawaiian crops to the United States, duty-free (Kuykendall, 1967:46-47). Under renewed pressure, an extension of the treaty, known in the Kingdom as the "Bayonet Constitution" was enacted in 1887 with terms extending to June 1900 (Kuykendall, 1967:370-371).

In 1872, prior to the "Reciprocity Treaty" and "Bayonet Constitution," the United States sent military leaders to Hawaiʻi to make a quiet investigation of the suitability of Pearl Harbor as

a base for naval operations. The investigation also explored the possibility of Annexation of the Kingdom by the United States—these discussions generally took place with foreign residents who were also operating businesses in the Kingdom. In 1873, Generals J.M. Schofield and B.S. Alexander engaged surveys and studies of the "Pearl River" environment and reported their findings to the military and congressional powers. The 1901 "Compilation of Reports of Committee on Foreign Relations, United States Senate. 1789-1901, First Congress, First Session, to Fifty-sixth Congress, Second Session. Volume VII," includes the Schofield and Alexander findings and recommendations from 1873. Excerpts follow with observations on Honolulu Harbor:

> **OPINIONS OF U.S. MILIATRY AND NAVAL OFFICERS CONCERNING THE CONTROL OR ANNEXATION OF HAWAII.**
> On June 24, 1872, Secretary of War Win. W. Belknap issued confidential instructions to Generals Schofield and Alexander to go to Honolulu and investigate its defensive capabilities in the event of war between the United States and some other maritime nation. Their report is lengthy and contains the following:
>
> We ascertained from the officers of the U. S. Navy, from maps, and from seafaring men that Honolulu is the only good commercial harbor in the whole group of the Sandwich Islands. An enemy could take up his position outside of the entrance to the harbor and command the entire anchorage, as well as the town of Honolulu itself. This harbor would, therefore, be of no use to us as a harbor of refuge in a war with a powerful maritime nation.
>
> **PEARL RIVER ONLY HARBOR THAT CAN BE PROTECTED IN TIME OF WAR.**
> With one exception, there is no harbor on the islands that can be made to satisfy all the conditions necessary for a harbor of refuge in time of war. This is the harbor of Ewa, or Pearl Harbor, situated on the island of Oahu, about 7 miles west of Honolulu… (Vol. 2, Rep. Sen. Com. on For. 1 .VI. concerning Hawaiian Islands, pp. 963-6)

The U.S. military did not engage in serious planning to develop Pearl Harbor until 1899, several years after the foreign resident business interests deposed Queen Liliʻuokalani in 1893. In July 1898, President McKinley signed into law the act that annexed Hawaiʻi to the United States. The formal ceremony completing annexation took place on August 12 (cf. *Evening Bulletin*, 1899:1). In the later years of the 19th century, several "global" issues were of concern to the United States. One was the threat of German vessels in the Pacific. In 1889, a cyclone had destroyed both German and American ships-of-war and a number of sailors in Samoa. Then the Spanish American War began in 1898. The logical response was that Hawaiʻi would serve as the base of operations with Honolulu Harbor hosting ships for coal and supplies, and for the recovery of wounded or ill soldiers. The station was originally designated as the "U. S. Naval Coal Depot," but was soon afterwards named "U.S. Naval Station. Honolulu" (*Evening Bulletin*, 1908:1-2).

### 5.3.1 Guide to Honolulu and Environs for Military Personnel

*The Evening Bulletin*, Atlantic Fleet Edition was published for military guests who arrived in Honolulu. The article includes background on how the U.S. came to take Hawai'i as a territory, a history of the U.S. Military occupation of the islands, and invited guests to visit various locations on island between Waikīkī to Pearl Harbor. The article also included a keyed map to places of interest.

> ***Evening Bulletin (Section II – Atlantic Fleet Edition)***
> **Honolulu and Pearl Harbor Vital Centers of America's Power in Pacific Ocean – Hawaii Commands the Whole Pacific**
>
> **July 16, 1908**
>
> Look at Hawaii on the map. "Midway between Unalaska and the Society Islands, midway between Sitka and Samoa, midway between Port Townsend and the Fiji Islands, midway between San Francisco and the Carolines, midway between the Panama Canal and Hong Kong, and on the direct route from South America ports to Japan, the central location of these islands makes their commercial importance evident.
>
> But vastly greater is their strategic value to the United States. Captain Mahan says:
>
>> "Too much stress cannot be laid upon the immense disadvantage to us of any maritime enemy having a coaling station well within 2500 miles of every point of our coast line from Puget Sound to Mexico. Were there many others available, we might find it difficult to exclude from all. There is, however, but that once shut out from the Sandwich Islands as a coal base, an enemy is thrown back for supplies of fuel to distances of 3500 of 4000 miles—or between 7000 and 8000 going and coming—an impediment to sustained maritime operations well-nigh prohibitive. It is rarely that so important a factor in the attack or defense of a coast line—of a sea-frontier—is concentrated in a single position, and the circumstance renders it doubly imperative upon us to secure it if we righteously can."
>>
>> "This was written in 1893, and the final annexation of Hawaii shows that the lesson and warning conveyed in the above were minded at the right moment."
>>
>> "With the Sandwich Islands we have acquired Pearl Harbor, of which Admiral Walker said: 'It should not be forgotten the Pearl Harbor offers, strategically and otherwise, the finest site for a naval and coaling station to be found in the whole Pacific.'"
>
> **Pearl Harbor progress**

1884—Treaty negotiated by President Grover Cleveland and King Kalakaua, giving the United States exclusive rights to Pearl Harbor.
1898—Annexation of Hawaii to the United States.
1908—Appropriation of $3,000,000 by Congress to straighten channel and establish Naval Station at Pearl Harbor.

**Pearl Harbor Station Protection for America**
**(By Hon. Jonah Kalanianaole, Delegate to Congress.)**
I simply cite some historical facts to show how conclusively and for how long a time the strategic value of Pearl Harbor and the Hawaiian Islands has been officially recognized by the Government of the United States.

Beginning in 1842, President Tyler gave notice to European nations that the United States would never consent to their occupying the Hawaiian Islands.

In 1851, when the French were threatening to occupy Hawaii, Daniel Webster, then Secretary of State, wrote: "I hope the French will not take possession of Hawaii; but if they do, they will be dislodged, if my advice is taken, if the whole power of the Government is required to do it."

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William L. Marcy, when Secretary of State, reiterated the declaration that Hawaii would not be permitted to fall into the hands of any European nation. Up to that time there was no menace of Hawaiian occupation by any nation other than European.

Almost a third of a century ago, when King Kalakaua was the reigning monarch of the Hawaiian Kingdom, the United States, by reciprocity treaty, obtained rights over the waters of Pearl Harbor. This was the first step toward carrying out the policy announced by President Tyler thirty-five years previously.

Coming down to the days of Blaine and McKinley, we find those statesmen repeating the declarations of their predecessors. By the time that President McKinley reached the White House, it had become apparent that the danger of the occupation of Hawaii by a foreign power had been shifted from European nations to those of the Orient.

Finally, ten years ago, when the unexpected events of the Spanish-American war thrust a new situation upon this nation, it became apparent that it was necessary for the United States to acquire the sovereignty of the Hawaiian Islands, both for the protection of the Pacific coast and in order to make it possible to maintain any naval base in the Far East.

But although this Government annexed the Hawaiian Islands for the particular value of their strategic location, they permitted almost ten years to pass without turning a sod or laying one foundation stone toward the actual construction of a naval station at Pearl Harbor.

A magnificent site of over 600 acres of ground has been acquired for this purpose.

The 10 square miles of landlocked waters in Pearl Harbor could easily accommodate the combined fleets of this nation and of Great Britain, but that can never give shelter to a battle ship till docks are built and the channel approach is straightened.

The importance of Pearl Harbor as a naval and military base has been repeatedly urged by men able and experienced in military and naval science; among them Captain (now Admiral A. T. Mahan), who pointed out with unanswerable arguments the commanding importance of Pearl Harbor as the key to the Pacific.

This Government for ten years neglected the safeguard of preparing a naval base in the mid-Pacific. Our relations with other nations are such to-day that it would be inexcusable neglect of the responsibility of Congress to the nation to postpone this work another year. DRAFT

The development of Pearl Harbor is not a Hawaiian proposition; it is a national need. But as my nation gave over its sovereignty to this country ten years ago, we have a right to ask, and we do ask that adequate protection be provided for our islands, so that we could not be captured by a single hostile battle ship as could be done to-day.

Coast fortifications alone are not sufficient; there must be an operating base for war vessels as well as coast defenses, and the latter are useless without the former.

Hawaii should be defended for its own protection; but I repeat that it is far more important for the offensive and defensive plans of the nation as a whole… [page 2]

**Present Naval Station At Honolulu Harbor Naval Station At Honolulu**

On a spot skirting the waterfront of Honolulu which was before the time of Annexation a low and marshy site, now stands in U. S. Naval Station of Hawaii, which has been used in its present capacity since the Islands became a part of the United States, but which has been considered temporary only, pending the establishment of a finer station at Pearl Harbor, Honolulu is justly proud of the record which this station has made under the successive commandants, the developing efficiency, and the work which has been done in converting the site from a marsh, which had to be filled in as the buildings were put up, to a beauty spot, which adds materially to the appearance of the city entrance by the sea. One of the principal functions this post fills is that of a coaling station. Keeping coal supplies in Honolulu harbor for the use of the ships of the United States navy touching here antedates Annexation by many years. [**Figure 9**]

The earliest recorded connection between the United States Navy and the Sandwich Islands is during the War of 1812, when a native of the Islands, and a son of a chief, served on one of the U. S. ships. Coal and naval supplies were kept here before the Civil War for the use of the American navy, sometimes in charge of the consulate.

**Created Station.**
The present station was created by two proclamations, on November 2, 1898, and on November 10, 1899. Prior to the first of these, in September, 1898. Commander Z. L. Tanner, U. S. N. (retired), was ordered to come to Honolulu for the purpose of arranging for the establishment of a coaling station, which was much needed, as the travel to the Philippines was becoming heavy. He made a lengthy report after he had collected information and statistics for about two months, which was accepted.

The early station was known as the "U. S. Naval Coal Depot," but was almost at once raised successively by proclamations to the "U.S. Naval Station. Honolulu," and to its present title, implying its premier rank in the Territory.

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Work was active in the spring of '99, and when John, F. Merry, the first Commandant, arrived, he found things well on foot, buildings going up, land being filled in, and the whole reservation a scene of great activity.

At the time of the proclamation in 1900, which raised the station to its present dignity, steps were being taken toward securing land at Pearl Harbor. This involved lengthy condemnation proceedings in the Courts. The land once secured, it was possible for Congress to make its recent appropriation for the work to go forward rapidly on this newest site for a station.

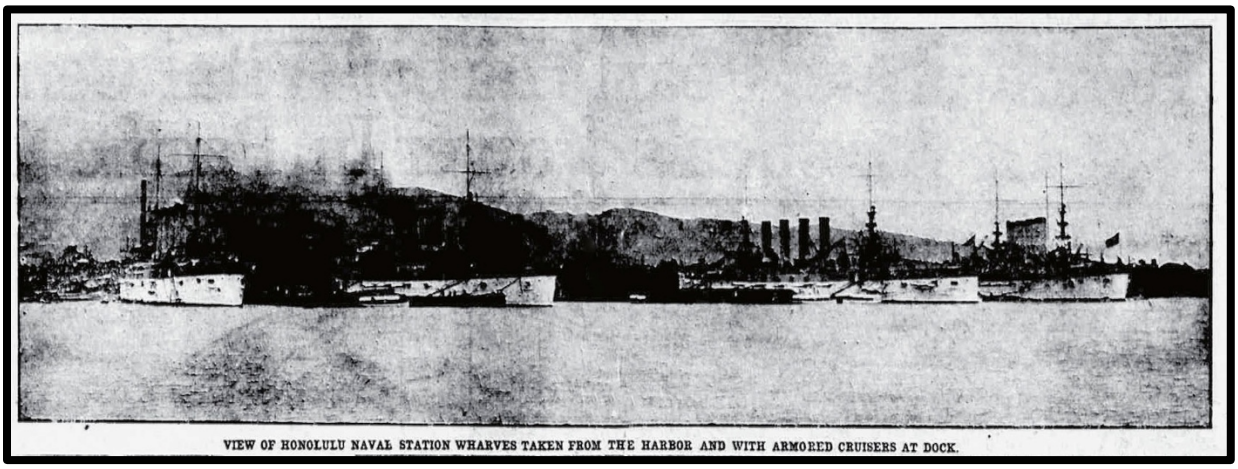


**Figure 9. View of Honolulu Naval Station Wharves Taken from the Harbor and with Armored Cruisers at Dock (*Evening Bulletin*, 1908:2)**

**First Marine Camp.**
In October, 1903, the next event of moment in connection with the station occurred, when the first marines were stationed here. They were under the command of Capt. A. W. Catlin U. S. M. C., until July, 1904, when Major B. H. Fuller assumed command. He was succeeded by Lieutenant Fay who took command about a year ago.

In 1904, some of the land which had been set aside for the use of the navy was ceded to the Federal immigration Service. It represents the present site of the immigration Station, back of the Channel Wharf, on the waterfront.

During the time that the station has been in existence, the following have acted as commandants: Rear Admiral Merry, U. S. N., Capt. Whiting, U. S. N., Rear Admiral Terry, U. S. N., Rear Admiral Lyon, U. S. N., Rear Admiral Very, U. S. N., who is now in command. Capt. Rees arrived in this city to relieve Very on April 20th, 1908, assuming command the next day.

**Its Coaling Capacity.**
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The station has a capacity of 30,000 tons of coal under the sheds, and twice as much more in the open. The coaling facilities are augmented by a tug, a water-lighter, and some large barges. The sea going tug, "Iroquois," which has been in command of Lieutenant Commander Corter for a number of years past, is a good sea boat, and a great addition to the station. This tug serves as lighthouse tender for the 12th sub district, in addition to other duties, and her commander regularly acts as the light-house inspector for the same district.

One of the most noticeable features about the station as one approaches the city from the harbor is the serial apparatus of the wireless telegraph equipment, installed in 1905. It has since proved of the greatest utility. The transports are generally equipped with wireless apparatus nowadays, and exchange messages with the naval people long before arriv- [page 2] ing. Ships of the Army and Navy are able to notify the respective headquarters in Honolulu what they want in the way of coaling, and it can be on the barges and waiting when they arrive. For a Pacific "cross roads" port ships like Honolulu, the wireless is indispensable.

The marines which are stationed here are not now within the enclosure of the station, as a camp has been established for them more to the southward, and named Camp Very. Here, they live, tramping to and from the original enclosure when going on or off guard.

In connection with the station, the government controls two large wharves, used principally in coaling work. These wharves are well built and commodious. Here battleships and cruisers have coaled and here the battleships of Admiral Sperry's Atlantic Fleet will take on supplies.

There has been movement on foot for years to have a hydrographic station established here in connection with the naval station, but this has never been done.

As all saluting for the port has to be done by the station, a battery of two light field guns is kept in the enclosure for this purpose.

Social relations of the people of Honolulu with the naval station have always been very pleasant. Officially, the place has a great record.

Among popular commandants, none have stood higher in the popular estimation than the present one, Captain Corwin P. Rees. U. S. N. He is a member of the Grand Army of the Republic, and has through this and other channels identified himself with the city. His selection of this port at a time when Pearl Harbor is to be developed demonstrates the high esteem in which he is held by the Navy Department…

**Backed by Navy America in Pacific is Impregnable**

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The Hawaiian Islands, Wake Island, and Guam form a line of communication to Manila lying between the narrow limits of the 13th and 21st parallels. The American terminal points of this line are located at San Francisco, Los Angeles, and Panama, and to all three of these Honolulu holds a central position. The pre-eminence which it now enjoys as the radiating point of the great commercial routes of the Pacific will only be enhanced with the opening of the Panama Canal, because it will be in the path of an increasing the vessels moving along from Panama to China, Japan, or Asiatic Russia. At the western end of this island chain of communications are the Philippines. This large group, scattered over an area measuring 1000 miles north to south and half as much east to west, it located wholly within the tropics, and distributed around it in a wide-sweeping semicircle are the Far Asian countries whose vast populations make the markets of the East.

At present we supply this whole market with only about 11 per cent of its imports while the commercial countries of Europe have a share of 50 per cent of this import trade. The total commerce of the United States with Asia and Australasia has risen from $138,000,000 in 1892 to $287,000,000 in 1907, having more than doubled within a single decade. Under the new conditions which we are now facing these figures will rapidly rise to double and triple the amount.

Considering therefore, the problem of the future Pacific Supremacy from the three points of geographical location, commercial advantages and facilities for manufacture, and lastly of strategic strength, we find the United States impregnable. No other nation or group of nations possesses anything approximating our combined advantages. Two other points remain for consideration. One is population, and the other is naval strength.

As to the former, the facts are well within our ken. We shall soon have passed the 100,000,000 point, and the middle of this century will probably see this nation fairly underway towards the second hundred million. Our immigration, far from diminishing, has of late years risen to heights equaled only during a few exceptional years before and the annual average is now higher than ever. With that, while in the older Eastern states (due to a variety of causes) the rate of natural increase has been diminishing, it is steadily on the increase in the West and South. We may easily look forward, therefore, to the time when, with the single possible exception of Russia, our mere numerical superiority will exert an unparalleled influence in a policy of expansion in the Far East and in South America.—Von Schierbrand's "America, Asia and the Pacific."

Honolulu has 2 Iron Foundries and Machine Shops capable of making extended ships' repairs.

Honolulu has 24 miles of Electric Car Lines' service the best.

Honolulu has 125 miles of well-paved streets.

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**How to Reach Points of Interest in Honolulu by Quickest Route**
**Map Directory [**Figure 10**]**
The following guide for the city map has been prepared by the Hawaii Promotion Committee and Locates the principal points of interest:

1. Aquarium 27-J.
2. Archive Building 14-I.
3. Base Ball Gds. 21-E.
4. Bishop Museum, 7-G.

**Banks.**

5. Bank of Hawaii 12-I.
6. Bishop & Co., 12-I.
7. First National, 12-I.
8. Spreckles & Co., 12-I.
9. Yokohama Specie, 12-I.
10. Cable Office 12-I.
11. Capitol, 13-I.
12. Custom House 12-J.

**Churches.**

14. Christian 13-I.
15. German Luth'N, 14-H.
16. Methodist Ep'l, 14-H.
17. Kawaiahao, 14-I.
18. Roman Catholic Cathedral, 13-H.
19. St. Andrew's Cathedral Episc'l, 13-H.

**Clubs.**

20. Commercial, 12-I.
21.Elks, 12-I.
22. Pacific, 13-H.
23. University, 13-I.
24. Country Club, 10-A.

**Fire Stations.**

25. Central, 13-H.
26. Makiki, 17-E.
27. Palama, 9-H.
28. Honolulu Iron Works, 14-J.

**Hotels.**

29. Alex Young, 13-H.
30. Moana, 24-H.
31. Royal Hawaiian, 13-I.
32. Sea Side, 24-I.

**Public Buildings.**

33. Immigration Depot, 14-K.
34. Insane Asylum, 9-F.
35. Judiciary Building, 13-I.
36. Kamehameha Statue, 14-I.
37. Kilohana Art League Rooms, 13-I.

38. Lunalilo Home, 17-E.
39. Masonic Temple, 13-I.
40. Marine Railway, 13-K.
41. Mausoleum, 12-D.
42. Naval Station, 14-J.
43. Oahu College, 19-D.
44. Oahu Jail, 11-I.
45. Oahu R'y Depot, 11-H.
46. Odd Fellows Hall, 13-I.
47. Oil Tanks, 10-J.
48. Opera House, 13-J.
49. Orpheum Theatre, 13-H.

**Parks.**

50. Aala Park, 11-I.
51. Boys' Ath. Field, 11-G.
52. Emma Square, 13-H.
53. Base Ball Park, 28-I.
54. Kapiolani Park, 26-I.
55. Makiki Cricket and Foot Ball Gds., 18-G.
56. Thomas Square, 16-H.
57. Police Station, 12-J.
58. Post Office, 12-I.
59. Public Library, 13-I.
60. Quarantine Station, 10-M.
61. Queen's Hospital, 14-H.

**Schools.**

62. Convent of Sacred Hearts, 13-H.
63. Girls's Ref. School
64. Honolulu High School, 13-H.
65. Iolani College, 14-H.
66. Kamehameha School, (Boys), 7-G.
67. Kamehameha School, (Girls), 6-H.
68. Kawaiahao Seminary, 14-H.
69. Mills Institute, 12-H.
70. Normal School, 15-G.
71. Oahu College, 19-D.
72. St. Andrew's Priory, 13-H.
73. St. Louis College, 11-H.

**Steamship Agencies.**

74. American-Hawaiian, 12-J.
75. Canadian-Australian, 13-J.
76. Inter-Island, 11-I.
77. Matson Nav. Col, 12-I.
78. Oceanic, 12-I.
79. Pacific Mail, 12-J.
80. Tomb of Lunalilo, 14-I.
81. Territorial Board of Forestry and Agr. Exhibit Room, 18-G.
82. Washington Place, residence of Queen Liliuokalani, 14-H.
83. Wireless Tel. Office, 13-I.

**Wharves.**

84. Alakea Street, 13-K.
85. Bishop, 13-K.
86. Brewer, 12-J.
87. Channel, 13-K.
88. Hackfeld, 12-J.
89. Inter-Island, 12-J.
90. Naval Wharf No. 1, 13-J.
91. Naval Wharf No. 2, 14-K.
92. Nuuanu, 12-J.
93. Oceanic, 12-J.
94. Railway, 11-J.
95. Sorenson, 12-J.
96. Y.M.C.A., 13-H.
97. Y.W.C.A., 12-I.
98. U.S. Agricultural Experiments Station, 16-E.

**Electric Railway Transfer Stations.**

I. Corner Fort and King Streets.
II. Corner Hotel and Fort Streets.
III. Corner Beretania and Fort Sts.
IV. Corner Beretania and Alakea Streets.
V. Corner Alakea and King Sts.
VI. Corner King and Liliha Sts.
VII. Corner Punahou and Manoa.
VIII. Pawaa Junction.

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**Where To Go And How To Get There**

To see Honolulu by the quickest and easiest route is the ambition of every visitor. The city is not large or intricate but the map is a great help in getting

your bearings.

The anchorage of the Fleet off the channel and directly in front of the business section of the city makes it possible to place the map before you and locate the principal points of interest, at the same time finding the shortest route to your destination.

From the deck of a vessel off the harbor the main points that attract the attention are Punchbowl, which rises almost from the city midst, and above that the heights of Tantalus.

To the right and in the direction from which the ships from the Pacific Coast come to an anchorage is Diamond Head.

On either side of Punchbowl and extending deep toward the mountainous back-bone of the islands are Manoa Valley on the right and Nuuanu Valley to the left, each being residential sections of the growing city of Honolulu and having many points of interest for the visitor.

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The dark lines on the map represent the street car lines which touch every principal part of the city. Cars may be boarded at the naval wharf. There is no complicated system of streets to be solved. Taking the car at the Naval Wharf Station landing, two minutes or less carries you to the heart of the city where you may transfer to the East or West—the right or the left—according to whether you wish to go toward Waikiki—the park, the beaches, and the aquarium—or through the Oriental quarter, "up" Nuuanu Valley, or along the lateral line past the Kamehameha School and the famed Bishop Museum, on toward Fort Shafter, the army post of the islands, and from there by a short walk to the beautiful gardens of Moanalua.

King street is the main avenue of the city running east and west. The King street line is the first junction reached on any of the car lines connecting with the waterfront. The street runs from "Diamond Head to Moanalua" and is to all intents and purposes a part of the belt line road around the island.

Fort street is the main business street extending from the waterfront toward the hills. Nuuanu, parallels Fort and is a border line of the Oriental section. Nuuanu runs from the waterfront to and through the very backbone of the island, the famous Pali being at the head of the Nuuanu Valley.

Should one have the misfortune to get mixed among the very regular streets of Honolulu, head for King street and arriving there a new start may be made.

By the electric cars and the liberal use of transfers the city and suburbs may be thoroughly explored. The following itinerary covers practically, all parts of the city and suburban districts, occupying from three and a half to four hours'

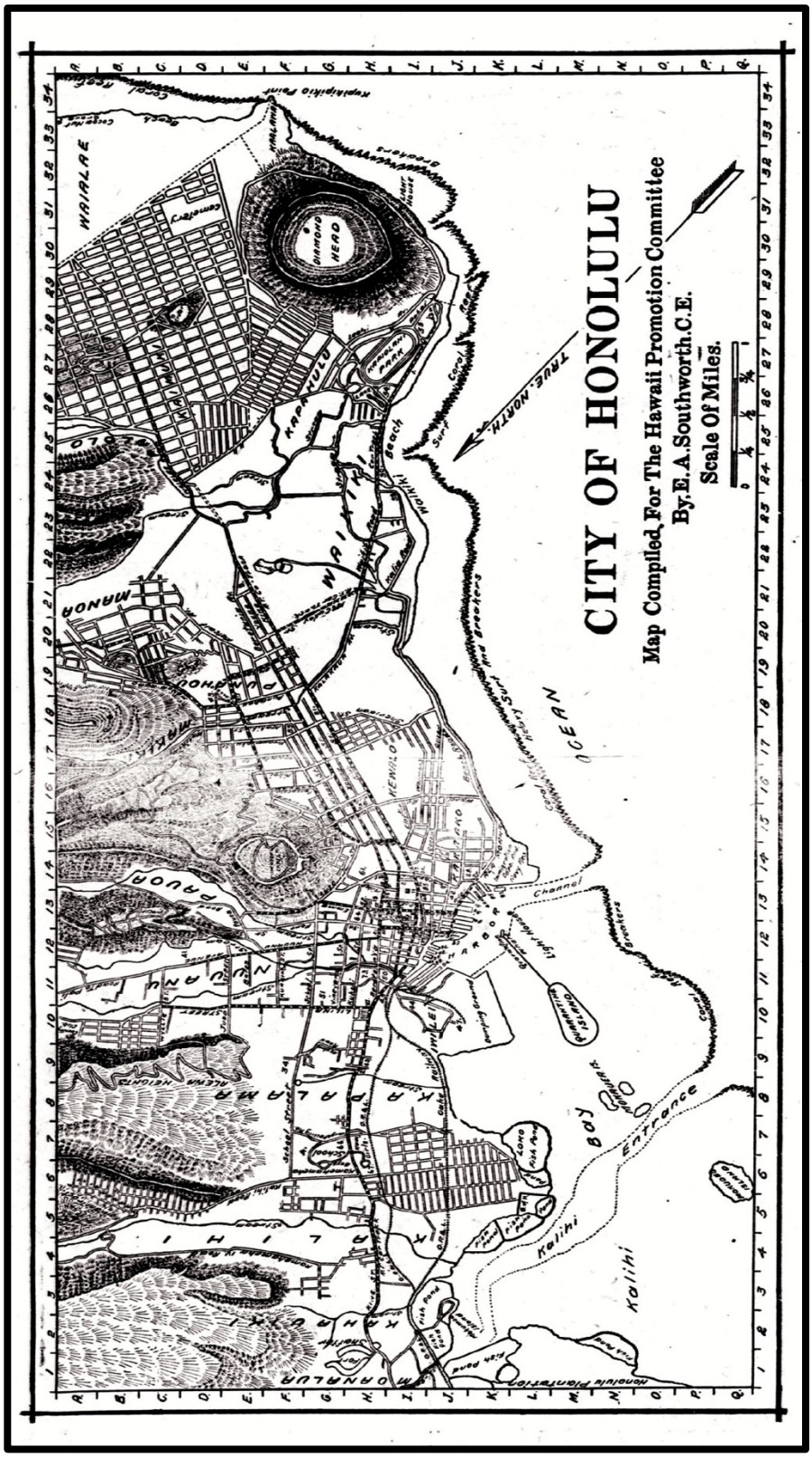


**Figure 10. City of Honolulu. Annotated Map Compiled for the Hawaii Promotion Committee (*Evening Bulletin*, 1908:28)**

time and costing from 35 to 45 cents.

Take a west-bound car on the King street line to Kahauiki, near the new Army Post, Camp Shafter, return on the line to Fort and King streets, when you will transfer to the Nuuanu Valley line, at the upper terminus of which is the Royal Mausoleum; after visiting the Mausoleum you can return by this line to Fort and Beretania streets where you can transfer to the Punahou line. This line will take you through one of the best residence districts to the Oahu College campus, at which point you can transfer to the Manoa Valley line and enjoy a view of this magnificent valley; returning by this line you can transfer to an east-bound Punahou line car and proceed to Pawaa Junction, where you make another transfer to an east-bound King street line car bound for the Waikiki beach and the Kapiolani Park, where you can leave the car and visit the Aquarium and see some of the most brilliantly colored fish in the world. Upon the return trip you can, if you are so disposed, leave the car at either the Moana Hotel or the Honolulu Seaside Hotel, and enjoy a delightful sea-bath, or, you can continue on the car and if you arrive at Pawaa Junction at 10 or 49 minutes after the hour, you can transfer to the Waialae Road line, and take a run out to Kaimuki. Upon your return to Pawaa Junction you can transfer to either a west-bound King street car, or a Beretania street car, upon either of which you will continue into town as far as Alakea street where you can transfer to a north-bound Alakea street car and take a ride up the slope of Punchbowl. On the return trip, by this line, you will transfer to a west-bound Punahou line car, which will bring you into the business center of the city.

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**Capitol Building.**
This structure about which centers so much of the romance of Hawaii is quickly reached by walking up Richards street which leads directly from the Naval Station wharves. Or if the street car is taken "up town," get off at the junction—King street—and one block to the right brings you upon the Capitol or Palace square. The Capitol building was originally the house of the royal family, but since the establishment of the Republic it has been used for the executive officers of the Territory and halls of the Legislature. This building and the grounds are always open to visitors. To the right of the Capitol is the Archives Building in which are a great number of historical documents—Intimate landmarks of the development of the Pacific. To the left is the Bungalow, an old wooden building about which cluster not a few historical incidents.

The Palace building has been the center about which all the revolutionary movements of old Hawaii moved. The party in possession of this building had the "government" and was the party in power. The wall about the grounds was once much higher. It was in the enclosure that the battle associated with the revolution of '87 took place. The forces from the outside took their position in the Opera House across the square and "pumped lead" into the aggregation within. The man is now in Honolulu who, wounded, lay on the green sward in

the boiling sun all day, assumedly dead, and retreated to the cover of the palace after dark. It was in the Palace square the marines of the United States Steamship Boston were paraded in 1893.

**Judiciary Building.**
Across the way from the Capitol is the Judiciary building. In front of this stands the magnificent statue of Kamehameha I, the great Hawaiian King who brought all the islands of Hawaii under one rule. In the "old" days, the present Judiciary building was used for the administrative offices of the government. It was from the pole of the building that Commissioner Blount hauled down the American flag. This is now the headquarters of the United States District Court, the Supreme Court of the Territory and the Territorial Circuit Courts for the Island of Oahu. The Tax, Land and Educational departments of the Territory also have offices here. The building is always open to visitors.

**Opera House.**
The other principal building on the square is the Hawaiian Opera House erected by the Spreckels interests now represented in Hawaii by W. G. Irwin & Co.

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**Kawaiahao Church.**
At the eastern end of the Palace Square is Kawaiahao Church the old missionary headquarters and at present the largest native Hawaiian church in the Territory. The interior has been renewed but the exterior is as it was built in the toilsome manner of the olden days, the coral blocks having been brought from the shore and put in place by man-power. Within the church grounds is the cemetery where many of the first missionaries are buried.

**Missionary Home.**
Continuing along King street and directly back of Kawaiahao church is the house where the missionaries made their first home when they came to the islands. This place was very much dilapidated for a long time but within the last two years it has been restored and put in its present attractive condition by the sons and daughters of the missionary pioneers. Across the street from this missionary home are the Kawaiahao Seminary for girls and the Castle Home for children, both supported by local philanthropy. This missionary home is the wellspring of Protestant activity in the Hawaiian Islands. It looks cool and comfortable today. When the missionaries occupied it, the whole section of Honolulu from the Kawaiahao church to Diamond Head was an unproductive, hot, sandy plain.

**Catholic Cathedral—Algaroba Tree.**
No less notable than the Kawaiahao church is the Roman Catholic cathedral two blocks above King Street on Fort. This is still the center of the Roman Catholic "mission" in Hawaii. A main point of interest in the surroundings of this cathedral is the first algaroba tree brought to the Islands by Rev. Father

Bachelot. It was this tree—the algaroba—that has turned the sand plains of old Honolulu and many another dry section of the Hawaiian Islands into a beautifully cool and productive land. The Catholic mission is in charge of priests sent out from Europe…

**Moanalua Gardens—Polo and Golf.**
The Moanalua Gardens are over the brow of the hill from Fort Shafter. The good walkers will go by the street car line and continue on over the hill from the Fort. The less strenuous may take the railway from town which lands them at the Moanalua station and practically at the door of the owner's home. Here the public is always welcome. It is a beautiful spot on which the Hon. S. M Damon has spent and is spending thousands of dollars in landscape gardening. From half to three-quarter of a mile beyond the gardens is the magnificent polo field and golf course—one of the most picturesque spots of Honolulu vicinity.

**Pearl Harbor from Tantalus.**
To the man who wants to know how the land lays about Honolulu and Pearl Harbor and all of "this side of Oahu," a trip to Tantalus must be included. This mountain rises back of the city over two thousand feet and directly above Punchbowl. There is an excellent carriage road to the top, and the trip through the eucalyptus forest and then into the natural forest of Hawaiian wood has no equal in the islands. There are three easy trails leading up the mountain, and in Honolulu more people walk up Tantalus than ride or drive. There is no danger of picking the wrong road or the wrong trail. Any trail that points up, on Tantalus, will lead to the top. There are no dangerous pitfalls. As one gets above the eucalyptus forest a bird's eye view of the whole southern section of the island of Oahu is spread out before the observer. As the observer faces the ocean Koko Head and Diamond Head are to the left. Sweeping along to the right is the harbor front of Honolulu, Quarantine Island just to the right of the channel, and Kalihi Bay beyond. Far to the right the irregular outline of Pearl Harbor is clearly distinguished. The view of Pearl Harbor from this height is very instructive. It gives a better idea of the surroundings of the future American naval stronghold than can possibly be obtained by going into the harbor. A trip on the water should be supplemented by this view from the heights.

**To the Pali.**
The way to the famous Nuuanu Pali, or precipice, is a straight road from the end of Nuuanu Street car line. The Pali is about six miles from town over the macadam road and through an attractive country…

**Kamehameha Schools—Bishop Museum.**
These interesting institutions are reached by taking the King street car going west—to the left as you go up from the waterfront. The grounds are readily recognized from the car which will stop at the main entrance. To the right are

the buildings of the Kamehameha Boys school, the Bishop Museum and the Bishop Memorial chapel. To the left is the Kamehameha Girls school. The whole institution is maintained for the children of Hawaiian blood from the estate of the late Bernice Pauahi Bishop. The Bishop Museum contains the greatest museum collection of the South Seas that exists. It is wonderfully interesting.

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# 6. THE BIOCULTURAL ENVIRONMENT AND THE CULTURAL LANDSCAPE

To employ the Hawaiian landscape perspective and emphasize the symbiosis of natural and cultural resources, Honua Consulting uses the term 'biocultural' to refer to natural and cultural resources, with additional sub-classifications by attributes.

Honua Consulting employs three broad terms that are both well-defined and flexible enough to be used to place traditional cultural areas/properties, naturally occurring non-modified features, archaeological features, and other areas of cultural significance within a specific spatial-temporal framework. Hawaiian epistemology categorizes ecological regions much like non-indigenous science categorizes different ecosystems in biomes. Hawaiian ecological regions are referred to as wao (realms). While numerous wao exist, focus is placed on the wao most important to this assessment:

> **Wao kānaka**: the region, usually from coast to inland plain (exclusive of inland forests), characterized by permanent human occupation, active resource management, and resource modification. This is observable through the presence of archaeological features indicating permanent occupation, including large concentrations of house lot complexes, religious complexes, and fishponds.
>
> **Wao kele**: the inland forest region, including rain-belt forests, characterized by large-scale subsistence systems, active resource management, and resource modification. This is observable through the presence of agriculture-related archaeological features, fewer heiau than the wao kānaka region, and smaller concentrations of house lots.
>
> **Wao akua**: the distant realm inhabited by the gods and demigods, this area was kapu and the general populous only entered the realm with reverence. Wao akua can include the mountains, mountain tops, and ridges of entire islands and/or regions where clouds settle upon the land (thus at varying elevational zones depending on district and region).

A brief further discussion of environmental zones and traditional Hawaiian land management practices is necessary to understand the tangible and intangible aspects of the Hawaiian landscape. Additionally, it is important to point out once again that in the Hawaiian landscape, all natural and cultural resources are interrelated and culturally significant. Natural unaltered landscape features such as rocky outcrops, cinder cones, intermittent streams, or an open plain can carry as much significance as a planted grove of wauke (*Broussonetia papyrifera*) or a boulder-lined 'auwai (canal).

Maly presents a narrative of traditional Hawaiian land management strategies and the different environmental zones recorded in *Ka Hoku o Hawaii* (September 21, 1916):

> Hawaiian customs and practices demonstrate the belief that all portions of the land and environment are related, like members of an extended family, each

environmental zone was named, and their individual attributes were known. Acknowledging the relationship of one environmental zone (wao) to another, is rooted in traditional land management practices and values. Just as place names tell us that areas are of cultural importance, the occurrence of a Hawaiian nomenclature for environmental zones also tells us that there was an intimate relationship between Hawaiians and their environment.

The native tradition of Ka-Miki provides readers with a detailed account of Hawaiian land divisions and environmental zones. While competing in a riddling contest at the court of the chief, Palikū-a-Kīkoʻokoʻo, the hero, Ka-Miki sparred with Pīnaʻau, the foremost riddler of the district of Hilo Palikū (northern Hilo). The riddles covered topics describing regions from the mountain tips to the depths of the ocean, and descriptions of kalo (taro growth), the ala loa (trail systems), and nā mea lawaiʻa (fishing practices). As the contest unfolded, it was seen that each of the competitors were well matched. In one of the riddles, Ka-Miki described the various regions of the island of Hawaii, extending from the mountain to the sea. Ka-Miki then told his opponent, that if he could rise to the challenge of answering the riddle, his knowledge could be compared to one who has ascended to the summit of the "mauna o Paliahu" (mountain of Poliʻahu, or Mauna Kea) (in *Ka Hoku o Hawaii*, September 21, 1916).

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Through one of the riddles [the] reader learn[s] about the traditional wao or regions of land, districts, and land divisions of the administrators who kept peace upon the land. The environmental zones include:

1 – Ke kuahiwi; 2 – Ke kualono; 3 – Ke kaumauna; 4 – Ke ku(a)hea; 5 – Ke kaolo; 6 – Ka wao; 7 – Ka wau maʻu kele; 8 – Ka wao kele; 9 – Ka wao akua; 10 – Ka wao lāʻau; 11 – Ka wao kānaka; 12 – Ka ʻamaʻu; 13 – Ka ʻāpaʻa; 14 – Ka paheʻe; 15 – Ke kula; 16 – Ka ʻilima; 17 – Ka puʻeone; 18 – Ka poʻina nalu; 19 – Ke kai kohola; 20 – Ke kai ʻele; 21 – Ke kai uli; 22 – Ke kai pualena; 23 – Kai Pōpolohua-a-Kāne-i-Tahiti.

1 – The mountain; 2 – The region near the mountain top; 3 – The mountain top; 4 – The misty ridge; 5 – The trail ways; 6 – The inland regions; 7 and 8 – The rain belt regions; 9 – The distant area inhabited by gods; 10 – The forested region; 11 – The region of people below; 12 – The place of ʻamaʻu (fern upland agricultural zone); 13 – The arid plains; 14 – The place of wet land planting; 15 – The plain or open country; 16 – The place of ʻilima growth (a seaward, and generally arid section of the kula; 17 – The dunes; 18 – The place covered by waves (shoreline); 19 – The shallow sea (shoreline reef flats); 20 – The dark sea; 21 – The deep blue-green sea; 22 – The yellow (sun-reflecting sea on the horizon); and 23 – The deep purplish black sea of Kāne at Tahiti (Maly, 2001:3).

Waikīkī ahupuaʻa has been extensively developed over many decades that, regrettably, the cultural landscape has all but disappeared from this once important center of aliʻi and mōʻī rule. The wao kānaka of Waikīkī has been covered by concrete and buildings, and the natural streams and springs have been altered through hydromodification. The once existing loʻi and loko iʻa found abundantly within Waikīkī ahupuaʻa have become nothing but memory and recollection of kūpuna.

## 6.1 Historic Sites

The project area is located squarely within a heavily developed commercial district of Waikīkī, surrounded by other developments and city infrastructure such as sidewalks, signage, and sub-surface utilities. As a result, nothing of archaeological note was encountered during the survey conducted on the project area and no artifacts of samples were collected. No previous sites were known to exist within the project area, although the adjacent parcels have been extensively studied. SIHP #50-80-14-5796 is the original buried Waikīkī wetland surface and consists of deposits of agricultural wetland sediments, non-agricultural wetland sediments, peat sediments, pond sediments, and pond berms dating from the pre-contact era to the early 1900's (DiVito et al., 2019). DiVito et al. determined that "a buried berm associated with the site was documented to the west and may extend into the northern portion of the project area. Therefore, it is likely that SIHP #-5796 will be documented in the current project area. Additionally, human skeletal remains and pre-contact and historic era artifacts have been encountered within fill materials in Waikīkī" (2019:78).

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## 6.2 Natural Resources

### 6.2.1 Flora

No endemic or indigenous species are present in the project area, due to the extensive development of the parcel within Waikīkī's commercial district. Exotic trees such as Banyan (*Ficus benghalensis*), MacArthur Palm (*Ptychosperma macarthuri*), Alexander Palm (*Ptychosterma elegans*), Manila Palm (*Adonidia* sp.), Date Palm (*Phoenix dactylifera*), Plumeria (*Plumeria rubra*), and Opiuma (*Pithecellobium dulce*) may be found in the vicinity of the project area; these trees are all foreign species. The proposed project will not have an impact on any species of cultural or environmental concern.

### 6.2.2 Fauna

Due to the condition of the project area, no endemic or indigenous species of cultural or environmental concern are expected to utilize the subject parcel. The lack of grassland areas and suitable trees make it unlikely for seabirds and waterbirds common in the Waikīkī ahupuaʻa to use this parcel for nesting or roosting habits. As there is no substantial water source in the project area, the presence of endangered dragonfly species is also unlikely.

Mammalian fauna most likely to frequent the project area include the invasive small Indian mongoose (*Herpestes auropunctatus*), dogs (*Canis familiaris*), cats (*Felis catus*), and Muridae

species such as the roof rat (*Rattus rattus*), brown rat (*Rattus norvegicus*), Polynesian rat (*Rattus exulans hawaiiensis*), and European house mouse (*Mus musculus*). Alien bird species most likely to frequent the project area include rock pigeon (*Columba livia*), spotted dove (*Streptopelia chinensis*), zebra dove (*Geopelia striata*), red-vented Bulbul (*Pycnonotus cafer*), red-whiskered Bulbul (*Pycnonotus jocosus*), common myna (*Acridotheres tristis*), red-crested cardinal (*Paroaria coronata*), and house sparrow (*Passer domesticus*), all of which have become widespread throughout the Hawaiian Islands after their introduction.

Due to the project area's close proximity to the ocean and the Ala Wai Canal, it is possible that endangered endemic waterbirds may overfly the project area during their nesting season; these waterbirds include aeʻo (*Himantopus mexicanus knudseni*), ʻalae keʻokeʻo (*Fulica alai*), ʻalae ʻula (*Gallinula galeata sandvicensis*), koloa maoli (*Anas wyvilliana*), manu o Kū (*Gygis alba*), and ʻaukuʻu (*Nycticorax nycticorax*). No suitable nesting habitat for any of these waterbird and seabird species occur within the project area, therefore the project will not pose a threat to the future of these species.

Another bird species that may overfy the project area is the kōlea or Pacific golden-plover (*Pluvialis fulva*), which is protected under the Migratory Bird Treaty Act (MBTA). The MBTA prohibits the taking, possessing, importing, exporting, transporting, selling, purchasing, bartering or any such offers of parts, nests or eggs of any bird listed under the Act. However, the kōlea is unlikely to nest in the project area due to insuffient habitat availability. The pueo or Hawaiian short-eared owl (*Asio flammeus sandwichensis*) is listed as endangered for the island of Oʻahu; no suitable habitat for this species to forage or nest occurs within the project area. The lack of suitable vegetation for roosting makes it unlikely that the project area is ideal for the endangered ʻōpeʻapeʻa or Hawaiian hoary bat (*Lasiurus cinereus semotus*).

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### 6.2.3 Rain Names

Akana and Gonzalez in *Hānau Ka Ua: Hawaiian Rain Names* explain the significance of the wind and rain in Native Hawaiian culture:

> In the mind...of our Hawaiian kūpuna [(ancestors)], every being and everything in the universe was born. Our kūpuna respected nature because we, as kānaka, are related to all that surrounds us – to plants and creatures, to rocks and sea, to sky and earth, and to natural phenomena, including rain and wind. This worldview is evident in a birth chant for Queen Emma, "Hānau ke aliʻi, hānau ka ua me ka makani" (The chiefess was born, the rain and wind, too, were born). Our kūpuna had an intimate relationship with the elements. They were keen observers of their environment, with all of its life-giving and life-taking forces. They had a nuanced understanding of the rains of their home. They knew that one place could have several different rains, and that each rain was distinguishable from another. They knew when a particular rain would fall, its color, duration, intensity, the path it would take, the sound it made on the trees, the scent it carried, and the effect it had on people (Akana and Gonzalez, 2015:xv).

To the Native Hawaiians, no two rains are ever the same. Rain can be distinguished based on its intensity, the way it falls, and its duration, among other things.

The following contains a selection of known rains associated with the Waikīkī ahupuaʻa.

#### *6.2.3.1 Hōliʻo Rain*

Hōliʻo is a rain associated with Hawaiʻi, Oʻahu, and Kauaʻi; this is also the name of a wind.

Rain of Kauoha [in Wailupe], Oʻahu

Aia ma Wailupe, he wahi e kapa ʻia nei ka inoa ʻo Kauoha…ua kūkulu ʻia kekahi mau hale nui no kekahi mau aliʻi no Kapueo a me Kepoʻonui, ua makemake loa kēia mau aliʻi ia wahi, no ka ʻoluʻolu maikaʻi o ka makani he Mālualua…kūkulu kalaʻihi a ka ua Hōliʻo i ua mau wahi ʻelemākule nei.

*At Wailupe is a place called Kauoha…several large houses were built for chiefs, for Kapueo and Kepoʻonui. These chiefs really liked this place because of the perfect coolness of the wind, a Mālualua…these old men were oppressed by the Hōliʻo rain.*

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From an article about the places on Oʻahu where chiefs liked to stay in times of old (Akana and Gonzalez, 2015:38-39).

#### *6.2.3.2 Kuahine Rain*

This rain is associated with Mānoa, Oʻahu and is found on other parts of Oʻahu.

Rain of Mānoa, Oʻahu

| | |
|---|---|
| Huli aku ke alo i Mānoa lā | *The front turns to Mānoa* |
| I mehana i ka ua Kuahine lā | *To be warmed by the Kuahine rain* |

From a mele inoa (name chant) for Manoanoa (Akana and Gonzalez, 2015:116).

| | |
|---|---|
| Hoʻoipo i Mānoa ka ua Kuahine, ʻeā | *Romancing in Mānoa is the Kuahine rain* |
| He ua lī ʻaʻe lehua no Kahoʻiwai, ʻeā | *A rain of Kahoʻiwai that brings a chill over the lehua* |

From a mele mākaʻikaʻi (travel chant) for ʻEmalani Kaleleonālani by Kuhea (Akana and Gonzalez, 2015:117).

#### *6.2.3.3 Kūkalahale Rain*

This a rain and wind name associated with Honolulu and the larger Kona district of Oʻahu. Kū kala hale means "standing under the eaves of the house" or "striking the house gables," while kūkala hale means "announcing to the homes."

Rain of Mānoa, Oʻahu

Ua Kūkalahale – Mānoa Valley, Honolulu, Oʻahu; a rain that blows under the eaves of the houses.

From a list of rain names and their descriptions (Akana and Gonzalez, 2015:130).

#### *6.2.3.4 Lehua Rain*

The Lehua rain is associated with Hawaiʻi, Maui, and Oʻahu, and is also the name of a wind and of the ʻōhiʻa lehua tree and its blossoms.

Rain of Mānoa, Oahu

| | |
|---|---|
| Punihei hoʻi au iā ia ala lā | *I am entranced by it* |
| I ka leo o ke kai leo nui lā | *By the sound of the loud-voiced sea* |
| Ke wā maila i Kālia lā | *Roaring at Kālia* |
| Alia kāua e naue lā | *Let us wait before moving on* |
| I ka ua Lehua i nā pali lā | *As the Lehua rain is over the cliffs* |
| Ke noe maila i Mānoa lā | *Misting over Mānoa* |

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From a mele inoa (name chant) for Erisapeka (Akana and Gonzalez, 2015:147).

#### *6.2.3.5 Līlīlehua Rain*

Līlīlehua rain is associated with Kāʻanapali, Maui, and with Pālolo, Oʻahu, but is also found in other areas. Līlīlehua is also the name of a wind and may be translated to "lehua blossom chill" or "tiny drops on the lehua blossom."

Rain of Kaʻau, Pālolo, Oʻahu

| | |
|---|---|
| Kuʻu keiki mai ka hale kanaka nui | *My beloved child from the home with many people* |
| Kuʻu keiki mai ka ua Līlīlehua o Kaʻau | *My dear child from the Līlīlehua rain of Kaʻau* |

From a kanikau (lament) for Kapela (Akana and Gonzalez, 2015:158).

Rain of Pālolo, Oʻahu

ʻO kēia Pōhakukīkēkē, he moʻo wahine ia. He wahine uʻi kēia moʻo. ʻAʻole naʻe ʻo Pōhakukīkēkē kona inoa mua, akā, ʻo Kaualīlīlehuaopālolo kona inoa mai kona mau mākua mai.

ʻOiai ua ʻono loa ko Pāhoa puʻu i ka uʻi uwaʻuwali a me ka maikaʻi ʻuneʻunehe o ka uʻi o ka "ua Līlīlehua o Pālolo," no laila, mīʻala mau loa ua Pāhoa nei ma kēlā āhua e hoʻomomoni ai i ka ʻae o kona puʻu i kā haʻi mea i hānai ai a nui nepunepu a puʻipuʻi hoʻi.

*Pōhakukīkēkē was a moʻo woman, and she was quite beautiful. Pōhakukīkēkē was not her original name, for her parents had named her after the Līlīlehua rain of Pālolo, Kaualīlīlehuaopālolo.*

*Hungering for the soft loveliness and tender beauty of this young girl of Pālolo's Līlīlehua rains, Pāhoa would always hasten out to that hill, where he would salivate over this girl who had been raised to be so plump and succulent.*

From the legend of Hiʻiakaikapoliopele (Akana and Gonzalez, 2015:159).

#### *6.2.3.6 Luahine Rain*

This is a rain associated with Mānoa, Oʻahu and is also the name of a hill in Mānoa. Luahine translates to "old woman."

Rain of Mānoa, Oʻahu

When the girl was finally dead, her mother melted into the rain called Luahineomānoa.

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From the story of Kahalaopuna by Mary Kawena Pukui (Akana and Gonzalez, 2015:166-167).

#### *6.2.3.7 Makahuna Rain*

Makahuna is a rain associated with Oʻahu, primarily in Pālolo and Waikīkī.

Rain of Pālolo, Oʻahu

| | |
|---|---|
| ʻO ʻoe ia, e Pāhoa | *It is you, O Pāhoa* |
| Wahine noho ua Makahuna o Pālolo | *Woman who dwells in the Makahuna rain of Pālolo* |
| Hoʻolono mai ana ʻo ka leo | *Listening to the voice* |
| Leo ualo a kama hele | *The beckoning call of the traveler* |

From a mele by Hiʻiakaikapoliopele calling out to the moʻo woman Pāhoa (Akana and Gonzalez, 2015:169).

Rain of Waikīkī, Oʻahu

| | |
|---|---|
| Kuʻu kāne i ka makani Hauālia | *My husband of the Hauālia wind* |
| ʻO ka Makahuna i Hāwāwā ē | *The Makahuna rain at Hāwāwā* |
| Wā ihola, ke wā wale maila nō | *Boisterous, making an uproar* |
| Ka ua hilahila moa awakea | *The shy rain that settles down at midday* |

From a mele by Hiʻiakaikapoliopele on hearing the clamor of people in the house she has just left in Waikīkī (Akana and Gonzalez, 2015:170).

#### *6.2.3.8 Nāulu Rain*

Nāulu is a sudden shower and is associated with Kawaihae, Hawaiʻi, Niʻihau, and is found in other areas. Nāulu is also the name of a shower cloud and a wind.

Rain of Mānoa, Oʻahu

| | |
|---|---|
| Nuʻuanu ē, Nuʻuanu hoʻi | *Nuʻuanu, Nuʻuanu indeed* |
| Anu hewa i ka uka aʻo Mānoa | *Menacingly cold in the uplands of Mānoa* |
| Ua anu ē, ua anu hoʻi | *So cold, so very cold* |
| Pulu ʻelo i ka wai a ka Nāulu | *Soaked by the waters of the Nāulu* |

From the song "Leahi i Daimana Hila" for Liliʻuoklani by Ani Peahi (Akana and Gonzalez, 2015:196).

#### *6.2.3.9 Puanaea/Puanaiea/Puananaiea/Puaneiea Rain*

This rain is associated with Pālolo, Oʻahu, but is also found at Waipuhia, Oʻahu. Puanaiea means "feeble, sickly."

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Rain of Pālolo, Oʻahu

E kiu, e holo, e hoʻi ka uʻi o Mānoa, ua hāliʻi ka ua Līlīlehua i nā kahawai, ke ōpū maila ka ua Kuahine i ka pua o ka ʻōhiʻa – he lualaʻi lua Kahoʻiwai na Kanaloahoʻokau. Hoʻowaha kamaliʻi o Pālolo, ua pulu ʻelo i ka ua Puanaiea, he mau wāhine noho i ka lā ʻo Kuʻialauahi me Huewa.

*Look ahead, get going, return home, young beauty of Mānoa. The Līlīlehua rain has spread over the valleys; the Kuahine rain is opening the flowers of the ʻōhiʻa trees. Kahoʻiwai is a splendid repose for Kanaloahoʻokau. The children of Pālolo talk excessively and are drenched by the Puanaiea rains. Kuʻialauahi and Huewa are women who dwell in the sun.*

From an article by Kamakau about his publication of "Ka moolelo o Kamehameha I," the story of Kamehameha I (Akana and Gonzalez, 2015: 129).

#### *6.2.3.10 Uhiwai Mist*

Uhiwai is a heavy fog or mist heavier than the noe, ʻohu, ʻehu, and ʻehuehu. This mist is associated with Mānā, Hawaiʻi and Mānoa, Oʻahu, but is also found in other areas. Uhi wai translated so "water covering." Uhiwai is both the name of a specific rain and a generally descriptive term; its various usages are determined by the context.

Mist of Mānoa, Oʻahu

| | |
|---|---|
| Paʻa mai Mānoa i ka uhiwai | *Mānoa is steadfast in the uhiwai* |
| Haʻaheo i ka uka lā o Kupanihi | *Revered for the uplands of the Kupanihi* |

From the song "Hawaii i ka ehuehu" by Home Kauwila (Akana and Gonzalez, 2015:255).

#### *6.2.3.11 Waʻahila Rain*

The Waʻahila rain is associated with Nuʻuanu, Oʻahu and is also found on other parts of Oʻahu. Waʻahila is also the name of a wind and ridge between Mānoa and Pālolo.

Rain of Mānoa, Oʻahu

Puʻipuʻi ka ua Waʻahila o Mānoa. *Stocky the Waʻahila rain of Mānoa.*

From a song (Akana and Gonzalez, 2015:274).

| | |
|---|---|
| Auē kuʻu hānai | *Oh, my beloved hānai* |
| Kuʻu kaikūnane hoʻi | *My dear brother indeed* |
| Mai ka ua Waʻahila o Mānoa | *From the Waʻahila rain of Mānoa* |
| Ke hāliʻi maila lā i ke pili | *Covering the pili grass* |

From a kanikau (lament) for Kamehameha IV by one of his sisters (Akana and Gonzalez, 2015:275).

Rain of Waʻahila Ridge, Oʻahu

E *Ka Nupepa Kuokoa*, Honolulu, Oʻahu – Iaʻu ma Honolulu, ua lohe ihola au i kekahi moʻolelo kupua maikaʻi e pili ana iā Kaumana, he kupua kēia i lilo i pōhaku, ma ke kualapa ma waena o Pālolo a me Mānoa.

Ua kākau ʻia ka moʻolelo aʻu ma ka ʻōlelo ʻEnelani, akā he mea pono nō e paʻa ma ka ʻōlelo Hawaiʻi.

ʻO koʻu hoa aloha ʻo Mr. Stokes kai hele aku e ʻike iā Mr. Solomon Kauai, ka mea nāna i hōʻike mai i kēia moʻolelo, aia kona wahi noho ma ka ʻaoʻao ma uka o ke alanui Waiʻalae, ma ka hui ʻana o ke alanui ʻo Kapahulu, e holo lā i Waikīkī mai kekahi wahi mai, e pili kokoke lā me ka pau ʻana o ke kualapa Kaumana…

Inā paha no ka hiki iā ʻoe ke huli aku i ka moʻolelo ʻoiaʻiʻo, e lilo ana ia i mea hoʻohauʻoli mai i koʻu manaʻo, a ke hoʻopuka aku ʻoe ma loko o ka nūpepa, a laila e hoʻouna mai i kiope naʻu. Penei iho ka moʻolelo e like me ia i loaʻa mai ai iaʻu…

Ua ʻoi aku ke aloha o Kaumana i kāna keiki muli loa ma mua o nā mea ʻē aʻe a pau, no laila, hoʻomaka akula ʻo ia e ʻau no kēlā kapa o ka loko no ka hoʻākāka ʻana aku i kāna wahine i ka mea āna i hana ai, me ke kūmākena ʻana no kāna keiki.

Ma ka pō ʻana iho, ua pā maila kekahi makani ikaika, kai koʻo maila nō hoʻi ka moana, a i ke ao ʻana aʻe ma kekahi lā mai, aia hoʻi, ʻaʻole ka loko ma kona wahi i waiho ai, akā he one ke waiho mai ana, a lilo i alanui maikaʻi e hele ai.

ʻAʻole naʻe kēia i lilo i mea e hoʻohauʻoli ʻia aku ai ko Kaumana manaʻo, akā ua ʻoi loa aʻe kona minamina no kāna keiki, no laila hoʻomaka akula ʻo ia e pepehi i kona poʻe kānaka i hele mai ai mai Lāhaina mai, me ka pepehi pū ʻana i kāna wahine, a me kona mau mākua, a koe kāna mau kauā ʻelima, no lāʻou kēia mau inoa: Kauawaʻahila, Kauapalihala, Kauamakaiwi, Kauakuahine, a me Kaualīlīlehua, a lawe pū akula iā lākou e noho me ia ma ke kualapa ma waena o Pālolo a me Mānoa.

ʻO Kākuhihewa ke aliʻi o Oʻahu nei i ia manawa, e noho ana ʻo ia ma Ulukou, ma kahi e kū nei ka Hōkele Moana, a ma uka mai kāna loko iʻa, ma kahi o ka loko e ʻike ʻia nei i kēia manawa, he wahi hānai no nā manu kakā. Hāʻule maila he kuāua koʻikoʻi a hiki i ka nāhāhā ʻana o kapa o ka loko iʻa i ka wai, i ia wā i kamaʻilio aku ai nā kāula a me nā kāhuna i ke aliʻi, no Kaumana a me kāna poʻe kauā, ʻo lākou kēlā mau ua ma mua aʻe nei.

Ua ʻimi koke nā kāhuna i wahi e palekana ai ka loko iʻa a ke aliʻi, no laila lawe akula lākou he puaʻa hiwa, a waiho akula i mua o Kaumana, me ka noke ʻana i ka pule, a, maopopo iā Kaumana ua kokoke mai kona hopena, ʻo kona lilo aʻela nō ia i pōhaku, a ma ka ʻōlelo ʻia, ke waiho nei ia pōhaku a hiki i kēia lā.

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ʻO Palihala, ʻo ia kahi kiʻekiʻe ma ka ʻaoʻao ma kai, mai ke awāwa mai ʻo Awāwaloa; Palikuahine, ʻo ia kēlā wahi e kiʻei ihola iā Waiakeakua ma Mānoa; Palilīlīlehua, aia ma kekahi ʻaoʻao, e huli lā i Pālolo; ʻo Makaiwi, ʻo ka ʻāina ia mai Palihala aku a i kahi i waiho ai ʻo Kaumana. Ua hōʻike ʻia mai iaʻu, aia ma ka mana ʻana o ke Alanui ʻElima e kokoke lā i ka uapo.

Ma ka hoʻākāka a Mr. Emekona, ma ka moʻolelo o Pele a me Hiʻiaka, ʻo ka ua Waʻahila, he ua kilihune ia mai [Nuʻuanu] mai, a hiki i kahi o Kauka, ma ke alanui Wyle. ʻO ka ua Līlīlehua, he ua ia mai Kaʻauhelemoa mai a hiki i Makaiwi. ʻO ka ua Kuahine, ʻo ka ua ia mai Kailua a hiki i ʻUalakaʻa.

*Dear* Ka Nupepa Kuokoa*, Honolulu, Oʻahu – While I was at Honolulu, I heard a good kupua (supernatural being) story about Kaumana, a kupua who turned to stone along the ridge between Pālolo and Mānoa.*

*I wrote down the story in English, but it should be recorded in Hawaiian.*

*My friend Mr. Stokes is the one who went to see Mr. Solomon Kauai, the person who shared this story. He lives on the upland side of the Waiʻalae road where it meets with Kapahulu, which heads toward Waikīkī from a certain place very close to the end of the ridge of Kaumana…*

*If you could search for the actual legend, it would greatly please me, and should you print it in your newspaper, then send me a copy. Here is the story as I received it…*

*Kaumana's love for his youngest son surpasses his love for all others, so he began to swim to the other end of the pond to explain to his wife what he had done, and to lament his son.*

*That night a strong wind blew, and the ocean was rough. The next day, lo and behold, the pond was no longer where it used to be, but instead there was sand, which made a good road to travel.*

*However, this did not please Kaumana. It made him more regretful over his son, so he began to kill everyone who came with him from Lāhainā, including his wife and parents; all except his five servants, whose names were Kauawaʻahila, Kauapalihala, Kauamakaiwi, Kauakuahine, and Kaualīlīlehua. He took them with him to live on the ridge between Pālolo and Mānoa.*

*Kākuhihewa was the ruler of Oʻahu at this time. He was residing at Ulukou, where the Moana Hotel now stands, and his fishpond was inland of that, where we now see the duck-feeding pond. A heavy kuāua shower fell until the water broke the walls of the fishpond. And so the prophets and experts spoke with the aliʻi about Kaumana and his servants, the rains mentioned earlier.*

*The experts quickly searched for a way to save the aliʻi's fishpond, so they brought a black pig and placed it before Kaumana, continuing to pray. Kaumana knew his end was near, so he turned into stone, and it is said that this stone is still there to his day.*

*Palihala is the high point on the seaward side of the valley of Awāwaloa. Palikuahine is the area overlooking Waiakeakua in Mānoa. Palilīlīlehua is on the other side facing Pālolo. Makaiwi is the land between Palihala and Kaumana. It was shown to me, where Fifth Avenue splits, close to the bridge.*

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*In the description by Mr. Emerson in the legend of Pele and Hiʻiaka, the ua Waʻahila is a gentle rain from Nuʻuanu to the area of Kauka (Judd) on Wyllie Street. The ua Līlīlehua is a rain from Kaʻauhelemoa to Makaiwi. The ua Kuahine is the rain from Kailua to ʻUalakaʻa.*

From the legend of Kaumana (Akana and Gonzalez, 2015:277-279).

"Palikuahine" may be the same as "Paliluahine," a place described as "the foothills at the eastern corner of Mānoa Valley" and as the "small green hill" in Mānoa known for a moʻo named Luahine and her two sons, Kūmauna and Palihala, all of whom are stones (Sterling and Summers, 1978:290). Several old maps indicate that Paliluahine is in the area known as Kahaloa, below Kūmauna. "Kaumana," from the rendering above, may be the same as "Kūmauna," which is situated above the Luahine stone (Sterling and Summers, 1978:290) and above the Waʻahila and Kalaepōhaku Ridges, between Mānoa and Pālolo Valleys (Akana and Gonzalez, 2015:279-280).

<u>Rain of Waikīkī, Oahu</u>

| | |
|---|---|
| Kuʻu kāne i ka ua noe | *My husband of the misty rains* |
| Noe hāliʻi a ka Waʻahila | *Blanketing fall of the Waʻahila showers* |
| Hoʻohila ka manaʻo, wehi i ka lau | *Abashed, yet adorned by the outpour* |
| Lau a ke aloha e piʻi ana i ka liko | *An outpouring of love, rising to brightness* |
| Wā ihola, ke wā wale maila nō | *Boisterous, an uproar* |

From a mele by Hiʻiakaikapoliopele as she was leaving a house with noisy people playing the game of kilu in Waikīkī (Akana and Gonzalez, 2015:280).

### 6.2.4 Wind Names

Winds, like rains, can be unique and distinctive to an individual location. The most famed of Hawaiian moʻolelo about winds is "Moolelo Hawaii o Pakaa a me Ku-a-Pakaa, na Kahu Iwikuamoo o Keawenuiaumi, ke Alii o Hawaii, a o na Moopuna hoi a Laamaomao" or "The Hawaiian Story of Pakaʻa and Kuapakaʻa, the Personal Attendants of Keawenuiaʻumi, the Chief of Hawaiʻi, and the Descendants of Laʻamaomao." This moʻolelo was translated into the English book The Wind Gourd of Laʻamaomao by Moses Kuaea Nakuina and published in 1901 and has been reprinted many times for the last one hundred years. This effort has assisted in keeping this important moʻolelo within the discourse on Hawaiian history and natural resource management. Many have written about the gourd's mythical properties, as it is said to contain all the winds of Hawaiʻi. More than myth, the gourd itself exists in physical form and was last owned by King David Kalākaua. Today, it is held in the collection of the Bishop Museum (**Figure 11**).

According to this moʻolelo, the descendants of Laʻamaomao, the wind god, used his wind gourd, Ka Ipu Makani o Laʻamaomao, to control the winds and cause the demise of their enemies. Pākaʻa and his son Kūapākaʻa, Laʻamaomao's descendants, control the winds by chanting the wind name, which recalls that particular wind from the gourd. Each wind name is associated with a specific ahupuaʻa or place. Pākaʻa passed on his knowledge of the wind names and the gourd to Kūapākaʻa, who called on all of the winds to destroy the canoe fleet of Pākaʻa's enemies in the Kaiwi Channel separating Oʻahu and Molokaʻi.

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The following is an excerpt from the chant naming the winds of Oʻahu, focusing particularly on the wind names of Kona:

| | |
|---|---|
| …Helu aku la o Ku-a-Pakaa i na makani o Oahu, penei: | …Kū-a-Pākaʻa called upon/named the winds of Oʻahu, thus: |
| …He Puuokona ko Kuliʻouʻou | …Puuokona is at Kuliʻouʻou, |
| He Ma-ua ko Niu | Ma-ua is the wind at Niu, |
| He Holouhā ko Kekaha | Holouhā is at Kekaha, |
| He Maunuunu ko Waiʻalae | Māunuunu is at Waiʻalae, |
| He Olauniu ko Kahaloa, | The ʻŌlauniu is at Kahaloa, |
| He Waiomao ko Palolo, | The Waiʻōmaʻo is at Pālolo, |
| He Kuehulepo ko Kahuʻa, | The Kūʻehulepo is at Kahuʻa [Kulokahuʻa], |
| He Kukalahale ko Honolulu, | The Kūkalahale is at Honolulu, |
| He Ao-a-oa ko Mamala, | The Ao-a-oa is at Māmala, |
| He Olauniu ko Kapalama, | He ʻŌlauniu is at Kapālama, |
| He Haupeepee ko Kalihi, | The Haupeʻepeʻe is at Kalihi, |
| He Komomona ko Kahauiki | Komomonoa is at Kahauiki, |
| He Ho-e-o ko Moanalua… | The Ho-e-o is at Moanalua… |

According to this account, the large ahupuaʻa of Waikīkī contains the winds Puuokona, Ma-ua, Māunuunu, ʻŌlauniu, and Waiʻōmaʻo. Māunuunu is a strong, blustering wind typically

associated with Waiʻalae and Puʻuloa. The ʻŌlauniu wind is found in Kahaloa, which is located between the Royal Hawaiian and Halekūlani Hotels of Waikīkī.

**Figure 11. Ka Ipu Makani o Laʻamaomao is a historic calabash in the collection at Bishop Museum that was once owned by King David Kalākaua.**

## 6.3 Intangible Cultural Resources

It is important to note that Honua Consulting's unique methodology divides cultural resources into two categories: biocultural resources and built environment resources. We define biocultural resources as elements that exist naturally in Hawaiʻi without human contact. These resources and their significance can be shown, proven, and observed through oral histories and literature. We define built environment resources as elements that exist through human interaction with biocultural resources whose existence and history can be defined, examined, and proven through anthropological and archaeological observation. Utilizing this methodology is critical in the preparation of a CIA as many resources, such as those related to akua (Hawaiian gods), do not necessarily result in material evidence, but nonetheless are significant to members of the Native Hawaiian community.

Hawaiian culture views natural and cultural resources as being one and the same: without the resources provided by nature, cultural resources could and would not be procured. From a Hawaiian perspective, all natural and cultural resources are interrelated, and all natural and cultural resources are culturally significant. Kepā Maly, ethnographer and Hawaiian language scholar, points out, "In any culturally sensitive discussion on land use in Hawaii, one must understand that Hawaiian culture evolved in close partnership with its natural environment. Thus, Hawaiian culture does not have a clear dividing line of where culture ends and nature begins" (Maly 2001:1).

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### 6.3.1 ʻŌlelo Noʻeau

ʻŌlelo noʻeau are another source of cultural information about the area. ʻŌlelo noʻeau literally means "wise saying," and they encompass a wide variety of literary techniques and multiple layers of meaning common in the Hawaiian language. Considered to be the highest form of cultural expression in old Hawaiʻi, ʻōlelo noʻeau bring us closer to understanding the everyday thoughts, customs, and lives of those that created them.

The ʻōlelo noʻeau presented here are associated with land divisions near the project area that may give insight to knowledge about Waikīkī, including the ʻili of Kālia where the project area is located. These ʻōlelo noʻeau are found in Pukui's *ʻŌlelo Noʻeau: Hawaiian Proverbs & Poetical Sayings* (1983). The number preceding each saying is provided.

27 Aia aku la paha i Waikīkī i ka ʻimi ʻahuʻawa.
*Perhaps gone to Waikīkī to seek the* ʻahuʻawa *sedge.*
Gone where disappointment is met. A play on *ahu* (heap) and *ʻawa* (sour).

110 Alia e ʻoki ka ʻāina 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.

269 E ʻEwa e – e kuʻi na lima!
*O ʻEwa – join hands!*

This cry was a call of the men of Kona, Oʻahu, when they went with their chief to destroy his brother, the ʻEwa chief.

285 E hoʻi ka uʻi 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.

363 E nui ke aho, e kuʻu keiki, a moe i ke kai, no ke kai la hoʻi ka ʻāina.
*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 Kaʻopulupulu at Waiʻanae. Weary with the cruelty and injustice of Kahāhana, chief of Oʻahu, Kaʻopulupulu walked with his son to Waiʻanae, where he told his son to throw himself into the sea. The boy obeyed, and there died. Kaʻopulupulu was later slain and taken to Waikīkī where he was laid on the sacrifical altar at Helumoa.

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1032 Hoʻi i Kālia i ka ʻai ʻalamihi.
*Gone to Kālia to eat* ʻalamihi *crabs.*
He is in a repentant mood. A play on *ʻala-mihi* (path-of-repentance). Kālia, Oʻahu, is a place where *ʻalamihi* crabs were once plentiful.

1378 Ka iʻa pīkoi kānaka o Kālia; he kānaka ka pīkoi, he kānaka ka pōhaku.
*The fish caught by the men of Kālia; men are the floaters, men are the sinkers.*
In ancient days, when a school of mullet appeared at Kālia, Oʻahu, a bag net was set and the men swam out in a row and surrounded the fish. Then the men would slap the water together and kick their feet, driving the frightened fish into the opening of their bag net. Thus the fishermen of Kālia became known as human fishnets.

1463 Ka makani kāʻili aloha o Kīpahulu.
*The love-snatching wind of Kīpahulu.*
A woman of Kīpahulu, Maui, listened to the entreaties of a men from Oʻahu and left her husband and children to go with him to his home island. Her husband missed her very much and grieved. He mentioned his grief to a *kahuna* skilled in *hana aloha* sorcery, who told the man to find a container with a lid. The man was told to talk into it, telling of his love for his wife. Then the *kahuna* uttered an incantation into the container, closed it, and hurled it into the sea. The wife was fishing one morning at Kālia, Oʻahu, when she saw a container floating in on a wave. She picked it up and opened it, whereopen a great longing possessed her to go home. She walked until she found a canoe to take her to Maui.

1493 Ka nalu haʻi 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.

1734 Ke kai wawalo leo leʻa o Kālia.
*The pleasing, echoing sea of Kālia.*
Refers to the sea of Kālia, Honolulu, now known as Ala Moana.

1772 Ke one ʻai aliʻi o Kakuhihewa.
*The chief-destroying sands of Kakuhihewa.*
The island of Oʻahu. When the priest Kaʻopulupulu 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 Oʻahu, 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 Hawaiʻi was no more.

DRAFT

1776 Ke one kuilima laula o ʻEwa.
*The sand on which there was a linking of arms on the breadth of ʻEwa.*
ʻEwa, Oʻahu. 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 sken 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.

1845 Kona, mai ka puʻu o Kapūkakī a ka puʻu o Kawaihoa.
*Kona, from Kapūkakī to Kawaihoa.*
The extent of the Kona district on Oʻahu is from Kapūkakī (now Red Hill) to Kawaihoa (now Koko Head).

### 6.3.2 Mele

Honua Consulting completed searches of mele written about Waikīkī ahupuaʻa. Maui historian Inez Ashdown wrote in 1976 about the importance of mele:

> The natives of Hawaiʻi Neʻi saw the Creator in everything and the Haku Mele or Music Masters delighted in presenting the chants and songs, mele and oli, to inspire the people. Such mele tell of God's assistant spirits which, to the imaginative natives, represented the winds, rains, and so on. Each spirit of creation was depicted as male or female and was given a personality and a

> name indicative of purpose. Hence the name of the volcanic action creating and cleansing the earth. She is beautiful, alluring, desirable. She also is unpredictable because she is temperamental and usually full of fiery emotions. She is an old woman asking help when she lies to test mortals, and woe betide anyone who is rude or inconsiderate of this form of an older person to whom respect and Aloha must be given (Ashdown, 1976:3).

The index of mele about Waikīkī is extremely vast and extensive, as Waikīkī is one of the many popular "place" songs. Through the search of the catalog of Hawaiian mele, the following were selected for inclusion in this CIA to provide further insight to the importance of this ahupuaʻa and excludes the "pseudo-Hawaiian" songs of American composers such as "Down in Waikīkī."

#### *6.3.2.1 At Waikīkī*

This mele was composed by John Noble (music) and Sol Bright (lyrics) at the instruction of Lena Machado, a popular Hawaiian singer known as "Hawaii's Songbird." Lena Machado became friends with a frequent tourist, who on her death bed, requested that Lena compose and sing a song for her as a reminder of the happy times she spent in Hawaiʻi. Lena was not able to compose the song because she was overcome with emotion, so Sol Bright composed the lyrics to honor their friendship (Huapala, 2019a).

DRAFT

**At Waikīkī**

Rolling waves on a stary night
Speak to me of love that's true
Flowers of ev'ry hue
I've found someone that's new
Love enchants me 'cause it's you

In a rendezvous of dreams and tropic love
With the sweet melody haunting me
There I met a polynesian hula maid
At Waikīkī

'Neath the swaying coco palms I've learned to say
Honia kāua ē wiki ē
And she taught me how to do the hula, too
At Waikīkī

Chorus:
The ancient rhythm of the native guitars
Brought me into dreams of love
The pale Hawaiian moon and tropical stars
Emanating from above

In this rendezvous of dreams and tropic love
We were held in a spell of romance
And this dusky maiden stole my heart away
At Waikīkī

#### *6.3.2.2 Oʻahu*

The following is a traditional mele that specifically names Mānoa, Waikīkī, Nuʻuanu, and Makiki to extol the beauty and love experienced on Oʻahu (Huapala, 2019b).

**Oʻahu**

| | |
|---|---|
| Mānoa he uʻi nō i kaʻu ʻike<br>I ka piʻo mai a ke ānuenue | Mānoa is indeed a beauty for my sight<br>At the arching of the rainbow |
| Waikīkī i ke kai mālamalama<br>He wai hoʻoheno a ka puʻuwai | Waikīkī in the glimmering sea<br>Cherished waters of my heart |
| Nuʻuanu i ka makani lawe mālie<br>I ke ʻala o nēia pua o ka ʻawapuhi | Nuʻuanu in the caressing wind<br>In the fragrance of this blossom of ginger |
| Makiki ka home o nā manu<br>He uʻi ke ea mai i ka lani | Makiki, the home of the birds<br>A beauty, a breath in the heavens, when they soar into the sky |
| Haʻina ʻia mai ana ka puana<br>Oʻahu ka ʻāina o ke aloha | Tell the refrain<br>Oʻahu, the land of love |

DRAFT

#### *6.3.2.3 Waikīkī*

The following mele was composed by one of Hawaiʻi's most respected composer-musicians, Andy Cummings. Cummings composed the song while in Lansing, Michigan on a tour with The Paradise Islands Revue because he was homesick and longed for Waikīkī and its "rolling surf, warm sunshine, [and] palm trees" (Kanahele, 1979:409).

**Waikīkī**

There's a feeling deep in my heart
Stabbing at me just like a dart
It's a feeling heavenly

I see memories out of the past
Memories that always will last
Of the days that used to be
*(Of a place beside the sea)

Waikīkī
At night when the shadows are falling
I hear the rolling surf calling
Calling and calling to me

Waikīkī
Tis for you that my heart is yearning
My thoughts are always returning
Out there to you across the sea

Chorus:
Your tropic nights and your wonderful charms
Are ever in my memory
And I recall when I held in my arms
An angel sweet and heavenly

Waikīkī
My whole life is empty without you
I miss that magic about you
Magic beside the sea
Magic of Waikīkī

DRAFT

*Alternate stanza

#### *6.3.2.4 Waikīkī Hula*

This traditional mele was composed for Pualeilani, the Waikīkī home of Prince Jonah Kūhiō Kalaniana‘ole (Huapala, 2019c).

**Waikīkī Hula**

| | |
|---|---|
| He aloha ‘ia no a‘o Waikīkī, eā<br>Ka nehe o ke kai hāwanawana | Beloved in Waikīkī<br>The rustling of the whispering sea |
| Pa iho ka makani lawe mālie, eā<br>Ke ‘ala onaona o ka līpoa | The wind blows carrying softly<br>The sweet fragrance of seaweed |
| Kaulana kou inoa i nā malihini, eā<br>Ka‘apuni kou nani puni ka honua | Your name is famous to visitors,<br>All your beauty known around the world |
| Hula aku nānā ia Kaimana Hila, eā<br>‘Ike i ka nani a‘o Honolulu | Turn and look at Diamond Head<br>See the beauty of Honolulu |
| Ha‘ina ‘ia mai ana ka puana, eā<br>He aloha ‘ia no a‘o Waikīkī | The story is told<br>Beloved is Waikīkī |

## 6.4 Cultural Practices

### 6.4.1 Loko Iʻa (Fishponds) and Loko Paʻakai-Kula Ālialia (Salt Making Beds) on the Honolulu Region Shore Lands, Kalihi to Waikīkī Coast

Fishponds and salt making sites have always been highly valued features of the landscape. Writing about loko iʻa, Kamakau (1976) observed:

> Fishponds, *loko iʻa*, were things that beautified the land, and a land with many fishponds was called a "fat" land (*ʻaina momona*). They date from very ancient times. Some freshwater ponds, *loko wai*, were made when the earth was made, but most of the *loko iʻa* and the shore ponds, *loko kuapa*, were made by *ka poʻe kahiko*.[25] The making of the walls (*kuapa*) of the shore ponds was heavy work, and required the labor of more than ten thousand men. Some of these fishponds covered an area of sixty or seventy acres, more or less. Walls had to be made on the seaward side sometimes in deep water and sometimes in shallow, and many stones were needed.
>
> Many *loko kuapa* were made on Oahu, Molokai, and Kauai, and a few on Hawaii and Maui. This shows how numerous the population must have been in the old days, and how they must have kept the peace, for how could they have worked together in unity and made these walls if they had been frequently at war and in opposition one against another? If they did not eat the fruit of their efforts how could they have let the *awa* fish grow to a fathom in length; the *ʻanae* to an *iwilei* (yard); the *ulua* to a meter or a *muku* (four and one half feet); the *aholehole* until its head was hard as coral (*koʻa ka lae*); and the *ʻoʻopu* until their scales were like the *uhu*? Peace in the kingdom was the reason that the walls could be built, the fish could grow big, and there were enough people to do this heavy work… (Kamakau, 1976:47)

DRAFT

David Malo, earliest of the native Hawaiian historians, wrote about the ʻāina paʻakai, ʻālialia paʻakai, hāhā paʻakai, kāheka paʻakai, loʻi paʻakai, loko paʻakai (salt making beds – ponds), and their role in the lives of Hawaiians:

> **Paʻakai – Salt Making**
>
> 25. <u>Salt was one of the necessaries and was a condiment used with fish and meat, also as a relish with fresh food</u>. Salt was manufactured only in certain places. The women brought sea water in calabashes or conducted it in ditches to natural holes, hollows, and shallow ponds (*kaheka*) on the sea coast, where it soon became strong brine from evaporation. Thence it was transferred to another hollow, or shallow vat, where crystallization into salt was completed (Malo, 1951:123).

Fishponds and salt making areas were once found all along the shores of Kona, Oʻahu, but today, all are buried under roads, fill and buildings. At least 51 Māhele claims referencing fishponds and salt making areas in the Waikīkī region of the study area were located. A

summary of all claims follows below in **Table 7** with details of features, place names and claimant names:

**Table 7. Māhele Claims referencing Fishponds and Salt-Making Areas in Waikīkī Region**

| Helu | Claimant, Location, and Resource Claimed |
|---|---|
| 5 FL | Kapilimanu at Kalia, Waikiki, Oahu. A pond at Kalia. |
| 7 FL | Namaile at Kalia, Waikiki, Oahu. A pond at Kalia. |
| 8 FL | Kuaiwahia at Kalia, Waikiki, Oahu. A pond at Kalia. |
| 21 FL | Kahiwalani at Kalia, Waikiki, Oahu. Ten kio pua (ponds for raising fish fry). |
| 26 FL | Kalalawalu at Kaluahole, Waikiki, Oahu. A fishery and the aholehole fish. |
| 30 FL | Maa at Kalia, Waikiki, Oahu. Two kio pua (ponds for raising fish fry). |
| 31 FL | Waihinano, Pawaa, Waikiki, Oahu. "…a lele in Pawaa close to Kahiualani which is a pond and is now used for raising Kahiwalani's birds…" |
| 32 FL | Kunewa at Kalia, Waikiki, Oahu. In the ili of Haole one kio pua (ponds for raising fish fry); two fish ponds; and two kio pua at Kalia. |
| 35 FL | Mahuka at Waikiki, Oahu. Thirty-nine puuone (dune banked ponds) at Kalia; and one pond at Kalokohonu, in Honolulu. |
| 75 FL | Waianuhea at Kalia, Waikiki, Oahu. A pond at Kalia. |
| 97 FL | Kapapa at Kalia, Waikiki, Oahu. Three kio pua (a holding pond for raising fish fry). |
| 98 FL | Kaehuokalani at Kalia, Waikiki, Oahu. Two ponds at Kalia. |
| 99 FL | Uma at Kalia, Waikiki, Oahu. House lot bounded on side by a fish pond. |
| 100 FL | Kekaula at Waikiki, Oahu. Five kio pua (holding ponds for raising fish fry) at Kalia. |
| 101 FL | Kaluaoku at Waikiki, Oahu. Two ponds and three small kio pua (holding ponds for raising fish fry). |
| 102 FL | Kaanaana at [location not given – Kalia, Waikiki, Oahu]. Seven kio pua (holding ponds for raising fish fry). |
| 104 FL | M. Kekuanaoa at Waikiki, Oahu. Five fish ponds at Kalia; muliwai (estuarine system) of Piinaio; and coconut grove of Makalii. |

| Helu | Claimant, Location, and Resource Claimed |
|---|---|
| 195 | Kamahiai at Honolulu, Oahu. Land at Kawaiahao, bounded on Waikiki side by a fish pond. |
| 272 | Joseph Booth at Waikiki, Oahu. Three fish ponds. |
| 1268 | Nakai at Waikiki, Oahu. Land bounded on Ewa side by Kekuanaoa's fish pond. |
| 1275 | Mookini at Paakea, Waikiki, Oahu. A house lot bounded on the Ewa side by Kekuanaoa's fish pond. Also, seven kio pua (pond for raising fish fry) at Kalia. |
| 1277 | Samuela at Kapaakea, Waikiki, Oahu. A lot bounded on Ewa side by Kekuanaoa's fish pond (Paakea pond). |
| 1281 | Kuluwailehua at Waikiki, Oahu. The fishery in the ili of Kamoku. |
| 1377 | Malo at Wehewehe, Waikiki, Oahu. A house lot bounded on mauka side by Kekuanaoa's fish pond. |
| 1411 | Kuaana at Kamoku, Waikiki, Oahu. Six loko akaakai (bulrush ponds), five made with my hands, which are finished, and one yet incomplete. |
| 1440 | Kekaha at Kaluakau, Waikiki, Oahu. The pond called Kanekualau. |
| 1441 | Paikau at Waikiki, Oahu. The pond called Milohae. |
| 1512 | Nalawewa at Waikiki, Oahu. A fish pond. |
| 1515 | Kaihuolua at Waikiki, Oahu. A kai (ocean fishery) of Kukaha at Kalia. |
| 1630 | Nuuanu at Waikiki, Oahu. Kenao sworn: "…I have known about Kanewai since the time of Kamehameha I… His claim is a loi named Hanai… We used to release fish in the pond, going to Maunalua for them. It was that way until 1832 when Kaahumanu I died, and I left the place…" |
| 1758 | Kalaeone at Kamoku, Waikiki, Oahu. Fish ponds at three locations. |
| 1765 | Kahikaele at Niukukahi, Waikiki, Oahu. A house lot bounded on makai side by Kekuanaoa's fish pond. |
| 1776 | Pehu at Palolo, Waikiki, Oahu. An ocean fishery. |
| 1780 | Lahilahi at Kuilei, Waikiki, Oahu. Seven Loko (ponds). |
| 2033 | Umi at Waikiki, Oahu. A kio pua (pond for raising fish fry). |
| 2077 | Kanakaole at Waikiki, Oahu. Two kio pua (ponds for raising fish fry) at Kalia. |

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| Helu | Claimant, Location, and Resource Claimed |
|---|---|
| 2079 | Kauhola (wahine) at Waikiki, Oahu. A kio pua (pond for raising fish fry). |
| 2081 | Kaoneanea at Waikiki, Oahu. A house lot and fish pond in the ili of Kamookahi. |
| 2206 | Lehuanui at Kukuluaeo, Waikiki, Oahu. One aina paakai (salt bed) and one loko (fish pond). |
| 3005 | Naluai at Kalia, Waikiki, Oahu. The pond named Kamaikeao. |
| 3721B | Makuaole at Waikiki, Oahu Four puuone (dune-banked ponds) at Keauhou. |
| 4261B | Kuheleloa at Pawaa, Waikiki, Oahu. Lot bounded on side by the pond of Opu. |
| 4279B | Ia at Pawaa, Waikiki, Oahu. Lot bounded on side by pond of Opu. |
| 4282B | Nahuukai at Waikiki, Oahu. Two ponds. |
| 4286B | Haumea at Waikiki, Oahu. Five puuone (dune-banked ponds) at Kauhou; and two puuone called Kulekoloa. |
| 8506 | Sea & Sumners at Waikiki, Oahu. An ocean fishing ground at Ele or Diamond Point, called Kuilei. |
| 8517 | M. Kekuanaoa at Waikiki, Oahu. Loi kalo and fish ponds. |
| 8559 | C. Kanaina at Kapahulu, Waikiki, Oahu. The fish pond of Koaka. |
| 9532 | Kapapa at Kalia, Waikiki, Oahu (see 97 FL). Ten kio pua (ponds for raising fry fish). |
| 9534 | Kaehuokalani at Puunui, Waikiki, Oahu (see 41 FL). Two ponds. |
| 9535 | Paoo at Waikiki, Oahu. Three ponds. |

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# 7. INTERVIEWS AND CONSULTATIONS

Based on expertise and recommendations from members of the community, information from two interviews are included in this study: Jeffrey Apaka, longtime resident and member of the Waikīkī Neighborhood Board for 21 years, and Kumu Hinaleimoana Wong-Kalu, a kumu hula and cultural practitioner.

In preparation for project plans Honua Consulting is tasked with interviewing individuals with lineal and cultural ties to the area of Hālawa and its surrounding area with regard to regional biocultural resources, potential impacts to these biocultural resources, and mitigation measures to minimize and/or avoid these impacts.

A summary of each interview has been completed and will be sent first to the individual interviewed for review. Upon approval from the interviewee, it will be submitted for inclusion in Honua Consulting's CIA report, which is part of the full DEA.

## 7.1 Interview with Jeffrey Apaka

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**Date of interview:** January 6, 2020
**Interviewee:** Jeffrey Apaka
**Interviewer:** Matthew Sproat
**Location:** Via Telephone

**Biography**
Jeffrey Apaka is the son of the renowned romantic baritone Alfred ʻAholo Apaka (1919-1960). Jeffrey followed the musical tradition of his father from a young age, learning first violin and ʻukulele then finding his voice while attending the Beverly Hills High School. Mr. Apaka emersed himself in the arts and further studied at the American Academy of Dramatic Arts in New York City. Mr. Apaka consistently performed at venues such as the Monarch Room at the Royal Hawaiian Hotel, following that up with a major tour around the world and a contract for a two-album deal with Capitol Records. Following the tour, Mr. Apaka enjoyed residencies along Waikīkī's "Golden Mile" of premiere showrooms before co-starring with Audrey Meyers in the four-year, record breaking "Here Is Hawaiʻi" at the Maui Surf Resort (now Maui Weston). Mr. Apaka continued to perform for decades at various local venues, charitable and civic events, and also aboard the S.S. *Constitution* and *Independence*. Most recently, Mr. Apaka served as the community relations director for the Waikīkī Community Center and sat on the Waikīkī Neighborhood Board No. 9 as an advocate for his beloved community. Jeffrey Apaka's tireless dedication and love for Waikīkī has ingrained his name on this ahupuaʻa for generations to come.

**Overview**
Mr. Apaka provided his history with Lauʻula and its surrounding area as a member of the Waikīkī Neighborhood Board for 21 years, and informed that he still resides in Waikīkī on Kūhiō Avenue. Mr. Apaka expressed his opposition for the current project and any construction of more buildings in Waikīkī, which has already been extensively developed.

Parking limitations are a major source of concern for Mr. Apaka, and the proposed project does not contribute to providing affordable parking for residents and workers of Waikīkī.

**General Discussion**

Mr. Apaka shared that he resides on Kūhiō Avenue and was a member of the Waikīkī Neighborhood Board for 21 years before resigning roughly two months ago, so he has a vested interest in any and all Waikīkī developments. Mr. Apaka explained that two hotels were constructed near Lauʻula at the Kalaimoku St. and Kūhiō Ave. intersection, which blocks his view along with many of the 250 units of his apartment building. He stated that Lauʻula was private land and questioned how the vendors facing Kalākaua Avenue will be affected by the proposed project.

With the destruction of this paid parking lot, Mr. Apaka expressed concern about where Waikīkī workers and residents would be able to park. Waikīkī is already too congested with limited parking; Mr. Apaka also questioned what has happened to municipal parking lots in the area and the parking structure on the backside of Kūhiō Ave. and Lauʻula St. The existing parking structures' rents have been raised to astronomical prices far beyond acceptable. Mr. Apaka is firmly against more buildings in Waikīkī as well as further removal of parking structures.

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Mr. Apaka shared that his grandmother's home was "kitty corner" on Kūhiō Ave. and Kalaimoku St., where the Kūhiō Theater once stood. He remembered that Lauʻula St. used to have apartment buildings when he was a child, but he is now unaware of the private landowners.

**Biocultural Resources**

Mr. Apaka received information on cultural resources and happenings near the project area as a member of the Waikīkī Neighborhood Board, but did not specify these cultural resources. He is not aware of traditions or customs that take place near the project area.

**Impacts**

The greatest impacts shared by Mr. Apaka involves parking restrictions and view obstruction by tall buildings. Removal of the existing surface parking lot for a building would negatively impact Waikīkī, as it takes away more of the already limited parking in Waikīkī. Additionally, as a resident on Kūhiō Avenue with a view of Lauʻula Street, Mr. Apaka expressed his concern with more buildings that will further block his and other residents' view.

**Mitigation Measures**

Mr. Apaka suggested that rather than constructing a building for dormitory use or hotel development, the project should renovate and refurbish the existing buildings of Waikīkī that have been run-down for many years. Constructing additional buildings in Waikīkī reduces the available parking and obstructs the views of the ocean and skyline for Waikīkī residents. Mr. Apaka stated that he is firmly opposed to further development of buildings in Waikīkī.

## 7.2 Interview with Hinaleimoana Wong-Kalu

**Date of Interview**: January 13, 2020
**Interviewee**: Hinaleimoana Wong-Kalu
**Interviewer**: Matthew Sproat
**Location**: Via Telephone

**Biography**
Hinaleimoana Wong-Kalu is a renowned kumu hula and cultural practitioner, known for her activism and community leadership for kanaka maoli and cultural preservation. Kumu Hina was born and raised in the Liliha area, in the valley of Nuʻuanu, Kona moku, on Oʻahu island, where she continues to reside. Kumu Hina attended Kamehameha School and the University of Hawaiʻi at Mānoa, where she began her activism. She was a founding member of Kulia Na Mamo, a community organization established to improve the quality of life for māhū wahine, and served for 13 years as Director of Culture at a Honolulu public charter school dedicated to using native Hawaiian culture, history, and education as tools for developing and empowering the next generation of warrior scholars. She served as Chair of the Oʻahu Island Burial Council, which oversees the management of Native Hawaiian burial sites and ancestral remains. She was the subject of the critically acclaimed 2014 documentary film *Kumu Hina*. Kumu Hina is also an accomplished filmmaker, having completed films such as *Lady Eva* and *Leitis in Waiting*. Kumu Hina continues her activism and leadership on various cultural preservation issues today.

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**Overview**
Kumu Hina provided moʻolelo and personal experiences she had with the area surrounding the project area. She shared the various place names associated with the Kālia, Waikīkī area and advocated for their continued usage so that they may not be forgotten. Kumu Hina's strongest recommendation involved the completion of a thorough Archaeological Inventory Survey (AIS) to prevent inadvertant burial discovery.

**General Discussion**
During her youth and into her teens, Kumu Hina spent her days playing and socializing near the project area. Waikīkī was once a place greatly frequented by her grandmother because Waikīkī was a place for socializing and gathering in the past. Waikīkī was where lots of events transpired. Kumu Hina also shared that her grandmother would walk all the way from her residence in Liliha, through Waikīkī, to Kahala and back, every chance she could.

Kumu Hina shared her knowledge of the moʻolelo of Kapaemahu and the stones for the four kahuna of the healing arts who traveled from Kahiki (Tahiti). Limu kala are left on the stones of Kapaemahu to honor the ancestral knowledge and the kahuna's coming to Oʻahu. Kumu Hina also shared that there is a water source that runs through the lands of Princess Kaʻiulani. She recommended that Monte McComber and Manu Boyd be interviewed for further information and moʻolelo about Helumoa, the site where the Royal Hawaiian Shopping Center was built.

Kumu Hina also shared the following place names that should be remembered on every recordation possible: Kapuni, Kapaemahu, Kalehuawehe, Helumoa, Kālia, and Waikīkī.

**Biocultural Resources**

Kumu Hina shared that with the extensive development that has occurred throughout Waikīkī, including within the project area, any biocultural resources have been extinguished. There no longer is a traditional landscape in this area.

**Impacts**

Kumu Hina was not aware of any traditions or customs that may be impacted by the proposed project.

**Mitigation Measures**

Excavation and ground disturbance in the Waikīkī ahupuaʻa has the potential for iwi discovery, so Kumu Hina recommended that a thorough AIS be conducted to identify burials previously found in the area during construction and development efforts. Kumu Hina stated that every effort should be made to identify potential iwi so the public and any recognized descendant may come forward to advocate for the burials. If no burials are discovered during the AIS, any iwi uncovered over the course of the project will be considered inadvertant and become the purview of preservation burial site specialists.

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# 8. IMPACT ASSESSMENT

## 8.1 Impacts to Flora

Due to the extensive development of the project area and its vicinity, native plant species no longer flourish within the Waikīkī commercial district. The project area is overrun with weeds and invasive plant species. The project is not expected to impact any native, indigenous, or endangered plant species.

## 8.2 Impacts to Fauna

There is unlikely to be any impacts to candidate, threatened, or endangered fauna over the course of this project based on the lack of suitable vegetation for bird species nesting or roosting for the endangered ʻōpeʻapeʻa.

## 8.3 Impacts to Historic Sites

The LRFI did not uncover anything of archaeological note during the pedestrian survey, which assessed the entirety of the paved parking lot and periphery of the property. Human skeletal remains and pre-contact and historic era artifacts have been encountered within fill materials in Waikīkī, which necessitates the need for archaeological monitoring over the course of any ground disturbance activities.

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## 8.4 Impacts to Intangible Cultural Resources

Intangible cultural resources refer to those resources without physical form, such as hula or mele. As there are no known or identified cultural practices currently taking place on the property and the property has been heavily disturbed, it is unlikely the proposed activities would adversely impact intangible cultural resources currently taking place on the property or in adjacent areas.

## 8.5 Impacts to Cultural Practices

The interviewees did not identify any cultural practices currently taking place within the project area or in its immediate vicinity; the proposed project is not expected to impact any cultural practices.

## 8.6 Cumulative and Indirect Impacts

Interviewee Jeffrey Apaka expressed concern about the project's impact on the residents and visitors of Waikīkī in regards to parking and diminished viewpoints by additional tall buildings in Waikīkī. Mr. Apaka shared that the removal of the existing surface parking lot for a building would negatively impact Waikīkī, as it takes away more of the already limited parking in Waikīkī. Additionally, as a resident on Kūhiō Avenue with a view of Lauʻula Street, Mr. Apaka expressed his concern with more buildings that will further block his and other residents' view.

## 8.7 Mitigation and Best Management Practices

As stated in the LRFI prepared for DiVito et al. (2019):

> In order to mitigate potential adverse impacts to SIHP #50-80-14-5796 [which is a buried Waikīkī wetland surface discovered on adjacent parcels] or any other potential sites present it is recommended that the proposed project proceed under an archaeological monitoring program conducted in accordance with HAR 13-279 (Rules Governing Standards for Archaeological Monitoring Studies and Reports) for all ground disturbances associated with the project.

Interviewee Kumu Hinaleimoana Wong-Kalu suggested that a thorough AIS should be conducted on the project area to identify burials previously found in the area during construction and development efforts. Kumu Hina stated that every effort should be made to identify potential iwi so the public and any recognized descendant may come forward to advocate for the burials.

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Mr. Apaka suggested that rather than constructing a building for dormitory use or hotel development, the project should renovate and refurbish the existing buildings of Waikīkī that have been run-down for many years.

# 9. CONCLUSION

Based on the guidelines set forth in *Ka Paʻakai*, the Hawaiʻi Supreme Court provided government agencies an analytical framework to ensure the protection and preservation of traditional and customary Native Hawaiian rights while reasonably accommodating competing private development interests. This is accomplished through:

1) The identification of valued cultural, historical, or natural resources in the project area, including the extent to which traditional and customary Native Hawaiian rights are exercised in the project area.
2) Identification of the extent to which those resources—including traditional and customary Native Hawaiian rights—will be affected or impaired by the proposed action; and
3) Identification of feasible action, if any, to be taken to reasonably protect Native Hawaiian rights if they are found to exist.

In order to complete a thorough CIA that complies with statutory and case law, it is necessary to consult with Native Hawaiian cultural practitioners and lineal and cultural descendants from the project area and have meaningful dialogues with them that result in data that speaks to the intent of building a strong cultural impact analysis. From thorough interviews and research, data was extrapolated that provides an unprecedented comprehensive look at the previous cultural resources on this ʻāina.

This assessment thoroughly researched the cultural history of the project area and the Waikīkī ahupuaʻa as a whole. It has been concluded that no cultural or biocultural resources currently exist within the project area and the proposed project will not affect any of these afforementioned resources. However, it is the recommendation of Honua Consulting that an archaeological monitoring program be conducted over the course of the project, which includes ground disturbance and excavation, because of the possible discovery of iwi, burials, and pre-contact/historic era artifacts within the fill materials.

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# Appendix F

**Archaeological Literature Review and Field Inspection for Construction of a Commercial Loft at 2154 Lauʻula Street, Waikīkī Ahupuaʻa, Kona (Honolulu) District, Oʻahu Island, TMK: [1[ 2-6-018: 049**

# Archaeological Literature Review and Field Inspection for Construction of a Commercial Loft at 2154 Lauʻula Street, Waikīkī Ahupuaʻa, Kona (Honolulu) District, Oʻahu Island, TMK: [1] 2-6-018:049

**Prepared for**

**R.M Towill and VanBuren Shimizu, LLP**

**Prepared by**

**Nathan J. DiVito, B.A.,**

**Rosanna M. R. Thurman, M.A., and**

**Trisha Kehaulani Watson, J.D., Ph.D.**

HONUA CONSULTING

**Honolulu, Hawaiʻi**

**May 2020**

# Management Summary

This Literature Review and Field Inspection (LRFI) is for construction of a commercial loft at 2154 Lauʻula Street located in Waikīkī Ahupuaʻa, Kona (Honolulu) District, Island of Oʻahu TMK: [1] 2-6-018:049. This project was requested by R.M Towill and the law firm Van Buren and Shimizu, LLP on behalf of the private landowner, Waikiki Bazaar, Inc., for the purpose of planned improvements to the 0.1229-acre undeveloped property (approximately 5,355 square feet [sq. ft.] or 497 sq. meters [m]).

The proposed project consists of the construction of a new 2-story commercial loft at the site of an existing asphalt pay-to-park parking lot. The project would require ground disturbance and grading for structural footings and foundations, excavation of an elevator shaft, and trenching for utilities to depths ranging from 1-6 feet (0.3-1.8 m).

Background research for the project area indicates it is located in a former wetland area which was primarily used for habitation, growing taro, and constructing fishponds in the pre-contact era. The vicinity was later used for banana and rice cultivation in the historic-era up until the early 1920's when land reclamation began with the construction of the Ala Wai Canal followed by filling in of low-lying wetlands and division of Waikīkī into city blocks by the late 1920's. Twentieth century Land Court Application maps show potential utility easements running along the western boundary as well as through the northern portion of the project area. A 1956 Sanborn Fire Insurance map also shows the potential utility easement running along the western boundary of the project area as well as a small garage structure within the southeast corner of the project area. The garage appears to be the only previous development within the project area, other than for subsurface utilities and its present use as a pay parking lot.

No previous archaeological studies have been conducted and no sites are known to exist within the project area. However, several studies in adjacent parcels and the surrounding area have documented, SIHP #50-80-14-5796, the original buried Waikīkī wetland surface (LeSuer et al. 2000, Yucha et al. 2009, Sroat et al. 2011, Pammer et al. 2014, Morriss and Hammatt 2015, and Martel and Hammatt 2017). The site consists of deposits of agricultural wetland sediments, non-agricultural wetland sediments, peat sediments, pond sediments, and pond berms dating from the pre-contact era to the early 1900's and has been documented in multiple separate locations. The site has generally been encountered below 4 to 6 ft (1.2-1.8 m) of modern and historic land reclamation fill materials (crushed coral, hydraulic pump dredge).

An archaeological inventory survey (AIS) for 2149 Kūhio Avenue, located adjacent and to the west of the project area, documented SIHP # -5796 in 24 out of 26 trenches and a buried berm in 4 trenches which was depicted in that study to continue towards the current project area (Pammer et al. 2014). An AIS for a Beach Walk Wastewater Pump Station, located adjacent and to the north side of the project area documented SIHP # -5796 in all five of the trenches excavated (Morriss and Hammatt 2015).

The purpose of this literature review and field inspection is to determine the land-use history, potential sub-surface deposits which may exist within the property, and identify any potential artifacts or cultural deposits present on the ground surface observable during surface survey of the property. This study is not an archaeological inventory survey (AIS), however, this report was

written using standards outlined within Hawai‘i Administrative Rules (HAR) 13-276 for AIS studies and is intended to assist with historic preservation efforts related to the proposed commercial loft at 2154 Lau‘ula Street.

The archaeological field inspection conducted for the current project included a pedestrian survey of the paved asphalt parking lot and periphery of the property. Nothing of archaeological interest was observed or collected during the inspection.

Based on background research and previous archaeological studies in the area, a project determination of “no historic properties affected” is supported. However, it is likely that wetland sediments (SIHP # -5796) and a berm associated with the wetland site may extend into the project area. The wetland sediments have been previously documented below early-20$^{th}$ century land reclamation fill materials, with the upper extent encountered at approximately 4 to 6 ft below the ground surface. Additionally, human skeletal remains and pre-contact and historic-era artifacts have been encountered within fill materials throughout Waikīkī and are possible to exist within the current project area. Therefore, it is recommended that the proposed project proceed under an archaeological monitoring program. This is to ensure proper documentation and treatment of any encountered sites or cultural materials. The monitoring program shall be conducted in accordance with HAR 13-279 (Rules Governing Standards for Archaeological Monitoring Studies and Reports).

# Table of Contents

**Management Summary** ..... i

**Section 1 Introduction** ..... 1

1.1 Project Background ..... 1
1.2 Environmental Setting ..... 1
1. Natural Environment ..... 1
2. Built Environment ..... 7

**Section 2 Traditional and Historical Background** ..... 9

2.1 Traditional and Historical Background ..... 9
1. Traditional Waikīkī, A Residence of Hawaiian Royalty ..... 9
2. Battles Within Waikīkī ..... 10
3. Place Names Within and In the Vicinity of the Project Area ..... 12
4. Early Historic Period to Mid-1800s ..... 13
5. 1800s and the Māhele ..... 16
6. 1900 to the Present ..... 22

**Section 3 Previous Archaeological Studies** ..... 34

3.1 Adjacent Archaeological Studies ..... 34
1. Kailihiwa and Cleghorn 2003 ..... 34
2. Pammer et al. 2014 ..... 37
3. Morriss and Hammatt 2015 ..... 42
3.2 Nearby Archaeological Studies ..... 46
1. Heiau of Waikīkī ..... 46
2. McAllister 1933 ..... 46
3. Bishop Museum 1961 ..... 59
4. Kimble 1976 ..... 59
5. Rosendahl 1977 ..... 59
6. Neller 1981 ..... 59
7. Davis 1984 ..... 59
8. Griffin 1987 ..... 60
9. Simons 1988 ..... 60
10. Davis 1989 ..... 60
11. Rosendahl 1989a ..... 61
12. Rosendahl 1989b ..... 61
13. Kennedy 1991 ..... 61
14. Davis 1992 ..... 61
15. Streck 1992 ..... 61
16. McMahon 1994 ..... 62
17. Paglinawan 1995/1996 ..... 62
18. Cleghorn 1996 ..... 62
19. Anderson and Bouthillier 1997 ..... 62
20. Denham and Pantaleo 1997a and Carlson et al. 1994 ..... 62
21. Denham and Pantaleo 1997b and Simons et al. 1995 ..... 63
22. Asbury-Smith and Dega 1998 ..... 63
23. Hammatt and Chiogioji 1998 ..... 63

24. LeSuer 2000 ..... 64
25. Elmore and Kennedy 2001 ..... 64
26. Roberts and Bower 2001 ..... 64
27. Borthwick et al. 2002 ..... 64
28. Bush et al. 2002 ..... 64
29. Elmore and Kennedy 2002 ..... 65
30. Winieski et al. 2002 / Perzinski et al. 2000 ..... 65
31. Bush et al. 2003 ..... 65
32. Chiogioji and Hammatt 2004 ..... 65
33. Esh and Hammatt 2004 ..... 66
34. Havel and Spear 2004 ..... 66
35. McIntosh and Cleghorn 2004 ..... 66
36. Tulchin et al. 2004 ..... 66
37. O'Leary et al. 2005 ..... 66
38. Rasmussen 2005 ..... 66
39. Esh and Hammatt 2006a ..... 67
40. Esh and Hammatt 2006b ..... 67
41. O'Leary et al. 2006 ..... 67
42. Bell and McDermott 2007 and Gollin et al. 2007 ..... 67
43. Hammatt and Shideler 2007 ..... 67
44. Pammer and Hammatt 2007 ..... 67
45. Hazlett et al. 2008a ..... 68
46. Hazlett et al. 2008b ..... 68
47. Petrey et al. 2008 ..... 68
48. Runyon et al. 2008 ..... 68
49. Thurman et al. 2008 ..... 68
50. Thurman et al. 2009 ..... 68
51. Yucha et al. 2009 ..... 69
52. Park and Collins 2010 ..... 69
53. Runyon et al. 2010 ..... 69
54. Sroat et al. 2011 ..... 69
55. Sroat and McDermott 2012 and Ishihara and Hammatt 2012 ..... 70
56. Yucha and McDermott 2013 ..... 70
57. Burke 2014 ..... 70
58. Gosser and Collins 2014 ..... 70
59. Inglis et al. 2014 ..... 70
60. Lima et al. 2014 ..... 71
61. Stine et al. 2014` ..... 71
62. Manirath et al. 2015 ..... 71
63. Runyon et al. 2015 ..... 71
64. Bulluomini et al. 2016 ..... 72
65. O'Hare et al. 2016 and Ishihara et al. 2015 ..... 72
66. Thurman et al. 2016 ..... 72
67. Martel and Hammatt 2017 and Beauchan et al. 2016 ..... 72
68. Raff Tierney et al. 2017 and Welser and McDermott 2018 ..... 73

3.3 Nearby Historic Properties ..... 74
1. SIHP #50-80-14-5796 (Buried Waikīkī Wetland Surface) ..... 74
2. Fort DeRussy ..... 74
3. Additional Wetland Deposits ..... 75
4. Kalākaua Avenue Improvements ..... 76
5. 2284 Kalākaua Avenue (The Center of Waikīkī) ..... 76

6. 331 Saratoga Rd. ..... 76
7. Trump International Hotel Waikīkī (223 Saratoga Rd) ..... 76
8. 280 Beach Walk ..... 76
9. Princess Ka‘iulani Hotel (120 Ka‘iulani Avenue) ..... 77
10. Moana Surfrider, Diamond Head Tower (2365 Kalākaua Avenue) ..... 77
11. Royal Hawaiian and Sheraton Hotels (2255 and 2259 Kalākaua Avenue) ..... 77
12. 133 Ka‘iulani Street ..... 77
13. Waikīkī Trade Center (2255 Kūhio Avenue) ..... 77
14. 413 Seaside Avenue ..... 78
15. Halekūlani Hotel (2199 Kālia Road) ..... 78
16. Ala Wai Canal ..... 78
17. Waikīkī and “Waikīkī Wizard Stones” ..... 78

**Section 4 Archaeological Field Inspection ..... 83**

4.1 Methodology ..... 83
4.2 Survey Results ..... 84

**Section 5 Summary and Recommendations ..... 88**

**Section 6 References Cited ..... 90**

# List of Figures

Figure 1. Portion of a 2013 U.S. Geological Survey (USGS) Topographic Map Showing the Project Area....2
Figure 2. Aerial Photo Showing the Location of the Project Area (2011 Orthoimagery) ....3
Figure 3. Portion of Tax Map Key (TMK) [1] 2-6-018 Showing the Project Area....4
Figure 4. Conceptual Site Plan of the Proposed Commercial Loft Building (provided by client)..5
Figure 5. Conceptual Plan Showing the Proposed Commercial Loft Building Floor Plan (provided by client) ....6
Figure 6. Portion of a 1998 USGS Topographic Map with Soil Series Overlay Showing Anticipated Soils Within the Project Area (Foote et al. 1972) ....8
Figure 7. Portion of an 1881 S. E. Bishop Map of Waikīkī Showing the Project Area, Plots of Land, and Features of the Surrounding Landscape (notice fishponds to the west of the project area) (1852 tracing of Bishop 1881) ....14
Figure 8. Portion of an 1882 S.E. Bishop Map Showing the Location of the Project Area (RM 944) (note "Kaluaokau" is part of LCA8559B, ʻĀpana 31) ....15
Figure 9. Close-up of the 1881 S.E. Bishop Map (1952 tracing) Showing the Location of the Project Area and Nearby LCAs and Grants (RM 1398)....19
Figure 10. Royal Patent 2785 of Charles Kanaʻina (Vol. 13 pg. 225-226) (Page 1 of 2)....20
Figure 11. Royal Patent 2785 of Charles Kanaʻina (Vol. 13 pg. 225-226) (Page 2 of 2)....21
Figure 12. Pre-1900s Aerial Photo Overlooking the Plains of Waikīkī from the Top of Diamondhead (Hawaiʻi State Archives)....23
Figure 13. 1893 W. E. Wall Map Showing the Project Area Within Marshlands (RM 1690) ....24
Figure 14. 1906 Waikīkī Land Reclamation Map with the Reclamation District Outlined (in Blue) (Pinkham 1906:6, Map A)....25
Figure 15. 1909 M.D. Monsarrat Map of Oʻahu Showing the Location of the Project Area ....26
Figure 16. 1922 Land Court Application (LCAp) 551 Map Showing the Project Area Located within Grant 2785 labeled as "Kalia" and Along the Boundary of LCA 6386, ʻĀpana 7 "Niukukahi" (Wright 1922) ....28
Figure 17. 1927 LCAp 551 Map Showing the Project Area as Lot 18 and Utility Easements Running Through the Western Boundary and Northern Portion of the Project Area (Wright 1927)....29
Figure 18. 1932 LCAp 551 Map Showing the Project Area as Lot 18A and Utility Easements Running Through the Western Boundary and Northern Portion of the Project Area (Wright 1932)....30
Figure 19. 1935 LCAp 551 Map Showing the Project Area as Lot 166, Utility Easements Running Through the Western Boundary and Northern Portion of the Project Area, and a Private Roadway that Would Become Lauʻula Street (Wright 1935)....31
Figure 20. Portion of a 1951-52 USGS Aerial Photo Showing the Project Area (USGS Orthoimage) ....32
Figure 21. Portion of a 1956 Sanborn Fire Insurance Map Showing the Project Area Bound on the West by an Easement and Containing a Small Structure Labeled "A" Within the Southeast Portion of the Project Area....33
Figure 22. Portion of a 1998 Honolulu USGS Showing Previous Studies and Sites Near the Project Area....35

Figure 23. Stratigraphic Profile of Locale 1 Located Adjacent to the Current Project Area on Lauʻula Street (Kailihiwa and Cleghorn 2003:13) ..... 36
Figure 24. Photo of the Stratigraphic Profile of Trench 23 of the 2139 Kūhio AIS (Pammer et al. 2014:144) ..... 38
Figure 25. Stratigraphic Profile Drawing for Trench 23 of the 2139 Kūhio AIS (adapted from Pammer et al. 2014:146) ..... 38
Figure 26. Photo of the Stratigraphic Profile of Trench 24 of the 2139 Kūhio AIS (Pammer et al. 2014:144) ..... 40
Figure 27. Stratigraphic Profile Drawing for Trench 24 of the 2139 Kūhio AIS (adapted from Pammer et al. 2014:149) ..... 40
Figure 28. Stratigraphic Profile Drawing of Trench Excavation 4 of the Beachwalk Wastewater Pump Station AIS (Morriss and Hammatt 2015:74) ..... 42
Figure 29. Stratigraphic Profile Drawing of Trench Excavation 5 of the Beachwalk Wastewater Pump Station AIS (Morriss and Hammatt 2015:74) ..... 44
Figure 30. Portion of a 1998 Honolulu USGS Showing Previous Archaeological Studies Within 0.5 Miles of the Project Area ..... 47
Figure 31. Portion of a 1998 Honolulu USGS Showing Previous Archaeological Sites Within 0.5 Miles of the Project Area ..... 48
Figure 32. Portion of a 1998 USGS Aerial Photo Showing Pedestrian Survey Tracks ..... 83
Figure 33. Overview photo of the project area from Lauʻula Street looking northeast ..... 85
Figure 34. Overview photo showing the north boundary of the project area bordered by a cmu wall, looking northeast ..... 85
Figure 35. Overview photo of the cmu wall comprising the eastern boundary of the project area, looking southeast ..... 86
Figure 36. Overview photo showing the center of the project area looking west ..... 86
Figure 37. Overview photo of the western boundary of the project area looking south ..... 87
Figure 38. Overview photo showing the western boundary of the project area looking north ..... 87

# List of Tables

Table 1. Listing of Place Names in the Near Vicinity of the Project Area ..... 12
Table 2. Table Listing Land Commission Awards, Grants, and Royal Patents Awarded Within and in the Near Vicinity of the Project Area ..... 18
Table 3. Stratigraphic Profile of Locale 1 Located Adjacent to the Project Area on Lauʻula Street (Adapted from Kailihiwa and Cleghorn 2003:10) ..... 36
Table 4. Stratigraphic Profile Information for Trench 23 of the 2139 Kūhio AIS (adapted from Pammer et al. 2014:146) ..... 39
Table 5. Stratigraphic Profile Information for Trench 24 of the 2139 Kūhio AIS (adapted from Pammer et al. 2014:149) ..... 41
Table 6. Stratigraphic Profile Information for Trench Excavation 4 of the Beachwalk Wastewater Pump Station AIS (adapted from Morriss and Hammatt 2015:73) ..... 43
Table 7. Stratigraphic Profile Information for Trench Excavation 5 of the Beachwalk Wastewater Pump Station AIS (adapted from Morriss and Hammatt 2015:78) ..... 44
Table 8. Table Listing Previous Archaeological Studies in the Vicinity of the Property area ..... 49
Table 9. Table Listing Luakini Heiau in Waikīkī Described by Thrum (1906a:44) ..... 57
Table 10. Archaeological Sites Documented Within the Vicinity of the Project Area ..... 79

# Section 1 Introduction

## 1.1 Project Background

This Literature Review and Field Inspection was completed at the request of R.M. Towill and the law firm Van Buren and Shimizu, LLP on behalf of the private landowner, Waikiki Bazaar, Inc. Honua Consulting conducted this study for the proposed construction of a commercial loft at 2154 Lauula Street located in Waikīkī Ahupuaʻa, Kona (Honolulu) District, Island of Oʻahu TMK: [1] 2-6-018:049. The project area includes a 0.1229-acre undeveloped property (5,355 square feet [sq. ft.] or 497 sq. meters [m]). The project area is situated within the Waikīkī commercial district and is shown on a USGS map (Figure 1), an aerial photo (Figure 2), and a Tax Map Key (TMK) (Figure 3).

The proposed project consists of the construction of a new 2-story commercial loft at the site of an existing asphalt pay parking lot. The project would require ground disturbance and grading for structural footings and foundations, excavation of an elevator shaft, and trenching for utilities to depths ranging from 1-6 feet (0.3-1.8 m). Conceptual plans showing the proposed project layout is provided as Figure 4 and Figure 5.

The purpose of the literature review and field inspection was to determine the land-use history of the project area, potential subsurface deposits which may exist, and to identify any potential artifacts, architecture, or cultural deposits present on the ground surface of the property. Fieldwork for this project was performed under the archaeological permit number 19-22 issued to Honua Consulting by the State Historic Preservation Division/Department of Land and Natural Resources (SHPD/DLNR) in accordance with Hawaiʻi Administrative Rules (HAR) Chapter 13-282. This study is not an archaeological inventory survey (AIS), however, this report was written using standards outlined within HAR 13-276 for AIS studies and is intended to assist with historic preservation efforts for the proposed construction of a commercial loft at 2154 Lauʻula Street.

## 1.2 Environmental Setting

1. Natural Environment

The subject property is located within the coastal zone of Waikīkī approximately 1,515 ft (462 m) mauka (inland) of the Waikīkī Beach shoreline at approximately 10 ft (3 m) above mean sea level. The project area is approximately 1,035 ft (315 m) from the Ala Wai Canal, a man-made canal constructed in the 1920s.

Average rainfall in this area is 636 millimeters (mm) (25 inches) per year, with the majority of rainfall between October and March (Giambelluca et al. 2013). There is no natural vegetation in the Waikīkī commercial district, however many exotic trees can be found in the vicinity including Banyan (*Ficus benghalensis*), MacArthur Palm (*Ptychosperma macarthuri*), Alexander Palm (*Ptychosterma elegans*), Manila Palm (*Adonidia* sp.), Date Palm (*Phoenix dactylifera*), Coconut (*Cocus nucifera*), Plumeria (*Plumeria rubra*), and Opiuma (*Pithecellobium dulce*) trees. The natural soil of this area was originally Jaucas sand which developed from natural erosion of the nearby coral reef. In some coastal areas of Waikīkī the sand was naturally covered with alluvium washed down from the uplands.

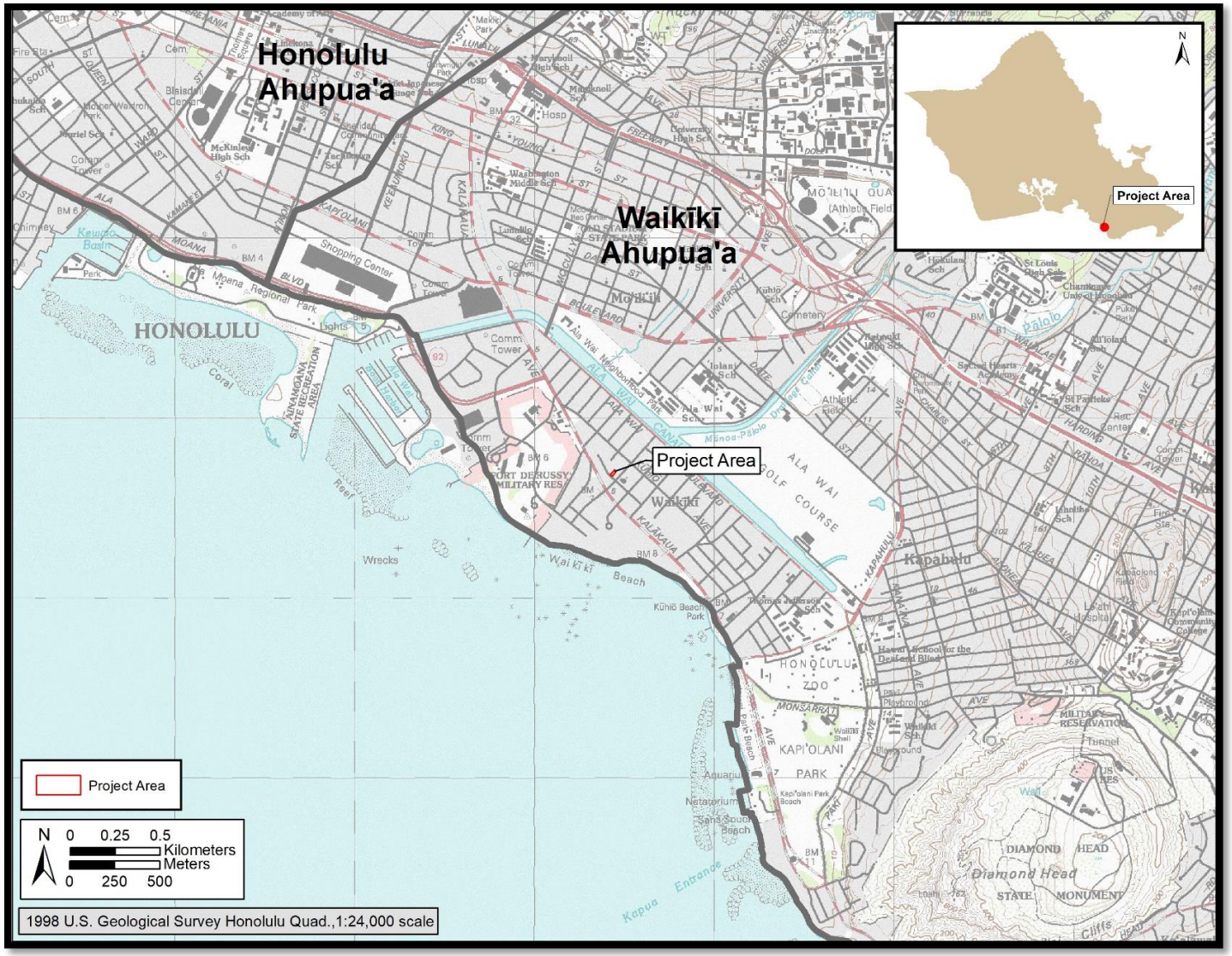



Figure 1. Portion of a 2013 U.S. Geological Survey (USGS) Topographic Map Showing the Project Area

Figure 2. Aerial Photo Showing the Location of the Project Area (2011 Orthoimagery)

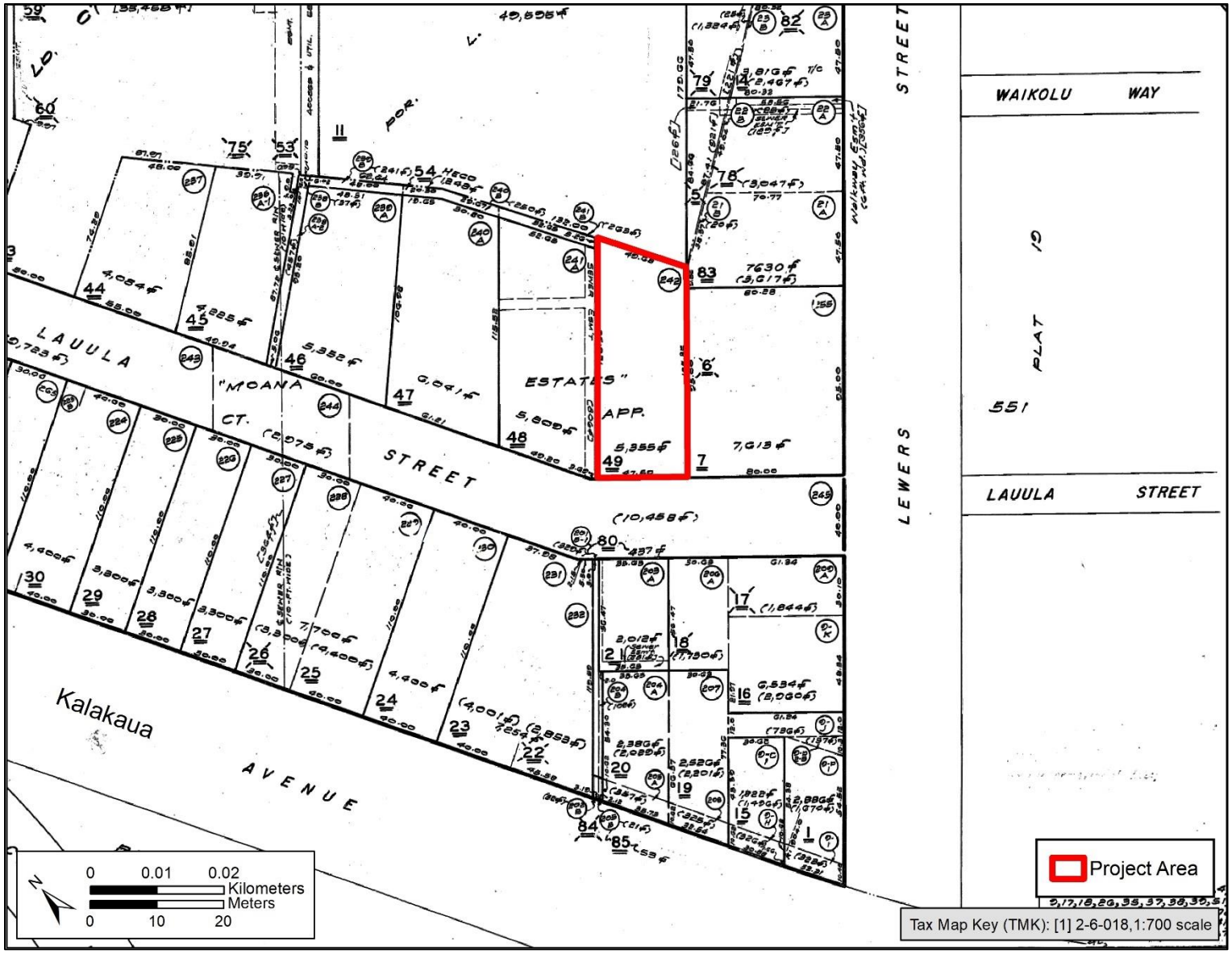



Figure 3. Portion of Tax Map Key (TMK) [1] 2-6-018 Showing the Project Area

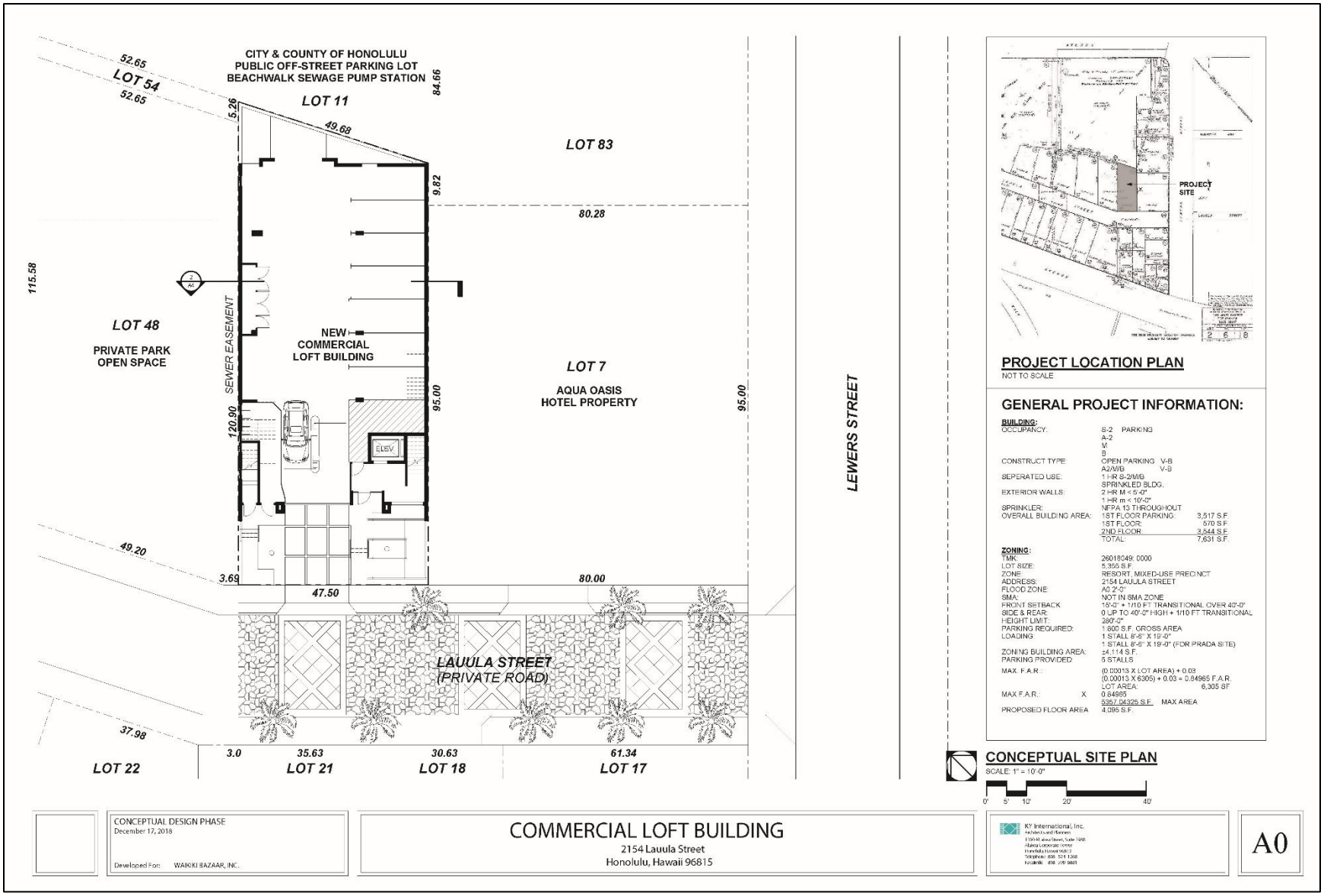



Figure 4. Conceptual Site Plan of the Proposed Commercial Loft Building (provided by client)

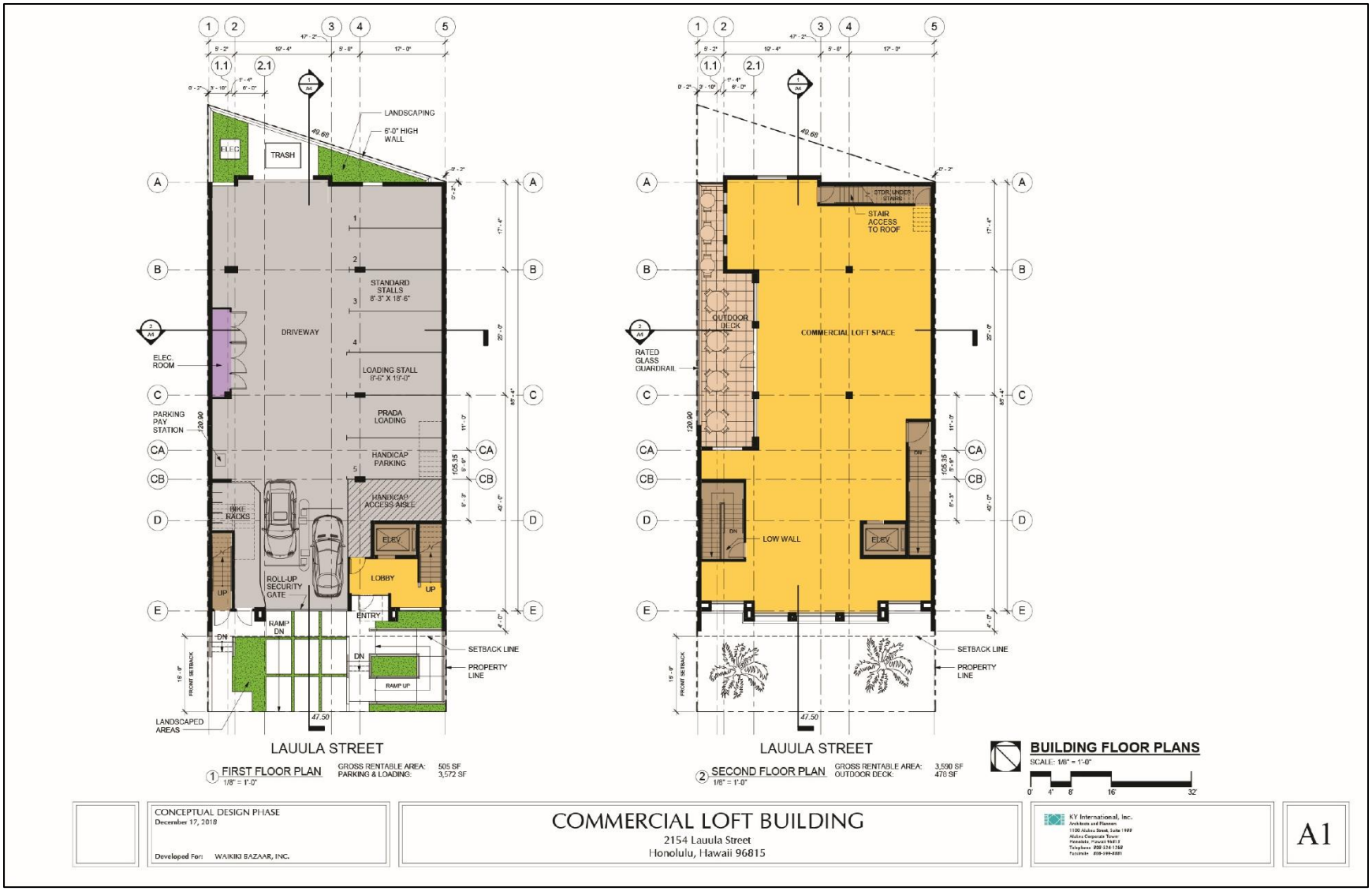



Figure 5. Conceptual Plan Showing the Proposed Commercial Loft Building Floor Plan (provided by client)

According to U.S. Soil Survey Data (Foote et al. 1972), the current project area is located within an area of Jaucas sand with 0-15% slopes (JaC) (Figure 6). This soil type consists of calcareous soils that occur as narrow strips on coastal plains (Foote et al. 1972:48). These soils developed from coral and seashells deposited from wind and water. The permeability of JaC soils is rapid, runoff is very slow to slow, water erosion is slight, and wind erosion in severe where vegetation has been removed. Jaucas Sand soils are used for pasture, sugarcane, truck crops, alfalfa, recreational areas, wildlife habitat, and urban development (Foote et al. 1972:48). Natural vegetation on this soil type includes kiawe, koa haole, bristly foxtail, bermudagrass, fingergrass, and Australian saltbush.

The soil map (refer to Figure 6) indicates the project area is on the boundary between Jaucas sand and Fill Land (FL). Archaeological projects adjacent to the project area have documented fill materials over natural wetland surface and Jaucas sand. Fill Land "consists of areas filled with material from dredging, excavation from adjacent uplands, garbage, and bagasse and slurry from sugar mills" (Foote et al. 1972:31). Fill Land occurs in areas around Pearl Harbor and Honolulu, near the ocean, and typically are used for urban development.

2. Built Environment

The project area is located within the central portion of the heavily developed commercial district of Waikīkī and surrounded by commercial and residential development. The project is bound by Lauʻula Street to the south, a gated manicured green space for the Ritz-Carlton Residences to the west, the City and County of Honolulu Beach Walk Wastewater Pump Station to the north, and the Aqua Oasis Hotel to the east. Surrounding city infrastructure includes concrete sidewalks, signage, and subsurface utilities.

The project area is located within the Waikīkī Beach Special Improvement District which consists of the entirety of the developed portion of Waikīkī bounded by the Ala Wai Canal to the north and west, the ocean to the south, and Kapahulu Avenue to the east. The improvement district was created on May 18th, 2015 by city ordinance (No. 15-11) to preserve and restore Waikīkī Beach and to provide consistent and credible management for future beach revitalization. The Waikīkī Beach Special Improvement District Association (WBSIDA) mainly collects commercial taxes from properties in Waikīkī and provides guidelines for construction projects within the district. In the case of the current project, the property and building must maintain a Hawaiian sense of place achieved through building and landscape design.

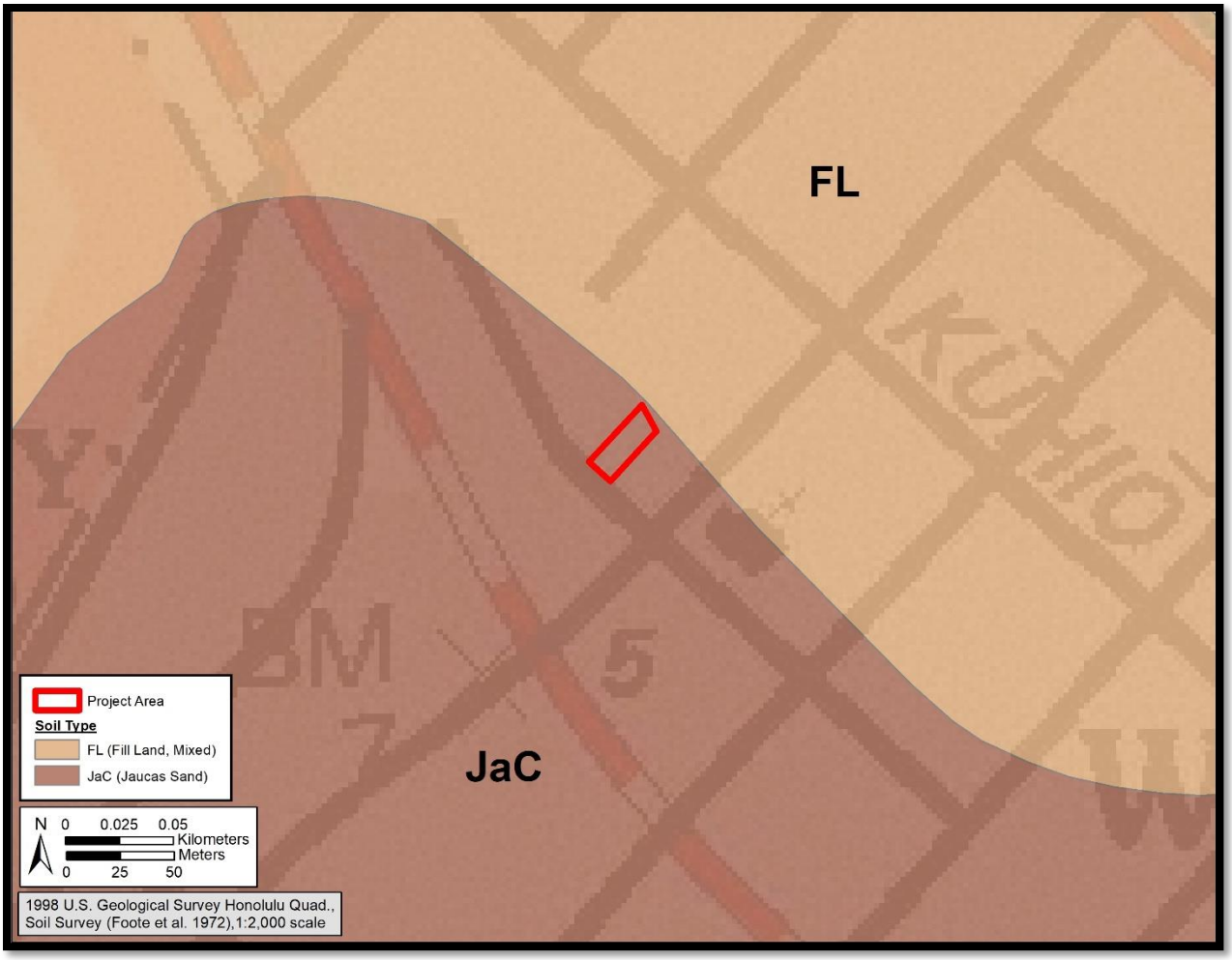



Figure 6. Portion of a 1998 USGS Topographic Map with Soil Series Overlay Showing Anticipated Soils Within the Project Area (Foote et al. 1972)

# Section 2 Traditional and Historical Background

Background research for the literature review was conducted using materials obtained from the State Historic Preservation Division (SHPD) library in Kapolei and the Honua Consulting LLC. report library. On-line materials consulted included the Ulukau Electronic Hawaiian Database (www.ulukau.com, Soehren 2002-2010), Papakilo Database (www.papakilodatabase.com), the State Library on-line (http://www.librarieshawaii.org/ Serials/databases.html), and Waihona ʻAina Mahele database (http://www.waihona.com). Hawaiian terms and place names were translated using the on-line Hawaiian Dictionary (Nā Puke Wehewehe ʻŌlelo Hawaiʻi) (www.wehewehe.com) and Place Names of Hawaii (Pukui et al. 1974). Historic maps were obtained from the State Archives, State of Hawaiʻi Land Survey Division website (http://ags.hawaii.gov/survey/map-search/), and UH-Mānoa Maps, Aerial Photographs, and GIS (MAGIS) collection at University of Hawaiʻi at Mānoa. Maps were geo-referenced for this report using ArcGIS Pro desktop. GIS is not 100% precise and historic maps were created with inherent flaws; therefore, geo-referenced maps should be understood to have some built-in inaccuracy.

## 2.1 Traditional and Historical Background

Traditionally, Waikīkī was a population center with extensive inland agricultural fields and a fertile fringing reef. Waikīkī is translated to "spouting water", said to be named for the swampland that once covered the area (Pukui et al. 1974:223). Multiple streams flowed from the valleys of Makiki, Mānoa, and Pālolo and provided fresh water to irrigated taro fields (loʻi) and crops such as sweet potatoes, bananas, and sugar cane. The coastal areas were drier than inland zones and therefore the irrigation systems provided the means for wetland agricultural complexes throughout the plains of Waikīkī. Inland fresh springs were available in Mōʻiliʻili and Punahou. The coast of Waikīkī had coconut groves, fishponds, abundant marine resources, and excellent surfing. Inhabitants of Waikīkī lived near the coast, on the fringes of lowland fields, and in the inland valleys. The bounty of Waikīkī made it a popular area traditionally, historically, and through to the modern era. However, with post-contact (post-1778 AD) advances in trade with foreign vessels, changes to agricultural practices, land reclamation activities, and commercialized development, Waikīkī has undergone vast changes.

1. Traditional Waikīkī, A Residence of Hawaiian Royalty

Waikīkī has long been a residence of Hawaiian royalty or aliʻi (Beckwith 1940, Kanahele 1995, Fornander 1996). Fornander (1996:89) describes an early mōʻi (king) of Oʻahu.

> *Mailikukahi* is said to have been born at Kukaniloko [where royalty gave birth, central Oʻahu], and thus enjoyed the prestige of the tabu attached to all who born at that hollowed place. After his installation as Moi he made Waikiki in the Kona district his permanent residence, and with a few exceptions the place remained the seat of the Oahu kings until Honolulu harbor was discovered to be accessible to large shipping.

Beckwith (1970) recounts Mailikukahi, as well as his successors, as being considered wise and just rulers. The Legend of Kalaunuiahua describes the waring chief of Kauaʻi and land reforms conducted to strengthen power of the aliʻi and stabilize control over the growing island populations. On Oʻahu this was done by Mailikukahi, from Waikīkī.

> With Mailikukahi, Waikīkī became the ruling seat of chiefs of O‘ahu. He carried out strict laws, marked out land boundaries, and took the firstborn son of each family to be educated in his own household. He honored the priests, built heiaus [temples], and discountanced human sacrifice.” (Beckwith 1970:383)

Kanahele (1995:134-135) describes three factors of the ali‘i residence in Waikīkī, they were near a beach, next to a stream or ‘auwai (canal or ditch), and among a grove of coconut or kou (*Cordia subcordata*) trees. These conditions were plentiful along the Waikīkī coastline and the ocean provided vast aquatic resources and plentiful pastimes.

The renowned John Papa ‘Ī‘ī was born in Kawehewehe, Waikīkī and he recounted the setting during his early years.

> 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 Kaahumana ma went to while away the time. The king built a stone house there, enclosed by a fence; and Kamalo, Wawae, and their relatives were in charge of the royal residence. Kamalo and Wawar were the children of Luluka and Keaka, the childhood guardians of Kamehameha. This 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)

A traditional trail system through Honolulu, Mānoa Valley, and Waikīkī was also described by ‘Ī‘ī (1959). The trail stretched from Kawaiahao (in Honolulu) through coconut groves, along fishponds, “then through the center of Helumoa of Puaaliilii, down to the mouth of the Apuakehau stream; along the sandy beach of Ulukou to Kapuni, where the surfs roll in.” (‘Ī‘ī 1959:92).

Historically, Hawaiian royalty commonly lived in Waikīkī. Residing ali‘i included Kamehameha the Great, Queen Ka‘ahumanu, King Kamehameha II (Liholiho), Kamehameha IV (Alexander Liholiho) and Queen Emma, Kamehameha V (Lot Kamehameha), King Lunalilo (William C. Lunalilo), Princess Ruth (Ruth Keanolani Kanahohoa Ke‘elikolani), Princess Pauahi (Bernice Pauahi Bishop), King David Kalākaua and Queen Kapi‘olani, Princess Likelike (Miriam Likelike Cleghorn), Archibald Cleghorn, and Princess Ka‘iulani (Victoria Kawekiu Ka‘iulani). In the early- to mid- 1800s William C. Lunalilo resided within Kaluaokau, in an adjacent Land Commission Award (LCA) east of the current project area. The king willed the Kaluaokau property to Queen Emma in 1874 (Hibbard and Franzen 1986). It is said that Queen Emma had a large sacrificial heiau (temple) at the east end of what is now Kapi‘olani Park dismantled and it was used to build a wall around her estate (Feeser 2006:90).

2. Battles Within Waikīkī

Inter-island warfare as well as local warfare were somewhat common in Hawaiian history. Three accounts of inter-island warfare which ensued from the coast of Waikīkī are presented. An early raid on Oahu is recounted by Fornander (1996) during the reign of Mailikukahi. Several chiefs from Hawai‘i Island and a chief from Maui were emboldened to seize the fertile and prosperous island of O‘ahu.

> The invading force landed at first at Waikiki, but for reasons not stated in the legend, altered their mind, and proceeded up the Ewa lagoon and marched inland. At Waikakalaua they met *Mailikukahi* with his forces, and a sanguinary battle

> ensued. The fight continued from there to Kipapa gulch. The invaders were thoroughly defeated, and the gulch is said to have been literally paved with the corpses of the slain, and received its name, "Kipapa," from this circumstance. (Fornander 1996:90)

Circa AD 1783, Maui's mōʻi Kahekili invaded the shores of Waikīkī. Kamakau (1992:135) described the attack:

> Kahekili had come with a fleet of war canoes that reached from Kaʻalāwai [area near Diamond Head] to Kawehewehe…[the Oʻahu warriors] went to ʻĀpuakēhau and fought against the whole host, and when they found themselves surrounded by the Maui warriors they broke through the front lines, only to find their way of retreat bristling with more warriors and no way to turn in all of Kawehewehe. Spears fell upon them like rain, but it was they who slew the warriors of Maui… Three times both sides attacked, and three times both were defeated.

Fornander (1996) describes one of the battles of the AD 1783 siege on Oʻahu, at ʻĀpuakēhau where eight famous warriors of Oʻahu attacked the Maui king Kahekili's army who was encamped, organizing, and preparing to march inland to fight Oʻahu's king Kahahana.

> The eight Oahu warriors boldly charged a large contingent of several hundred men of the Maui troops collected at the Heiau. In a twinkling they were surrounded by overwhelming numbers, and a fight commenced to which Hawaiian legends record no parallel. Using their long spears and javelins with marvelous skill and dexterity, and killing a prodigious number of their enemies, the eight champions broke through the circle of spears that surrounded them. (Fornander 1996:224).

The warriors were soon captured but were able to kill a Maui chief and escape. The battle ended in the favor of the Maui mōʻi, Kahekili. Fornander (1996:225) describes how the Oʻahu mōʻi Kahahana and his wife and friend Alapai were forced to secretly wander the mountains of Oʻahu for upwards of two years "secretly aided, fed, and clothed by the country people, who commiserated the misfortunes of their late king". Kahahana and his companion Alapai were eventually slain upon orders by Kahekili and their corpses were returned to Waikīkī.

In AD 1795, Kamehameha attacked Oʻahu via Waikīkī, in what is referred to as the Battle of Nuʻuanu. Fornander (1996:347-348) describes the attack:

> *Kamehameha* landed his fleet and disembarked his army on Oahu, extending from Waiʻalae to Waikīkī. Consuming but a few days in arranging and organising, he marched up the Nuuanu valley, where Kalanikupule [son of Kahekili and regent in his absence] had posted his forces…the superiority of Kamehamehas artillery, the number of his guns, and the better practice of his soldiers, soon turned the day in his favor, and the defeat of the Oahu forces became an accelerated route and a promiscuous slaughter.

Kalanikupule escaped the battle but was caught several months later and was sacrificed on orders of Kamehameha. By AD 1810, all the Hawaiian Islands were unified under Kamehameha the Great.

3. Place Names Within and In the Vicinity of the Project Area

Several place names are found on historic maps within and in the near vicinity of the project area and discussed in mythological and historic accounts in the area (Table 1). The current project area is located within the ʻili (small land division) of Kālia ("waited for", Pukui et al. 1974:77). Kālia extended from the ʻili of Kewalo to the west to the ʻili of Helumoa to the east and contained the ribboned delta of Piʻinaio Stream. Piʻinaio Stream was an important resource, containing fresh water from the mountain valleys and marine resources such as fish, octopus, lobsters, eels, crab, and limu or seaweed. The swampy areas adjacent to Piʻinaio Stream and surrounding marshland and back shore sand dunes provided easily adaptable land for farming and creating fishpond complexes. Early historic maps of the area show multiple fishponds to the west of the project area, including Loko Kaʻihikapu, Kaipuni, Kaohai. Kapuʻuiki, and Pāweo I and II (Figure 7).

Table 1. Listing of Place Names in the Near Vicinity of the Project Area

| Place Name | Translation | Description | Source |
|---|---|---|---|
| ʻĀpuakēhau Stream | basket of dew | Old stream near present Moana Hotel; probably named for a rain | Pukui et al 1974:13 |
| Hamohamo | rub gently (as the sea on the beach) | Area near ʻŌhua Avenue in Waikīkī, once belonging to Queen Liliʻuokalani | Pukui et al. 1974:40 |
| Helumoa | chicken scratch | Old land division near present Royal Hawaiian Hotel, ʻili to the east of Kālia | Pukui et al 1974:44 |
| Kālia | waited for | Stream and large land section in Waikīkī; **where current project is located** | Pukui et al. 1974:77 |
| Kaluaokau | | Residence of William C. Lunalilo (King Lunalilo), followed by Queen Emma | Hibbard and Franzen 1986:9 |
| Kapuni | the surrounding | Ancient surfing area, street, former land area in Waikīkī | Pukui et al. 1974:90 |
| Kawehewehe | the removal | Reef channel at Grey's Beach just east of Halekūlani Hotel; the sick were bathed here | Pukui et al. 1974:99 |
| Keōmuku | the shortened sand | Coastal area just west of Helumoa | Pukui et al. 1974:108, Bishop 1881 |
| Kewalo | the calling (as an echo) | Basin (harbor) and surfing area; ʻili to the west of Kālia | Pukui et al. 1974:109 |

| Place Name | Translation | Description | Source |
|---|---|---|---|
| Loko Kaʻihikapu | the taboo sacredness | fishpond at Fort DeRussy | Pukui et al. 1974:109, Bishop 1881 |
| Loko Kaipuni | | fishpond at Fort DeRussy | Bishop 1881 |
| Loko Kaohai | | fishpond at Fort DeRussy | Bishop 1881 |
| Loko Kapuʻuiki | | fishpond at Fort DeRussy | Bishop 1881 |
| Loko Pāweo I and II | turn aside | fishponds at Fort DeRussy; | Pukui et al. 1974:182, Bishop 1881 |
| Niukūkahi | coconut standing alone | | Pukui et al. 1974:166 |
| Piʻinaio Stream | | Former stream to west of Fort DeRussy | Bishop 1881 |
| Ulukou | tree grove | Where Moana Hotel is located | Pukui et al 1974:215 |
| Waikīkī | spouting water | Ahupuaʻa where the current project is located | Pukui et al. 1974:223 |

4. Early Historic Period to Mid-1800s

Waikīkī was described by early European explorers as bountiful land with large villages, ponds teaming with wildlife, and a high degree of agricultural cultivation (Vancouver 1978, Menzies 1920). The first record of Europeans visiting Waikīkī, which they referred to as "Whitette Bay," was in 1786 during the voyage of Portlock and Dixon (Fitzpatrick 1987:34). Waikīkī was again visited by Vancouver in 1793. The following early description of Waikīkī was provided by Menzies (1920:23-24) during his voyage on board the H.M.S. Discovery in the 1890s.

> 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 above the ground on a kind of stage, so as to admit the surf to wash underneath them. We pursued a pleasing path back into the plantation, which was nearly level and very extensive, and laid out in great neatness in 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 indigenous manner by dividing the general stream into little aquaducts leading in various directions so as to be able to supply the most distance fields at pleasure, and the soil seemed to repay the labor and industry of these people by the luxuriancy of its productions. Here and there we met with ponds of considerable size, and

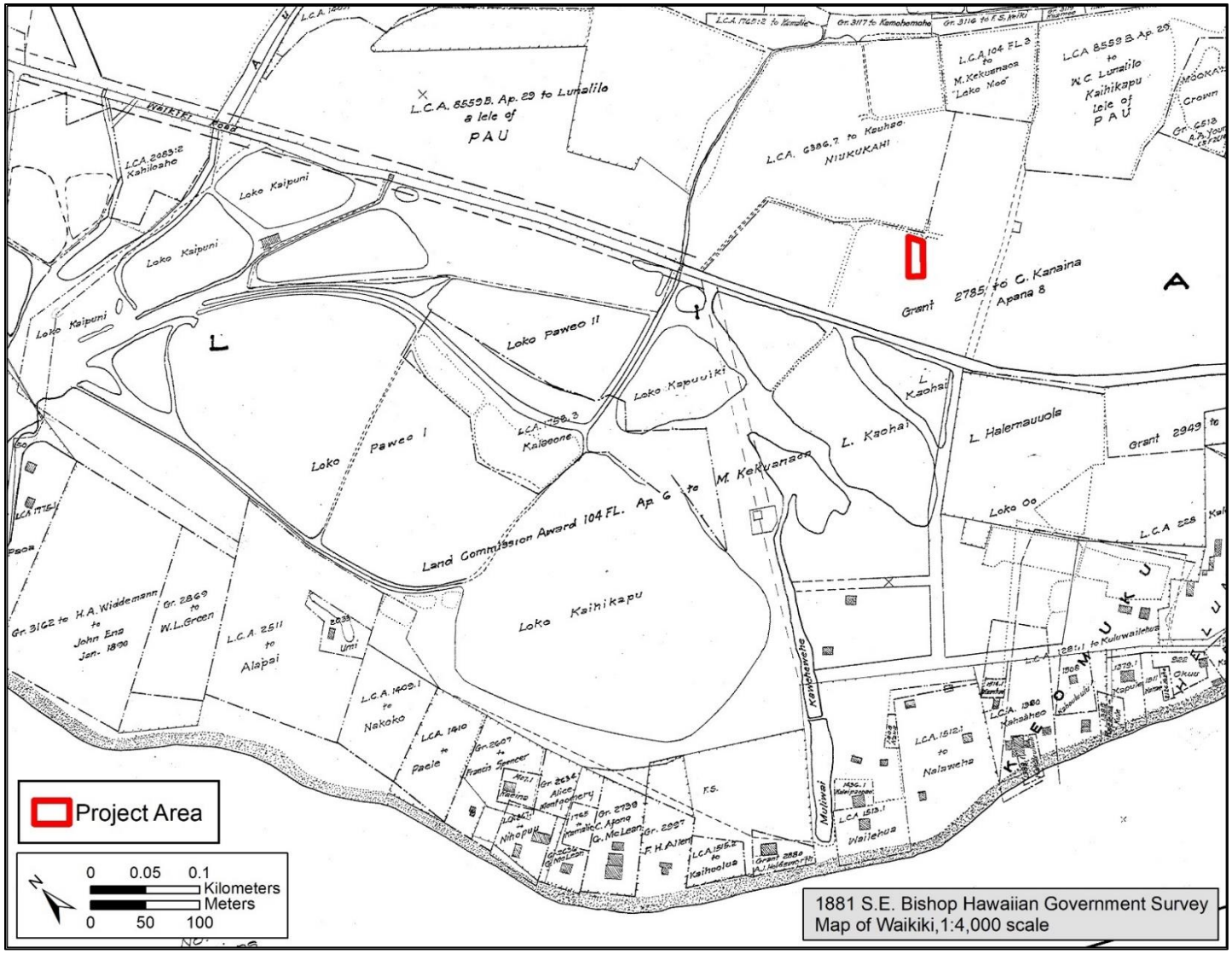



Figure 7. Portion of an 1881 S. E. Bishop Map of Waikīkī Showing the Project Area, Plots of Land, and Features of the Surrounding Landscape (notice fishponds to the west of the project area) (1852 tracing of Bishop 1881)

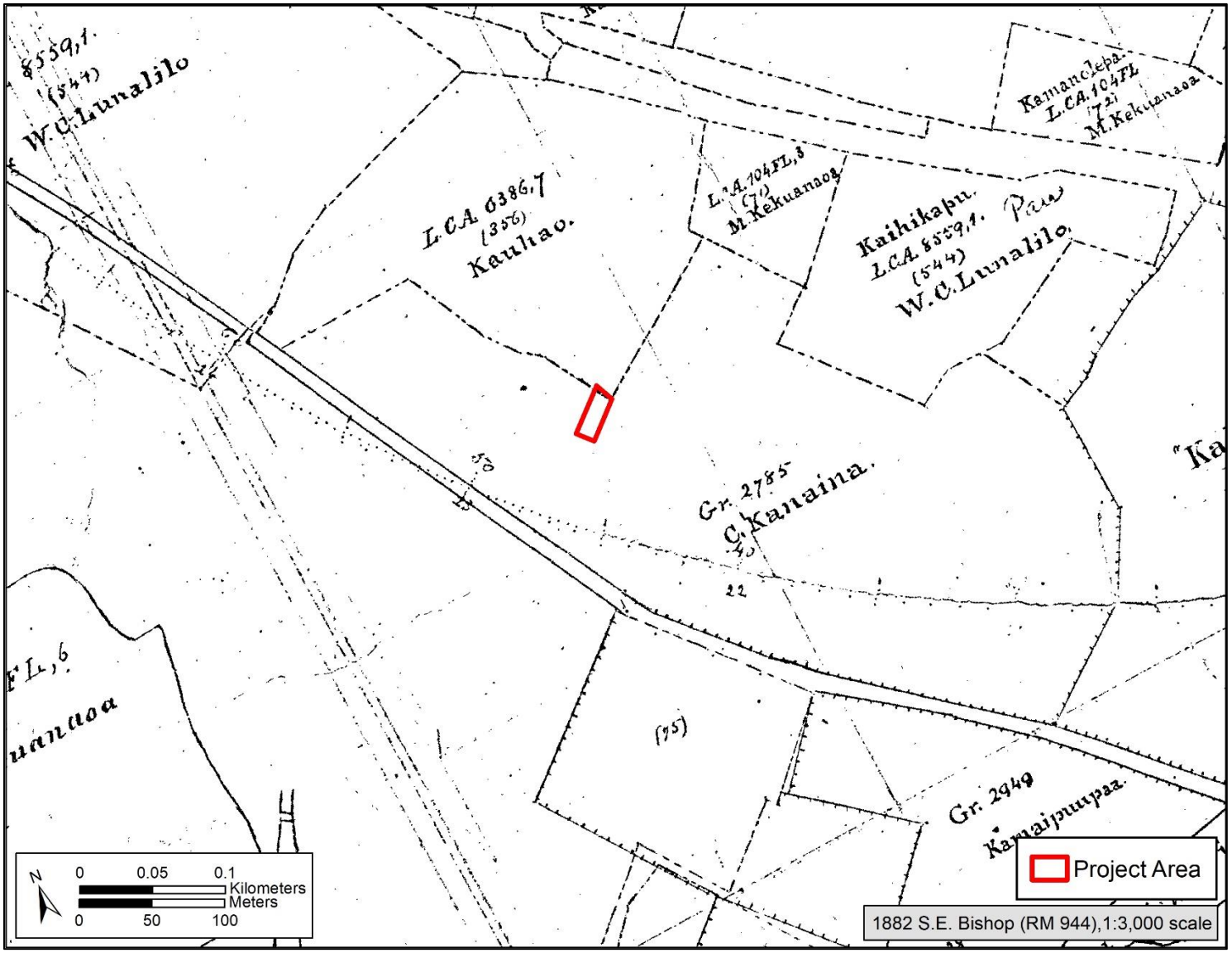



Figure 8. Portion of an 1882 S.E. Bishop Map Showing the Location of the Project Area (RM 944) (note "Kaluaokau" is part of LCA8559B, ʻĀpana 31)

> besides being well stocked with fish, they swarmed with water fowl of various kinds such as ducks, coots, water hens, bitterns, plovers and curlews.

In 1789, Waikīkī was visited by Captain William Douglas of the ship *Iphigenia*.

> He was visited by Kahekili "who arranged to have hogs, kalo root, sweet potatoes and fish sent out. Kahekili cordially showed Douglas his village with its plantations and fishponds, but quite soon the friendly atmosphere was dissipated when Kahekili's people stole both of Douglas' anchors. The condition for their return was that Douglas should leave two armorers ashore. The bargain was finally closed with a musket, a pistol, and some ammunition, and a threat from Douglas that the village of Waikīkī would be burned if the anchors were not forthcoming. On return visits later in 1789, Douglas was made to pay very high prices for supplies, and to offer powder and shot as well. (Meares 1790, cited in Daws 2006:7)

Waikīkī was often visited by foreign trading vessels in the late-18th and early-19th centuries.

In 1809, with the draw of Honolulu Harbor, Kamehameha moved from Helumoa in Waikīkī to Pākākā ("to skim [as stones over the water]") near the mouth of Nuʻuanu Stream in Honolulu (Pukui et al. 1974:175, Daws 2006). Thereafter, a large portion of the population moved from Waikīkī to Honolulu. Coupled with the decrease in the native Hawaiian population due to the devastating effects of introduced European diseases, the lands of Waikīkī were not being maintained or as well managed as they had once been. Chamberlain (1957) wrote of the neglected state of the agricultural fields in Waikīkī during the early-19th century. In the mid- to late- 1800s, Chinese and Japanese rice farmers revived the use of the old agricultural lands to grow rice and raise certain varieties of fish and ducks (Hibbard and Franzen 1986).

5. 1800s and the Māhele

In the 1840s, private property was introduced into Hawaiian society through formation of the Board of Commissioners to Quiet Land Titles and the adoption of the Great Māhele (the division of Hawaiian lands). In 1845 King Kamehameha III waived his right to full authority over the land, portioning out land for his personal use (crown lands) and then dividing the rest of his territory into land for the government, land for the aliʻi (chiefs) and konohiki (land overseers), and land for tenants or commoners (kuleana land) (Alexander 1891, Board of Commissioners 1929, Moffat and Fitzpatrick 1995). Following thereafter Land Commission Awards (LCAs) were awarded to commoners as kuleana parcels for fee ownership. Kuleana land claims required proof of residency on the land and continued land improvements. LCAs therefore record who resided on the land and how the land was used. Royal Patents were often granted on LCAs awarded from 1847-1853, which finalized the sale and legal title of the lands. Royal Patents (R.P.) were used until the overthrow of the Hawaiian government in 1892 and thereafter are referred to as Land Patents. Starting around 1846 Land Grants (LG) were established which made it possible to purchase property outright rather than going through the land commission process. Unfortunately because of this process, Land Grant documentation does not commonly specify how the land had been utilized prior to its purchase. Fort Land (FL) was set apart throughout Kalihi, Honolulu, and Waikīkī for the garrison of the Fort of Honolulu. In 1851, the Fort Lands were surveyed and sold in auction as LCAs (Alexander 1891). Land was also granted under two different types of ʻili (subdivision of an ahupuaʻa), ʻili āina (land inheritance) and ʻili kūpono or ʻili kū. ʻIli kūpono was

"nearly independent land held by chief where the transfer of the ahupuaʻa to a new chief did not carry with it the transfer of the ʻili kūpono contained within its limits" (Lyons 1903:28). Large landowners had multiple ʻāpana (land section). These are also referred to as ʻili lele (jumps) or separate pieces of non-contiguous pieces of land (Lyons 1903:27).

Early historic maps from 1881 and 1882 indicate the current project area is situated within Grant 2785 ʻĀpana 8 to Charles Kanaʻina (Figure 7 through Figure 9). Charles Kanaʻina was an aliʻi (chief) and was the father of King Lunalilo and husband of Miriam Kekāuluohi The documentation for Grant 2785 is in Hawaiian and no specific land uses were identified (Figure 10 and Figure 11). However, mention is made of his property in Land Court Award (LCA) 2077 awarded to Kanakaole. He states "C. Kanaina had come as requested and had expressed his thoughts. I did not take any part of his house lot or his two ponds for small fish and he has lived there peacefully, but the boundaries outside of Kaluokau which is my land has been surveyed accurately" (Native Testimony, Vol. 3, pg. 644 accessed by Waihona ʻAina 2020).

There are several LCAs and grants in the vicinity of the project area, most of which are adjacent to Grant 2785 to the north and east of the project area (Table 2, refer to Figure 9). LCA 6386.7 runs along the northern border of the property and was awarded to Kauhao. It included the entire ʻili (land division) of Niukūkahi "lone coconut tree" (Pukui et al. 1974:166, Waihona ʻAina 2020). No specific land use information was provided for the LCA. However, several other LCA mention Niukūkahi (also referred to as Kaniukukahi) in Waikīkī, which mention multiple loʻi (irrigated terrace), kula (pasture), irrigation ditches, and small houses (LCA 1419, 1421, 1425, 1428, 1433, 1771, 1782). The 1881 Bishop map shows either a berm, stone wall, or unimproved trail is depicted as a set of dots and dashed lines along the border of the two LCAs and constitutes the northern boundary of the current project area (refer to Figure 7 and Figure 9).

There are multiple ʻāpana (lot or land section) of LCA 104FL within Waikīkī, two of which are located near the current project area. LCA 104FL was awarded to Mataio Kekūanaoʻa, the son-in-law of Kamehameha the Great, father of Alexander Liholiho (Kamehameha IV), Lot Kamehameha (Kamehameha V), and Victoria Kamāmalu. LCA 104FL ʻĀpana 3 is located northeast of the project area and is labeled "Loko Moo" ("lizard pond") on the 1881 S.E. Bishop map, indicating a pond (loko) existed on the property (refer to Figure 9). LCA 104FL ʻĀpana 6 is located to the west of the project area and included multiple fishponds. LCA documents show that in Kālia, Waikīkī, M. Kekūanaoʻa claimed 2 loʻi (irrigated pond fields), 5 fishponds (west of the project area), a muliwai (pool near mouth of stream) called "Piinaio", and a coconut grove called "Makalii" ("tiny") (Pukui et al. 1974:141). A house site in Kapuni is also mentioned (Waihona ʻAina 2020).

Two ʻāpana of LCA 8559B granted to William Charles Lunalilo are located near the project area (ʻĀpana 29 and 31). LCA 8559B, ʻĀpana 29 contains two ʻili lele (separated or detached areas of land) near the project area, one to the northwest and one to the east of the project area. On the 1881 S. E. Bishop map, the ʻāpana 29 lele to the northwest is labeled "lele of Pau" and the lele to the east is labeled "Kaihikapu, Lele of PAU" (refer to Figure 7). Pau is an ʻili kūpono (independent land division) of King Lunalilo (Soehren 2010) and therefore the "Lele o Pau" identifies two of the multiple separated land pieces awarded to Lunalilo as LCA 8559, ʻĀpana 29 in Waikīkī. Kaʻihikapu is translated as "the taboo sacredness" (Pukui et al 1974:68). Royal Patent (RP) 8434 was awarded to Lunalilo for this land. No additional information regarding land use was provided in LCA and RP documentation.

Table 2. Table Listing Land Commission Awards, Grants, and Royal Patents Awarded Within and in the Near Vicinity of the Project Area

| LCA, Grant, or Royal Patent | Claimant | ‘Ili | Location | Description |
|---|---|---|---|---|
| LCA 228, RP 7723 | Kalaiheana | Helumoa | 3 ‘āpana, 4.93 acres; south of PA | Coconut grove at Helumoa |
| LCA 104FL, ‘Āpana 3 and 6 | M. Kekūanao‘a | Kālia | Adjacent to Grant 2785 to northeast and to west of PA | Resources in Kālia: 2 lo‘i (irrigated terrace), 5 fishponds (west of project area), a muliwai (pool by mouth of stream) called “Piinaio”, a coconut grove called “Makalii”, and a house site; north of the project area ‘āpana 3 is labeled “Loko Moo” indicating a pond existed |
| Grant 2785, ‘Āpana 8 | C. Kana‘ina | Waikīkī, Kālia | **Within PA** | 19.5 acres (1861); house lot and 2 ponds for small fish (referenced by LCA 2077) |
| Grant 2949 | Kamaipuupaa | Kālia, Ulunui | South of PA | 115 acres |
| LCA 6386.7 | Kauhao | Niukūkahi | West of PA | multiple lo‘i (irrigated terrace), kula (pasture), irrigation ditches, and small houses (referenced in LCA 1419, 1421, 1425, 1428, 1433, 1771, 1782) |
| Grant 6513 | A. A. Young | Mookahi or Kamookahi | Adjacent to Grant 2785, east of PA | 1.45 acres |
| LCA 8559B O, ‘Āpana 29, R.P. 8434 | W.C. Lunalilo | “Lele of Pau” and “Kaihihapu Lele of Pau” | Adjacent to Grant 2785, northwest and east of PA | 2 lele of Pau |
| LCA 8559B O, ‘Āpana 31, R.P. 7652 | W.C. Lunalilo | Kaluaokau (‘ili kūpono) | Adjacent to Grant 2785, far east of PA | 22.18 acres; land claims in ‘āpana 31 Kaluaokau for kalo, kula, and a pond called “Kanekualau” (referenced in LCA 1439 and 1440) |

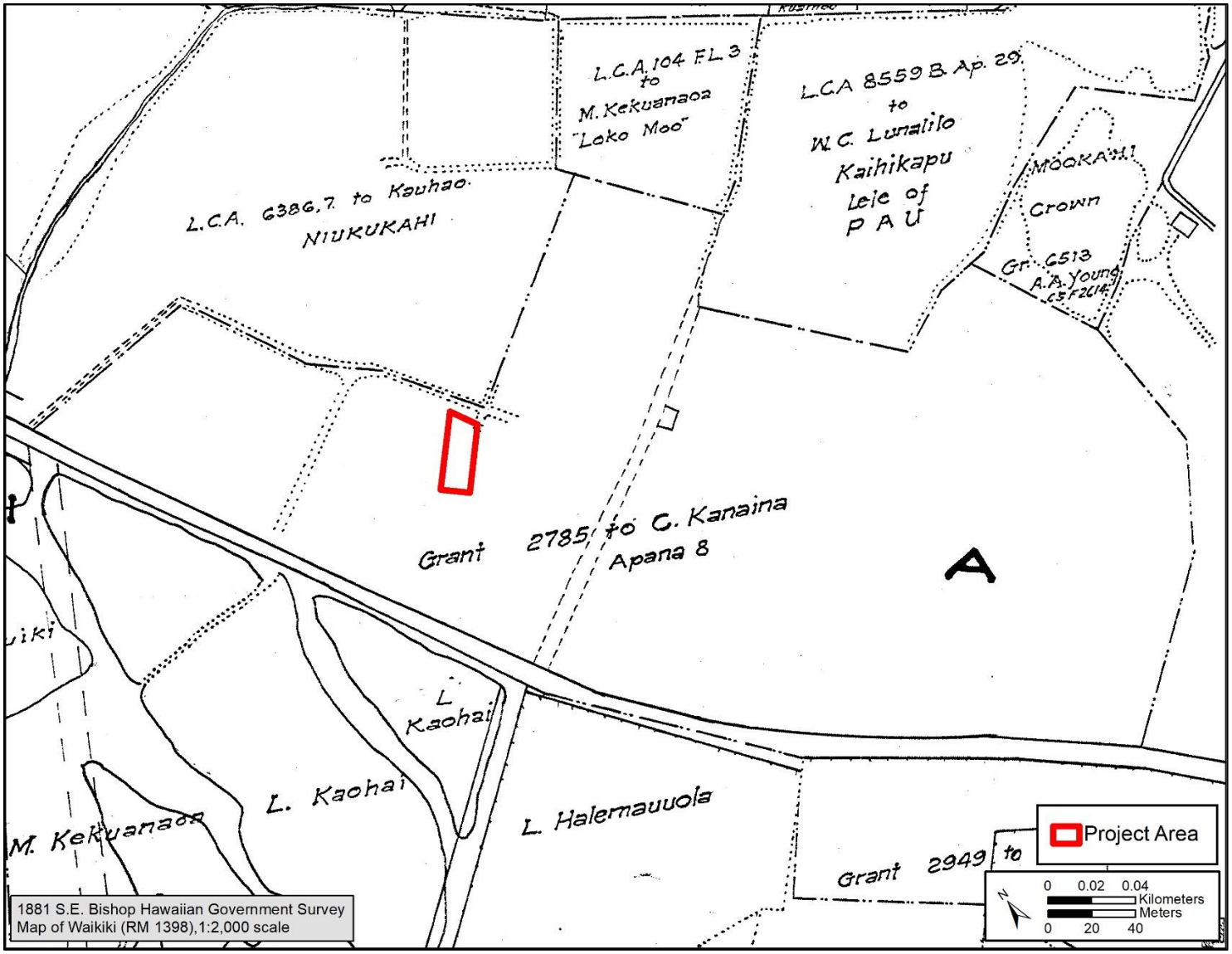
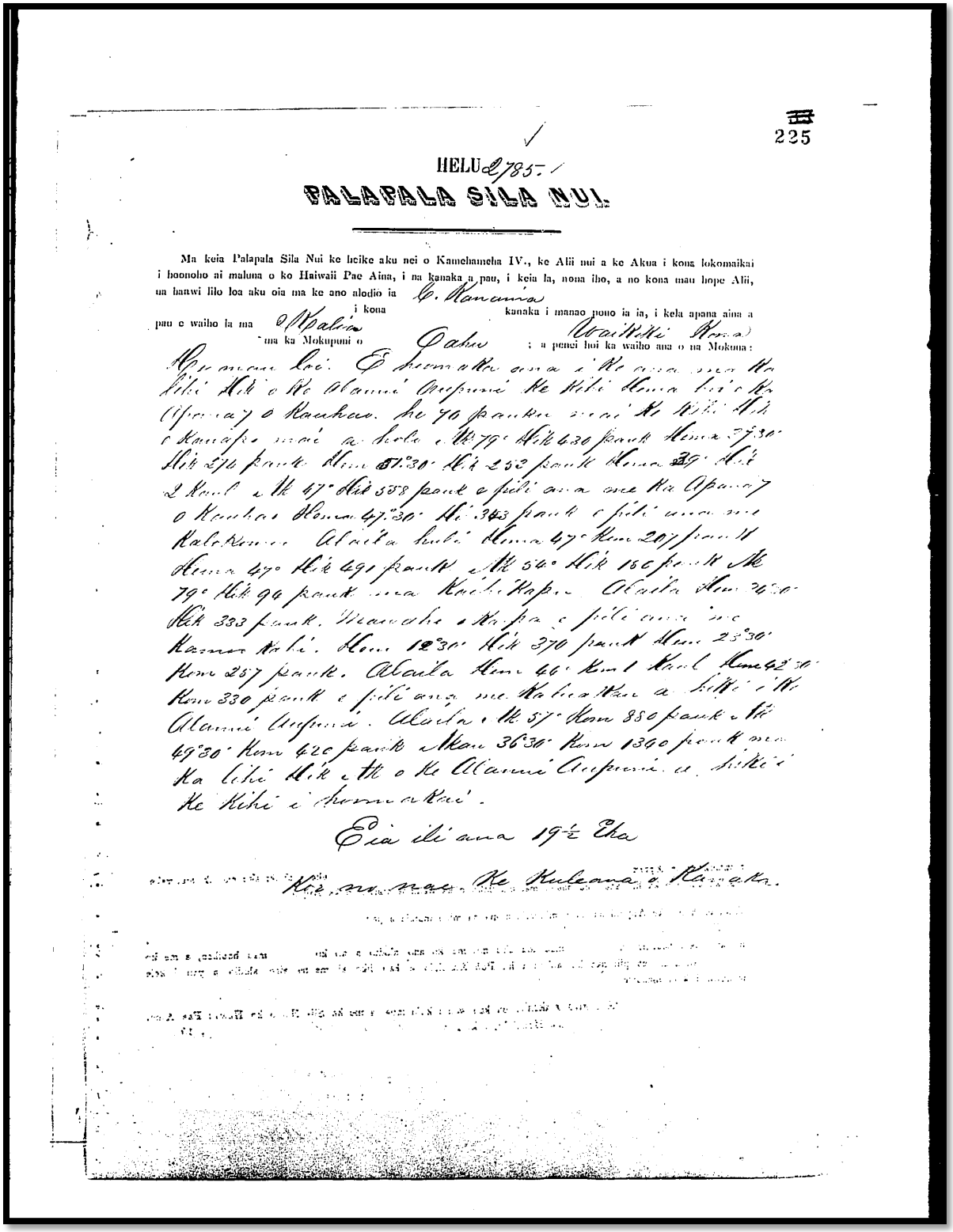



Figure 9. Close-up of the 1881 S.E. Bishop Map (1952 tracing) Showing the Location of the Project Area and Nearby LCAs and Grants (RM 1398)



225

HELU 2785

PALAPALA SILA NUI.

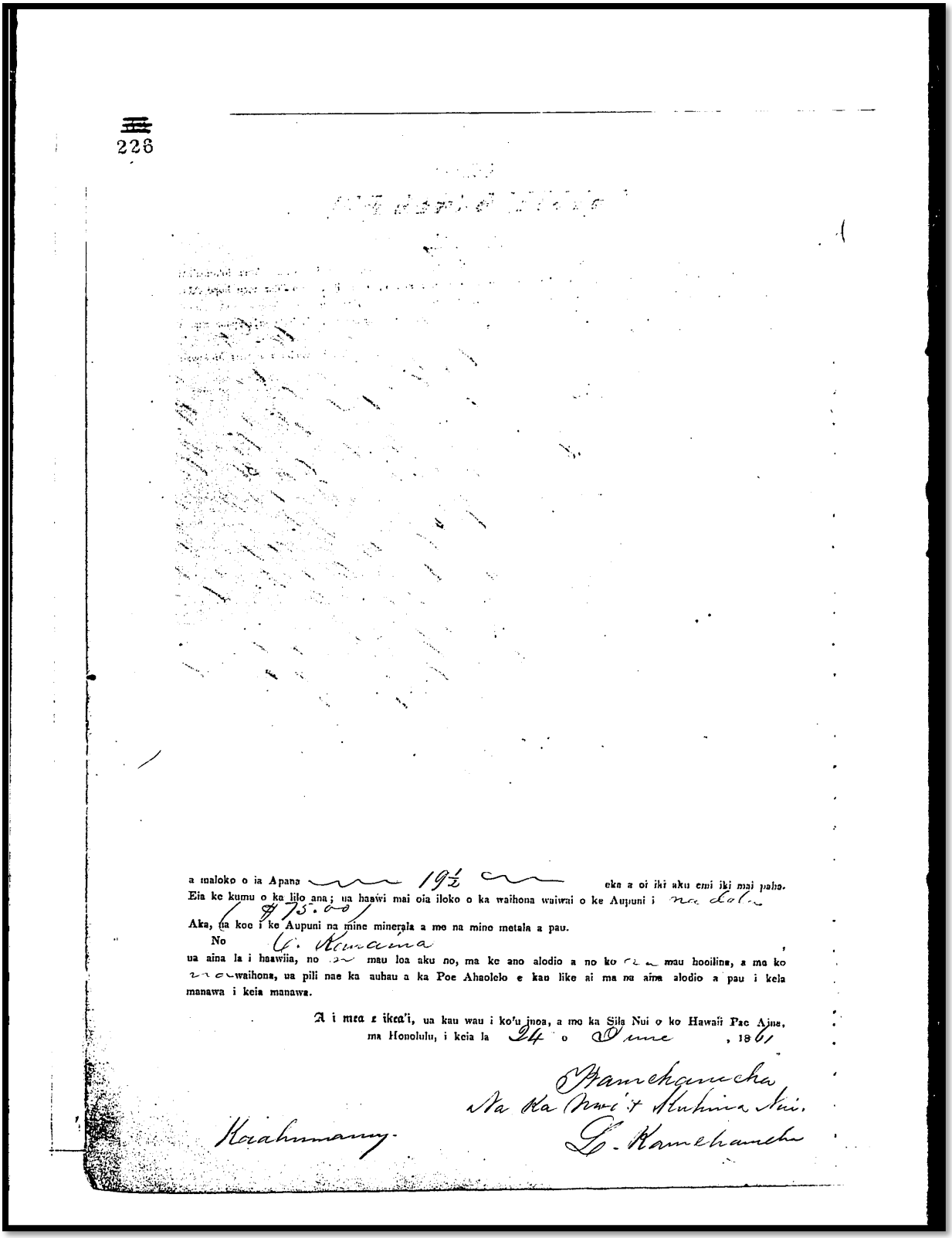
Ma keia Palapala Sila Nui ke hoike aku nei o Kamehameha IV., ke Alii nui a ke Akua i kona lokomaikai i hoonoho ai maluna o ko Haiwaii Pae Aina, i na kanaka a pau, i keia la, nona iho, a no kona mau hope Alii, ua hanwi lilo loa aku oia ma ke ano alodio ia G. Kanaina i kona kanaka i manao nono ia ia, i kela apana aina a pau e waiho la ma O Kalia ma ka Mokupuni o Oahu ; a penei hoi ka waiho ana o na Mokuna: Waikiki Kona

Ke mau loi. E hoomaka ana i Ke ana ma Ka lihi Hik o Ke Alanui Aupuni Ke Kihi Hema hui o Ka Apana o Kaukau he 70 pauku mai Ke Kihi Hik o Kanapu mai a hele i Mk 79° Hik 630 pauku Hema 37.30° Hik 276 pauku Hem 51°30' Hik 253 pauku Hema 39° Hik 2 kaul i Mk 47° Hik 358 pauku o pili ana me Ka Apana o Kaukau Hema 47°30' Hik 343 pauku o pili ana me Kalekona Alaila huli Hema 47° Kom 207 pauku Hema 49° Hik 491 pauku i Mk 54° Hik 166 pauku Mk 79° Hik 96 pauku ma Kaihi Kapu Alaila Hem 26°30' Hik 333 pauku. Weuweu o Kapu o pili ana me Kamoo Kahi. Hem 18°30' Hik 370 pauku Hem 23°30' Kom 257 pauku. Alaila Hem 46° Kom 1 kaul Hem 42°30' Kom 330 pauku o pili ana me Kalua Kau a hiki i Ke Alanui Aupuni. Alaila i Mk 57° Kom 880 pauku i Mk 49°30' Kom 420 pauku i Kom 36°30' Kom 1360 pauku ma Ka lihi Hik i Mk o Ke Alanui Aupuni a hiki i Ke Kihi i Komakai.

Eia ili ana 19½ Eka

Ke mau nae Ke Kuleana o Kanaka.

Figure 10. Royal Patent 2785 of Charles Kana‘ina (Vol. 13 pg. 225-226) (Page 1 of 2)



226

a maloko o ia Apana 19½ eka a oi iki aku emi iki mai paha.
Eia ke kumu o ka lilo ana; ua hawi mai oia iloko o ka waihona waiwai o ke Aupuni i na dol.
($75.00)
Aka, ua koe i ke Aupuni na mine mineraia a me na mine metala a pau.
No C. Kanaina
ua aina la i hawiia, no na mau loa aku no, ma ke ano alodio a no ko na mau hooiline, a me ko na waihona, ua pili nae ka auhau a ka Poe Ahaolelo e kau like ai ma na aina alodio a pau i kela manawa i keia manawa.

A i mea e ikea'i, ua kau wau i ko'u inoa, a me ka Sila Nui o ko Hawaii Pae Aina, ma Honolulu, i keia la 24 o June, 1861

Kamehameha
Na Ka Moi o Hawaii Nui.
C. Kamehameha

Keahumanu.

LCA 8559B, ʻĀpana 31, located far to the east of the project area is labeled as "Kaluaokau" on the 1881 S.E. Bishop map. Kaluaokau is an ili kūpono of King Lunalilo (Soehren 2010). Royal Patent 7652 was awarded to Lunalilo for this land. In the 1840s, several LCA claims were made for lands within Kaluaokau however none were awarded, including claim 1439 by Kailiwai for kalo (taro, *Colocasia esculenta*) and kula (pasture) land and claim 1440 by Kekaha for a pond called Kanekualau.

Grant 6513 awarded to A. A. Young was located to the northeast of the project area. The land was Crown Land and was leased as farm land for bananas and rice cultivation during the late 1800s through early 1900s (Secretary of the Interior 1904). The land was sold at public auction on January 19, 1916 to A. A. Young for $1,266 (LG 6513, Waihona ʻAina 2020). Land Grant documentation does not specify any features that existed on the property. However, the 1881 S. E. Bishop map (see Figure 7) shows a large pond labeled "Mookahi".

In 1902, the United States Senate passed senate resolution No. 260, which authorized and directed the committee on Pacific Islands and Puerto Rico to investigate the general conditions of the islands of Hawaiʻi and its administrators (Government Printing Office 1903). The document contains detailed information on land ownership and land use in Hawaiʻi. The rent roll for general leases indicates that between June 1, 1883 and June 1, 1903 Kwong ManWai Co. had a lease on "4 tracts in Kalia and Mookahi Waikiki, Oahu" totaling 48.2 acres and costing $700 dollars annually (Government Printing Office 1903). Due to the mention of nearby Mookahi and the amount of acreage it is possible that the 4 tracts in Kālia included Grant 2785. No additional information could be found on Kwong ManWai Co. but it is likely that the land use was similar to that of nearby parcels which was farm land under rice and/or banana cultivation during that time.

6. 1900 to the Present

The early 1900s saw great development of Waikīkī with grand residential houses, bathhouses, and hotels. The Moana Hotel was opened in 1901 to the east of the ʻApuakehau Stream. The Seaside Hotel opened in 1906 within Helumoa and later became the location of the Royal Hawaiian Hotel in 1927 (Hibbard and Franzen 1986). The ancient trail into Waikīkī was made into a formal road in the 1860s, becoming Kalakaua Avenue (Hibbard and Franzen 1986:22). With these amenities and easy access, Waikīkī began to be a preferred destination.

The natural environment of Waikīkī changed drastically in the early-twentieth century, as the extensive ponds and wetlands proved to be a menace as breeding grounds for mosquitoes. It was estimated approximately 85% of modern Waikīkī, west of Lewers Street and inland of Kalākaua Avenue was under water.

> The property was used as duck or fish ponds, and for the cultivation of rice and taro. These well-established agricultural and aquacultural systems continued to exist side by side with the more urban, resort oriented aspirations of Waikīkī until the 1920s when the wetlands were eliminated (Hibbard and Franzen 1986:86).

A pre-1900 aerial photo (Figure 12) looking from Diamondhead over the Waikīkī plains shows the wetland environment. An 1893 W. E. Wall map shows the project area located within former marshlands (Figure 13).

Due to continued threat of disease from mosquitoes, the Territorial Board of Health decided that an area well over 600-acres in size throughout Waikīkī be filled and the Ala Wai Canal be

Figure 12. Pre-1900s Aerial Photo Overlooking the Plains of Waikīkī from the Top of Diamondhead (Hawai‘i State Archives)

built to drain the area as part of a Waikīkī Land Reclamation project (Pinkham 1906, Feeser 2006). A 1906 map showing the location of the Waikīkī Land Reclamation project outlined in blue, indicates that the current project area is located within the area filled in (Figure 14). A 1909 map shows the ponds to the west of the project area were still existing, as was the ‘Apuakehau Stream, both areas of which were filled in during the 1920s (Figure 15).

In 1906, the Board of Heath wrote a report stating:

> Whenever in the opinion of the Board of Health any tract or parcel of land situated in the District of Honolulu, island of O‘ahu, shall be deleterious to the public health in consequence of being low, and at times covered or partly covered by water, or of being situated being high and low water mark, or of being improperly drained, or incapable by reasonable expenditure of effectual drainage, or for other reasons in an unsanitary or dangerous condition, it shall be the duty of the Board of Health to report such fact to the Superintendent of Public Works together with a brief recommendation of the operation deemed advisable to improve such land. (Pinkham 1906:3)

The 1906 report goes on to say that Waikīkī is “deleterious to the public health,” “is low, covered and partly covered with water,” “is not drained at all,” “is incapable of effectual drainage,” and is “in an unsanitary and dangerous condition” (Pinkham 1906:3). Another description stated “the Waikīkī flats are a nuisance and menace and must be ultimately abated...They now yield some agricultural income that can never increase materially” (Pinkham 1906:30). It was therefore proposed to “transform it into an absolutely sanitary, beautiful, and unique district. One that will

Figure 13. 1893 W. E. Wall Map Showing the Project Area Within Marshlands (RM 1690)

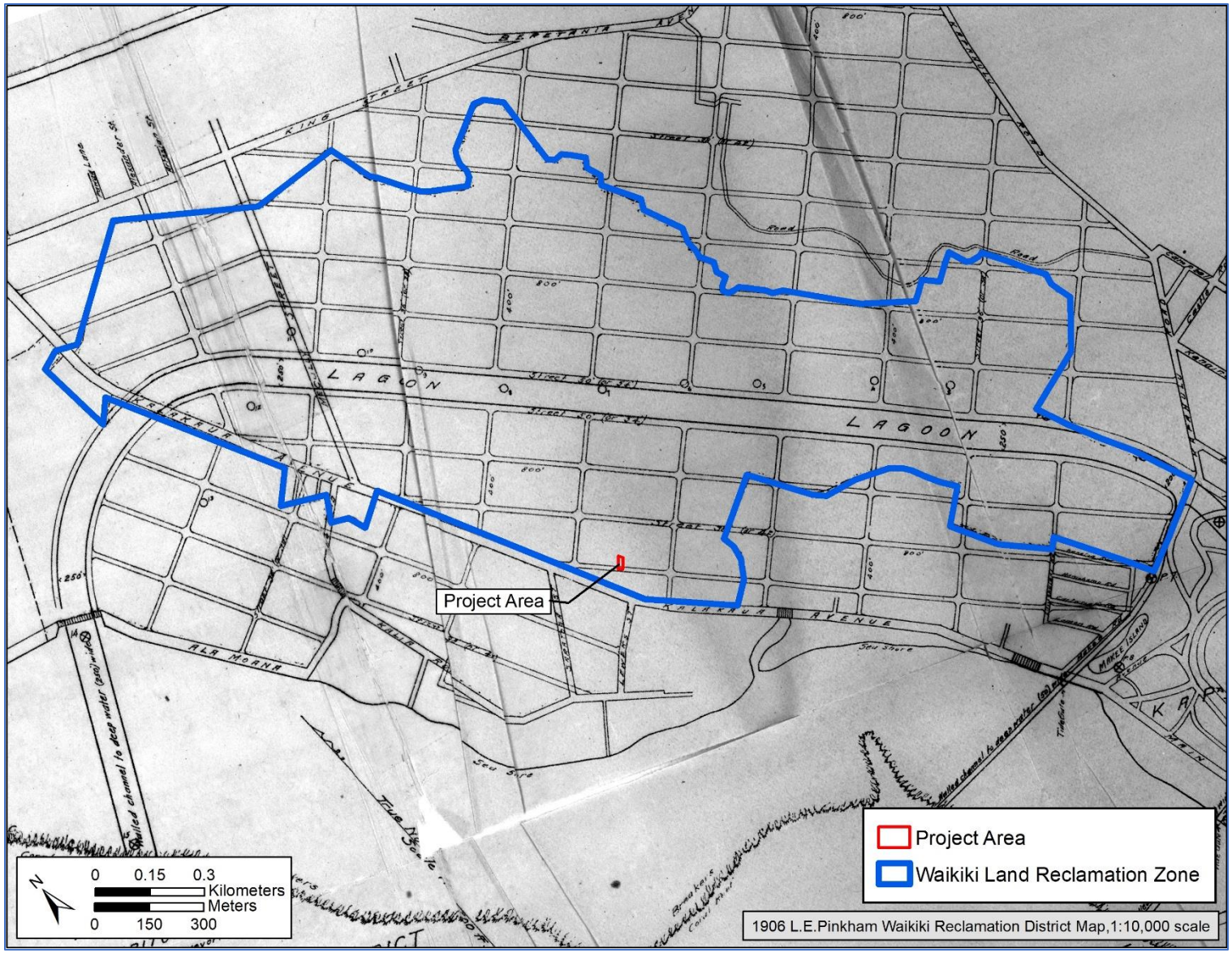



Figure 14. 1906 Waikīkī Land Reclamation Map with the Reclamation District Outlined (in Blue) (Pinkham 1906:6, Map A)

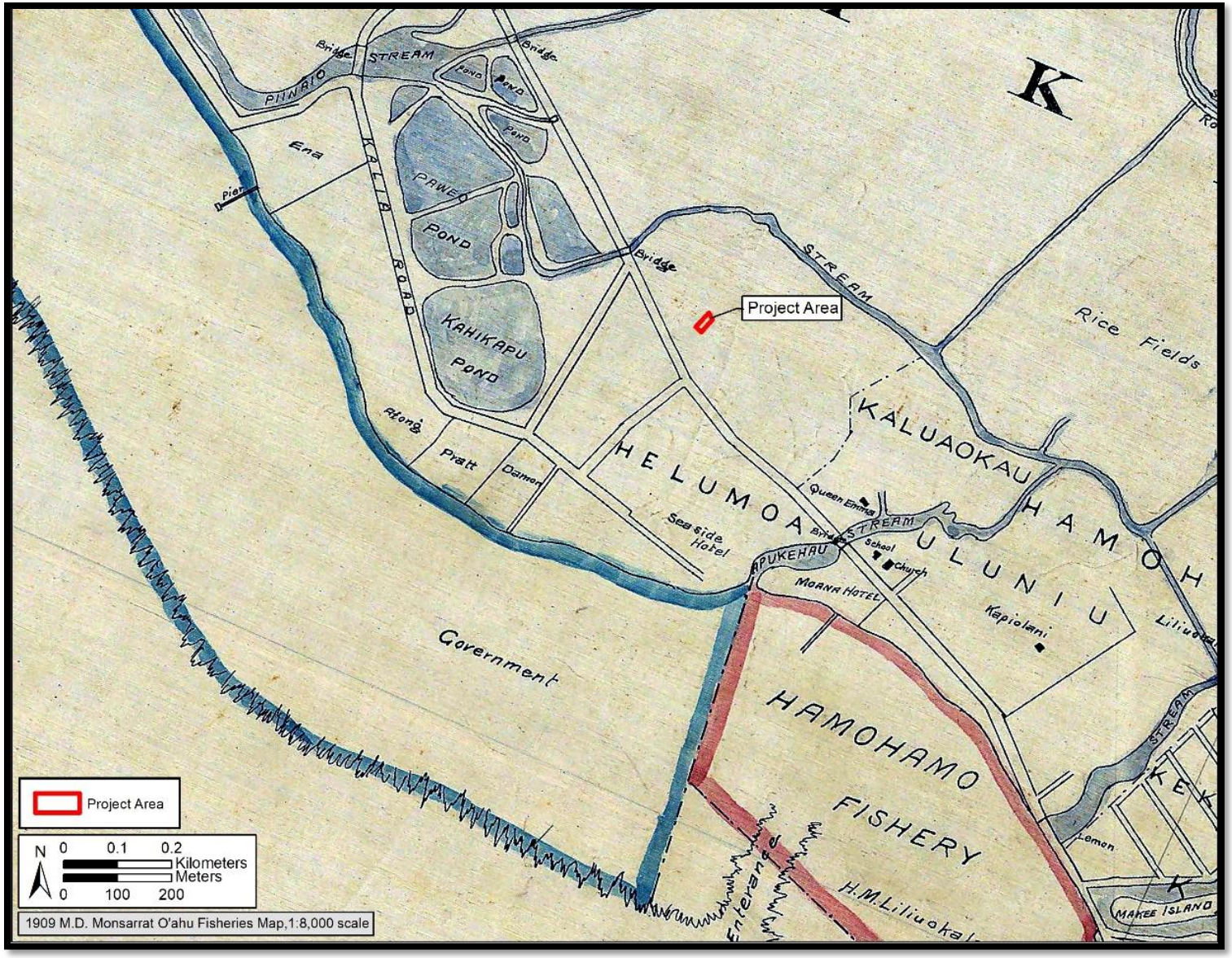



Figure 15. 1909 M.D. Monsarrat Map of O‘ahu Showing the Location of the Project Area

add immensely to the Reputation of Honolulu at home and abroad" (Pinkham 1906:4). The proposed plan called to:

> install an adequate sewer system and proper surface drainage. The entire Waikīkī district, and some adjacent land, under consideration, requires to be raised to a grade ranging from 5-7' above sea level. Neither the hills mauka [inland] nor the beach can physically or economically furnish the material. (Pinkham 1906:10)

In order to acquire filling material several ideas were proposed. "It occurred to seek the material in the rice and banana fields and swamps themselves" (Pinkham 1906:12). Another option was "in order to secure filling material a great lagoon would, as a consequence, be formed" and it "would give the opportunity to create a quite marvelously beautiful, unique district, a Venice in the midst of the Pacific. Within such a lagoon might be anchored the pleasure yachts of our great neighbors...The lagoon would furnish the best boat racing course in the world" (Pinkham 1906:12). Material used to fill in the lowlands of Waikīkī ultimately was secured from "Kapiʻolani Park Lagoon, from Waikīkī Reclamation District Lagoon, and from the Ala Moana Channel" (Pinkam 1906:26). Obtained fills from these areas consisted of hydraulic pump dredge and crushed coral.

The Ala Wai Canal was constructed from 1921 to 1924, resulting in the two mile long, 250 foot wide, and 10-25 foot deep Alā Waī Drainage Canal (Hibbard and Franzen 1986:93). With the landscape of Waikīkī dramatically altered to be of more commercial use, further development quickly ensued.

Land Court Application (LCAp) maps from the 1920's and 1930's show the transition of the project area and surrounding lands into city blocks. The maps indicate that the project area was included as part of LCAp 551 to Archibald A. Young, which encompassed a portion of LCA 8559B ʻĀpana 29 to W.C. Lunalilio, Grant 3120 to W.H. Kailipelapela, Grant 3118 to W.K. Kawaihapai, Grant 6513 to A.A. Young, and a portion of Grant 2785 to C. Kanaina (which contains the current project area). A 1922 map of LCAp 551 shows the project area prior to its commercial development (Figure 16). No features of note were indicated within the vicinity of the project area on the 1922 map. A 1927 map of LCAp 551 shows the project area incorporated into a city block and labeled as Lot 18 (Figure 17). This indicates that the area was filled sometime between 1922 and 1927, likely in association with construction of the Ala Wai Canal.

A 1932 LCAp 551 map shows the subdivision of Lot 18 into Lot 18-A, which contains the current project area, and Lot 18-B a small easement along the northern boundary of the property (Figure 18). A 1935 LCAp 551 map shows the current orientation of the project area, labeled Lot 166, and the private drive that would become Lauʻula Street (Figure 19). The map also shows three potential subsurface easements within the project area, one along the western boundary, one along the northern boundary, and one cutting across the northern portion of the parcel.

Following the subdivision of the area, single-family homes and apartments were constructed and are shown on a 1951/1952 aerial image (Figure 20). A 1956 Sanborn Fire Insurance map shows a small structure labeled as "A" located within the southeast corner of the project area (Figure 21). The standard abbreviation on Sanborn maps for "A" refers to "automobile" and typically indicates the location of a garage. The Sanborn map also shows a potential utility easement along the western boundary of the project area. The garage appears to be the only previous development within the project area, other than subsurface utilities and its present use as a pay parking lot.

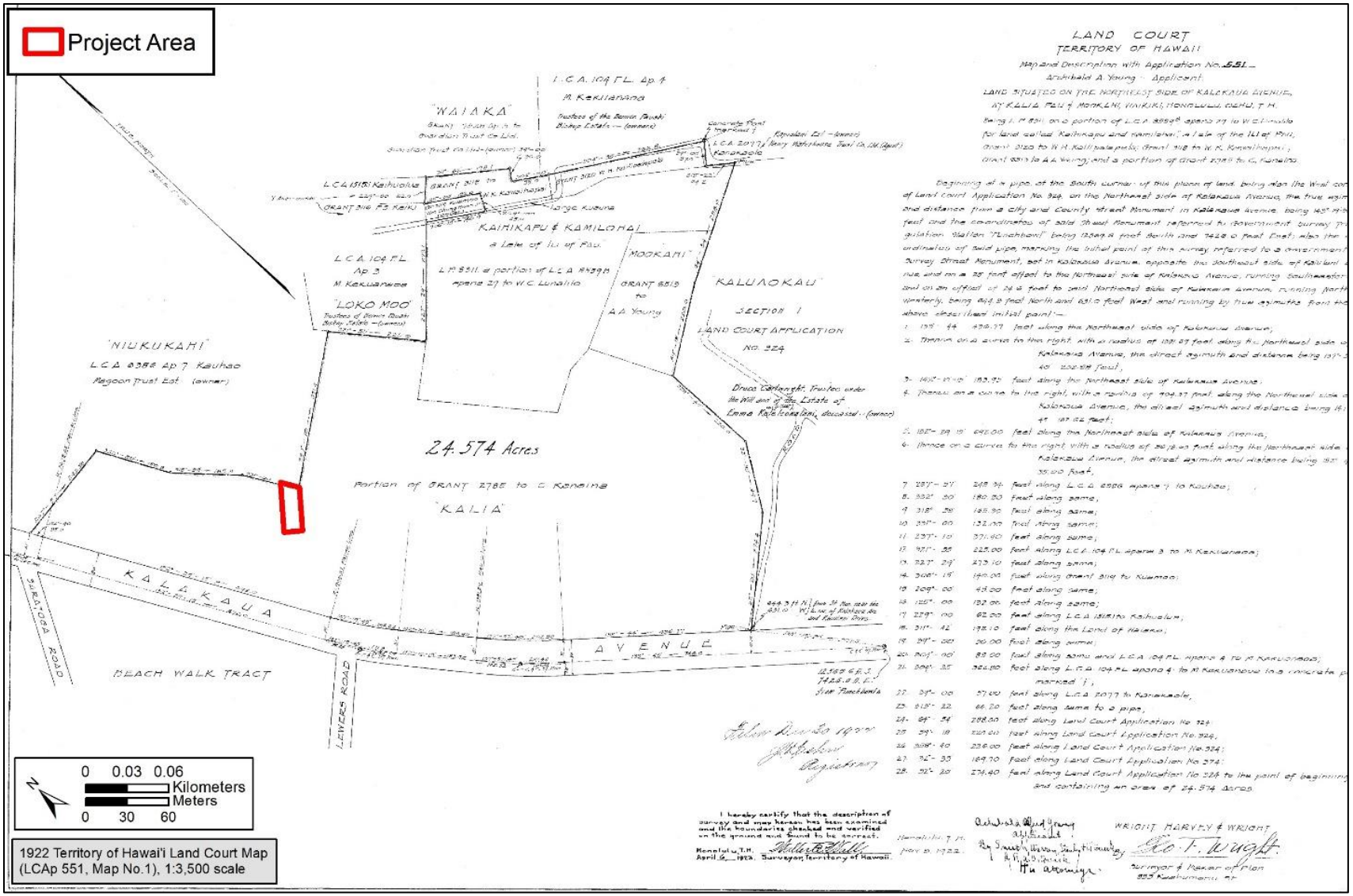



Figure 16. 1922 Land Court Application (LCAp) 551 Map Showing the Project Area Located within Grant 2785 labeled as "Kalia" and Along the Boundary of LCA 6386, 'Āpana 7 "Niukukahi" (Wright 1922)

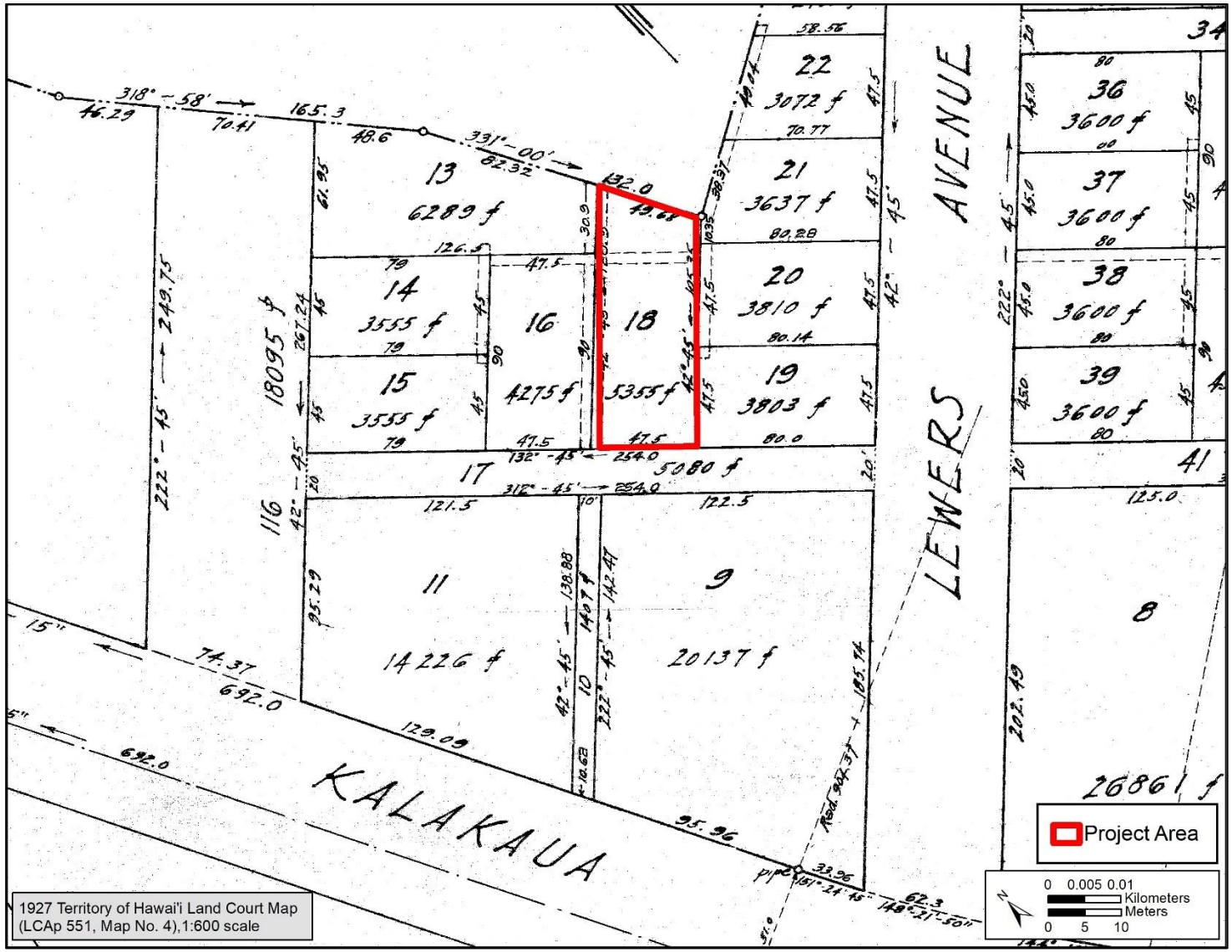



Figure 17. 1927 LCAp 551 Map Showing the Project Area as Lot 18 and Utility Easements Running Through the Western Boundary and Northern Portion of the Project Area (Wright 1927)

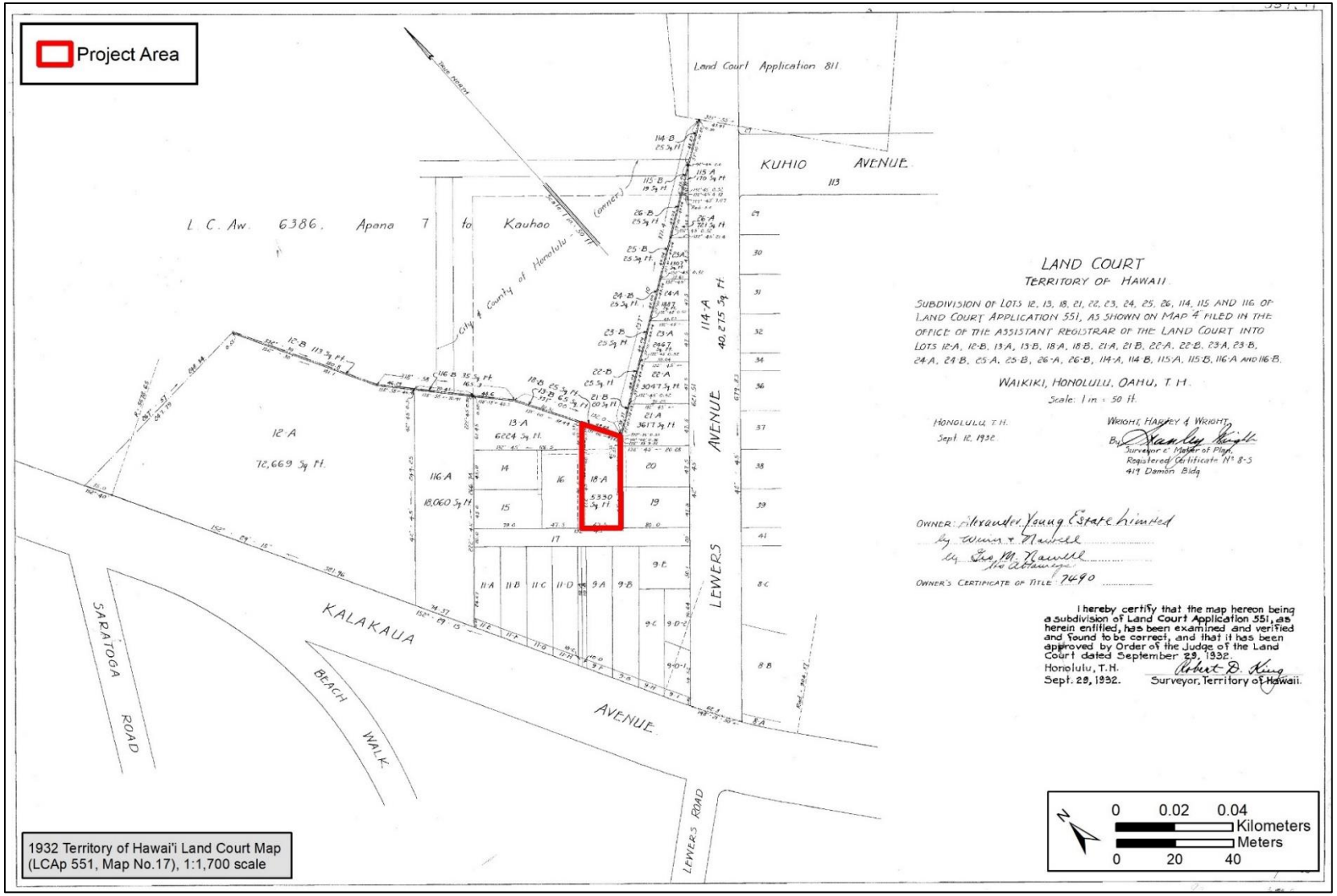



Figure 18. 1932 LCAp 551 Map Showing the Project Area as Lot 18A and Utility Easements Running Through the Western Boundary and Northern Portion of the Project Area (Wright 1932)

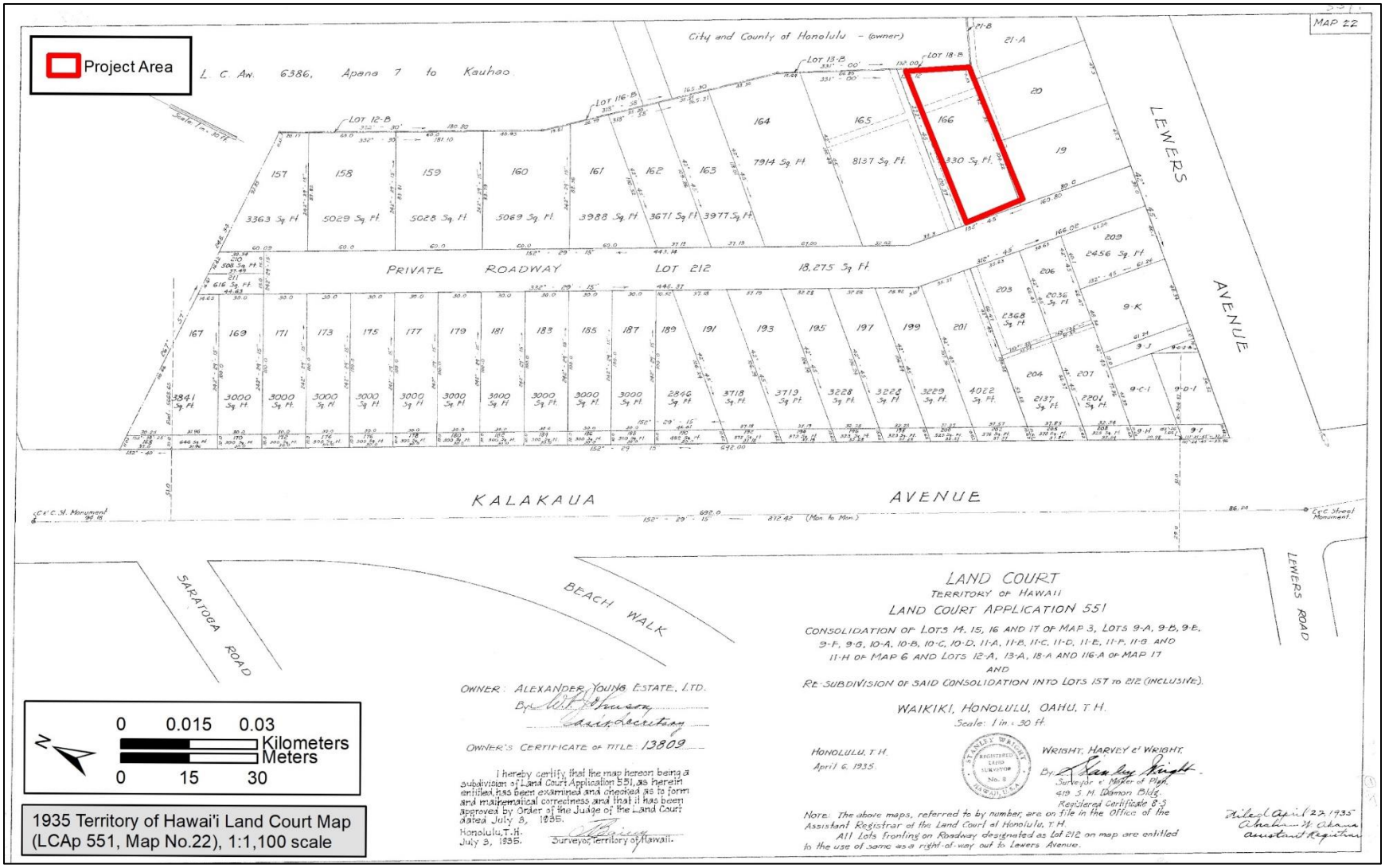



Figure 19. 1935 LCAp 551 Map Showing the Project Area as Lot 166, Utility Easements Running Through the Western Boundary and Northern Portion of the Project Area, and a Private Roadway that Would Become Lau‘ula Street (Wright 1935)

Figure 20. Portion of a 1951-52 USGS Aerial Photo Showing the Project Area (USGS Orthoimage)

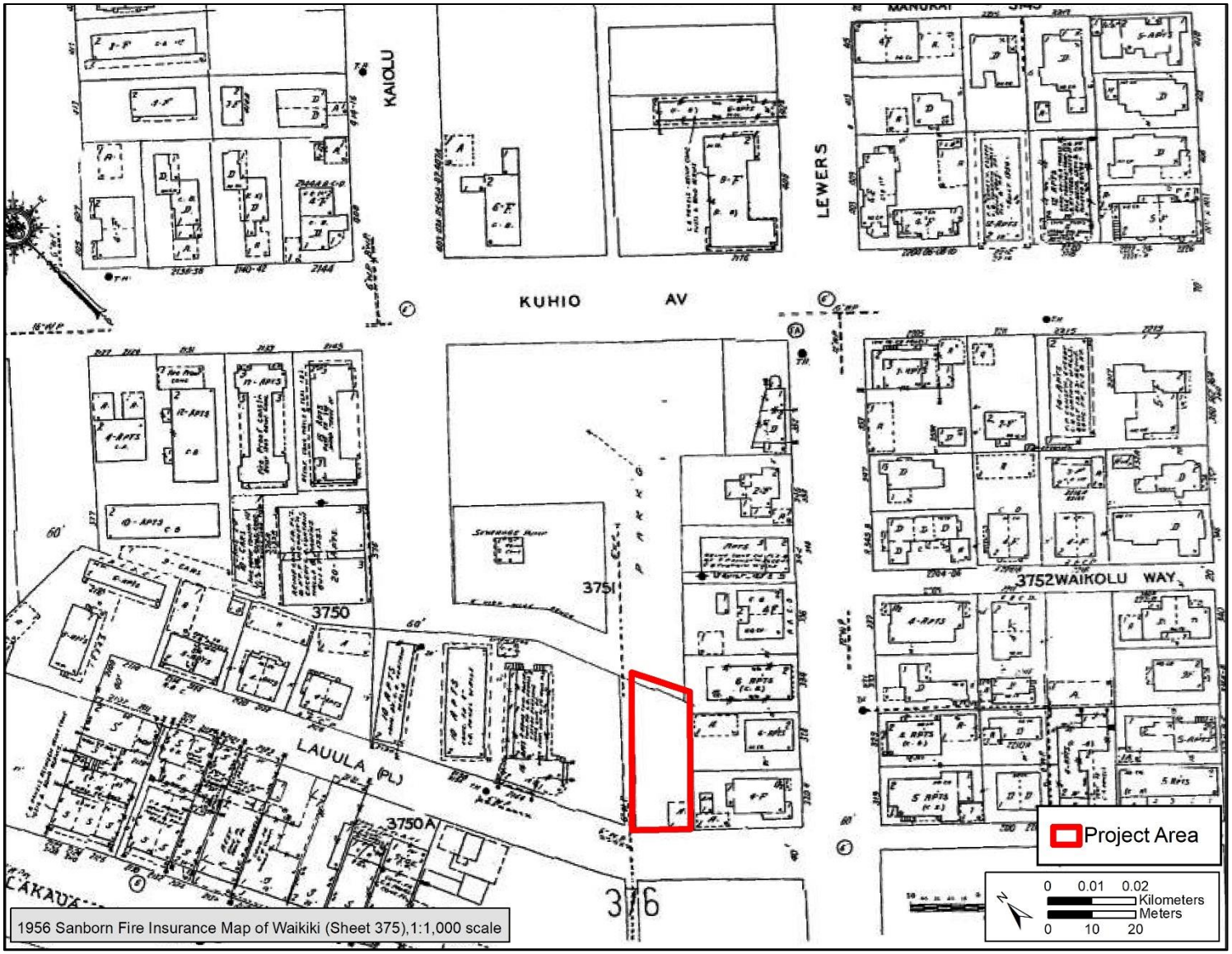



Figure 21. Portion of a 1956 Sanborn Fire Insurance Map Showing the Project Area Bound on the West by an Easement and Containing a Small Structure Labeled "A" Within the Southeast Portion of the Project Area

# Section 3 Previous Archaeological Studies

Waikīkī is dense with archaeological sites and one of the most heavily developed areas on the island. Due to this, it has been the subject of intensive archaeological study. Human burials, disarticulated human remains, and traditional Hawaiian artifacts have been encountered and documented in Waikīkī as early as 1901 and the Bishop Museum documented many instances of human remains in Waikīkī through the 1980's. Aside from the island-wide McAllister (1933) study, archaeological research began in the late 1970's and 1980's with the development of several hotels and the Fort DeRussy military reservation which uncovered large numbers of human burials, pre-contact (pre-1778 AD) and historic cultural deposits, and fishpond sediments associated with the Kālia Fishponds among others. Archaeological studies from the 1990's to the present have been in support of commercial, residential, and resort developments as well as various infrastructure improvements and have recorded similar sites as prior with the addition of original Waikīkī wetland deposits. Archaeological review became commonplace in Waikīkī starting in the 2000's and continues to play a large role its modern development.

## 3.1 Adjacent Archaeological Studies

No previous archaeological studies have been conducted and no sites have been previously documented within the current project area (Figure 22). However, three archaeological studies have been conducted in parcels adjacent to the current project area. including monitoring for a waterline on Lauʻula Street (Kailihiwa and Cleghorn 2003), an archaeological inventory survey for 2139 Kūhio Ave. (Pammer et al. 2014), and an archaeological inventory survey for the Beachwalk Wastewater Pump Station (Morriss and Hammatt 2015). All of the studies documented buried wetland deposits under 1.5 to 2 m of dredge fill material associated with land reclamation of the 1920's. In each case (except Kailihiwa and Cleghorn 2013), the wetland deposits were recorded as a portion of previously documented SIHP #50-80-14-5796.

SIHP # -5796 was first documented during an archaeological inventory survey for Phase II of the King Kalākaua Plaza in 2000 (LeSuer et al. 2000). The site was described as a historic original agricultural wetland surface. Since that time, the site has been encountered and added onto during several projects in the surrounding area (Yucha et al. 2009, Sroat et al. 2011, Martel and Hammatt 2017), in addition to the three studies adjacent to the current project area.

1. Kailihiwa and Cleghorn 2003

In 2003, Pacific Legacy, Inc. conducted archaeological monitoring for the Waikīkī water system improvements project. Monitoring was conducted adjacent to the south side of the current project parcel on Lauʻula Street and along Royal Hawaiian Avenue and Seaside Avenue. During the project two stratigraphic profiles were recorded for Lauʻula Street, one of which was documented adjacent to the project area. The stratigraphy consisted of a layer of asphalt and road base over several layers of dredge fill material over the natural wetland surface (Figure 23 and Table 3) (Kailihiwa and Cleghorn 2003). Following monitoring, the study concluded that no significant site deposits, artifacts, or human burials were encountered during the project. However, the color and consistency of the lowest stratum (Layer V) correlates well with the strata identified as SIHP # -5796 in nearby parcels (Pammer et al. 2013 and Morriss and Hammatt 2015).

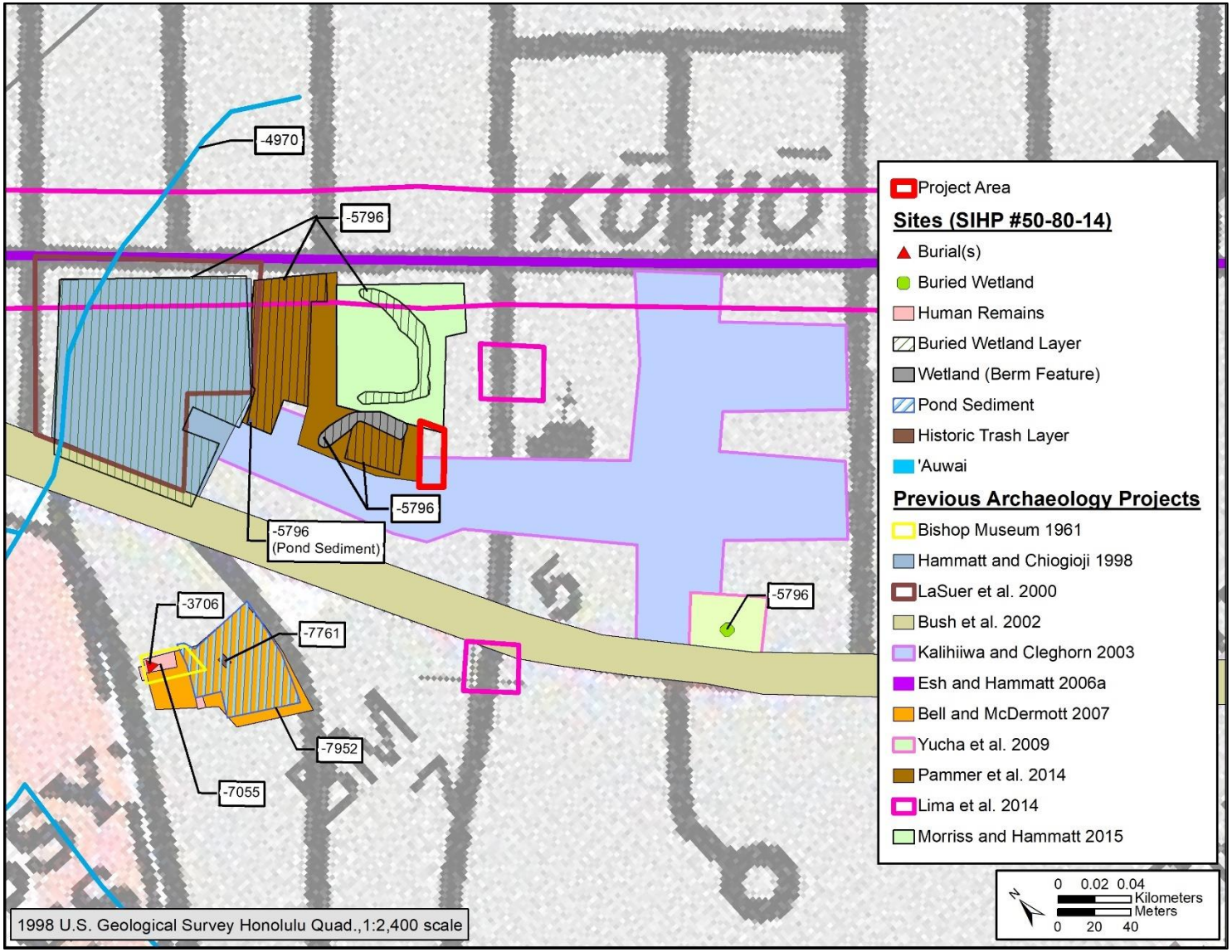



Figure 22. Portion of a 1998 Honolulu USGS Showing Previous Studies and Sites Near the Project Area

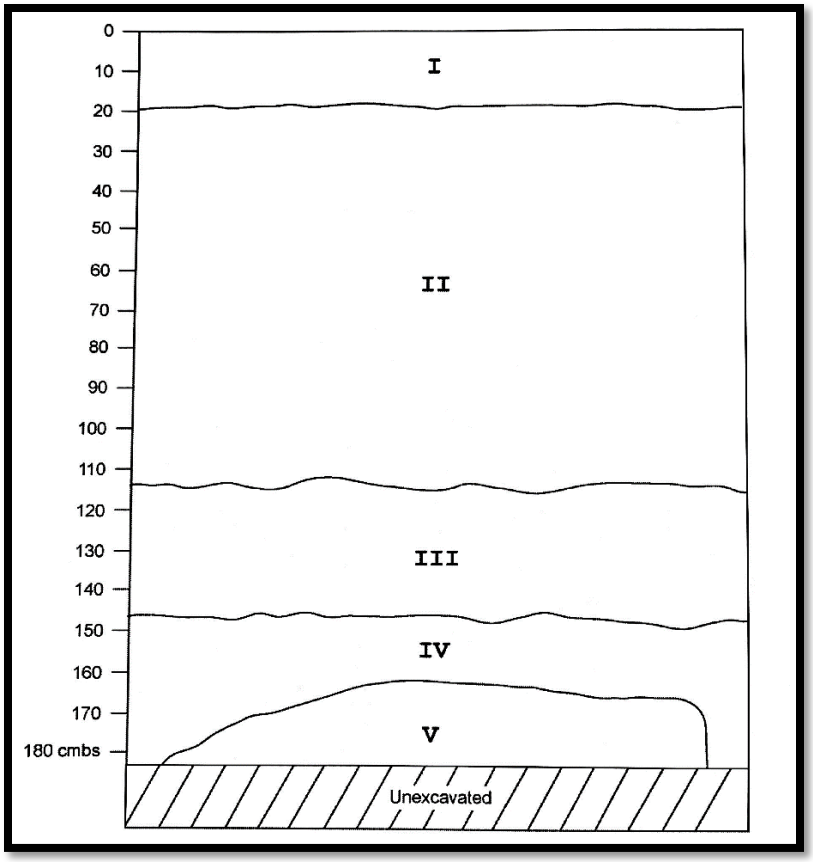



Figure 23. Stratigraphic Profile of Locale 1 Located Adjacent to the Current Project Area on Lau‘ula Street (Kailihiwa and Cleghorn 2003:13)

Table 3. Stratigraphic Profile of Locale 1 Located Adjacent to the Project Area on Lau‘ula Street (Adapted from Kailihiwa and Cleghorn 2003:10)

| Stratum | Depth Below Surface (cm) | Description | Interpretation |
|---|---|---|---|
| I | 0-20 | Asphalt and Base Course | Existing Street |
| II | 20-115 | Yellowish brown (10YR 5/6) gravelly sand; smooth boundary; fill sand containing coral gravel | Fill |
| III | 115-147 | Brown (10YR 4/3) clay; very sticky; very plastic; abrupt smooth boundary | Fill |
| IV | 147-163 | Greenish Gray (Gley 1 5/5GY) silt; smooth boundary; gley | Fill |
| V | 163-183+ | Very dark gray (10YR 3/1) sandy clay, base of excavation | Natural Wetland Surface, No SIHP assigned |

2. Pammer et al. 2014

In 2013, CSH conducted an archaeological inventory survey for a 1.41 acre property at 2139 Kūhio Avenue. The southern portion of the project area was adjacent to the western side of the current survey area. The survey consisted of a 100% pedestrian inspection and the excavation of 26 backhoe trenches within the project area. The general stratigraphy of the area consisted of the thin asphalt parking surface over to of base course, several layers of imported dredge fill material, and the natural wetland surface. The natural wetland surface was documented at or just above the water table in 24 out of 26 trenches and was recorded as a portion of previously recorded SIHP #50-80-14-5796 (LeSuer et al. 2000). The site boundary for SIHP # -5796 was not provided in the report so it was approximated within Figure 22 and Figure 31. Trenches 23 and 24 were closest to the project area and both contained wetland deposits. The stratigraphic profile data for Trench 23 is presented as Figure 24, Figure 25, and Table 4. Stratigraphic profile data for Trench 24 is presented as Figure 26, Figure 27, and Table 5.

In addition to the wetland surface itself, two components of SIHP # -5796 were documented during the project. The first was pond sediments documented in Trench 14 which correspond to a pond shown on historic maps of the area. The second was a berm feature observed in Trenches 18, 19, 21, and 24 which extends approximately 50-70 cm above the water table. The berm feature was interpreted as a feature marking the edge of a loʻi and possibly associated with the berm separating LCA 6367 and Grant 2785 which is shown on the 1881 S.E. Bishop map of the area (see Figure 9).

Three samples of organically enriched sediment were taken from the various layers of SIHP # -5796 (Layer IIa, IIb, IId) in Trench 14 and submitted for radiocarbon analysis. Based on the results, it was interpreted that the upper stratum of the site (Layer IIa) was utilized during the post-contact period and the underlying stratum (Layer IIb) was utilized in the pre-contact period and was not affected by post-contact activities. Additionally, the pond sediments (Layer IId) documented in the trench were associated with the post-contact era. Following the survey, archaeological monitoring was recommended for the project (Pammer et al. 2014).

Figure 24. Photo of the Stratigraphic Profile of Trench 23 of the 2139 Kūhio AIS (Pammer et al. 2014:144)

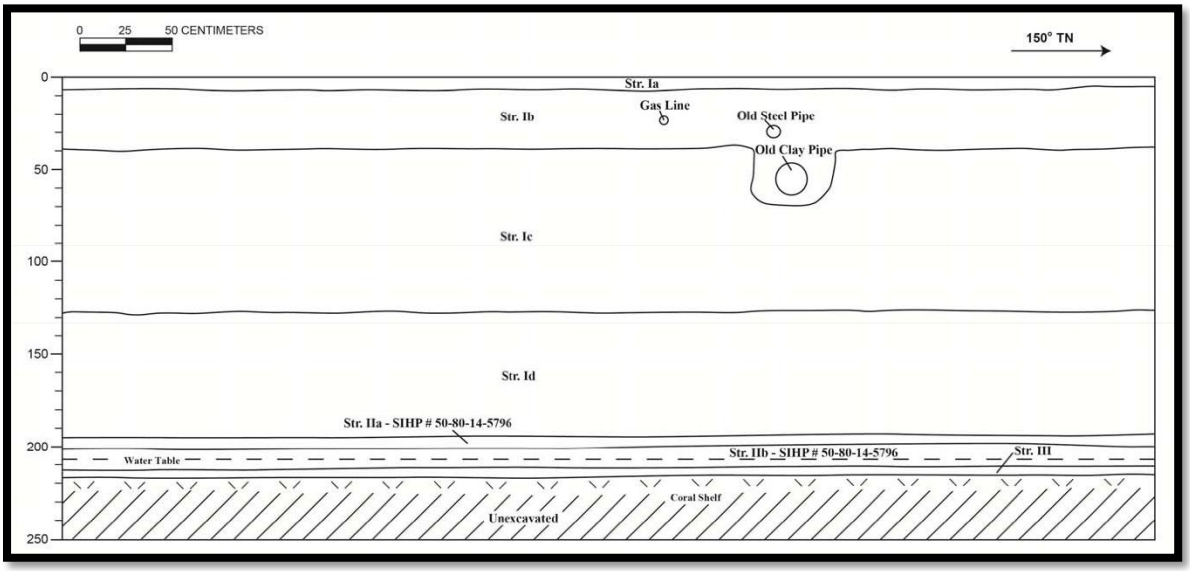



Figure 25. Stratigraphic Profile Drawing for Trench 23 of the 2139 Kūhio AIS (adapted from Pammer et al. 2014:146)

Table 4. Stratigraphic Profile Information for Trench 23 of the 2139 Kūhio AIS (adapted from Pammer et al. 2014:146)

| Stratum | Depth Below Surface (cm) | Description | Interpretation |
|---|---|---|---|
| Ia | 0-5 | 10YR 2/1, black, asphalt surface | Existing Street |
| Ib | 5-70 | 10YR 3/3, dark brown; gravelly silty loam; weak, fine, crumb structure; moist, loose consistency, no cemetation; non-plastic; mixed origin; clear, smooth boundary; basalt and crushed coral fill associated with utilities | Fill |
| Ic | 40-128 | 10YR 6/4, light yellowish brown; silty loam; structureless single-grain; moist, loose consistency; no cementation; non-plastic; marine origin; clear, smooth lower boundary; hydraulic (dredge) fill | Fill |
| Id | 128-195 | 10YR 4/1, dark gray, sandy loam; moderate, fine to medium, platy structure; moist, firm consistency | Fill |
| IIa | 195-200 | 10YR 4/1, dark gray; course sandy loam; structureless massive; moist, firm consistency, slightly plastic; mixed origin; clear, smooth to wavy lower boundary; organically enriched wetland sediment | Natural Wetland Surface (SIHP # -5796) |
| IIb | 200-212 | 10YR 3/1, very dark gray; silty clay, moderate, medium, granular structure; moist, firm consistency; slightly plastic; mixed origin; clear, smooth to wavy lower boundary; natural pond sediment | Natural Wetland Surface (SIHP # -5796) |
| III | 212-215 | 10GY 2.5/1, greenish black; silty sand; weak, medium, blocky structure; moist, friable consistency; slightly plastic; mixed origin; abrupt boundary; smooth topography; natural marine sand in an anaerobic environment | Natural Marine Sand |

Figure 26. Photo of the Stratigraphic Profile of Trench 24 of the 2139 Kūhio AIS (Pammer et al. 2014:144)

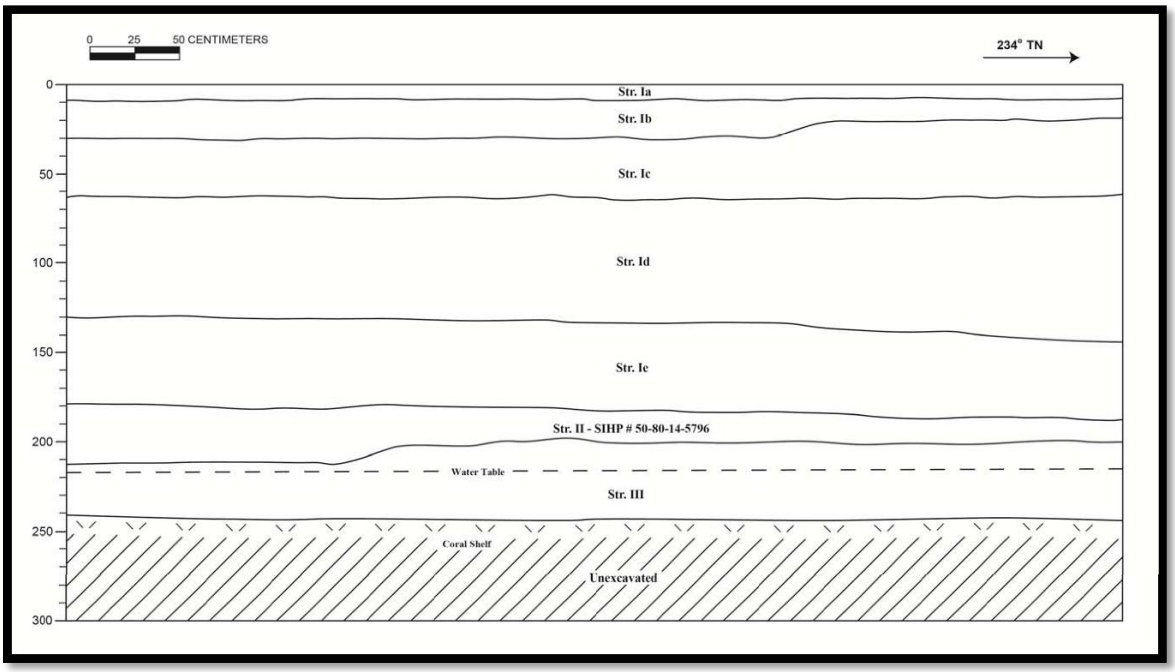



Figure 27. Stratigraphic Profile Drawing for Trench 24 of the 2139 Kūhio AIS (adapted from Pammer et al. 2014:149)

Table 5. Stratigraphic Profile Information for Trench 24 of the 2139 Kūhio AIS (adapted from Pammer et al. 2014:149)

| Stratum | Depth Below Surface (cm) | Description | Interpretation |
|---|---|---|---|
| Ia | 0-5 | 10YR 2/1, black, asphalt surface | Existing Street |
| Ib | 5-30 | 10YR 3/3, dark brown; gravelly silty loam; weak, fine, crumb structure; moist, loose consistency, no cemetation; non-plastic; mixed origin; clear, smooth boundary; basalt gravel base course associated with asphalt surface | Fill |
| Ic | 30-63 | 10YR 6/4, light yellowish brown; silty loam; weak, fine, crumb structure; moist, very friable consistency; no cementation; non-plastic; marine origin; diffuse, smooth lower boundary | Fill |
| Id | 63-130 | 10YR 5/4, yellowish brown; very fine sand; structureless single-grain; moist, loose consistency; non-plastic; marine origin; clear, smooth lower boundary; imported fill | Fill |
| Ie | 130-178 | 10YR 4/1, dark gray; sandy loam; moderate, fine to medium, platy structure; moist, firm consistency; plastic; marine origin; abrupt, smooth lower boundary; hydraulic fill | Fill |
| II | 178-218 | 10YR 3/1, very dark gray; silty clay, moderate, medium, granular structure; moist, friable consistency; slightly plastic; mixed origin; clear, smooth to wavy lower boundary; natural sediment | Natural Wetland Surface (SIHP # -5796) |
| III | 212-215 | 10GY 2.5/1, greenish black; silty sand; weak, medium, blocky structure; moist, friable consistency; non-plastic; no cementation, marine origin; abrupt boundary; smooth topography; natural marine sand in an anaerobic environment | Natural Marine Sand |

3. Morriss and Hammatt 2015

In 2014, CSH conducted an archaeological inventory survey for the Beachwalk Wastewater Pumping Station project. The southern portion of the project area was adjacent to the north side of the current survey area. The survey consisted of the excavation of five backhoe trenches throughout the project area. The trench excavations documented the typical stratigraphy of the area which consists of asphalt over mechanically crushed basalt gravel base course, several land reclamation fill layers, and the natural wetland surface previously recorded as SIHP # -5796. No artifacts, cultural deposits, or human burials were encountered in the fill or within the wetland surface during the project. Following the survey, archaeological monitoring was recommended.

Trench Excavations 4 and 5 contained SIHP # -5796 and were closest to the project area. The stratigraphic profile data for Trench 4 is presented as Figure 28 and Table 6 and the stratigraphic profile data for Trench 5 is presented as Figure 29 and Table 7.

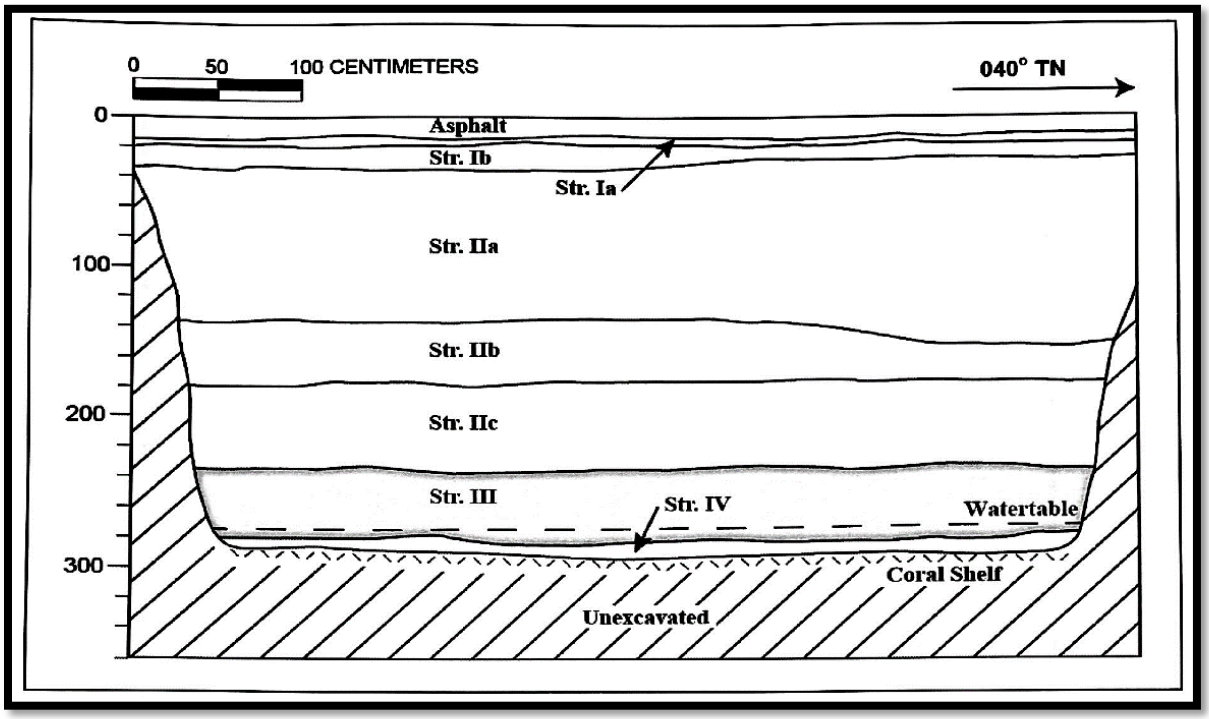



Figure 28. Stratigraphic Profile Drawing of Trench Excavation 4 of the Beachwalk Wastewater Pump Station AIS (Morriss and Hammatt 2015:74)

Table 6. Stratigraphic Profile Information for Trench Excavation 4 of the Beachwalk Wastewater Pump Station AIS (adapted from Morriss and Hammatt 2015:73)

| Stratum | Depth Below Surface (cm) | Description | Interpretation |
|---|---|---|---|
| N/A | 0-13 | Asphalt | |
| Ia | 13-19 | 10YR 3/1, very dark gray; extremely gravelly sandy loam; structureless, single-grain; moist, loose consistency; non-plastic; terrigenous origin; abrupt boundary, smooth topography; imported basalt gravel base course utilized for construction of the existing asphalt surface | Fill |
| Ib | 19-37 | 10YR 4/3, brown; very gravelly sandy loam; weak, fine, crumb structure; moist, friable consistency; slightly plastic; mixed origin; clear boundary; smooth topography; imported fill associated with construction of the existing asphalt surface | Fill |
| IIa | 30-152 | 10YR 6/4, light yellowish brown; very gravelly sandy clay loam; structureless, single-grain; moist, loosed consistency; non-plastic; marine origin; abrupt boundary; smooth topography; few, medium roots observed; imported crushed coral fill (with higher clay content towards the base) related to historic land reclamation | Fill |
| IIb | 140-180 | 10YR 4/2, dark grayish brown; sandy clay; structureless, massive; moist, firm consistency; plastic; mixed origin; clear boundary; smooth topography; imported hydraulic-dredged fill related to historic land reclamation | Fill |
| IIc | 175-235 | GLEY 1 6/N, gray; silty clay; structureless, massive; moist, firm consistency; plastic; mixed origin; clear boundary; smooth topography; imported hydraulic-dredged fill related to historic land reclamation | Fill |
| III | 235-280 | 5Y 3/1, very dark gray; silty clay; weak, fine, blocky structure; moist, firm consistency; slightly plastic; mixed origin; lower boundary not visible; charcoal flecking and faunal bone observed; decomposing organics and land snails observed; naturally deposited wetland sediment | Natural Wetland Surface (SIHP # -5796) |

| Stratum | Depth Below Surface (cm) | Description | Interpretation |
|---|---|---|---|
| IV | 280-290 | 2.5Y 4/1, dark gray; gravelly silty clay; weak, fine, blocky structure; slightly plastic; lower boundary not visible; decomposing coral shelf | Natural Marine Sediment |

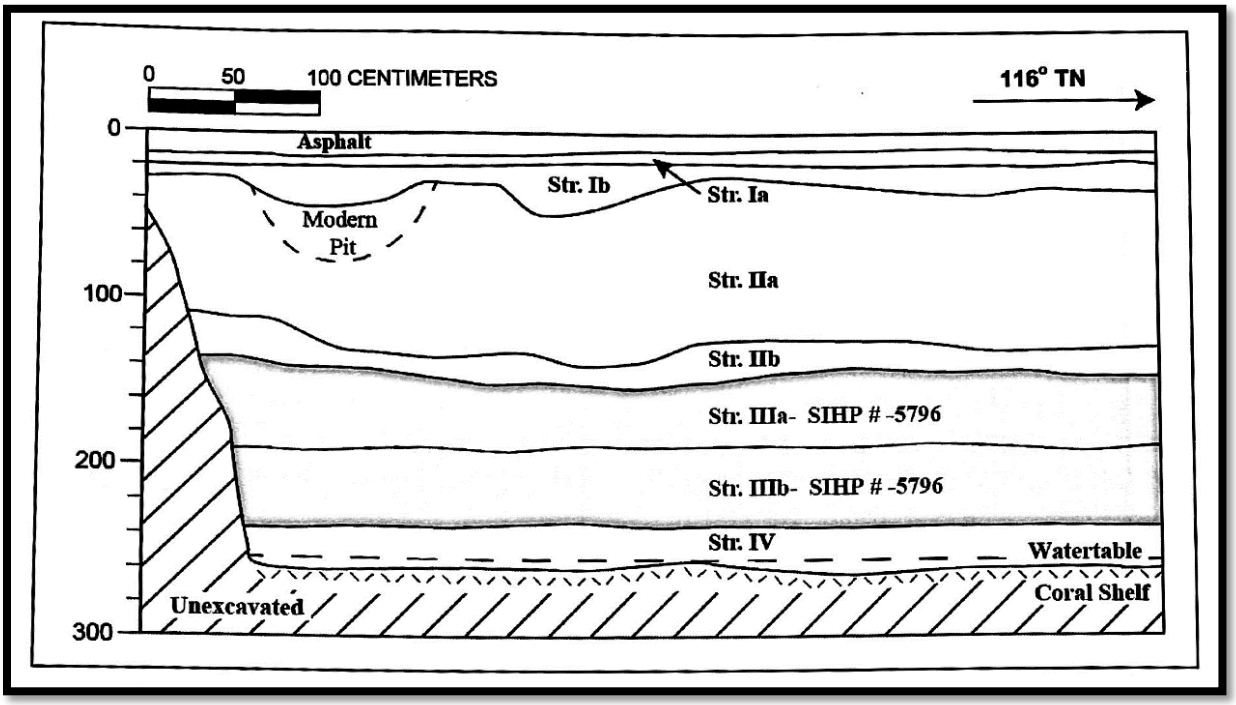



Figure 29. Stratigraphic Profile Drawing of Trench Excavation 5 of the Beachwalk Wastewater Pump Station AIS (Morriss and Hammatt 2015:74)

Table 7. Stratigraphic Profile Information for Trench Excavation 5 of the Beachwalk Wastewater Pump Station AIS (adapted from Morriss and Hammatt 2015:78)

| Stratum | Depth Below Surface (cm) | Description | Interpretation |
|---|---|---|---|
| N/A | 0-15 | Asphalt | |
| Ia | 10-19 | 10YR 3/1, very dark gray; extremely gravelly sandy loam; structureless, single-grain; moist, loose consistency; non-plastic; terrigenous origin; abrupt boundary, smooth topography; imported basalt gravel base course utilized for construction of the existing asphalt surface | Fill |

| Stratum | Depth Below Surface (cm) | Description | Interpretation |
|---|---|---|---|
| Ib | 30-45 | 2.5Y 4/4, olive brown; gravelly sandy loam; weak, fine crumb structure; moist, friable consistency; slightly plastic; mixed origin; abrupt boundary; wavy topography; imported fill associated with construction of the existing asphalt surface | Fill |
| | 34-79 | 10YR 5/4, yellowish brown; gravelly sandy loam; weak, fine, crumb structure; moist, friable consistency; slightly plastic; mixed origin; abrupt boundary; wavy topography; modern pit associated with the deposition of Stratum Ib | Modern Pit |
| IIa | 30-140 | 10YR 6/4, light yellowish brown; gravelly sandy loam; structureless, single-grain; moist, loose consistency; non-plastic; marine origin; abrupt boundary; wavy topography; few, common fine to medium roots observed; imported crushed coral fill related to historic land reclamation | Fill |
| IIb | 110-155 | GLEY 1 6/N, gray; silty clay; structureless, massive; moist, firm consistency; plastic; mixed origin; clear boundary; smooth topography; imported hydraulic-dredged fill related to historic land reclamation | Fill |
| IIIa | 135-190 | 2.5Y 3/1, very dark gray; loamy clay; weak, fine, blocky structure; moist, friable consistency; slightly plastic; mixed origin; clear boundary; smooth topography; few fine to medium roots observed; charcoal flecking observed; decomposing organics and land snails observed; naturally deposited wetland sediment | Natural Wetland Surface (SIHP # -5796) |
| IIIb | 190-235 | 2.5Y 3/2, very dark grayish brown; loamy clay; weak, fine, blocky structure; moist, friable consistency; slightly plastic; marine origin; clear boundary; smooth topography; few fine to medium roots observed; charcoal flecking observed; naturally deposited wetland sediment | Natural Wetland Sediment (SIHP # -5796) |
| IV | 235-260 | 2.5Y 4/1, dark gray; very gravelly silty clay; weak, fine, blocky structure; wet, slightly sticky consistency; slightly plastic; mixed origin; lower boundary not visible; naturally deposited marine sediment | Natural Marine Sediment |

## 3.2 Nearby Archaeological Studies

Numerous archaeological investigations have been completed in the vicinity of the project area. Figure 30, Figure 31, and Table 8 provide information on archaeological studies and sited documented within 0.5 miles of the project area.

1. Heiau of Waikīkī

*3.2.1.1 Thrum*

As Waikīkī was a place where ali‘i resided, several high ranking heiau (traditional places of worship) were constructed in the area. According to Thomas G. Thrum (1906a), there were four luakini or sacrificial heiau in Waikīkī (Table 9). The closest to the current project was Helumoa Heiau. Pukui et al. (1974:44) defines Helumoa as a “division near the Royal Hawaiian Hotel at Helumoa Street, Waikīkī, and site of a heiau where Kahahana was sacrificed. Lit. [translation], chicken scratch. (Chickens scratched to find maggots in the victim’s body)”. Thrum (1927:34) later discussed Helumoa Heiau in more detail, noting “this temple was long ago demolished, not a stone being left to mark the site, which was doubtless near, if not the actual spot now graced by the new Royal Hawaiian hotel.”

Regarding Papa‘ena‘ena Heiau and Helumoa Heiau, Thrum (1925: 109, 114) describes:

> The time of Papaenaena’s construction, or to which of Oahu’s rulers it is to be accredited is nowhere shown in the native accounts ; nor when it succeeded the activities of the Apuakehau (Waikiki) temple, Helumoa, on whose altar Kauhi-a-Kama, a high chief of Maui, was offered in sacrifice with great indignities by the Oahu chiefs, about the middle of the 16th century. Many years later, Kahekili, a noted descendant and king of Maui, with an invading army avenged this outrage in a sanguinary battle of Niuwelewai, Kapalama, defeating King Kahahana and conquering the island. This was in 1783, and it is not unlikely that the heiau of Papaenaena was erected by Kahekili in recognition of his victory, and ignoring the hitherto important and prominent temple of Helumoa, at Apuakehau, whose altar was so defiled by the ignominious treatment of his illustrious ancestor…The Italian villa, “La Pietra,” of Mr. Walter F. Dillingham now occupies the site of this famous temple.

2. McAllister 1933

During his island-wide survey of O‘ahu, McAllister (1933) listed Papa‘ena‘ena Heiau as Site 58 and Waikīkī as Site 60. He provided historic accounts of Papa‘ena‘ena Heiau, including a description of its layout and ceremonies by Kamakau (n.d.). He listed all descriptions of measurements recorded by the early visitors and averaged them together, finding the main terrace averaged 128 ft long by 68 ft wide and the walls averaged 6.2 ft tall and 3 ft wide (McAllister 1933:74). Papa‘ena‘ena Heiau was dismantled in AD 1856, however, McAllister (1933:74, 77) provided the following account based on the compiled historic accounts:

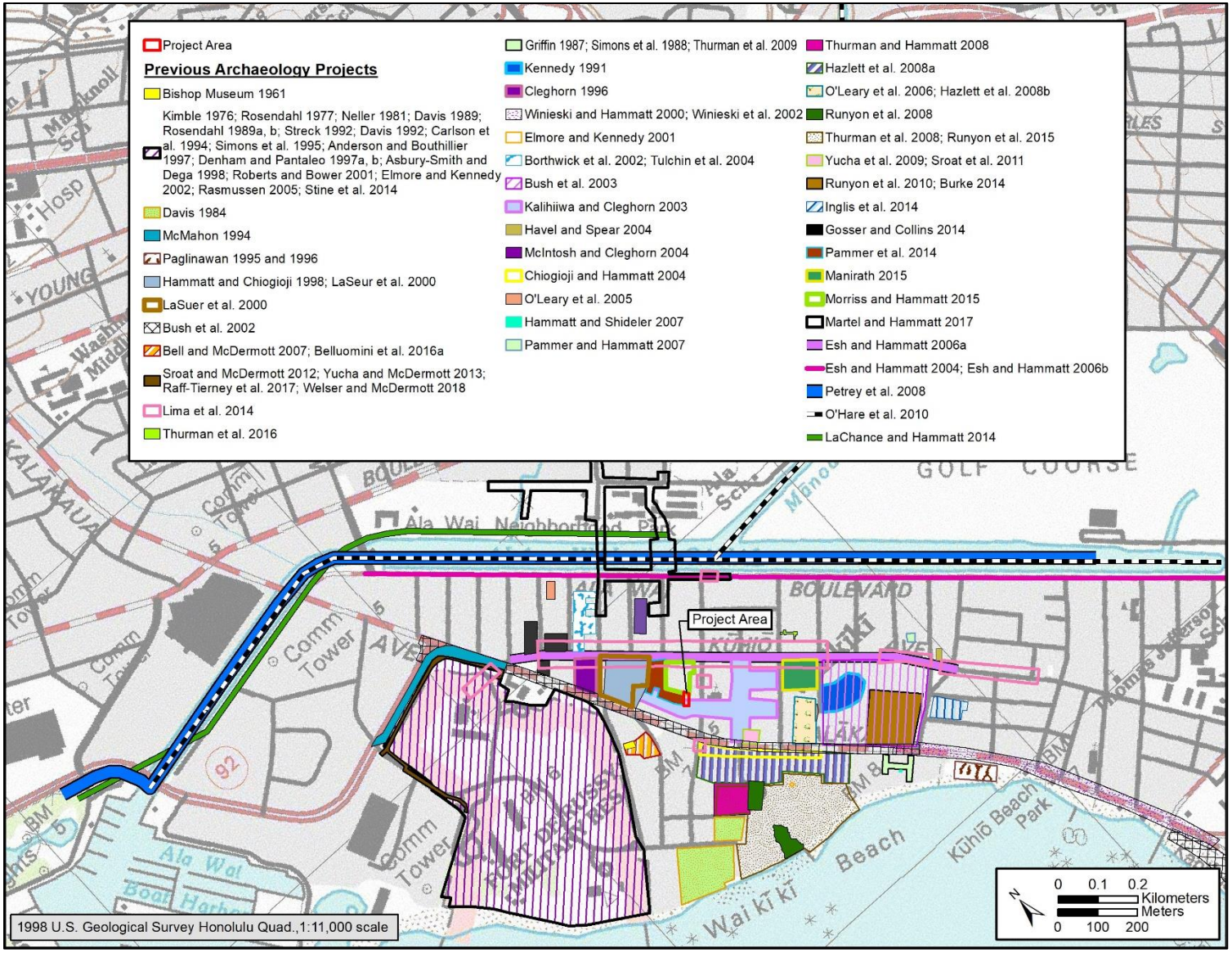



Figure 30. Portion of a 1998 Honolulu USGS Showing Previous Archaeological Studies Within 0.5 Miles of the Project Area

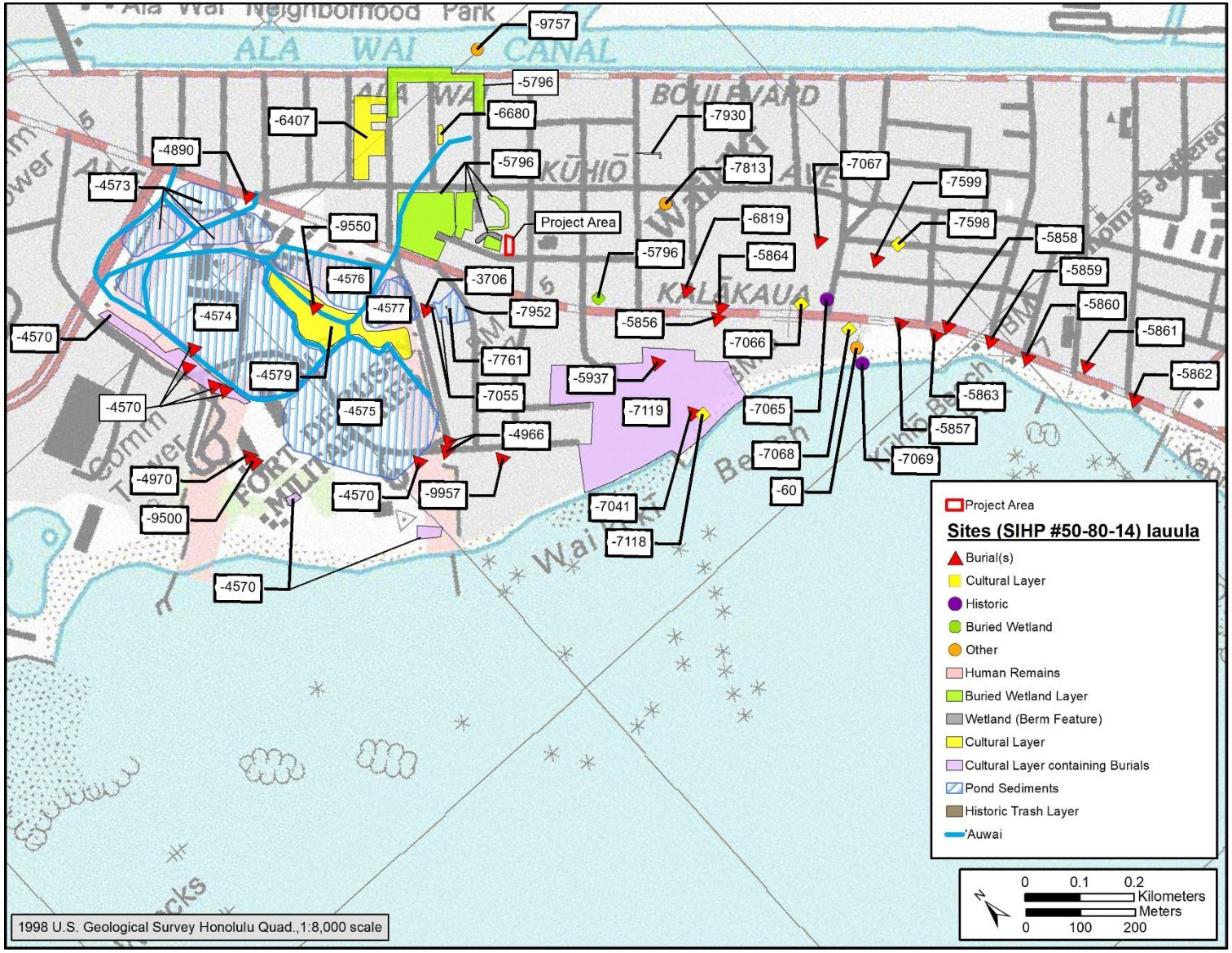



Figure 31. Portion of a 1998 Honolulu USGS Showing Previous Archaeological Sites Within 0.5 Miles of the Project Area

Table 8. Table Listing Previous Archaeological Studies in the Vicinity of the Property area

| Author(s) | Type of Study | Location | Findings (SIHP #50-80-14) |
|---|---|---|---|
| McAllister 1933 (not shown in Figure 30) | Island-Wide Survey | Island of Oʻahu | Waikīkī recorded as Site 60 (not shown in Figure 31) |
| Bishop Museum 1961 | Field Inspection | 331 Saratoga Rd. | Human mandible and historic-era trash deposit recorded as SIHP # -3706 |
| Kimble 1976 | Burial Report | Fort DeRussy, Hale Koa Hotel | Documented 6 human burials recorded as SIHP # -9500 |
| Rosendahl 1977 | Archaeological Inventory and Evaluation | U.S. Army Facilities in Hawaiʻi, Fort DeRussy | No sites recorded |
| Neller 1981 | Archaeological Reconnaissance | Halekūlani Hotel, 2199 Kālia Rd | Recorded 4 disarticulated human burials and 2 historic trash concentrations designated SIHP # -9957 |
| Davis 1984 | Archaeological and Historical Investigation | Halekūlani Hotel, 2199 Kālia Rd | 48 prehistoric and historic features, includes 6 human burials and 4 animal burials, added to SIHP # -9957 |
| Griffin 1987 | Investigation of an Inadvertent Burial | Kalākaua Avenue, TMK: [1] 2-6-001:013 | Documented a single burial, no SIHP number assigned |
| Simons 1988 | Archaeological Monitoring and Data Recovery | Moana Hotel, TMK: [1] 2-6-001:013 | Documented 8 human burials, no SIHP number assigned |
| Davis 1989 | Archaeological Reconnaissance | Fort DeRussy | Recorded SIHP # -4570 (cultural layer) and several fishponds: SIHP # -4573 (Loko Kaipuni [3 ponds]); SIHP # -4574 (Loko Paweo I); SIHP # -4575 (Loko Kaʻihikapu); SIHP # -4576 (Loko Paweo II); SIHP # -4577 (Loko Kapuʻuiki); and SIHP # -4970 (ʻAuwai O Pau) |

| Author(s) | Type of Study | Location | Findings (SIHP #50-80-14) |
|---|---|---|---|
| Rosendahl 1989a | Archaeological Inventory Survey (AIS) | Hale Koa Hotel, Pool | No sites recorded |
| Rosendahl 1989b | AIS | Hale Koa Hotel, Lū'au Grounds | No sites recorded |
| Kennedy 1991 | Archaeological Monitoring Report (AMR) | IMAX Theater, TMK: [1] 2-6-022:014 | No sites recorded |
| Davis 1992 | Archaeological Monitoring and Excavations | Fort DeRussy, LCA 1515 (ʻāpana 2), S. of Battery Randolph | Recorded pre-contact and historic cultural deposit and a human burial designated as SIHP # -4570 |
| Streck 1992 | Data Recovery | Fort DeRussy, Kuroda Parade Ground | Recorded a pre-contact human burial as SIHP # -9550, preserved in place |
| McMahon 1994 | Inadvertent Burial Discovery Report | Near the Intersection of Kalākaua and Kuamoʻo Streets | Documented disarticulated human remains in a spoil pile as SIHP # -4890 |
| Paglinawan 1995/1996 | Information on the "Wizard Stones" | TMK: [1] 2-6-001:008 | Wizard Stones of Waikīkī recorded as SIHP # -60 |
| Cleghorn 1996 | AIS | King Kalākaua Plaza | No sites recorded |
| Anderson and Bouthillier 1997 | HABS Documentation | Fort Derussy, Maluhia Hall | No sites recorded |
| Denham and Pantaleo 1997a, Carlson et al. 1994 | Monitoring, Burial Report | Fort DeRussy, Kālia Rd | Recorded portions of 3 sites: SIHP # -4574 (Loko Paweo I), which includes 3 historic trash pits and 2 burials; SIHP # -4570 (historic trash pit, 4 fire pits, an ash lens, and human burials and a large burial pit); and SIHP # -4966 (pre-contact features and human burials) |

| Author(s) | Type of Study | Location | Findings (SIHP #50-80-14) |
|---|---|---|---|
| Denham and Pantaleo 1997b, Simons et al. 1995 | Data Recovery, Data Recovery | Fort DeRussy | Recorded portions of 6 previously identified sites: SIHP # -4570 (cultural layer); SIHP # -4574 (Loko Paweo I); SIHP # -4575 (Loko Kaʻihikapu); SIHP # -4576 (Loko Paweo II); SIHP # -4579 (cultural layer associated with LCA 1758:3); and SIHP # -4970 (ʻAuwai O Pau) |
| Asbury-Smith and Dega 1998 | AMR | Fort DeRussy, landscaping in NW portion | No sites recorded |
| Hammatt and Chiogioji 1998 | AIS, Archaeological Assessment (AA) Report | King Kalākaua Plaza | No sites recorded |
| LeSuer 2000 | AIS | King Kalākaua Plaza (Phase II), TMK: [1] 2-6-18:010, 036, 042, 052, 055, 062, 063, 064, 073 and 074 | Recorded a buried wetland surface designated as SIHP # -5796 and a portion of ʻAuwai O Pau designated as SIHP # -4970 |
| Elmore and Kennedy 2001 | AMR | Royal Hawaiian Hotel, 2-6-002:005 | Recorded in situ human remains as SIHP # -5937 |
| Roberts and Bower 2001 | AMR | Fort DeRussy, Asia-Pacific Center, security fence | No sites recorded |
| Borthwick et al. 2002 | AIS | 71,000 sq. ft parcel, TMK: [1] 2-6-016:002 | Recorded a subsurface cultural layer interpreted as agricultural soils and an associated paukū/kuāuna (bank of taro patch) designated as SIHP # -6407, |
| Bush et al. 2002 | AMR | Kalākaua Ave. from Ala Moana Blvd to Kapahulu Ave., anti-crime lighting | Recorded 3 sites; SIHP # -5864 (human burial), added a feature component (burial) to SIHP # -5856 (two burials), and documented pond sediments associated with previously recorded SIHP # -4573 (Loko Kaipuni) |

| Author(s) | Type of Study | Location | Findings (SIHP #50-80-14) |
|---|---|---|---|
| Elmore and Kennedy 2002 | AMR | Fort DeRussy, Asia-Pacific Center, Security Fence | No sites recorded |
| Winieski et al. 2002, Perzinski et al. 2000 | AMR, Burial Findings Report | Kuhio Beach Extension/Kalakaua Promenade project, TMK: [1] 2-6-001, [1] 2-6-002, [1] 2-6-023, [1] 2-6-027, [1] 3-1-043 | Documented 11 historic properties with a total of 44 human burials, closest sites include SIHP #'s -5856, -5857, -5858, -5859, -5860, -5861, -5862, and -5863 |
| Bush et al. 2003 | AMR | International Marketplace, TMK: [1] 2-6-002:038 | Encountered cow bone and modern trash, no SIHP number assigned |
| Kailihiwa and Cleghorn 2003 | AMR | Water System Improvements, TMK: [1] 2-6-018:019 and 022, **Adjacent to Project Area** | No sites recorded |
| Chiogioji and Hammatt 2004 | AIS (AA Report) | Royal Hawaiian Shopping Center, TMK: [1] 2-6-002:018 | No sites recorded |
| Esh and Hammatt 2004 | AMR | Ala Wai Blvd. Improvements, TMK: [1] 2-6-14, -15, -16, -17, -20, -21, -24, -25, -28, and -29 | No sites recorded |
| McIntosh and Cleghorn 2004 | AIS | Urban Loft Development, Launiu St., TMK: [1] 2-6-17:68, 70, 71, 72, and 73 | Recorded SIHP # -6680 (pond field or loʻi sediments) |
| Tulchin et al. 2004 | Data Recovery | 71,000 sq. ft parcel, TMK: [1] 2-6-016:002 | Conducted data recovery at SIHP # -6407, Feature A (paukū/kuāuna), confirmed in pre-contact era |
| O'Leary et al. 2005 | AIS | 2284 Kalākaua Ave. (former Waikīkī 3 Theater), | Recorded SIHP # -6819, a single human burial |

| Author(s) | Type of Study | Location | Findings (SIHP #50-80-14) |
|---|---|---|---|
| Rasmussen 2005 | AMR | Fort DeRussy, Asia-Pacific Center, perimeter wall | No sites recorded |
| Esh and Hammatt 2006a | AMR | Kūhio Ave, TMK: [1] 2-6-15 to 22: various parcels | In-situ dog remains documented, no SIHP number assigned |
| Esh and Hammatt 2006b | AMR | Ala Wai Blvd., TMK: [1] 2-6-14, 15, 16, 17, 20, 21, 24, 25, 28, 29 | No sites recorded |
| Bell and McDermott 2007, Gollin et al. 2007 | AIS, (AA Report), CIA | 280 Beach Walk Retail Development, TMK: [1] 2-6-003:026, 027, 048, 049, and 058 | No sites recorded |
| Hammatt and Shideler 2007 | AMR | Sheraton Moana Surfrider Hotel, TMK: [1] 2-6-001:012 | No sites recorded |
| Pammer and Hammatt 2007 | AMR | Perry's Smorgy Restaurant, TMK: [1] 2-6-021:114 | No sites recorded |
| Petrey et al. 2008 | AMR | Emergency Sewer Bypass, Ala Wai to Magic Island, TMKs: [1] 2-3-34, -36, -37; [1] 2-6-17, -18; [1] 2-7-36 | No sites recorded |
| Hazlett et al. 2008a | AMR | Kalākaua Avenue, TMK: [1] 2-6-22:009 | No sites recorded |
| Hazlett et al. 2008b | AMR | Royal Hawaiian Shopping Center, TMK: [1] 2-6-002:018 | No sites recorded |

| Author(s) | Type of Study | Location | Findings (SIHP #50-80-14) |
|---|---|---|---|
| Runyon et al. 2008 | AIS (AA Report) | Sheraton Waikiki and Royal Hawaiian Hotel, 2-6-002:005 and 006 | Encountered disarticulated human remains and historic and traditional artifacts in heavily disturbed layer, no SIHP number assigned |
| Thurman and Hammatt 2008 | AMR | Sheraton Waikiki and Royal Hawaiian Hotel, 2-6-002:005 and 006 | No sites recorded |
| Thurman et al. 2009 | AIS | Moana Surfrider Hotel Diamond Head Tower, TMK: [1] 2-6-001:012 | Recorded 2 historic properties, SIHP # -7068 (cultural layer), and SIHP # -7069 (historic trash pit) |
| Yucha et al. 2009 | AIS | Waikīkī Shopping Plaza, TMK: [1] 2-6-019:056 and 061 | Documented a portion of a previously documented historic property, SIHP # -5796 (buried wetland surface) |
| O'Hare et al. 2010 | Cultural Resources and Ethnographic Study | Ala Wai Watershed | No site recorded |
| Runyon et al. 2010 | AIS | Princess Kaʻiulani Hotel, TMK: [1] 2-6-021 and -024 | Documented 3 historic properties, SIHP # -7065 (Kawaiahaʻo Waikīkī Branch Church and Cemetery lot), SIHP # -7066, (cultural layer), and SIHP # -7067 (intact human burial) |
| Sroat et al. 2011 | AMR | Waikīkī Shopping Plaza, TMK: [1] 2-6-019:056 and 061 | Documented a portion of a previously documented historic property, SIHP # -5796 (buried wetland surface) |
| Sroat and McDermott 2012, Ishihara and Hammatt 2012 | Literature Review and Field Inspection (LRFI), CIA | Kālia-Fort DeRussy, Wastewater system improvements | No sites recorded |
| Yucha and McDermott 2013 | AIS | Kālia-Fort DeRussy, Wastewater system improvements | No sites recorded |

| Author(s) | Type of Study | Location | Findings (SIHP #50-80-14) |
|---|---|---|---|
| Burke 2014 | Data Recovery Report | Princess Kaʻiulani Hotel, TMK: [1] 2-6-022:001 and 041 | Conducted data recovery excavations at 3 previously recorded historic properties, SIHP # -7065 (Kawaiahaʻo Waikiki Branch Church and Cemetery lot), SIHP # -7066, (cultural layer), and SIHP # -7067 (intact human burial) |
| Gosser and Collins 2014 | AMR | Intersection of Kūhio Ave and Namahana Street, TMK: [1] 2-6-015:001; [1] 2-6-016:033-036, 046 | No sites recorded |
| Inglis et al. 2014 | AIS | 133 Kaʻiulani Street, (old location of King's Village Shopping Center), TMK: [1] 2-6-023, -029,-037, and-076 | Recorded two historic properties, SIHP # -7598 (disturbed culturally enriched layer) and SIHP # -7599 (a single human vertebra), a burnt trash layer was also identified but no SIHP number was assigned |
| LaChance and Hammatt 2014 | AMR | Beachwalk to Ala Moana Park Sewer Project, TMKs: [1] 2-3-33: 34; [1] 2-3-37: 001 and 002; [1] 2-6, and [1] 2-7-036 | No sites recorded |
| Lima et al. 2014 | AMR | Waikīkī Sewer Rehab; Fort DeRussy; Kalākaua Ave. | Documented sediments associated with SIHP # -4573 (Loko Kaipuni) and SIHP # -4574 (Loko Paweo I) |
| Pammer et al. 2014 | AIS | 2139 Kuhio Avenue, TMK: [1] 2-6-018:043, 045-048, **Adjacent to Project Area** | Documented a portion of previously documented SIHP # -5796 (buried wetland surface) over the entire project area and a possible associated berm |
| Stine et al. 2014 | AMR | Fort DeRussy, Asia-Pacific Center, Wing C | Documented sediments associated with SIHP # -4573 (Loko Kaipuni) and SIHP # -4574 (Loko Paweo I) |

| Author(s) | Type of Study | Location | Findings (SIHP #50-80-14) |
|---|---|---|---|
| Manirath et al. 2015 | AIS | Waikīkī Trade Center, TMK: [1] 2-6-022:031 | Documented SIHP # -7813, a historic foundation slab and debris layer |
| Morriss and Hammatt 2015 | AIS | Waikīkī Beachwalk Pumping Station, TMK: [1] 2-6-018:011, **Adjacent to Project Area** | Documented a portion of previously recorded SIHP # -5796 |
| Runyon et al. 2015 | AMR | Royal Hawaiian and Sheraton Waikīkī Hotels, TMK: [1] 2-6-002:005, 006, and 026 | Recorded 3 historic properties, SIHP # -7041 (an in-situ extended human burial likely of Hawaiian decent), SIHP # -7118 (cultural layer), and SIHP # -7119 (disturbed "A" horizon containing pit features and disarticulated human remains) |
| Bulluomini et al. 2016a | AMR | 280 Beach Walk retail development | Recorded 3 historic properties: SIHP # -7055 (the disarticulated skeletal remains of at least two individuals), SIHP # -7761 (late historic fill layer), SIHP # -7952 (fishpond sediments associated with Loko Ka'ohai), and SIHP # -4577 (Loko Kapu'uiki) |
| Thurman et al. 2016 | AIS | 413 Seaside Ave, TMK: [1] 2-6-021:056, 057, 062, 065 | Documented SIHP # -7930, cultural layer and underlying culturally-enriched wetland containing historic and traditional artifacts as well as disarticulated human bone |
| Martel and Hammatt 2017, Beauchan et al. 2016 | AIS | Ala Wai 46kV Underground Cable Relocation, TMK: [1] 2-6-017; [1] 2-7-013, -014, and -036, various | Documented a portion of previously recorded SIHP # -5796 (buried wetland surface) and SIHP # -9757 (Ala Wai Canal) |

| Author(s) | Type of Study | Location | Findings (SIHP #50-80-14) |
|---|---|---|---|
| Raff-Tierney et al. 2017, Welser and McDermott 2018 | Monitoring, Burial Site Component Report | Kālia-Fort DeRussy, wastewater system improvements | Documented the remains of 4 individuals as Features 15, 16. and 17 of SIHP # -4570 |

Table 9. Table Listing Luakini Heiau in Waikīkī Described by Thrum (1906a:44)

| Heiau | Location | Description |
|---|---|---|
| Helumoa | ʻĀpuakēhau | Heiau poʻokanaka ("human head"), the place of sacrifice of Kauhi-a-Kama, the defeated king of Maui, in his raid on Oahu about AD 1610, in the reign of Kaihikapu |
| Papaʻenaʻena | At foot of Diamond Head slope, rear of Douglas' premises | Heiau poʻokanaka, 130x70 feet in size; a walled and paved structure of open terraced front, destroyed by Kanaina about AD 1856, the stones used to enclose Queen Emma's premises and for road work. This heiau is the supposed place of a number of sacrifices by Kamehameha at the opening of the last century |
| Kupalaha | Kapiʻolani Park | Entirely obliterated. Class unknown, but said to have had connection in its working with Papaʻenaʻena |
| Kapua | Near Kapiʻolani Park | Heiau poʻokanaka. Fragments of its walls torn down in 1860 show it to have been about 240 feet square; said to be the place of sacrifice of Kaolohaka, a chief from Hawaiʻi, on suspicion of being a spy |

> The foregoing accounts show that Papaenaena was a quadrangular paved terrace, with walls on three sides, but open on the west side, which faced the village of Waikiki and the sea. This side was approached by a series of step-like terrace…
>
> The present Hawaiians believe that this heiau [Helumoa] was located nearer the Moana Hotel and that the Royal Hawaiian Hotel is the site of the former athletic field of the alii, called Kahuamokomoko. When the excavations for the hotel were made many game stones (ulumaika) were found.

McAllister (1933:74) noted "Site 60. Waikīkī. The Village of Waikiki became a favorite resort of the old Hawaiian chiefs and kings previous to Cook's discovery. He notes that Kamakau (n.d.) suggests that Mailikukahi was perhaps the original chief to reside at Waikīkī, as Waialua and 'Ewa Districts were formerly the places where chiefs resided. McAllister (1933) also provides early historic accounts of Waikīkī which describe the agricultural fields, crops, fish, fowl and fishponds of the area. The following is an excerpt of McAllister's (1933:76) description of Waikīkī:

> Cobb (23) lists 14 fishponds in use at Kalia and Waikiki as late as 1901, and states that those at Waikiki were fresh water ponds. He learned the names of eight: Kaipuni, Kapaakea, Kapuuiki, Kuwili, Maalahia, Opu, Opu-kaala, and Paweo. Formerly the number must have been considerably greater. The fishponds at Waikiki are described by Meares (62. p. 20):
>
> > He [Captain Douglas] was received cordially by Titeeree [Kahekili] who took him round the village, showed him several plantations, and conducted him to some large ponds, which appeared to be full of fish. He mentioned also some where he had a quantity of turtle.
>
> Bloxam (13, pp. 35, 36) also describes these ponds:
>
> > The whole distance to the village of Whyteete is taken up with innumerable artificial fishponds extending a mile inland from the shore. In these the fish taken by nets in the sea are put, and though most of the ponds ae fresh water, yet the fish seem to thrive and fatten. Most of these fish belong to the chiefs, and are caught as wanted. The ponds are several hundred in number and are the resort of wild ducks and other water fowl.
> >
> > All of this land has now been drained and filled; neither fishponds nor taro lands have survived. In a few instances (51, vol. 1, p. 341) the taro patches were also stocked with fish (Sites 282, 294).
> >
> > The names of three of the taro patches were evidently of importance, and the name of the chief who built them, have survived. Kalamakua, of Kaipuholua, is said to have constructed the large taro patches of Keokea, Kualulua, Kalamanamana, and other at Waikiki.

McAllister (1933:76) further described Waikīkī:

> The village of Waikiki probably centered around the mouth of the Apuakehau steam, near the present Moana Hotel. The region is rich in traditional lore, but the exact location of traditional sites is difficult to determine. There was a heiau in the village which the present Hawaiians say was called Apuakehau on the land known as Helumoa…

McAllister (1933:77) also describes the wizard stones of Waikīkī:

> Between Kalakaua Avenue and the beach on the land known as Nanapua [at the shore of Hamohamo], are two large stones and several smaller ones, now known as

> the "wizard stones" of Kapaemahu. The large stones measure about 6 by 10 by 5 feet; the smaller stones have been recently added. They are said to be memorials to four men (hermaphrodites?), Kapaemahu, Kahaloa, Kapuni, and Kinohi, who came to Oahu many years ago, and lived with the Hawaiians.

He includes an early account of the myth which tells of the men being adept at the science of healing. The myth talks of coordinating moving the large boulder to Ulukou during the night of Kane and the men transferring all their powers into the stones and vanishing (Boyd in Thrum 1906b:139-140, quoted in McAllister 1933:77).

3. Bishop Museum 1961

In 1961, a human mandible and a historic-era trash deposit, (SIHP #50-80-14-3706, BPBM OA419), were found during construction at 331 Saratoga Road. (Summarized in Neller 1981 and (Belluomini et al. 2016).

4. Kimble 1976

In 1976, six human burials, SIHP #50-80-14-9500, were recovered during the original construction of the Hale Koa Hotel. Five of the burials were reported to be prehistoric or early historic bundle burials. The sixth burial was recovered from immediately beneath the road and was interpreted to have been interred later. (Kimble 1976 as summarized in Neller 1981).

5. Rosendahl 1977

In 1977, the Bishop Museum conducted an archaeological inventory and evaluation for an environmental impact statement for U.S. Army facilities in Hawai'i which included Fort DeRussy. The report mentions the burials recovered during construction of the Hale Koa Hotel as the only archaeological site identified at Fort DeRussy at that time. Additionally, a field inspection was conducted in which no new sites were identified. Following the inspection, monitoring for any subsurface disturbance within Fort DeRussy was recommended (Rosendahl 1977).

6. Neller 1981

In 1981 the State Historic Preservation Office was contacted when workers discovered human skeletal remains during construction of the Halekūlani Hotel. An emergency field investigation of the remains documented a total of four disturbed human burials and two late 1800's/early 1900's trash concentrations and were eventually recorded as SIHP #50-80-14-9957. Two of the burials were determined to be Native Hawaiian by the features of the skull. The other two burials were represented by only leg bones, one of which was a small tibia that may have represented a juvenile. The burials are all thought to date to the 20$^{th}$ century. None of the human skeletal remains or features were found in their primary context, no intact archaeological deposits were located, and no controlled excavations were conducted at the site. Additional archaeological investigations and monitoring were recommended for future work in the area (Neller 1981).

7. Davis 1984

Between December 1981 and February 1982 an archaeological and historical investigation consisting of archaeological excavations and monitoring were conducted by the Bishop Museum

at SIHP # -9957, previously documented during construction of the Halekūlani Hotel (Neller 1981). The excavation effort consisted of nine exploratory backhoe trenches and the examination of four existing construction trenches. A total of 48 prehistoric and historic features were excavated during the project most of which were located along the beachfront in the western portion of the parcel. The remainder of the parcel had been heavily impacted by construction activities. Documented features included pits, postholes, historic trash pits, prehistoric earth ovens and firepits, at least two privies, six human burials, and four animal burials consisting of three dogs and a lamb. Five of the six burials were determined to be pre-contact native Hawaiians with the remainder of the burials, including the animals, dating to the historic-era. The historic-era features contained bottles, ceramics, metal, and other household refuse and were dated to the late 1800's (Davis 1984). The project was one of the first controlled excavations conducted in Waikīkī and provided the first insights on the prehistoric and historic occupation and land use of the area near Fort DeRussy.

8. Griffin 1987

In 1987, Agnes Griffin and Albert Ah Nee investigated the inadvertent discovery of a human burial, MOA-1, found along Kalākaua Avenue. The remains had already been removed and bagged prior to the arrival of the archaeologists and consisted of several fragmented and nearly complete skeletal elements. No SIHP number was assigned to the remains during the investigation (Griffin 1987).

9. Simons 1988

In 1988, the Bishop Museum conducted archaeological monitoring and data recovery excavations for the Waikīkī Moana Hotel historical rehabilitation project. During excavation 8 human burials were encountered, "4 of which were in situ traditional tightly flexed Hawaiian burials" (Simons 1988). Despite the detailed descriptions stated for each of the burials in the final report, no SIHP number was assigned for the remains.

10. Davis 1989

In 1989, International Archaeological Research Institute Inc. (IARII) conducted a subsurface archaeological reconnaissance survey for upgrades to the recreational facilities at Fort DeRussy Military Reservation. During the project a total of 20 exploratory trenches were excavated which provided the first archaeological documentation of the fishponds present at Fort DeRussy. Intact prehistoric and historic features were also identified. The eleven inland trenches documented pond walls and sediments, a portion of SIHP# 50-80-14-4970 ('Auwai O Pau), and other features of several fishponds recorded as SIHP #50-80-14-4573 (Loko Kaipuni), SIHP #50-80-14-4574 (Loko Paweo I), SIHP# 50-80-14-4575 (Loko Ka'ihikapu), SIHP# 50-80-14-4576 (Loko Paweo II), and SIHP# 50-80-14-4577 (Loko Kapu'uiki). The nine seaward trenches were hand excavated and documented demolition disturbance and debris from Battery Dudley and a dual component cultural deposit with historic and prehistoric habitation layers recorded as SIHP 50-80-14-4570 (Davis 1989). No SIHP numbers were assigned during the project and the aforementioned site numbers were assigned later.

11. Rosendahl 1989a

In February of 1989, PHRI conducted an archaeological inventory survey for a proposed pool location at the Hale Koa Hotel. A total of thirteen backhoe trenches were excavated south of the hotel along the beachfront. The stratigraphy of the area was described as a silty loam topsoil over a naturally prograded beach. Due to this, only a few historic-era bottle glass fragments, ceramic fragments, and parts of milled wood beams and boards with nails were documented. No subsurface deposits or burials were encountered. The scant archaeological remains in the area were not given a site number but were assessed as being significant for their information content under Criterion D. Following the survey, archaeological monitoring for the proposed pool was recommended (Rosendahl 1989a).

12. Rosendahl 1989b

In June of 1989, PHRI conducted an archaeological inventory survey for a proposed, lū'au facility at the Hale Koa Hotel. The survey consisted of the excavation nine backhoe trenches and three 1 x 1 m test units excavated east of the old swimming pool. A disturbed cultural deposit containing 19th century artifacts was documented in all but one of the backhoe trenches. Artifacts recovered included ceramic sherds, glass, a slate pencil, buttons, saw-cut mammal bone, copper tacks, a cartridge casing, a possibly worked basalt cobble, PVC irrigation pipe fragments, and electrical wire. No features or human burials were encountered during the project and the historic artifacts were deemed to be in a secondary context. The cultural deposit was not given a site number but was assessed as significant for its information content under Criterion D. Following the survey, archaeological monitoring was recommended. (Rosendahl 1989b).

13. Kennedy 1991

In 1991, Archaeological Consultants of Hawai'i, Inc. (ACH) conducted archaeological monitoring for the IMAX Theater Construction Project. The project area was a 41 m by 24 m parking lot in the heart of Waikīkī. No significant cultural artifacts, features or human remains were encountered during the monitoring project (Kennedy 1991).

14. Davis 1992

In 1991, IARII conducted archaeological monitoring and excavations within Land Commission Award 1515, 'Apana 2 at Fort DeRussy in support of an environmental baseline study to identify and isolate possible ground water contamination. Monitoring was conducted for a total of twelve bore holes, none of which contained artifacts or deposits. The excavation effort consisted of eight 1 x 1 meter test units centered around the cultural deposit, SIHP # -4570, in previously excavated Trench 19 (Davis 1989:60-62). A total of 40 features were identified, 35 of which are thought to date to the early historic period, and included, 24 hearths, 12 pits, 3 post holes and a burial pit. The human burial was preserved in place during the project. No SIHP numbers were assigned at that time but the area between Battery Randolph and the beach from the Reef Hotel to past the handball courts was identified as an area of archaeological sensitivity (Davis 1992).

15. Streck 1992

In 1992, BioSystems Analysis Inc. conducted data recovery excavations for recreational facilities at Fort DeRussy in accordance with an approved archaeological monitoring plan (Jackson

et al. 1992). Mechanical and manual test excavations uncovered a number of features associated with ‘auwai, pond sediments, and occupational features. A single human burial (SIHP # 50-80-14-9550) was documented at the mauka end of the Kuroda Parade Ground and left in-situ. The burial was thought to have been interred during the late pre-contact period (Streck 1992).

16. McMahon 1994

In April of 1994, the human skeletal remains of a single individual, (SIHP # 50-80-14-4890), were inadvertently discovered in a spoil pile during excavation for a waterline at the intersection of Kalākaua Ave. and Kuamo’o St. No burial pit was observed, and no cultural deposits or artifacts were documented (McMahon 1994).

17. Paglinawan 1995/1996

In 1995 and 1996, Richard Paglinawan prepared a report providing information on the “Wizard Stones of Waikiki”, SIHP #50-80-14-060, during the development of a historic walking trail. The report summarized a timeline of the stones and where they had been previously located within Waikīkī (Paglinawan 1995/1996).

18. Cleghorn 1996

In 1996, Pacific Legacy conducted an archaeological inventory survey for the first phase of King Kalākaua Plaza. The seven backhoe trenches excavated during the project documented fill materials over marshland. No cultural deposits, features, or human burials were documented during the project (Cleghorn 1996).

19. Anderson and Bouthillier 1997

In 1997, Ogden Environmental and Energy Services Co. Inc., conducted a historic preservation study and Historic American Building Survey (HABS) documentation for the proposed demolition of Maluhia Hall at Fort DeRussy. The survey assessed Maluhia Hall as eligible for listing on the NRHP under Criteria A and C. Based on archaeological investigations that documented portions of Loko Kaipuni, SIHP # -4573, in the area of Maluhia Hall, the subsurface archaeological resources beneath Maluhia Hall were assessed as eligible under Criterion D (Anderson and Bouthillier 1997).

20. Denham and Pantaleo 1997a and Carlson et al. 1994

In 1993, BioSystems Analysis, Inc. conducted archaeological monitoring for the Kālia Road realignment, improvements, and utilities at Fort DeRussy. A total of ten subsurface features and nine burial locations were documented during monitoring. In 1994, a burial report was written for the project by BioSystems Analysis. Inc. that describes a total of 31-38 sets of human skeletal remains that were documented at Burial Areas 6 and 7. Burial Area 6 contained 27-34 individuals in a large pit feature, some of which showed evidence of perimortem trauma. Four individuals were documented at Burial Area 7 in association with a cultural layer containing pre-contact and historic-era artifacts and post hole features. Based on radiocarbon analysis, tooth evulsion, and perimortem trauma to the remains in the mass grave at Burial Area 6 their interment was attributed to warfare during the interisland battles of conquest during the reign of Kamehameha I at the end of the 18$^{th}$ century. The dating of the four sets of remains in Burial Area 7 was more problematic.

The radiocarbon dates taken from the cultural layer in which they were interred was interpreted to date to the pre-contact era, however historic-era artifacts were found throughout the layer. The historic artifacts were attributed to a metal pipeline running above and the remains at Burial Area 7 were dated to the pre-contact era. All the remains documented during the project were eventually reinterred or left in-situ on the Fort DeRussy property (Carlson et al. 1994).

Due to the restructuring of BioSystems Analysis, Inc., Garcia and Associates obtained the contract for the project and published the findings of the monitoring four years later in 1997. The features and burials were grouped into three archaeological sites based on their spatial c. Three historic trash pits, two burials, and fishpond sediments associated with Loko Paweo I were added as Features 1-5 of previously documented SIHP # -4574 (Davis 1989). The two burials of SIHP # -4574 are thought to have been located north of the intersection of Kālia and Saratoga Rd. A historic trash pit, four fire pits, an ash lens, and human burials from six areas, including Burial Area 6, were added as Features 1-12 of SIHP # -4570, a previously documented sub-surface cultural deposit (Davis 1989). A pre-contact occupation layer and burials representing five individuals, including Burial Area 7, were documented in the eastern portion of Fort DeRussy and were recorded as Features 1 and 2 of (SIHP # 50-80-14-4966). All three sites were assessed as eligible for listing on the NRHP under Criteria D and E (Denham and Pantaleo 1997a).

21. Denham and Pantaleo 1997b and Simons et al. 1995

In 1992, Biosystems Analysis, Inc. conducted data recovery excavations at Fort DeRussy. During the project portions of six previously recorded sites were documented (Simons et al. 1995). Once again, due to the dissolvement of BioSystems Analysis, Inc. Garcia an Associates obtained the contract for the project and published the findings of the data recovery five years later in 1997. A firepit, coral rock concentration, several posthole features, and a cultural deposit were documented and added to SIHP # -4570, which includes L.C.A. 2511. An ‘auwai and bund system with two channels, three bunds, and a charcoal stain were documented and thought to be feature components of the ‘Auwai O Pau, SIHP # -4970. Excavations within L.C.A 1758:3, (SIHP #50-80-14-4579), documented five firepits, a human burial, two dark stains, two historic middens, and two possible prehistoric middens. Additionally, pond sediments associated with Loko Paweo I, SIHP # -4574, Loko Ka’ihikapu, SIHP # -4575, and Loko Paweo II, SIHP # -4576. The portions of the ‘Auwai O Pau, SIHP # 4970, and the fishpond sediments of Loko Paweo I, SIHP # -4574, and Loko Ka’ihikapu, SIHP # -4575 were assessed as not eligible for listing on the NRHP. The site components of SIHP # -4570, and Loko Paweo II, SIHP # -4576, were assessed as eligible for listing under Criterion D and the feature components and burials of SIHP # -4579 were assessed as eligible for listing under Criteria D and E (Denham and Pantaleo 1997b).

22. Asbury-Smith and Dega 1998

In 1998, Scientific Consulting Services, Inc. (SCS) conducted archaeological monitoring for irrigation lines, curbing, and tree planting in the northwestern portion of Fort DeRussy. No cultural deposits, features, or human burials were documented during the project and only modern trash and debris were observed (Asbury-Smith and Dega 1998).

23. Hammatt and Chiogioji 1998

In 1998, CSH conducted an archaeological assessment for the second phase of the King Kalākaua Plaza, located along Kalākaua Ave. between Olohana and Kalaimoku Street. The

assessment consisted of a field inspection in which no sites were recorded. However, due to the previously documented cultural resources in the vicinity an AIS of the project area was recommended (Hammatt and Chiogioji 1998).

24. LeSuer 2000

In 2000, CSH conducted an AIS for the second phase of King Kalākaua Plaza. The 13 backhoe trenches excavated during the project documented historic-era fill materials over the original prehistoric/early 20th century wetland surface which was documented as SIHP# 50-80-14-5796. A few isolated historic-era artifacts were documented within the wetland surface, but no cultural deposits or burials were encountered. Additionally, a portion of the ‘Auwai O Pau, SIHP # -4970, originally documented within Fort Derussy (Davis 1989), was documented in the northwestern portion of the survey area. The buried wetland surface, SIHP # -5796, was assessed as eligible for listing on the NRHP under Criterion D as was the portion of the ‘Auwai O Pau, SIHP -4970, which had been assessed previously under Criterion D (LeSuer 2000).

25. Elmore and Kennedy 2001

In 2001, Archaeological Consultants of the Pacific (ACP) investigated the inadvertent discovery of an in situ human burial, SIHP #50-80-15-5937, found at the base of a shallow trench during construction work at the Royal Hawaiian Hotel. Additional human remains were also uncovered during subsequent monitoring. Artifacts collected included several shell buttons, a drilled dog tooth, and a copper penny. All cultural materials were reinterred within the bounds of SIHP # -5937 (Elmore and Kennedy 2001).

26. Roberts and Bower 2001

In 2001, Garcia and Associates conducted archaeological monitoring for a security fence at the Daniel K. Inouye Asia-Pacific Center for Security Studies at Fort DeRussy. No cultural deposits, features, or human burials were documented during the project (Roberts and Bower 2001).

27. Borthwick et al. 2002

In 2002, CSH conducted an archaeological inventory survey for an approximately 71,000 sq. ft. parcel located between Olohana Street, Kūhio Avenue, Kalaimoku Street, and Ala Wai Boulevard. The survey consisted of the excavation of 10 backhoe trenches in the project area, which had been cleared of buildings prior to the survey. The investigation documented SIHP #50-80-14-6407, a subsurface cultural layer comprised of sandy clay loams and clay loams with organic materials and charcoal flecking interpreted as agricultural soils. Additionally, the study documented Feature A of SIHP # -6407, a paukū/kuāuna (bank of taro patch). The radiocarbon analysis of charcoal associated with the site returned a calibrated date range of 1400-1660 AD (Borthwick et al. 2002).

28. Bush et al. 2002

In 2002, CSH conducted archaeological monitoring for the second phase of the Waikīkī anti-crime street lighting improvements project along Kalākaua Ave. from Ala Moana Blvd. to Kapahulu Ave. A total of 4 human burials were documented during monitoring. The two burials closest to the project area include SIHP #50-80-14-5864, encountered on Kalākaua Ave. just before Dukes Lane and SIHP #50-80-14-5856, Feature C, encountered at the intersection of

Kalākaua and Ka'iulani Avenue. Due to its proximity, the burial encountered at Kalākaua and Ka'iulani Avenue was added as a feature component of previously recorded SIHP # -5856. Features A and B of SIHP # -5856 include two burials documented during previous archaeological monitoring in the area for a water line (Winieski et al. 2002 and Perzinski et al. 2000). Additionally, fishpond sediments believed to be associated with SIHP # -4573 (Loko Kaipuni), were documented in the portion of the project between Ala Moana Blvd. and Kuamo'o St. (Bush et al. 2002).

29. Elmore and Kennedy 2002

In 2002, Archaeological Consultants of the Pacific, Inc. conducted archaeological monitoring for additional security fencing at the Daniel K. Inouye Asia-Pacific Center for Security Studies at Fort DeRussy. No cultural deposits, features, or human burials were documented during the project (Elmore and Kennedy 2002).

30. Winieski et al. 2002 / Perzinski et al. 2000

Between 1999 and 2000, CSH conducted archaeological monitoring for the installation of a 16-inch water main on an approximately 915 m long portion of Kalākaua Avenue between Ka‘iulani and Monsarrat Avenue and associated with the Kūhiō Beach Extension/Kalākaua Promenade project. A total of 11 historic properties and the human skeletal remains of 44 individuals were documented during monitoring. Detailed information on the human remains documented during the project was presented in a separate burial report (Perzinski et al. 2000).

The sites recorded closest to the current project area include SIHP #50-80-14-5856, two human burials at the intersection of Kalākaua and Ka'iulani Avenue (Features A and B), SIHP #50-80-14-5863, four human burials at two locations, and SIHP #50-80-14-5940, a buried cultural layer extending from Ka‘iulani Ave. to Kealohilani Ave. Following the project, it was recommended that archaeological monitoring take place for any future subsurface construction within the area (Winieski et al. 2002).

31. Bush et al. 2003

In 2003, CSH performed archaeological monitoring for the installation of a new sign at the International Marketplace The project consisted of the excavation of two holes for the installation of two large signposts. Only two cow bone fragments and modern trash including aluminum Pepsi cans, paper, aluminum foil and other rubbish were encountered during monitoring, none of which were assessed as significant (Bush et al. 2003).

32. Chiogioji and Hammatt 2004

In 2004, CSH conducted an archaeological assessment of the 6.3-acre Royal Hawaiian Shopping Center parcel. The project borders Kalākaua Avenue, the Royal Hawaiian Hotel, Lewers Street, and the Outrigger Hotel. The assessment consisted of a field inspection and a literature review. No significant archaeological features, burials or artifacts were encountered during the field inspection. However, background research had indicated the possibility of pre-contact and historic burials as well as additional archaeological sites and features in the area. Following the assessment archaeological monitoring was recommended (Chiogioji and Hammatt 2004).

33. Esh and Hammatt 2004

In 2004, CSH conducted archaeological monitoring for improvements to Ala Wai Boulevard. The only finding of note during the project was a cow skeleton encountered at the intersection of Ala Wai Boulevard and Seaside Avenue. Otherwise only fill and dredge materials were documented, and no artifacts, features, or cultural deposits of any kind were encountered (Esh and Hammatt 2004).

34. Havel and Spear 2004

In 2004, SCS conducted archaeological monitoring at ABC Store number 21 located at the corner of Kūhio Avenue and Kānekapōlei Street. Only fill materials were observed and no significant deposits or artifacts were documented during the project. Following the project, archaeological monitoring was recommended for the project area and Waikīkī in general (Havel and Spear 2004).

35. McIntosh and Cleghorn 2004

In 2004, Pacific Legacy conducted an archaeological inventory survey for 0.687-acre parcel for an urban loft development on Launiu Street. The investigation documented gleyed silts and fine sands indicative of pond field agriculture in the central western portion of the project area. The pond sediments were designated SIHP #50-80-14-6680 and are interpreted as a buried lo‘i or pond field (McIntosh and Cleghorn 2004).

36. Tulchin et al. 2004

In 2003, CSH conducted data recovery excavations associated with SIHP # -6407, previously recorded during a previous archaeological inventory survey (Borthwick et al. 2002). The testing focused on recovering samples related to a previously identified paukū/kuāuna (bank of taro patch), recorded as Feature A of SIHP # -6407. The radiocarbon dating and pollen identification of the samples collected from the site confirmed construction and use of the feature in the pre-contact era (Tulchin et al. 2004).

37. O’Leary et al. 2005

In 2005, CSH conducted an archaeological inventory survey for a 1-acre parcel located at 2284 Kalākaua Ave., the former site of the Waikīkī 3 Theater. The inventory survey consisted of the excavation of 12 backhoe trenches throughout the project area which identified a single flexed pre-contact Hawaiian burial recorded as SIHP #50-80-14-6819. It was encountered in the southeastern corner of the project area near Kalākaua Ave. and Dukes Lane (O’Leary et al. 2005). Unlike many burials of the area, SIHP # -6819 was found within wetland agricultural soils instead of the typical jaucus sand.

38. Rasmussen 2005

In 2005, IARII conducted archaeological monitoring in support of a perimeter barrier wall for the Daniel K. Inouye Asia-Pacific Center for Security Studies at Fort DeRussy. No archaeological deposits, features, or human burials were documented during the project (Rasmussen 2005).

39. Esh and Hammatt 2006a

In 2006, CSH conducted archaeological monitoring for a portion of the Kūhiō Avenue Improvements Project that extended from Kalākaua Avenue to Ka‘iulani Avenue in Waikīkī. Archaeological fieldwork uncovered one in situ dog (*Canis familiaris*). Excluding the faunal remains, no additional cultural or significant archaeological materials and artifacts were uncovered (Esh and Hammatt 2006a).

40. Esh and Hammatt 2006b

In 2006, CSH conducted archaeological monitoring for the Ala Wai Boulevard Improvements Project. The project included improvements along the mauka (inland) and makai (seaward) sides of Ala Wai Boulevard between McCully Street and Kapahulu Avenue. Aside from the faunal bones uncovered during monitoring at the intersection of Ala Wai Boulevard and Seaside Ave, no additional archaeological findings were uncovered (Esh and Hammatt 2006b).

41. O’Leary et al. 2006

In 2006, CSH conducted an archaeological inventory survey of 0.5 acres of the Royal Kāhili condo property, now known as the Ala Wai Garden Plaza. Due to the negative results of the survey it was termed an archaeological assessment. No artifacts, cultural deposits, or human burials were documented during the project (O’Leary et al. 2006).

42. Bell and McDermott 2007 and Gollin et al. 2007

In 2006, CSH prepared a CIA (Gollin et al. 2007) and conducted an archaeological inventory survey (Bell and McDermott 2007) for the 280 Beach Walk retail development. Due to the negative results of the survey it is termed an archaeological assessment. The assessment consisted of a 100 percent pedestrian survey of the subject property and the excavation of 11 backhoe trenches in the eastern half of the development. Only a few isolated artifacts were collected during backhoe trenching and no archaeological sites were documented. The lack of archaeological sites was attributed to previous construction disturbances in the area. However, due to the number of nearby human burials and archaeological sites monitoring was recommended (Bell and McDermott 2007).

43. Hammatt and Shideler 2007

In 2007, CSH conducted archaeological monitoring for the Sheraton Moana Surfrider Hotel The project consisted of the installation of a grease interceptor on the east side the hotel to a depth of 2.4 meters below surface. Nothing of archaeological note was encountered during monitoring except for a few historical artifacts consisting of small metal fragments and ceramic tile fragments (Hammatt and Shideler 2007).

44. Pammer and Hammatt 2007

In 2007, CSH conducted archaeological monitoring for the installation of a grease trap and kitchen sewer lines at the Perry’s Smorgy Restaurant The excavation of a grease trap and single sewer trench were monitored during the project and resulted in no significant findings (Pammer and Hammatt 2007).

45. Hazlett et al. 2008a

In 2008, CSH conducted archaeological monitoring for an escalator pit and an elevator pit located at 2284 Kalākaua Avenue. The previous investigation of the project area in 2005 (O'Leary et al. 2005) documented SIHP #50-80-14-6819, a single human burial located in the southeast corner of the property near the intersection of Kalākaua and Dukes Lane. However, no artifacts, additional human remains, or features were encountered during monitoring. A bulk sample of wetland sediment from the project area was submitted for radiocarbon dating and returned an age range of 1400 to 1460 A.D. (Hazlett et. al. 2008a).

46. Hazlett et al. 2008b

Between 2005 and 2007, CSH conducted archaeological monitoring for the 6.3 acre Royal Hawaiian Shopping Center project. The project encountered post-1920s fill materials associated with land reclamation and the construction of the Ala Wai Canal. No significant archaeological findings or features were documented during the project (Hazlett et al. 2008b).

47. Petrey et al. 2008

In 2008, CSH conducted archaeological monitoring for the Honolulu Emergency Bypass project which extends along the Ala Wai Canal to Magic Island. The portion of the project along the Ala Wai Canal encountered mostly fill sediments along the canal while the Ala Moana Park Drive portion encountered fill deposits over natural shoreline deposits. No cultural materials or deposits of any kind were documented during the project (Petrey et al. 2008).

48. Runyon et al. 2008

In 2008, CSH conducted an archaeological assessment for renovations to the Sheraton Waikiki and Royal Hawaiian Hotels. Archaeological testing was conducted in two locations that were expected to have archeological significance. The project consisted of two phases; no historic or traditional materials were encountered during the first phase due to the abundance of thick fill sediments. The second phase consisted of the excavation of two test units which revealed a heavily disturbed cultural layer with pre-contact to modern materials and disarticulated human skeletal remains. However, no SIHP number was designated for the cultural deposit or remains (Runyon et al. 2008).

49. Thurman et al. 2008

In 2008, CSH prepared an archaeological monitoring report for geotechnical borings at the Sheraton Waikiki Royal Hawaiian and hotels. The background research had indicated the likelihood of encountering significant cultural resources, however none were encountered during the project (Thurman et al. 2008).

50. Thurman et al. 2009

In 2009, CSH conducted an archaeological inventory survey for the redevelopment of the Diamond Head Tower at the Moana Surfrider Hotel The survey consisted of the excavation of 8 backhoe trenches throughout the project area. Two historic properties were documented and include SIHP #50-80-14-7068, a cultural layer, and SIHP #50-80-14-7069, a large historic trash

pit. Radiocarbon dating of unidentified wood charcoal collected from SIHP # -7068 returned a calibrated age range of 1801-1939 AD being the most probable and falls entirely with the post-contact period. The diagnostic artifacts recovered from the trash pit dated to the late 19th and early 20th century and may represent domestic refuse, possibly related to the Hustace Villas boarding house. Additionally, a single of human phalange was encountered and was left in-situ during the project (Thurman et al. 2009).

51. Yucha et al. 2009

In 2009, CSH conducted an archaeological inventory survey for the Proposed Waikiki Shopping Plaza redevelopment project (Yucha et al. 2009). Archaeological fieldwork involved ground penetrating radar (GPR) and excavation of 9 backhoe trenches. During the project a previously identified historic property, SIHP #50-80-14-5796, was encountered (LeSeur et al. 2000). The site consisted of organic sediments containing 4 historic artifacts found in Stratum IIIa and IIIb. Samples of the site were collected and radiocarbon dated. The sample collected from Stratum IIIa was calibrated with a 2- sigma date range of AD 1440-1640 while the sample from Stratum IIIb was calibrated with a 2- sigma date range of AD 1390-1490, confirming use of the site within the pre-contact period (Yucha et al. 2009).

52. Park and Collins 2010

In 2010, Pacific Consulting Services, Inc. (PCSI) conducted archaeological monitoring for the Ala Wai Garden Plaza development. Fill materials associated with the construction of the Ala Wai Canal were documented and no artifacts, cultural deposits, or human burials were encountered during the project (Park and Collins 2010).

53. Runyon et al. 2010

In 2010, CSH conducted an archaeological inventory survey for the proposed Princess Kaʻiulani Redevelopment Project. The project included a surface survey of the approximately 4.16-acre property, use of ground penetrating radar (GPR) to select locations for trenches, and subsurface and additional supplementary testing. Archaeological fieldwork resulted in the excavation of 22 test trenches which encountered an in-situ human burial, several instances of disarticulated burial remains, prehistoric and historic artifacts, and cultural layers. Three historic properties were documented and include SIHP #50-80-14-7065, the former Kawaiahaʻo Waikīkī Branch Church and Cemetery lot which contained disarticulated human remains, SIHP #50-80-14-7066, a well-defined cultural layer containing charcoal, fire effected rocks, midden materials, and intact subsurface features, and SIHP #50-80-14-7067, an in-situ human burial located in the eastern portion of the project area. A sample from the cultural layer, SIHP # -7066 was submitted for radiocarbon dating and returned a calibrated age ranging from 1634 to 1955 with the time period of 1725-1815 A.D. being the most probable. Based on this, the cultural layer was interpreted to have been utilized during the pre-contact and early historic period. Following the survey, archaeological monitoring was recommended for the project (Runyon et al. 2010).

54. Sroat et al. 2011

In 2009 and 2010, CSH conducted archaeological monitoring for the Waikīkī Shopping Plaza redevelopment project. Portions of previously identified SIHP # -5796, a prehistoric to historic

buried wetland surface, were identified during the project. The site was present in the sidewalls of several trenches and ranged in depth from 130 to 200 cm below surface (Sroat et al. 2011).

55. Sroat and McDermott 2012 and Ishihara and Hammatt 2012

In 2012, CSH prepared a cultural impact assessment (Ishihara and Hammatt 2012) and conducted a literature review and field inspection for the Kālia-Fort DeRussy wastewater system improvements project located within Fort DeRussy adjacent to Kalakaua Ave., Ala Moana Blvd, and Kalia Road. No surface archaeological sites were identified during the field inspection and an archaeological inventory survey was recommended (Sroat and McDermott 2012).

56. Yucha and McDermott 2013

An archaeological inventory survey for the Kālia-Fort DeRussy wastewater system improvements project was conducted between 2012 and 2013. The project involved improvements to the existing sewer line along Kālia Road, within Fort DeRussy adjacent to Ala Moana Blvd. and Kalākaua Ave., and at the Fort DeRussy wastewater pump station. The survey consisted of a field inspection of the project area, a (GPR) survey in the area of Burial 11 of SIHP # 4570 which had previously been documented at the corner of Kālia and Paoa Road (Denham and Pantaleo 1997:38), monitoring of 7 geotechnical borings, and a single large test excavation to search for the location of Burial 11. No cultural deposits, features, or human burials were documented in any of the geotechnical borings and the GPR and test excavation yielded no cultural materials or features and failed to locate Burial 11. Following the survey archaeological monitoring for the project was recommended (Yucha and McDermott 2013).

57. Burke 2014

In 2014, CSH submitted an End of Fieldwork letter to the SHPD for an archaeological data recovery phase of the proposed Princess Kaʻiulani Redevelopment Project in Waikīkī (Burke 2014). The project area had already undergone an AIS which identified three historical sites: SIHP #50-80-15-7065, Kawaiahaʻo Waikiki Branch Church and Cemetery lot containing disarticulated human remains, SIHP #50-80-15-7066, a well-defined cultural layer, and SIHP #50-80-15-7067, an in-situ burial located in the eastern portion of the project area (Runyon et al. 2010). Data recovery fieldwork involved the excavation of four trenches which resulted in further documentation of features relating to SIHP # -7066 (cultural layer). Additionally, several pieces of isolated human skeletal remains were identified in association with SIHP # -7066 and -7067 (Burke 2014).

58. Gosser and Collins 2014

In 2012, PCSI conducted archaeological monitoring for traffic control signal improvements at the intersection of Kūhio Avenue and Namahana Street. The study documented fill materials and no artifacts, cultural deposits, or human burials were recorded during the project (Gosser and Collins 2014).

59. Inglis et al. 2014

In 2014, CSH conducted an archaeological inventory survey for 133 Kaʻiulani Street. The project proposed redeveloping the King's Village Shopping Center and two adjacent apartment

buildings in Waikīkī. Archaeological fieldwork consisted of 16 trenches, resulting in the recovery of several historical and traditional Hawaiian artifacts, faunal remains, and identification of two historical properties, SIHP #50-80-15-7598 and SIHP #50-80-15-7599. SIHP # -7598 was a disturbed culturally-enriched A horizon with 12 associated features. SIHP # -7599 was a single human vertebra found in fill material. Aside from SIHP # -7598 and -7599, a burnt trash layer was also identified but determined not significant, and thus no site number was assigned (Inglis et al. 2014).

60. Lima et al. 2014

Between 2012 and 2013, CSH conducted archaeological monitoring for the Waikīkī Sewer Rehabilitation and Reconstruction project. The excavations closest to the project area were along Kūhiō Avenue and Lewers Street. A cluster of three stratigraphic profiles was recorded for excavations at 2170 Kūhio Avenue and were entirely comprised of various fill materials. No cultural deposits, features, or human burials were documented during the project (Lima et al. 2014).

61. Stine et al. 2014`

In 2014, CSH conducted archaeological monitoring for Wing C of the Daniel K. Inouye Asia-Pacific Center for Security Studies at Fort DeRussy. Dredge fill materials deposited during the land reclamation activities of 1919 over pond sediments associated with SIHP # -4573 (Loko Kaipuni), and SIHP # -4574 (Loko Paweo I), were documented during monitoring. Several late 20$^{th}$ and early 21$^{st}$ century artifacts were recovered from pond sediments. Other than the pond sediments no cultural deposits, features or human burials were documented during the project (Stine et al. 2014).

62. Manirath et al. 2015

In 2015, CSH conducted an archaeological inventory survey for the Waikīkī Trade Center at 2255 Kūhio Avenue. Backhoe trench excavations within the project area were associated with the proposed installation of an escalator pit, new structural columns, and utility hook-ups as well as several holes for the planting of coconut trees. The study documented a single historic property, SIHP #50-80-14-7813, a foundation slab and debris layer containing brick and concrete. The site was confirmed as being remains of a former demolished apartment building. Otherwise, no additional artifacts or features were recorded within the project area (Manirath et al. 2015).

63. Runyon et al. 2015

In 2015, CSH conducted archaeological monitoring for improvements to the Royal Hawaiian and Sheraton Hotels (Runyon et al. 2015). Renovations involved installation of construction infrastructure, demolition of several existing concrete structures, and the reworking of a swimming pool and entryways. Several sites were encountered during monitoring and included SIHP #50-80-14-7041, an in-situ extended human burial, likely of Hawaiian decent, SIHP #50-80-14-7118, a cultural layer containing charcoal, midden, and pit features, and SIHP #50-80-14-7119, a disturbed “A” horizon containing pit features and disarticulated human remains (Runyon et al. 2015). Additionally, a previously recorded in-situ human burial, SIHP #50-80-14-5937, was also noted as being within the project area (Elmore and Kennedy 2001).

64. Bulluomini et al. 2016

Archaeological monitoring was conducted by CSH for the 280 Beach Walk retail development during 2008 and 2009. A total of four archaeological sites were documented during the project and include SIHP # 50-80-14-7055, the disarticulated skeletal remains of at least two individuals, SIHP # 50-80-14-7761, a 19th and early 20th century refuse fill layer , and fishpond sediments associated with SIHP # -4577 (Loko Kapu‘uiki), and SIHP # 50-80-14-7952 (Loko Ka‘ohai). The sand containing the human remains was interpreted as locally procured sand fill material and was documented in two locations, one of which was adjacent to Saratoga Rd. Pond sediment associated with Loko Kapu‘uiki, most of which is within Fort DeRussy, was documented in the same area. The inadvertently discovered human remains, SIHP # -7055, were assessed as eligible for listing on the NRHP under Criterion D and E and the historic-era trash fill layer, SIHP # -7761, and pond sediments associated with SIHP -4577 (Loko Kapu’uiki) and SIHP # -7952 (Loko Ka’ohai) were assessed under Criterion D (Belluomini et al. 2016).

65. O’Hare et al. 2016 and Ishihara et al. 2015

In 2015 and 2016, CSH prepared a CIA (Ishihara et al. 2015) and an archaeological literature review and field inspection for the Board of Water Supply Honolulu Water System Improvements project. Due to the project being located under city streets, no archaeological sites were documented during the field inspection (O’Hare et al. 2016).

66. Thurman et al. 2016

In 2016, Honua Consulting conducted an archaeological inventory survey for utility improvements at 413 Seaside Avenue. The survey consisted of the excavation of a large 4.5 m long by 2.2 m wide trench for a proposed grease trap interceptor and the excavation of a smaller exploratory trench. SIHP #50-80-14-7930, a cultural layer and underlying culturally enriched wetland with traditional and historic artifacts and disarticulated human remains, was documented in the grease trap excavation. The inadvertently discovered human remains were documented as Burial Finds 1-5. The only other features of note documented during the project were builders’ trenches associated with historic buildings adjacent and outside the project area. Following the survey, a burial treatment plan and archaeological monitoring were recommended for the project (Thurman et al .2016).

67. Martel and Hammatt 2017 and Beauchan et al. 2016

In late 2015 and early 2016, CSH conducted an archaeological inventory survey (Martel and Hammatt 2017) and cultural impact assessment (Beauchan et al. 2016) for the Ala Wai 46kV underground cables relocation project which connects to the Hawaiian electric substation on Kai‘olu Street. A 100% percent pedestrian survey of the project area identified a portion of the Ala Wai Canal, SIHP #50-80-14-9757, within the project area. Subsurface excavations consisted of five hand excavated shovel test pits (STPs) and 5 backhoe trench excavations. The general stratigraphy documented during the project consisted of the modern asphalt surface and base course over fill materials and early 20th century land reclamation fills over the buried A-horizon, and finally the C-horizon.

The buried A-horizon was documented as a portion of previously recorded SIHP # -5796, a buried prehistoric to historic wetland surface documented in several studies in the area (LeSuer et

al. 2000, Yucha et al. 2009, Sroat et al. 2011, Pammer et al. 2014, and Morriss and Hammatt 2015). Column samples were taken from two trenches and consisted of three samples of organically enriched sediment from each trench. The six organic samples were sent in for radiocarbon dating and were interpreted to date the sediments to the pre-contact era. However, no cultural modification or artifacts were documented in association with the site. Following the survey, archaeological monitoring was recommended for the project (Martel and Hammatt 2017).

68. Raff Tierney et al. 2017 and Welser and McDermott 2018

Between 2014 and 2016, CSH conducted archaeological monitoring for the Kālia-Fort DeRussy Wastewater System Improvements project in accordance with an approved archaeological monitoring plan (Yucha and McDermott 2014). During the project human skeletal remains representing four individuals were documented in two locations along Kālia Rd. The remains were recorded as Features 15, 16, and 17 of previously recorded SIHP # -4570. Feature 15 was located south of the intersection of Ala Moana Blvd and Kālia Rd and consisted of an isolated concentration of fragmented human skeletal remains representing a single individual. Features 16 and 17 were located at the intersection of Kālia Rd. and Rainbow Drive. Feature 16 consisted of a portion of an in-situ flexed human burial disturbed by the installation of a concrete drain line. Feature 17 was found in the drain line fill during the removal of the flexed remains and consisted of the remains of two individuals (Raff-Tierney et al. 2017). In all cases the remains were found within intact and disturbed sands and it was determined that that they were likely to be Native Hawaiian. They were reinterred at the Neller Burial Preserve on the grounds of the Hilton Hawaiian Village on December 17, 2016. Following the results of monitoring SIHP # -4570 was assessed as eligible for listing under the previous Criterion of D, and under Criterion E (Welser and McDermott 2018).

## 3.3 Nearby Historic Properties

A total of 45 historic properties are present in the vicinity of the project area (see Figure 31). Table 10 lists all nearby historic properties and includes site descriptions and site significance information for each site. The historic properties documented in the area have been documented during construction and improvement projects in Fort DeRussy, resort, commercial and residential development projects, and infrastructure improvements projects. Documented sites (State Inventory of Historic Properties [SIHP] Prefix #50-80-14) in the near vicinity include a large amount of human burials and disarticulated human remains in disturbed sand or fill material, pre and post-contact cultural layers and features, fishpond and wetland sediments, and historic trash deposits.

1. SIHP #50-80-14-5796 (Buried Waikīkī Wetland Surface)

SIHP #50-80-14-5796 has been documented adjacent to the north and west boundaries of the project area and is the closest recorded historic property. It has been identified in multiple locations and represents a culturally modified wetland with 5 feature components and consists of deposits of agricultural wetland sediments, non-agricultural wetland sediments, peat sediments, pond sediments, and pond berms dating from the pre-contact era to the early 1900's. The property was first identified during an archaeological inventory survey for Phase II of the King Kalākaua Plaza development located at the northwest end of Lauʻula Street along Kalākaua Ave. and Kalaimoku Street (LeSuer et al. 2000).

Additional portions of the site were documented during an archeological inventory survey and subsequent archaeological monitoring for the Waikīkī Shopping Plaza redevelopment project located southeast of the project area at Kalākaua Avenue and Royal Hawaiian Avenue (Yucha et al. 2009 and Sroat et al. 2011). The site was documented adjacent and west of the project area during an archaeological inventory survey for 2139 Kūhio Ave. (Pammer et al. 2014). A buried berm, recorded as a feature component of the site, was identified in four of the trenches close to the current project area.

The site was also documented to the north of the current project area during and archaeological inventory survey for the Beachwalk wastewater pump station project and was identified in all five of the trenches excavated during the project (Morriss and Hammatt 2015). Lastly, the site was identified during an archaeological inventory survey for the relocation of a 46kV underground cable northeast of the project area near the Ala Wai Canal. The site was documented in seven out of the ten trenches excavated during the project (Martel and Hammatt 2017).

The wetland deposits that comprise SIHP # -5796 are generally encountered beneath 1.3 to 2.0 meters of various road, utility, and land reclamation fills and are found just above or at the water table in most cases. Due to the proximity of the site it is likely to be encountered during the current project. The site is currently eligible for listing under Criterion D.

2. Fort DeRussy

A total of 12 archaeological sites have been documented within Fort DeRussy to the west of the project area. Half of those sites are comprised of the former Kālia Fishponds and their associated ʻauwai and bund systems. The Kālia fishponds were part of LCA 104 FL to Kekūanaō'a and filled in the 1920's for the construction of Fort DeRussy. Traditional accounts state that the

irrigation complex of Waikīkī and presumably the adjoining fishponds were built in the 15th century. Radiocarbon dating, soil, and pollen data from several archaeological studies seem to support that date (Davis 1989, Denham and Pantaleo 1997a/1997b, Putzi and Cleghorn 2002).

The location and orientation of the fishponds was first recorded in an 1855 Land Commission map and subsequently in an 1881 map of Waikīkī by S.E. Bishop (RM 1398). The current archaeological site names, locations, and boundaries of the former fishponds are all based upon the 1881 map. The many fishponds that underly Fort DeRussy have been recorded as SIHP #50-80-14-4573 (Loko Kaipuni (complex of 4 ponds)), SIHP # 50-80-14-4574 (Loko Paweo I), SIHP # 50-80-14-4575 (Loko Kaʻihikapu), SIHP #50-80-4576 (Loko Paweo II), and SIHP # 50-80-14-4577 (Loko Kapuʻuiki). The associated ʻauwai and bund system for the ponds was designated SIHP #50-80-14-4970 (Denham and Pantaleo 1997a/1997b).

Three sites on the Fort DeRussy property include subsurface cultural deposits, features, and human burials representing cultural activities on the sand dunes and within former LCA's around the makai side of the Kālia fishponds in the pre-contact and historic era. They include SIHP #'s 50-80-14-4570, 50-80-14-4579, and 50-80-14-4966. All three of the sites contain human burials that have been preserved in place.

Two additional burial locations on the Fort DeRussy property have been designated historic properties. They include SIHP #50-80-14-9500, inadvertently discovered burials documented during construction of the Hale Koa Hotel in 1976 (Kimble) and SIHP #50-80-14-9550, an inadvertently discovered human burial found at the mauka end of the Kuroda Parade Ground during data recovery excavations at the installation in 1992 (Streck). The Hale Koa Hotel burials were reinterred on the property and the remains found at the remains found at the Kuroda Parade Ground have been preserved in place.

Battery Randolph, located in the southeastern portion of Fort DeRussy, is part of the Artillery District of Honolulu, SIHP #50-80-14-1382, and is also listed on the National Register of Historic Places (NRHP). The site was nominated for listing in 1983 and currently operates as the United States Army Museum of Hawai'i (U.S. Army Support Command 1983).

### 3. Additional Wetland Deposits

Two other historic properties representing wetland deposits and features were documented during two other nearby projects. The first historic property, SIHP #50-80-14-6680, was documented during an archaeological inventory survey for a 0.687-acre urban loft development on Launiu Street. SIHP # -6680 consisted of gleyed silts and fine sands indicative of pond field agriculture. The pond sediments were interpreted to be a buried loʻi or pond field (McIntosh and Cleghorn 2004).

The second historic property, SIHP #50-80-14-6407 was documented archaeological inventory survey for an approximately 71,000 sq. ft. parcel located between Olohana Street, Kūhio Avenue, Kalaimoku Street, and Ala Wai Boulevard. SIHP # -6407 consisted of a subsurface cultural layer comprised of sandy clay loams and clay loams with organic materials and charcoal flecking interpreted as agricultural soils. Additionally, the study documented Feature A of SIHP # -6407, a paukū/kuāuna (bank of taro patch) (Borthwick et al. 2002). Subsequent data recovery excavations at the site collected samples for radiocarbon analysis which returned a calibrated date range of 1400-1660 AD (Tulchin et al. 2004).

4. Kalākaua Avenue Improvements

Several historic properties have been documented during infrastructure and improvements projects associated with Kalākaua Avenue and consist primarily of inadvertent discoveries of human remains. In 1994, the human skeletal remains of a single individual, designated SIHP # 50-80-14-4890, were inadvertently discovered in a spoil pile during excavation for a waterline at the intersection of Kalākaua Ave. and Kuamo'o St. No burial pit was observed, and no cultural deposits or artifacts were documented (McMahon 1994).

In 1999 and 2000, numerous historic properties were encountered during monitoring conducted for the installation of a 16-inch water main on an approximately 915 m long portion of Kalākaua Avenue between Ka'iulani and Monsarrat Avenue. The sites recorded closest to the current project area include SIHP #50-80-14-5856, two human burials at the intersection of Kalākaua and Ka'iulani Avenue (Features A and B), SIHP #50-80-14-5863, four human burials at two locations, and SIHP #50-80-14-5940, a buried cultural layer extending from Ka'iulani Avenue to Kealohilani Avenue (Winieski et al. 2002).

In 2002, several historic properties were encountered during monitoring conducted for the Waikīkī anti-crime street lighting improvements project along Kalākaua Avenue from Ala Moana Boulevard to Kapahulu Avenue. The two closest to the current project area include SIHP #50-80-14-5864, a human burial encountered on Kalākaua Ave. just before Dukes Lane and human burial encountered at the intersection of Kalākaua and Ka'iulani Avenue that was recorded as a feature component (Feature C) of SIHP #50-80-14-5856.

5. 2284 Kalākaua Avenue (The Center of Waikīkī)

A single historic property was documented during an archaeological inventory survey for a 1-acre parcel located at 2284 Kalākaua Avenue, the former site of the Waikīkī 3 Theater. The survey documented SIHP #50-80-14-6819, a single flexed pre-contact Hawaiian burial. It was encountered in the area of Kalākaua Avenue and Dukes Lane (O'Leary et al. 2005).

6. 331 Saratoga Rd.

In 1961, the Bishop Museum documented SIHP #50-80-14-3706, which consisted of inadvertently discovered humans remains and a historic trash pit found during construction at 331 Saratoga Road (Bishop Museum).

7. Trump International Hotel Waikīkī (223 Saratoga Rd)

SIHPs #50-80-14-7015, #50-80-14-7016, #50-80-14-7017, and #50-80-14-7018 consist of inadvertently discovered human remains documented during archaeological monitoring for the Trump International Hotel Waikiki in 2008 and 2009 (described in Wesler and McDermott 2018).

8. 280 Beach Walk

Three historic properties were documented during an archaeological inventory survey for the 280 Beach Walk development and include SIHP # 50-80-14-7055, the disarticulated skeletal remains of at least two individuals in sand fill, SIHP # 50-80-14-7761, a 19$^{th}$ and early 20$^{th}$ century refuse fill layer, and SIHP #50-80-14-7952, fishpond sediments associated with Loko Ka'ohai.

Fishpond sediments associated with Loko Kapuʻuiki, SIHP # -4577, were also documented during the project (Bulluomini et al. 2016).

9. Princess Kaʻiulani Hotel (120 Kaʻiulani Avenue)

Three historic properties were documented during an archaeological inventory survey for the Princess Kaʻiulani Hotel and include SIHP #50-80-14-7065, the former Kawaiahaʻo Waikīkī Branch Church and Cemetery lot which contained disarticulated human remains, SIHP #50-80-14-7066, a well-defined cultural layer containing charcoal, fire effected rocks, midden materials, and intact subsurface features, and SIHP #50-80-14-7067, an in-situ human burial (Runyon et al. 2010). Subsequent data recovery fieldwork involved the excavation of four trenches which resulted in further documentation of features relating to SIHP # -7066 (cultural layer) and several pieces of isolated human skeletal remains found in association with SIHP # -7066 and -7067 (Burke 2014).

10. Moana Surfrider, Diamond Head Tower (2365 Kalākaua Avenue)

Two historic properties were documented during an archaeological inventory survey for the redevelopment of the Diamond Head Tower at the Moana Surfrider Hotel. They include SIHP #50-80-14-7068, a historic-era cultural layer, and SIHP #50-80-14-7069, a large historic trash pit with artifacts dating to the late 19$^{th}$ and early 20$^{th}$ century and possibly associated with the Hustace Villas boarding House. (Thurman et al. 2009).

11. Royal Hawaiian and Sheraton Hotels (2255 and 2259 Kalākaua Avenue)

In 2001, an in-situ human burial, designated SIHP #50-80-15-5937, was encountered at the base of a shallow trench during construction work at the Royal Hawaiian Hotel. Additional human remains were also uncovered during subsequent monitoring. Artifacts collected included several shell buttons, a drilled dog tooth, and a copper penny. All cultural materials collected were reinterred within the bounds of SIHP # -5937 (Elmore and Kennedy 2001).

Three additional historic properties were documented during archaeological monitoring for improvements to the Royal Hawaiian and Sheraton Hotels in 2015. Three sites were encountered during monitoring and included SIHP #50-80-14-7041, an in-situ extended human burial, likely of Hawaiian decent, SIHP #50-80-14-7118, a cultural layer containing charcoal, midden, and pit features, and SIHP #50-80-14-7119, a disturbed "A" horizon containing pit features and disarticulated human remains (Runyon et al. 2015).

12. 133 Kaʻiulani Street

Two historic properties were documented during an archaeological inventory survey for 133 Kaʻiulani Street located in the area of the former King's Village Shopping Center. SIHP #50-80-14-7598 was a disturbed culturally-enriched A horizon with 12 associated features and SIHP #50-80-14-7599 was a single human vertebra found in fill material (Inglis et al. 2014).

13. Waikīkī Trade Center (2255 Kūhio Avenue)

A single historic property was documented during an archaeological inventory survey for the Waikīkī Trade Center and includes SIHP #50-80-14-7813, a foundation slab and debris layer containing brick and concrete. Later, the site was confirmed as being the remains of a former demolished apartment building (Manirath et al. 2015).

14. 413 Seaside Avenue

A single historic property was documented during an archaeological inventory survey for utility improvements at 413 Seaside Avenue. The site was recorded as SIHP #50-80-14-7930 and consisted of a cultural layer and underlying culturally enriched wetland with traditional and historic artifacts and disarticulated human remains (Thurman et al. 2016).

15. Halekūlani Hotel (2199 Kālia Road)

SIHP #50-80-14-9957 consists of human burials and prehistoric and historic features and deposits documented during the construction of the Halekūlani Hotel in 1981 and subsequent archaeological investigations and monitoring conducted during 1981 and 1982. The site originally consisted of inadvertently discovered human remains documented at four locations and two late 19th/early 20th century trash concentrations documented during construction. The remains were thought to date to the 20th century and represent four Native Hawaiian individuals. No associated burial pits or deposits were located, and no controlled excavations were conducted at that time (Neller 1981).

Later, an archaeological investigation and monitoring was conducted by the Bishop Museum for the site. A total of 48 prehistoric and historic features were excavated during the project and consisted of pits, postholes, historic trash pits, prehistoric earth ovens and firepits, two privies, six human burials, and four animal burials. Five of the six burials were thought to be Native Hawaiian with the remainder of the burials, including the animals, dating to the 20th century (Davis 1984). The current NRHP eligibility status of the site is unknown

16. Ala Wai Canal

The largest and most well-known historic property near the project area is the Ala Wai Canal, SIHP # 50-80-14-9757, a historic era drainage canal constructed by Walter F. Dillingham between 1921 and 1924. The Ala Wai Canal comprises approximately 48.5 acres and extends 2 miles from Kapahulu Avenue to the ocean near the Ala Wai Boat Harbor. The canal was constructed to drain the ponds and wetlands of the Waikīkī area. Subsequent land reclamation activities led to the development of the Waikīkī District as it exists today (Steele 1992).

17. Waikīkī and "Waikīkī Wizard Stones"

The whole of Waikīkī was documented as Site 60 during McAllister's (1993) island-wide survey of O'ahu. The sites documented by McAllister later became SIHP numbers, although SIHP #50-80-14-060 is not defined. In 1996, Richard Paglinawan prepared a report providing information on the "Wizard Stones of Waikiki", previously described by McAllister, during the development of a historic walking trail. The report summarized a timeline of the stones and where they had been previously located within Waikīkī. They were recorded as SIHP #50-80-14-060 (Paglinawan 1995/1996).

Table 10. Archaeological Sites Documented Within the Vicinity of the Project Area

| SIHP # 50-80-14 | Site Description | Reference | Site Significance | Notes |
|---|---|---|---|---|
| -060 | Waikīkī / "Waikīkī Wizard Stones" | McAllister 1933 / Paglinawan 1995/1996 | Not stated | McAllister area not defined |
| -1382 | Battery Randolph | U.S Army Support Command Hawaii 1983 | On NRHP, Artillery District of Honolulu | Southeastern portion of Fort DeRussy |
| -3706 | Human remains and historic trash deposit | Bishop Museum 1961 | Unknown | 331 Saratoga Rd |
| -4570 | Subsurface cultural deposits, feature, and human burials | Davis 1989, Davis 1992, Denham and Pantaleo 1997a/1997b, Raff-Tierney et al. 2017 | Criteria d and e | Fort DeRussy, Kālia Rd. |
| -4573 | Loko Kaipuni Fishpond Complex (4 ponds) | Davis 1989, Putzi and Cleghorn 2002, | Criterion d | Fort DeRussy, Kalākaua Ave Part of the Kālia Fishponds |
| -4574 | Loko Paweo I Fishpond | Davis 1989, Denham and Pantaleo 1997a/b, Putzi and Cleghorn 2002 | No Longer Significant | Fort DeRussy, Ala Moana Blvd and Kālia Rd., Part of the Kālia Fishponds |
| -4575 | Loko Ka'ihikapu Fishpond | Davis 1989, Denham and Pantaleo 1997b | No Longer Significant | Fort DeRussy, Part of the Kālia Fishponds |
| -4576 | Loko Paweo II Fishpond | Davis 1989, Denham and Pantaleo 1997b | Criterion d | Fort DeRussy, Part of the Kālia Fishponds |
| -4577 | Loko Kapu'uiki Fishpond | Davis 1989, Belluomini et al, 2016 | Criterion d | Fort DeRussy and 280 Beach Walk, Part of the Kālia Fishponds |
| -4579 | L.C.A 1758:3 | Davis 1989, Denham and Pantaleo 1997b | Criteria d and e | Fort DeRussy |

| SIHP # 50-80-14 | Site Description | Reference | Site Significance | Notes |
|---|---|---|---|---|
| -4890 | Human remains | McMahon 1994 | Unknown | Intersection of Kalākaua Ave. and Kuamo'o St. |
| -4966 | Prehistoric cultural deposit with human burials | Denham and Pantaleo 1997a | Criteria d and e | Fort DeRussy |
| -4970 | 'Auwai and Bund System | Davis 1989, Denham and Pantaleo 1997b | No longer Significant | Fort DeRussy, Part of the Kālia Fishponds |
| -5796 | Prehistoric to 20th century wetland surface | LeSuer et al. 2000 / Yucha et al. 2009 / Sroat et al. 2011 / Pammer et al. 2014 / Morris and Hammatt 2015 / Martel and Hammatt 2017 | Criterion d | King Kalākaua Plaza, **Adjacent to the project area on two sides** |
| -5856 | Human burials | Bush et al. 2002 / Winieski et al. 2002 | Criteria d and e | Three human burials, Features A, B, and C |
| -5863 | Human burials | Winieski et al. 2002 | Criteria d and e | Four human burials at two locations |
| -5864 | Human burial | Bush et al. 2002 | Criteria d and e | Kalākaua and Dukes Lane |
| -5937 | Human burial | Elmore and Kennedy 2001 | Criteria d and e | Reinterred/left in-situ |
| -5940 | Cultural layer | Winieski et al. 2002 | Unknown | Extends from Ka'iulani Ave. to Kealohilani Ave |
| -6407 | Agricultural soils modified living surface | Borthwick et al. 2002 / Tulchin et al. 2004 | Unknown | Documented portion of a paukū/kuāuna (bank of taro patch) |
| -6680 | Pond field or lo'i sediments | McIntosh and Cleghorn 2004 | Unknown | |

| SIHP # 50-80-14 | Site Description | Reference | Site Significance | Notes |
|---|---|---|---|---|
| -6819 | Human burial | O'Leary et al. 2005 | Criteria d and e | 2284 Kalākaua Avenue |
| -7015 | Human remains | Mentioned in Welser and McDermott 2018 | Criteria d and e | Trump International Hotel Waikīkī |
| -7016 | Human remains | Mentioned in Welser and McDermott 2018 | Criteria d and e | Trump International Hotel Waikīkī |
| -7017 | Human remains | Mentioned in Welser and McDermott 2018 | Criteria d and e | Trump International Hotel Waikīkī |
| -7018 | Human remains | Mentioned in Welser and McDermott 2018 | Criteria d and e | Trump International Hotel Waikīkī |
| -7041 | Intact traditional Hawaiian burial | Runyon et al. 2015 | Criteria d and e | Royal Hawaiian and Sheraton Hotels |
| -7055 | Human remains | Bulluomini et al. 2016a | Criteria d and e | 280 Beach Walk |
| -7065 | Kawaiahaʻo Waikīkī Branch Church and Cemetery lot | Runyon et al. 2010 / Burke 2014 | Criterion d | Princess Kaʻiulani Hotel |
| -7066 | Cultural layer | Runyon et al. 2010 | Criterion d | Princess Kaʻiulani Hotel |
| -7067 | Intact human burial | Runyon et al. 2010 | Criterion d and e | Princess Kaʻiulani Hotel |
| -7068 | Cultural layer | Thurman et al. 2009 | Criterion d | Diamond Head Tower, Moana Surfrider |
| -7069 | Historic trash pit | Thurman et al. 2009 | Criterion d | Diamond Head Tower, Moana Surfrider |
| -7118 | Cultural layer | Runyon et al. 2015 | Criterion d | Royal Hawaiian and Sheraton Hotels |

| SIHP # 50-80-14 | Site Description | Reference | Site Significance | Notes |
|---|---|---|---|---|
| -7119 | Buried A-horizon | Runyon et al. 2015 | Criterion d | Contained pit features and disarticulated human remains, Royal Hawaiian and Sheraton Hotels |
| -7598 | Cultural layer | Inglis et al. 2014 | Criterion d | 133 Kaʻiulani St. |
| -7599 | Human remains | Inglis et al. 2014 | Unknown | Single human vertebra, 133 Kaʻiulani St. |
| -7761 | Historic refuse fill layer | Bulluomini et al. 2016 | Criterion d | 280 Beach Walk |
| -7813 | Historic foundation slab and debris layer | Manirath et al. 2015 | Unknown | Waikīkī Trade Center |
| -7930 | Cultural layer and underlying wetland deposit containing disarticulated human remains | Thurman et al. 2016 | Criteria a, d, and e | 413 Seaside Ave. |
| -7952 | Loko Kaʻohai Fishpond | Bulluomini et al. 2016 | Criterion d | 280 Beach Walk |
| -9500 | Human burials | Kimble 1976 | Unknown | Construction of Hale Koa Hotel |
| -9550 | Human burial | Streck 1992 | Unknown | Fort DeRussy, Kuroda Parade Ground |
| -9757 | Ala Wai Canal | Steele 1992 | Criterion a | |
| -9957 | Human burials and historic trash concentrations | Neller 1981 / Davis 1984 | Unknown | Halekūlani Hotel |

# Section 4 Archaeological Field Inspection

Fieldwork for this project was conducted on November 8th, 2019 by Nathan DiVito, B.A under the supervision of Rosanna Thurman, M.A. (principal investigator). Fieldwork required approximately 3 person-hours to complete. Fieldwork for this project was performed under the archaeological permit number 19-22 issued to Honua Consulting by the SHPD/DLNR in accordance with HAR Chapter 13-282.

## 4.1 Methodology

The archaeological field inspection consisted of a 100% pedestrian survey of the subject property. The pedestrian survey consisted of the traversal of several north-south trending transects across the property, spaced at approximately 10 m intervals (Figure 32). A visual inspection of the ground surface of the property was conducted. A hand-held Trimble GeoXT device was used to record survey tracks on the property. The Trimble maintained an accuracy ranging between 1 to 3 meters (3-10 feet). Digital photographs were taken throughout the inspection to document the present condition and any points of interest within the property. No artifacts or samples of any kind were collected during the project.

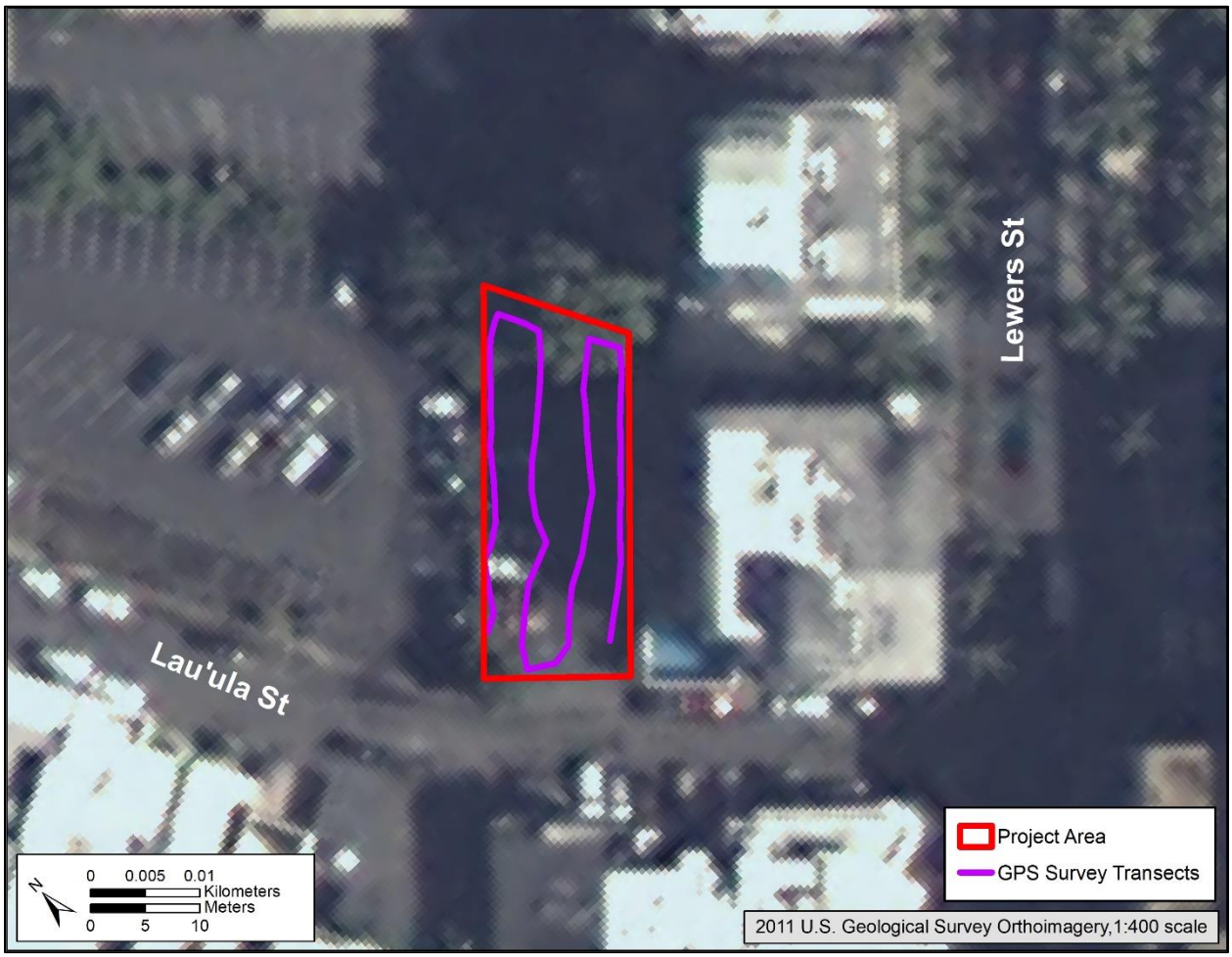



Figure 32. Portion of a 1998 USGS Aerial Photo Showing Pedestrian Survey Tracks

## 4.2 Survey Results

The project area is located within the central portion of the heavily developed commercial district of Waikīkī and is surrounded by commercial and residential development. The project area is paved with asphalt and currently operates as a pay-to-park parking lot. The project area is bound by Lauʻula Street to the south, a gated manicured green space for the Ritz-Carlton Residences to the west, the City and County of Honolulu Beach Walk Wastewater Pump Station to the north, and the mid-rise Aqua Oasis Hotel to the east. Surrounding city infrastructure includes concrete sidewalks, signage, and sub-surface utilities.

The topography of the parcel is flat and the majority of the project area is covered by asphalt for the pay parking lot (Figure 33). A ceramic masonry unit (cmu) wall runs along the northern boundary of the property, with an adjacent thin strip of exposed soil and grasses (Figure 34). The exposed soil in this area is an imported fill with modern rubbish littering its surface. A taller, 10-12 ft. (3-3.6 m.) tall, cmu wall runs along the eastern boundary of the property (Figure 35). Mechanically-crushed basalt aggregate material was observed on the surface in this area, possibly backfill material for the builder's trench associated with construction of the wall and adjacent hotel (circa 1966). Along the west side of the project area is an approximately 3-5 ft. (1 to 1.5 m.) strip of exposed soil and grasses running over what appears to be an existing utility easement (Figure 37 and Figure 38). An approximately 6 ft. (1.8 m.) tall black chain-link fence and a lower 3 ft. (1 m.) tall chain-link fence border the western boundary of the property. Ground visibility along the fences was poor and only overgrown weeds and modern rubbish were observed.

A 1956 Sanborn map shows the project area was undeveloped, with an utility easement running through the west portion and a structure outside and adjacent to the southeast side of the project area (refer to Figure 21). No foundation remnants or structural elements associated with the structure shown along the southeast side of the project area were observed during the field inspection.

Nothing of archaeological note was encountered during the survey and no artifacts or samples were collected. The lack of surface sites and deposits is attributed to historic land reclamation activities and commercial use of the project area as a pay parking lot.

Figure 33. Overview photo of the project area from Lau‘ula Street looking northeast

Figure 34. Overview photo showing the north boundary of the project area bordered by a cmu wall, looking northeast

Figure 35. Overview photo of the cmu wall comprising the eastern boundary of the project area, looking southeast

Figure 36. Overview photo showing the center of the project area looking west

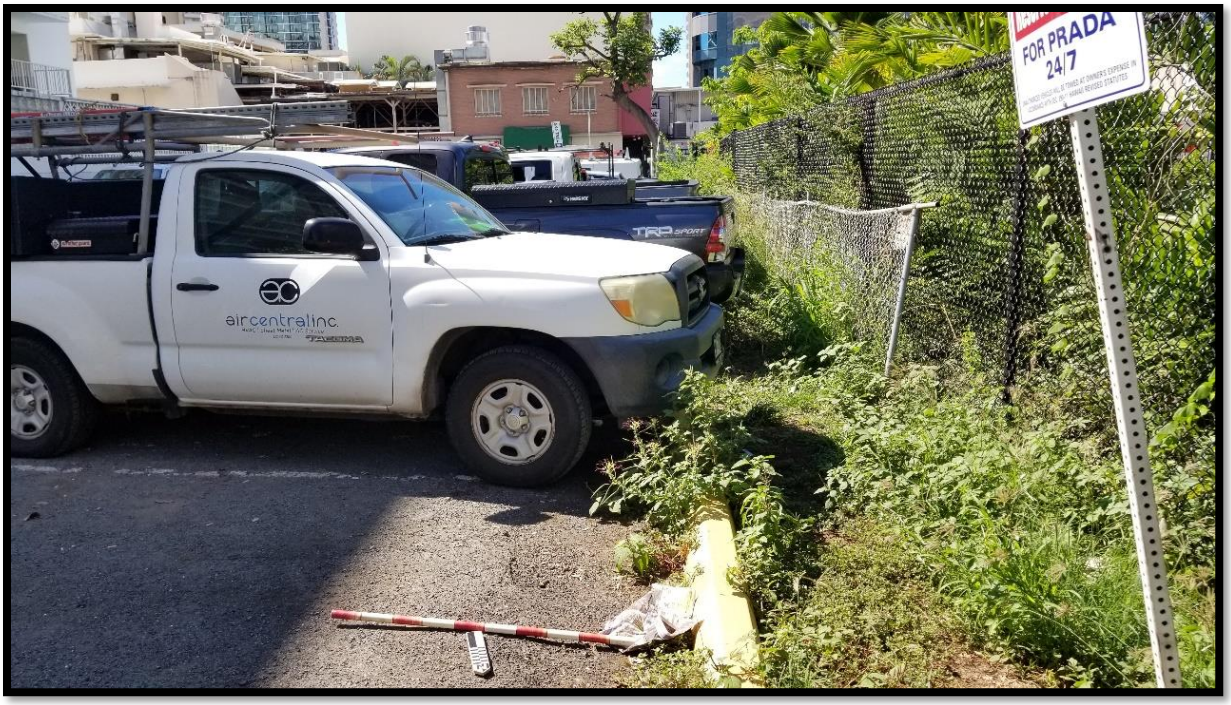



Figure 37. Overview photo of the western boundary of the project area looking south

Figure 38. Overview photo showing the western boundary of the project area looking north

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# Section 5 Summary and Recommendations

This project was completed at the request of R.M. Towill and law firm Van Buren and Shimizu, LLP on behalf of the private landowner, Waikiki Bazaar, Inc. The property area measures approximately 0.1229-acres. The project proposes to construct a new 2-story commercial loft at the site of an existing asphalt pay parking lot. The project would require ground disturbance and grading for structural footing and foundations, excavation of an elevator shaft, and trenching for utilities to depths ranging from 1-6 feet.

Background research indicates that Waikīkī was a place of chiefly residence in the pre-contact and early historic eras. The vicinity around the project area was primarily a wetland environment used for habitation and aquaculture along the shoreline and farming inland of beach areas and adjacent to streams until the area was filled in during land reclamation activities of the 1920's. The current project area was filled by the mid-1920s and incorporated into city blocks by the late 1920's. Twentieth century Land Court Application maps show potential utility easements running along the western boundary as well as through the northern portion of the project area. A 1956 Sanborn Fire Insurance map also shows the potential utility easement along the western boundary as well as a small garage structure within the southeast corner of the project area. The garage appears to be the only previous development within the project area, other than for potential subsurface utilities and its present use as a pay parking lot.

Research on previous archaeological studies in the area found a large number of sites have been recorded. Documented sites include a large amount of human burials and disarticulated human remains in disturbed sand or fill materials, pre and post-contact cultural layers and features, fishpond and wetland sediments, and historic trash deposits.

No previous archaeological studies have been conducted and no sites are known to exist within the project area. However, several studies in adjacent parcels and the surrounding area have documented, SIHP #50-80-14-5796, original buried Waikīkī wetlands (LeSuer et al. 2000, Yucha et al. 2009, Sroat et al. 2011, Pammer et al. 2014, Morriss and Hammatt 2015, and Martel and Hammatt 2017). The site consists of deposits of agricultural wetland sediments, non-agricultural wetland sediments, peat sediments, pond sediments, and pond berms dating from the pre-contact era to the early 1900's and has been documented in multiple separate locations. The site has generally been encountered below 4 to 6 ft of modern and historic land reclamation fills. SIHP # -5796 has been recommended as significant under Criterion d for its information content.

An archaeological inventory survey for 2149 Kūhio Avenue (Pammer et al. 2014), adjacent and to the west of the project area, documented SIHP # -5796 in 24 out of 26 trenches and a buried berm in 4 trenches which is depicted as continuing toward the current project area (refer to Figure 22 and Figure 31). The archaeological inventory survey for the Beach Walk wastewater pump station (Morriss and Hammatt 2015), located adjacent and to the north of the project area, documented SIHP # -5796 in all five of the trenches excavated. Therefore, it is likely that SIHP # -5796, as well as an associated subsurface berm feature, will be documented in the current project area.

The archaeological field inspection conducted for the current project included a pedestrian survey of the paved asphalt parking lot and periphery of the property. Nothing of archaeological note was observed or collected during the inspection. The conducted archaeological investigation is not an archaeological inventory survey (AIS), however, this report was intended to be written

using standards outlined within HAR 13-276 for AIS studies and is intended to assist with historic preservation efforts for the proposed construction of a commercial loft at 2154 Lau‘ula Street. Based on background research and results of this study, a project determination of “no historic properties affected” is supported.

It is recommended that the proposed project proceed under an archaeological monitoring program. This is to ensure proper documentation and treatment of any encountered sites or cultural materials, including SIHP # -5796. The monitoring program shall be conducted in accordance with HAR 13-279 (Rules Governing Standards for Archaeological Monitoring Studies and Reports).

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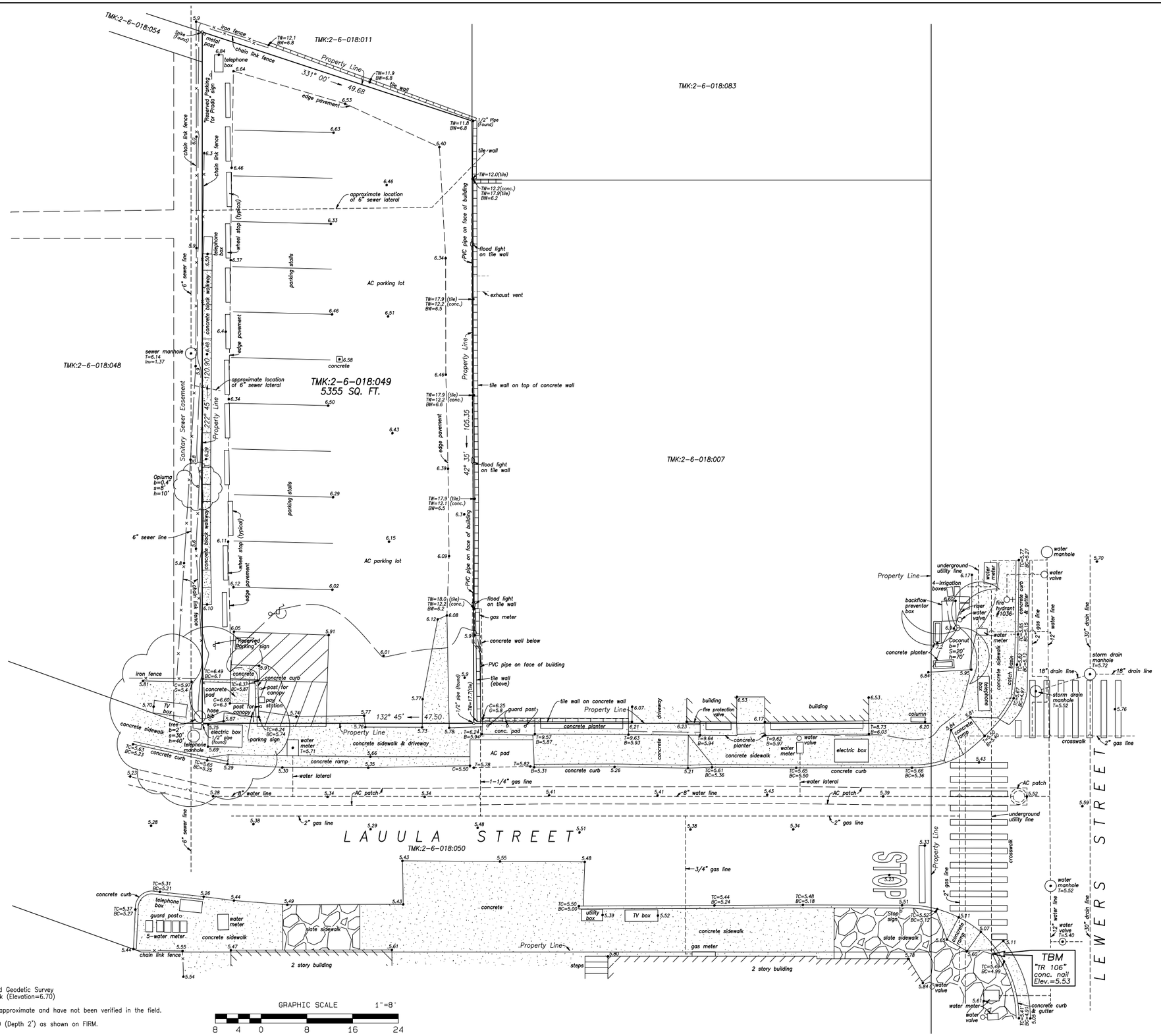
# Appendix G

**Topographic Survey**




LEGEND:

| | |
|---|---|
| b | Bole |
| B | Bottom |
| BC | Bottom Curb |
| BW | Bottom Wall |
| C | Concrete |
| G | Ground |
| h | Height |
| s | Spread |
| T | Top |
| TC | Top Curb |
| TW | Top Wall |

NOTES:

1. Elevations referred to Coast and Geodetic Survey Benchmark F-11 (TU0303) Disk (Elevation=6.70)
2. Location of utilities shown are approximate and have not been verified in the field.
3. Property located within Zone AO (Depth 2') as shown on FIRM.

KN SURVEYING, LLC
500 ALAKAWA STREET #100A
HONOLULU, HAWAII 96817
PH. 524-7100

# TOPOGRAPHIC SURVEY AT 2154 LAUULA STREET

OWNERS: WAIKIKI BAZAAR INC.

WAIKIKI, HONOLULU, OAHU, HAWAII

TAX MAP KEY: 2-6-018: 049

SCALE: 1/8 IN. = 1 FT.

NOVEMBER 23, 2018 FIELD BOOK NO. 206: 33

KENN S. NISHIHIRA
LICENSED PROFESSIONAL LAND SURVEYOR
No. 9043
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

LICENSED PROFESSIONAL LAND SURVEYOR No. 9043

36" x 24"