DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
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JUN 23 2016

KIRK CALDWELL
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GEORGE I. ATTA, FAICP
DIRECTOR

ARTHUR D. CHALLACOMBE
DEPUTY DIRECTOR

2016/ED-4(MS)

June 13, 2016

RECEIVED
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OFC. OF ENVIRONMENTAL QUALITY CONTROL

Mr. Scott Glenn, Director
State of Hawaii
Department of Health
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Mr. Glenn:

SUBJECT:	Chapter 343, Hawaii Revised Statutes Draft Supplemental Environmental Impact Statement (SEIS)
Project:	Additional Improvements to the Outrigger Reef Waikiki Beach Resort
Applicant:	Outrigger Enterprises, Inc.
Agent:	Group 70 International (Christine Ruotola)
EIS Location:	Makai of Kalakaua Avenue and along Saratoga Road, Beach Walk, Lewers Street, and Kalia Road
SEIS Location:	2181 Kalia Road - Waikiki
EIS Tax Map Keys:	2-6-2: 14 and 27; 2-6-3: 1, 60, and 61; and 2-6-4: 10
SEIS Tax Map Key:	2-6-4: 10

With this letter, the Department of Planning and Permitting hereby transmits the Draft SEIS for the additional improvements to the Outrigger Reef Waikiki Beach Resort located on Tax Map Key Parcel 2-6-4: 10, in the Honolulu District on the island of Oahu, for publication in the next edition of "*The Environmental Notice*" on **June 23, 2016**.

We respectfully request publication. Enclosed is a distribution list for the verification of Office of Environmental Quality Control (OEQC) under Section 11-200-21, Hawaii Administrative Rules. Upon receiving verification from OEQC, we will make the Draft SEIS available to those so indicated on the distribution list so that they will have the full 45-day statutory period to review and comment on the Draft SEIS. Also enclosed, please find one hard copy and one electronic copy of the Draft SEIS and the Publication Form. The Publication Form, including Project summary was also sent via electronic mail to your office.

Should you have any questions, please call Malynne Simeon at 768-8023 or via email at msimeon@honolulu.gov.

Very truly yours,

FOR George I. Atta, FAICP
Director

Enclosures: Distribution List
Draft SEIS, one hard copy and one CD
One copy of OEQC Publication Form

FILE COPY
JUN 23 2016

APPLICANT PUBLICATION FORM

Project Name:	Waikīkī Beach Walk – Outrigger Reef Waikīkī Beach Resort
Project Short Name:	Outrigger Reef
HRS §343-5 Trigger(s):	Located in Waikīkī and the Shoreline Area
Island(s):	Oahu
Judicial District(s):	Honolulu
TMK(s):	2-6-002:014, 027 2-6-003:001, 060, 061 2-6-004:010
Permit(s)/Approval(s):	Minor Modification to the Special Management Area Use Permit (Major), Shoreline Setback Variance, Minor Modification to Planned Development-Resort Permit and Waikīkī Special District (Major), Various Site, Grading, Building and Infrastructure Approvals for Construction
Approving Agency:	City and County of Honolulu, Department of Planning and Permitting
Contact Name, Email, Telephone, Address	650 S. King Street, 7th Floor Honolulu, HI 96813 Contact: Malynne Simeon Phone: (808) 768-8023 Email: msimeon@honolulu.gov
Applicant:	Outrigger Enterprises, Inc.
Contact Name, Email, Telephone, Address	2375 Kūhiō Avenue Honolulu, Hawai'i 96815 Contact: Edward E. Case, Senior VP & Chief Legal Officer Phone: (808) 921-6600 Email: ed.case@outrigger.com
Consultant:	Group 70 International, Inc.
Contact Name, Email, Telephone, Address	925 Bethel Street, 5th Floor Honolulu, Hawai'i 96813 Contact: Christine Ruotola, AICP Phone: (808) 523-5866 Email: cruotola@group70int.com

Status (select one)	**Submittal Requirements**
____ DEA-AFNSI	Submit 1) the approving agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEA, and 4) a searchable PDF of the DEA; a 30-day comment period follows from the date of publication in the Notice.
____ FEA-FONSI	Submit 1) the approving agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; no comment period follows from publication in the Notice.
____ FEA-EISPN	Submit 1) the approving agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; a 30-day comment period follows from the date of publication in the Notice.
____ Act 172-12 EISPN ("Direct to EIS")	Submit 1) the approving agency notice of determination letter on agency letterhead and 2) this completed OEQC publication form as a Word file; no EA is required and a 30-day comment period follows from the date of publication in the Notice.
__X__ DEIS	Submit 1) a transmittal letter to the OEQC and to the approving agency, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEIS, 4) a searchable PDF of the DEIS, and 5) a searchable PDF of the distribution list; a 45-day comment period follows from the date of publication in the Notice.
____ FEIS	Submit 1) a transmittal letter to the OEQC and to the approving agency, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEIS, 4) a searchable PDF of the FEIS, and 5) a

	searchable PDF of the distribution list; no comment period follows from publication in the Notice.
____ FEIS Acceptance Determination	The approving agency simultaneously transmits to both the OEQC and the applicant a letter of its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS; no comment period ensues upon publication in the Notice.
____ FEIS Statutory Acceptance	The approving agency simultaneously transmits to both the OEQC and the applicant a notice that it did not make a timely determination on the acceptance or nonacceptance of the applicant's FEIS under Section 343-5(c), HRS, and therefore the applicant's FEIS is deemed accepted as a matter of law.
____ Supplemental EIS Determination	The approving agency simultaneously transmits its notice to both the applicant and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is or is not required; no EA is required and no comment period ensues upon publication in the Notice.
____ Withdrawal	Identify the specific document(s) to withdraw and explain in the project summary section.
____ Other	Contact the OEQC if your action is not one of the above items.

Project Summary

Outrigger is undertaking a revitalization of its Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) located in Waikīkī, O'ahu, Hawai'i. Envisioned in the revitalization of the Outrigger Reef is the demolition of the five-story beachfront Diamond Head tower and dated pool deck, which will be replaced with a resort pool, dining, and beach side lawn area.The redesign will bring a new conferencing center to support small to medium size meetings, including the corporate and incentive meeting market. Completing the transformation will be new hotel rooms connecting the existing Pacific and Ocean Towers on the site. The revitalization of the Outrigger Reef will be the capstone of Waikīkī Beach Walk, from Kalākaua Avenue to the sands of Waikīkī Beach. Implementation of the proposed project improvements will update and expand Outrigger's offering of shopping, dining, entertainment, and hospitality options. The SEIS evaluates construction and operational impacts on natural environmental, archaeological, and cultural resources; utility, infrastructure, roadway, and traffic conditions; and projected socio-economic benefits and costs.

WAKĪKĪ BEACH WALK
OUTRIGGER REEF WAKĪKĪ BEACH RESORT

Waikīkī, Island of O'ahu, Hawai'i

TMK 2-6-002: 027
TMK 2-6-003: 001, 060, 061
TMK 2-6-004: 010

DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

JUNE 2016

OUTRIGGER® ENTERPRISES GROUP

GROUP 70 INTERNATIONAL

WAIKĪKĪ BEACH WALK
OUTRIGGER REEF WAIKĪKĪ BEACH RESORT

Waikīkī, Island of O'ahu, Hawai'i

TMK 2-6-002: 027
TMK 2-6-003: 001, 060, 061
TMK 2-6-004: 010

Draft Supplemental Environmental Impact Statement

Applicant:

OUTRIGGER ENTERPRISES GROUP

Outrigger Enterprises, Inc.
2375 Kūhiō Avenue
Honolulu, Hawai'i 96815

Approving Agency:

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

Prepared By:

GROUP 70 INTERNATIONAL

925 Bethel Street, 5th Floor
Honolulu, Hawai'i 96813

This environmental document is prepared pursuant to Chapter 11-200, Hawai'i Administrative Rules (Department of Health), "Environmental Impact Statement Rules"

Christine Mendes Ruotola, AICP, LEED AP

June 9, 2016
Date

JUNE 2016

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APPENDICES

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B. Outrigger Reef on the Beach Hotel Revitalization: Economic Impacts. (John M. Knox & Associates, March 2016).

C. Transportation Assessment for the Outrigger Reef Waikiki Beach Resort Revisioning. (Fehr & Peers, February 2016).

D. Preliminary Engineering Report Outrigger Reef Expansion. (Group 70 International, March 2016).

E. Outrigger Reef Waikiki Beach Resort Pedestrian Wind Assessment. (Rowan Williams Davies & Irwin, Inc., March 2016).

F. Air Quality Impact Assessment Waikiki Beach Walk – Outrigger Reef Waikiki Beach Resort. (ARCADIS, March 2016).

G. Potential Impacts to Surface and Groundwater Resources of the Proposed Redevelopment of the Outrigger Reef Property, Honolulu, Oahu, Hawaii. (Tom Nance Water Resource Engineering, April 2015).

H. An Assessment of Potential Effects to Water Quality and Marine Communities from Proposed Redevelopments of the Outrigger Reef Property, Waikiki, Oahu, Hawaii. (Marine Research Consultants, May 2015).

I. Archaeological Monitoring Plan for Outrigger Reef on the Beach Revitalization Project. (T.S. Dye & Colleagues, Archaeologists, Inc., September 2014).

J. Cultural Impact Assessment for the Outrigger Reef on the Beach Hotel Revisioning, Waikīkī Ahupuaʻa, Kona District, Island of Oʻahu. (Keala Pono, April 2015).

K. Acoustic Study for the Waikiki Beach Walk – Outrigger Reef Waikiki Beach Resort Project, Waikiki, Oahu, Hawaii. (Y. Ebisu & Associates, March 2016).

ACRONYMS USED

AA	Archaeological Assessment
AAQS	Ambient Air Quality Standards
ADA	Americans with Disabilities Act
AIS	Archeology Inventory Survey
AMP	Archaeological Monitoring Program
BMPs	Best Management Practices
BWS	Board of Water Supply
Bs	Beaches
CAA	Clean Air Act
CAB	Clean Air Branch
CATV	Cable Television
CCH	City and County of Honolulu
CFR	Code of Federal Regulations
Chl a	Chlorine
CIA	Cultural Impact Assessment
CMP	Coastal Management Programs
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CRU	Crime Reduction Unit
CWB	Clean Water Branch
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act
dBA	Decibel
DBEDT	State Department of Business, Economic Development, and Tourism
DEIS	Draft Environmental Impact Statement
DLNR	Department of Land and Natural Resources
DNL	Day-Night Average Sound Level
DOE	Department of Education
DOH	State Department of Health
DOT	Department of Transportation
DPP	Department of Planning and Permitting
DTS	Department of Transportation Services
EIS	Environmental Impact Statement
EISPN	Environmental Impact Statement Preparation Notice
EMD	Emergency Medical Dispatch
EMS	Emergency Medical Services
ENV	Department of Environmental Services
FAR	Floor Area Ratio
ft	Foot/Feet
FTE	Full-Time Equivalent
FY	Fiscal Year
g-force	Earth's Gravitational Acceleration
GHGs	Green House Gases
GPD	Gallons Per Day
HAR	Hawai'i Administrative Rules
HECO	Hawai'i Electric Company

HEPA	Hawai'i's Environmental Protection Act
HFD	Honolulu Fire Department
HIOSH	Hawai'i Occupational Safety and Health
HPD	Honolulu Police Department
HRS	Hawai'i Revised Statutes
H_2S	Hydrogen Sulfide
HSTA	Hawai'i State Teachers Association
HTA	Hawai'i Tourism Authority
IDF	Intermediate Distribution Frame
JaC	Jaucas Sand
KMC	Kapi'olani Medical Center for Women and Children
LCA	Land Commission Award
LF	Linear Feet
LOS	Level of Service
LUC	Land Use Commission
LUO	Land Use Ordinance
MDF	Main Distribution Frame
MGD	Million Gallons per Day
MICE	Meetings, Incentives, Conventions, and Exhibitions
MRC	Marine Research Consultants, Inc.
m	Meter(s)
mph	Miles per Hour
MSL	Mean Sea Level
MTD	Manufactured Treatment Device
MUTCD	Manual on Uniform Traffic Control Devices for Streets and Highways
NAAQS	National Ambient Air Quality Standards
NH_4^+	Ammonium
NO_X	Nitrogen Oxides
NO_2	Nitrogen Dioxide
NO_3^-	Nitrates
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRAG	Natural Resources Advisory Group
NRCS	Natural Resources Conservation Service
O_3	Ozone
OCCL	Office of Conservation and Coastal Lands
OEQC	Office of Environmental Quality Control
OHA	Office of Hawaiian Affairs
OIBC	O'ahu Island Burial Council
OSHA	Occupational Safety and Health Administration
Outrigger	Outrigger Enterprises, Inc.
Outrigger Reef	Outrigger Reef Waikīkī Beach Resort
OZONE	Outrigger Zone
PacIOOS	Pacific Islands Ocean Observing System
PACT	Parents and Children Together
Pb	Lead
PBX	Private Branch Exchange
PCB	Polychlorinated Biphenyls

PD-R	Planned Development-Resort
PER	Preliminary Engineering Report
PM_X	Particulate Matter
PO_4^{3-}	Orthophosphate Phosphorus
ppb	Parts per Billion
ppm	Parts per Million
PTE	Part-Time Equivalent
PUC	Primary Urban Center
PVT	Private
QMC	Queen's Medical Center
RACM	Regulated Asbestos Containing Building Material
ROG	Reactive Organic Gas
RWDI	Rowan Williams Davies & Irwin Inc.
SAAQS	State Ambient Air Quality Standards
SCA	Sewer Connection Application
SDOC	Straub Doctors on Call
SEIS	Supplemental Environmental Impact Statement
SEISPN	Supplemental Environmental Impact Statement Preparatory Notice
sf	Square Feet
SHPD	State Historic Preservation Division
Si	Silica
SIHP	State Inventory of Historic Places
SMA	Special Management Area
SMP	Special Management Area Use Permit
SO_2	Sulfur Dioxide
SOEST	School of Ocean and Earth Science and Technology
TCSP	Transportation and Community and System Preservation Pilot Program
TDM	Transportation Demand Management
TIAR	Traffic Impact Analysis Report
TMK	Tax Map Key
TN	Total Nitrogen
TP	Total Phosphorus
TSP	Tourism Strategic Plan
UBC	Universal Building Code
UH	University of Hawai'i
UPC	Uniform Plumbing Code
USEPA	Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground Storage Tank
V/C	Volume to Capacity
VOC	Volatile Organic Compound
WHC	Waikīkī Health Clinic
WLCP	Waikīkī Livable Community Project
WSD	Waikīkī Special District
WTTC	World Travel Tourism Council
WWB	Wastewater Branch
$\mu g/m^3$	Microgram per Cubic Meter

Section 1.0

PROJECT SUMMARY

1.0 PROJECT SUMMARY

This section provides an overview of the contents and purpose of this Supplemental Environmental Impact Statement (SEIS) for the Waikīkī Beach Walk project along with a description of the public consultation process. The document will serve to supplement the Waikīkī Beach Walk Environmental Impact Statement (EIS) (2002) to address the addition of improvements to the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef). In this section, the Outrigger Reef project and its potential impacts, the proposed mitigative measures, as well as alternatives to the proposed project, are summarized.

1.1 PROJECT INFORMATION SUMMARY

Applicant: Outrigger Enterprises, Inc. (Outrigger)
2375 Kūhiō Avenue
Honolulu, Hawai'i 96815
Contact: Edward E. Case,
Senior Vice President & Chief Legal Officer
Phone: (808) 921-6600

Approving Agency: City and County of Honolulu
Department of Planning and Permitting (DPP)

Name of Action: Waikīkī Beach Walk
Outrigger Reef Waikīkī Beach Resort

Planning/Environmental Consultant: Group 70 International, Inc.
925 Bethel Street, 5th Floor
Honolulu, Hawai'i 96813
Contact: Christine Ruotola, AICP
Phone: (808) 523-5866

Project Location Waikīkī, O'ahu, Hawai'i *(Figure 1-1)*

Tax Map Keys:

Waikīkī Beach Walk EIS (2002):	2-6-002:	027
	2-6-003:	001, 060, and 061
	2-6-004:	010 (*Figure 1-2*)
SEIS:	2-6-004:	010 (*Figure 1-2*)

Land Area:

Waikīkī Beach Walk EIS (2002):	7.97 acres
SEIS:	2.50 acres

Location:

Waikīkī Beach Walk EIS (2002):	Makai of Kalākaua Avenue and along Saratoga Road, Beach Walk, Lewers Street, and Kālia Road
SEIS:	2181 Kālia Road (*Figure 1-1 and Figure 1-2*)

State Land Use District:

Waikīkī Beach Walk EIS (2002) and SEIS:	Urban District (*Figure 1-3*)

City and County of Honolulu:

Development Plan Area

Waikīkī Beach Walk EIS (2002) and SEIS:	Primary Urban Center (*Figure 1-4*)

Special District Designation

Waikīkī Beach Walk EIS (2002) and SEIS:	Waikīkī Special District (*Figure 1-5*)

Zoning (Land Use Ordinance)

Waikīkī Beach Walk EIS (2002) and SEIS:	Resort Mixed Use Precinct (*Figure 1-5*)

Special Management Area (SMA)

Waikīkī Beach Walk EIS (2002):	Portion of the site is located within the SMA
SEIS:	Entire project area is within the SMA (*Figure 1-6*)

Landowners: See detailed list below

TMK (Waikīkī Beach Walk EIS (2002))	Fee Owner
2-6-002:027	227 Lewers Condominium: various unit owners
2-6-003:001	2181 Kalākaua Condominium: various unit owners
2-6-003:060	2181 Kalākaua Condominium: various unit owners
2-6-003:061	Trump International Hotel & Tower at Waikīkī Beach Walk Condominium: various unit owners
2-6-004:010 (SEIS)	ORF LLC

Proposed Action: Improvements at the Outrigger Reef will include:

- Demolition of the five-story beachside Diamond Head Tower and reduction of approximately 43,166 square feet of floor area on the site;

- Demolition of dated pool deck, which will be replaced with a new 52,800 sf pool deck and recreation area, and a 10,100 sf beachside lawn;
- Approximately 7,500 square feet of new meeting space;
- 60 new hotel rooms that will connect the existing Pacific and Ocean Towers, resulting in a net increase of 39 rooms on the property.
- New walkways, landscaping and improved retail at Kālia Road;
- Improved arrival and lobby area;
- A new port cochere, new and reconfigured parking, loading and service routes, and improved vehicle circulation at Kālia Road;

Figure 1-1 Project Location

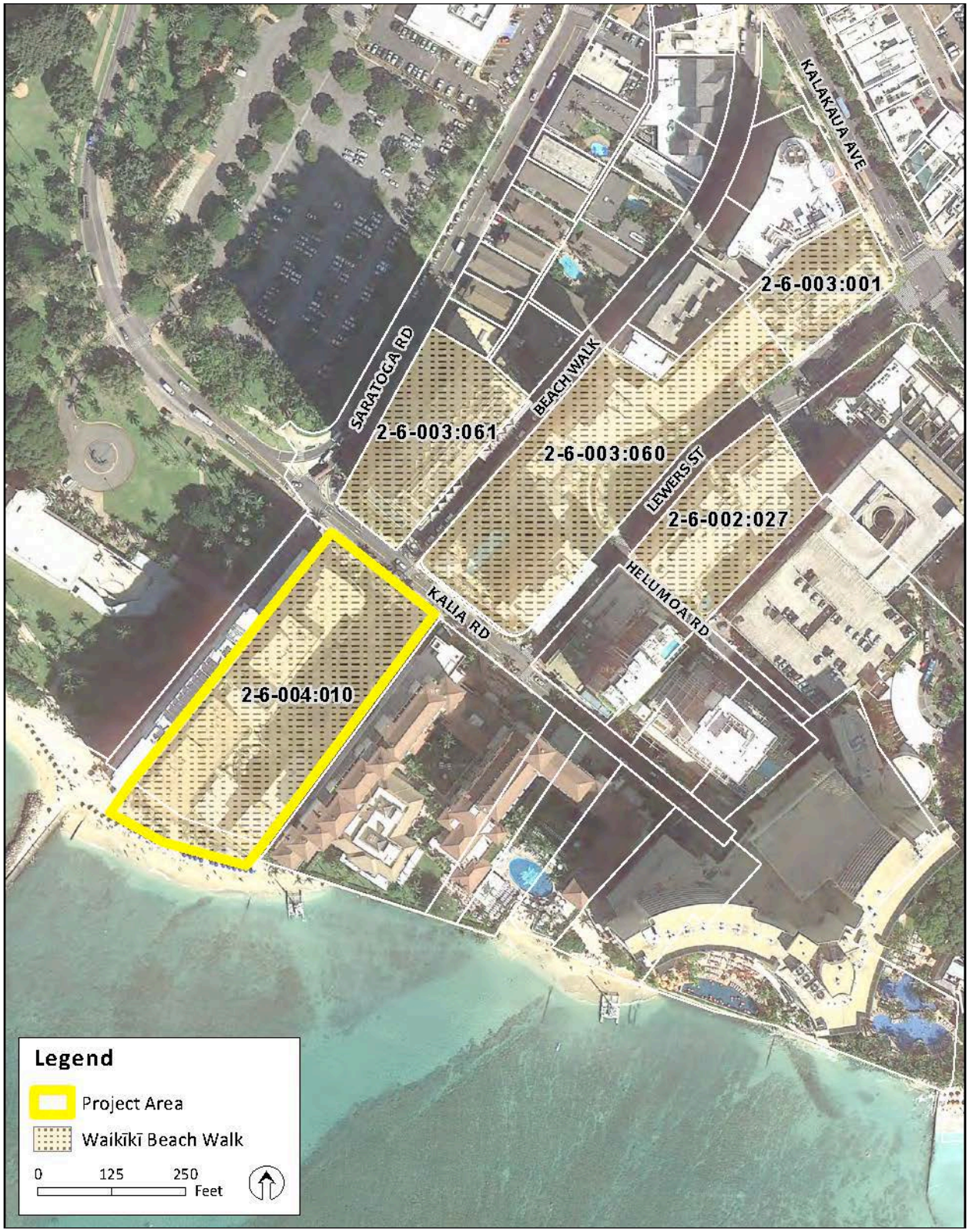


Figure 1-2 City and County of Honolulu Tax Map Key

Figure 1-3 State Land Use District Designations

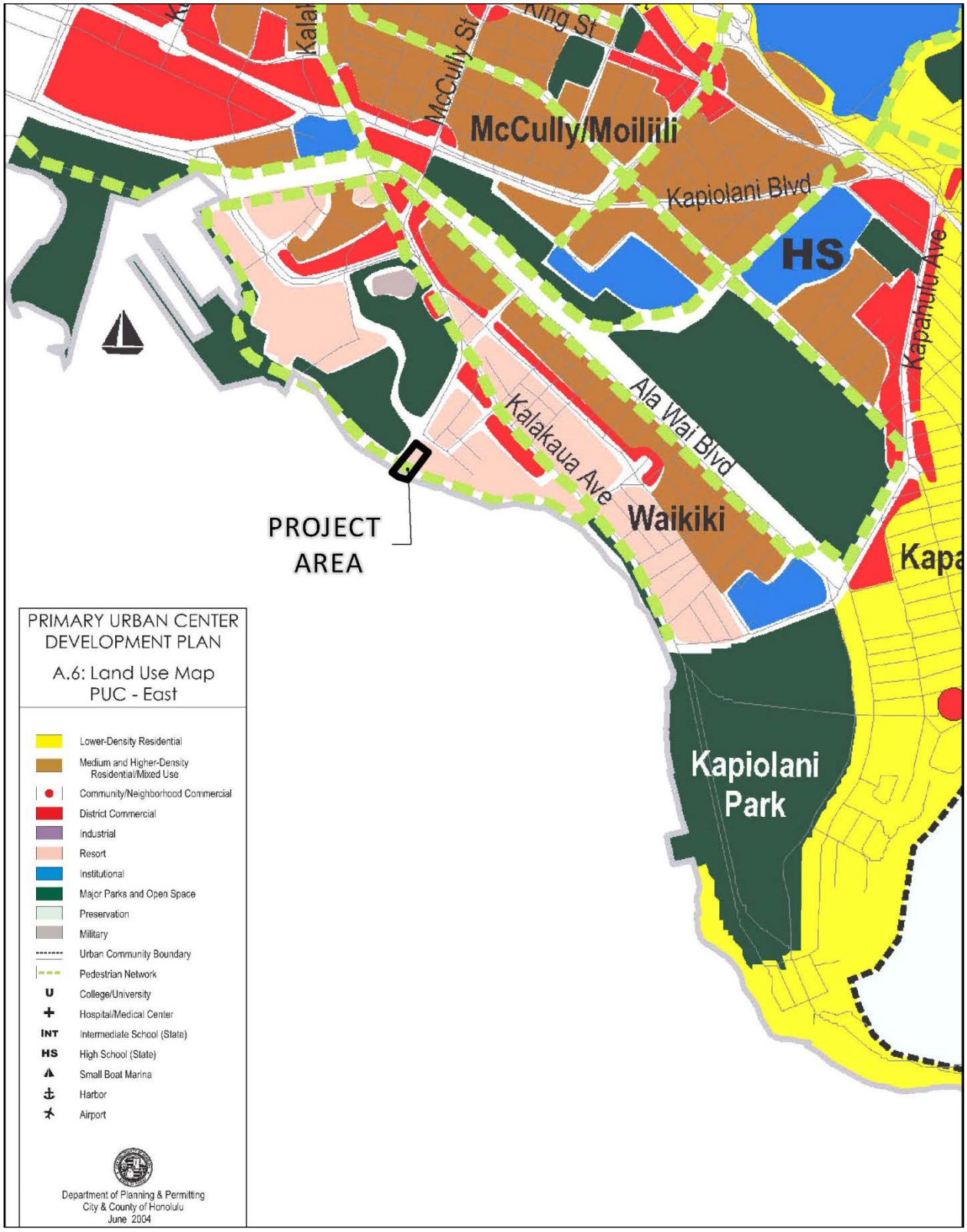


Figure 1-4 City and County of Honolulu, Primary Urban Center Land Use Designation

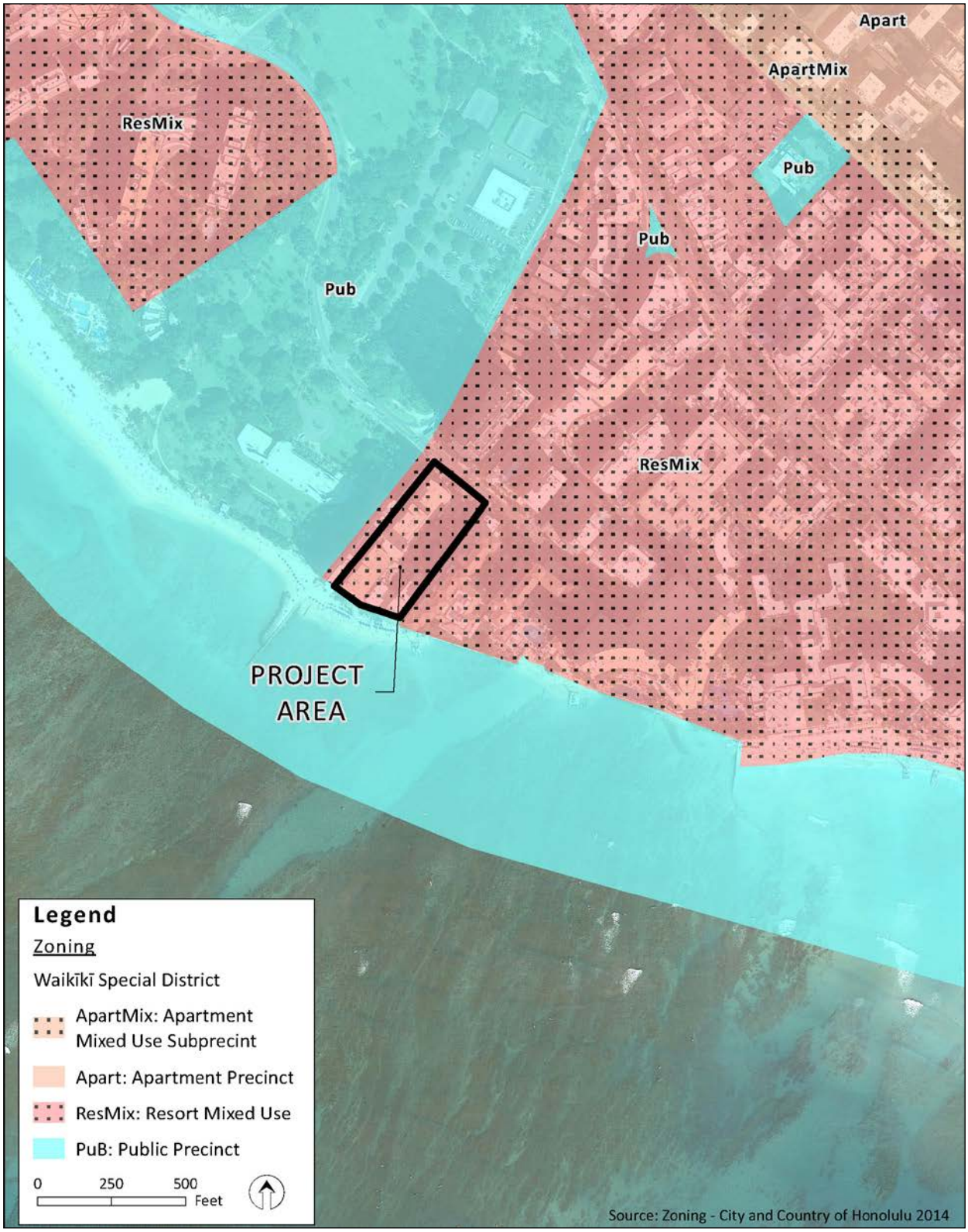


Figure 1-5 City and County of Honolulu Zoning & Waikīkī Special District Designations

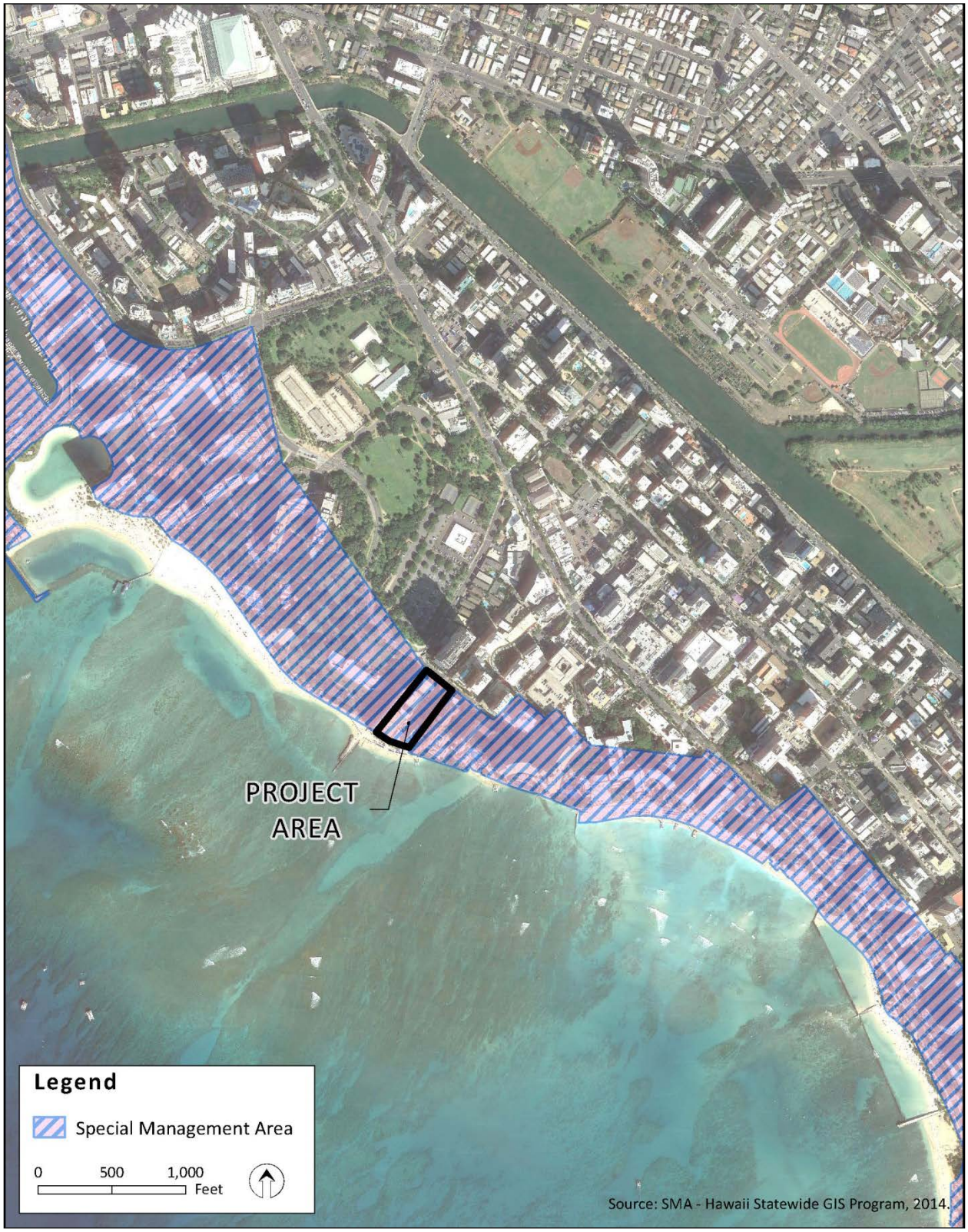


Figure 1-6 City and County of Honolulu, Special Management Area

1.2 INTRODUCTION

In 2002, a Final EIS was completed for the Waikīkī Beach Walk project including the Outrigger Reef. This project was a master-planned redevelopment of Outrigger's properties in the Lewers Street area. Waikīkī Beach Walk was designed and constructed as a mixed-use entertainment, retail and hotel project that defines Lewers Street as a gathering place for visitors and locals alike in Waikīkī. The two-phased redevelopment project included Outrigger holdings makai of Kalākaua Avenue and along Lewers Street, Kālia Road, Beach Walk and Saratoga Road. The project upgraded five existing hotels, demolished six older hotels in the area, and redeveloped the latter areas to include a new entertainment retail complex, a new hotel, and enhanced public areas. Phase 1 of the project involved the redevelopment and renovation of Waikīkī Village, Waikīkī Tower, and Reef Towers hotels into two hotels – the Embassy Suites Waikīkī Beach Walk and the Wyndham at Waikīkī Beach Walk - and the replacement of the Edgewater Lanais, Coral Seas and Edgewater hotels with a new two-level entertainment/retail promenade. Phase 2 focused on redevelopment of the Outrigger properties between Saratoga Road and Beach Walk. A new hotel tower (350 ft in height with 462 rooms), Trump International Hotel Waikīkī Beach Walk (Trump Hotel), was constructed where the Royal Islander, Reef Lanais and Malihini hotels once stood.

In 2009, Outrigger completed a renovation of the Outrigger Reef's rooms, lobby areas, and porte cochere. Today, Waikīkī Beach Walk is a vibrant gathering place, a showcase for Hawaiian music, and a destination of choice for visitors and Hawai'i residents. The project was the first of many significant private and public investments that have strengthened Waikīkī's competitive position in the global tourism market.

To carry on this success and further improve Waikīkī's competitive position, Outrigger plans to fully revitalize the Outrigger Reef. Outrigger envisions the redevelopment of this property to provide visitors with conferencing options, a new resort pool and recreation area, beachside lawn area, and expanded hotel room accommodations. These specific proposed improvements to the Outrigger Reef property were not included in the 2002 Final EIS for the Waikīkī Beach Walk project. Therefore, an SEIS is required for the proposed action.

For the purposes of this SEIS, the proposed improvements to the Outrigger Reef property will be referred to as the "project".

1.3 PROPOSED ACTION

As Hawai'i's largest hospitality company, Outrigger recognizes the global competition for visitor business and the need to continuously improve and refresh its product to meet with the evolving expectations of its guests. Among those expectations are (1) a high quality hotel room product and (2) an attractive and competitive meeting space and (3) quality recreational facilities such as resort swimming pools, lounging areas, and entertainment venues.

Waikīkī accommodates over one-half of all Hawai'i tourists. Today, most of Waikīkī hotels are operating at high capacity (85% occupancy) as occupancy rates continue to rise. One cause for this may be the loss of hotel room product in recent years. Hospitality Advisors LLC reported that Waikīkī has lost 5,117 hotel rooms (almost 20% of its total hotel rooms) from 2000 to 2012. Planned redevelopment and renovations of existing hotels will continue this trend. The Waikīkī Parc Hotel's planned renovation will consolidate the existing 297 rooms into 126 one- and two-

bedroom hotel units. In addition, the new Hilton Garden Inn contains fewer rooms today than when it operated as the OHANA Waikīkī West Hotel. Most of the new hotel developments have been structured as condominium or timeshare ownership so that developers can recoup construction costs by selling the units. The result is a need for more quality hotel rooms in Waikīkī to continue attracting visitor business to the State. In addition to quality hotel rooms, there is a demand for meeting facilities to support small and mid-sized meetings, conventions, exhibitions, and events for both the visitor and local market.

As a global leader in the hospitality industry, Outrigger is undertaking a revitalization of its Outrigger Reef in Waikīkī. The Outrigger Reef is one of only seven beachfront hotels in Waikīkī and the only one locally owned in fee, and, as such, plays a vital role in the maintaining the magic of the world famous Waikīkī Beach. For the kamaʻāina Kelley family, who founded Outrigger in 1947 and has owned and operated it locally ever since, the Outrigger Reef is a crown jewel and a celebration of their legacy in Hawaiian hospitality.

Improvements at the Outrigger Reef will include the demolition of the five-story beachside Diamond Head Tower and dated pool deck, which will be replaced with a new pool deck and recreation area and a large beachside lawn area, softly blending with the beach and ocean beyond. The revitalization will also include additional hotel rooms that will connect the existing Pacific and Ocean Towers and a new conferencing center to support small to medium size meetings, including the lucrative corporate and incentive meeting market. At Kālia Road, a new port cochere, walkways, select retail, and improved vehicle circulation will further enhance this entry to Waikīkī.

Outrigger has invested over half a billion dollars in creating Waikīkī Beach Walk, a transformation of an aging and blighted neighborhood into a vibrant pedestrian environment. Today, Waikīkī Beach Walk is an inviting public space that provides unique food and beverage and shopping opportunities, while sharing Hawaiʻi's music and dance at a signature gathering place. The revitalization of the Outrigger Reef will be the capstone of Waikīkī Beach Walk, from Kalākaua Avenue to the sands of Waikīkī Beach. Implementation of the proposed project improvements will update and expand Outrigger's offering of shopping, dining, entertainment, and hospitality options.

1.4 ENVIRONMENTAL REVIEW UNDER CHAPTER 343, HAWAIʻI REVISED STATUTES

The State environmental review process is being administered to fulfill the requirements of Hawaiʻi's Environmental Protection Act (HEPA), Chapter 343, Hawaiʻi Revised Statutes (HRS), and Chapter11-200, Hawaiʻi Administrative Rules (HAR), the rules governing the Office of Environmental Quality Control (OEQC).

In 2002, a Final EIS was completed for the Waikīkī Beach Walk project, including the Outrigger Reef as detailed above in *Section 1.2*. Since the EIS in 2002, all of the components of the Waikīkī Beach Walk project except Outrigger Reef have been completed. Outrigger plans to continue improving the existing Outrigger Reef property by providing visitors with improved and expanded hotel room accommodations, conferencing options, a new resort pool and recreation area, and beachside lawn area. These specific proposed improvements to the Outrigger Reef property were not included in the 2002 Final EIS for the Waikīkī Beach Walk project. Therefore, a SEIS is required for the proposed action.

The environmental review process for this project was initiated with the publication of the Supplemental Environmental Impact Statement Notice of Preparation (SEISPN), which underwent a 30-day review period from October 8, 2014 through November 8, 2014. All substantive comments received during the review period, as well as copies of response letters from the applicant, are presented in *Appendix A* of this study. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The Draft Supplemental Environmental Impact Statement (DSEIS) is an assessment of this updated project program.

Upon its formal submittal and acceptance by the City and County of Honolulu, DPP for publication, the Draft SEIS will undergo a 45-day public comment period. The substantive comments received during this review period will be addressed, and a written response provided and incorporated into the Final SEIS prior to its filing.

While existing conditions and potential impacts relating to the Waikīkī Beach Walk project have been assessed as part of the 2002 Final EIS, this DSEIS further examines existing conditions and probable impacts associated with the specific improvements at the Outrigger Reef. The DSEIS references technical studies and information from the Waikīkī Beach Walk EIS that are pertinent to the proposed action and adds new information specific to Outrigger Reef improvements.

1.5 SIGNIFICANT BENEFICIAL AND ADVERSE IMPACTS & PROPOSED MITIGATION MEASURES WITH THE PROPOSED PROJECT

Implementation of the planned improvements at the Outrigger Reef will result in numerous beneficial impacts. Importantly, the commitment by Outrigger to pursue this new phase of reinvesting and improving the hotel property is of vital importance to completing Waikīkī Beach Walk and to Waikīkī's overall future. Project improvements will expand existing hotel service, enhance existing retail service, expand recreational amenities for hotel guests, improve pedestrian walkways and viewpoints along Kālia Road, and improve open space along the beachfront as well as mauka and makai views. County and State economic benefits will include construction-related jobs involved with development of the project. In the long term, the Outrigger Reef improvements will create additional full-time positions relating to hotel and retail operations. As such, the impacts of the project are anticipated to be largely beneficial, as discussed below. Mitigative measures are proposed to offset potential adverse impacts.

1.5.1 Beneficial Impacts

The proposed improvements represent a continuation of existing hotel, retail, and recreational amenity uses and, therefore, will not alter the functional nature of the property. While maintaining the existing land use, the project will transform the entry and pedestrian/street fronts into a more unified and cohesive resort experience within the property and with adjoining land uses. The portion of the property fronting Kālia Road will be opened up, creating an inviting pedestrian environment that will further enliven the experience from the existing Kālia gateway.

The removal of the five-story Diamond Head Tower and its replacement with a large lawn area and other open space will create dramatically increased open area, providing a far more desirable Waikīkī Beach view and recreational experience in both relief from makai boundary vertical structures and in a substantially improved interface between land and sea. The removal of the

Diamond Head Tower from the shoreline setback area will reduce the existing non-conformity and is better aligned with State and County policies relating to shoreline and coastal zone management. In addition, the new beachside lawn that will replace Diamond Head Tower will include native coastal species and will help to protect shoreline and coastal areas near the site from potential impacts relating to storm drainage and erosion.

Full implementation of the project will result in a net increase of approximately 39 hotel units on the property. The economic impacts of the project are summarized in *Section 4.12*, and the complete study is provided in *Appendix B*. The increase in hotel operations and improved property will add to renewed economic activity. The project improvements are expected to generate an average of 1,486 full time equivalent (FTE) development-related positions during the currently-projected construction period (2018 to 2020). An average of 568 FTE and part time equivalent (PTE) operational positions would be provided (new or existing) through 2022 (direct jobs and indirect and induced jobs). There will be 1,045 FTE positions at stabilization after 2029. There are also expected to be significant indirect contributions to the economy through associated visitor spending and off-site servicing and support operations to the Outrigger Reef. The project is estimated to generate approximately $5.07 million in net additional government operating revenue per year to State and County governments through 2022 and $7.69 million at stabilization after 2029.

The Outrigger Reef will continue to serve as a venue for multi-ethnic cultural events, Hawaiian music, artistic demonstrations, and performances. These include a new and improved Kani Ka Pila Grille highlighting traditional Hawaiian music for residents and visitors alike. Cultural programs for the hotel will continue to be provided to guests. Long-term programs for cultural education increase awareness of the host culture, as well as the past history and significance of the project site and its surrounds within the broader context of the Waikīkī area. Some of the cultural programs offered weekly at the Outrigger Reef include: Native Hawaiian plants and uses, walking tours of Waikīkī, Hawaiian crafts, ukulele lessons, hula lessons, and live music performances. Outrigger has contributed significant public benefits over the decades, and will continue its numerous programs and activities that benefit local residents and visitors. *Section 1.9* provides a summary of public benefits.

1.5.2 Adverse Impacts

Implementation of the Outrigger Reef improvements will produce potential short-term and long-term impacts. There will be demolition and renovation of portions of existing structures, and construction of a new pool deck, meeting facilities, restaurants and hotel units. These activities will create local short-term construction-related impacts on the environment. Potential short-term impacts evaluated in the EIS include soil disturbance, dust and erosion due to demolition, excavation and grading, traffic in the project's vicinity due to construction equipment and trucks, and increased noise due to the construction-related operations. Potential drainage and runoff issues related to construction are also evaluated.

Short-term negative economic benefits related to construction include reduced revenue to shop vendors in existing areas scheduled for renovation, demolition and construction. These impacts may be somewhat offset by increased sales at other Waikīkī retail shops or hotel properties. The economic impacts of the project are summarized in *Section 4.12* and the complete study is provided in *Appendix B*.

Over the long-term, there will be minimal and/or temporary traffic impacts generated by the project. The new trips generated by the Outrigger Reef are expected to be associated with the new hotel units and conference meeting space. The findings of a traffic assessment are summarized in *Section 4.8*, and the complete study is provided in *Appendix C*. With the increase in hotel units, there will be an additional long-term demand on City infrastructure, although this may be offset by the loss of hotel rooms as well, including those at the neighboring Waikīkī Parc Hotel. Infrastructure requirements associated with the project is presented in *Section 4.9*, and the complete study is provided in *Appendix D*.

As shown in *Section 3.4.7*, the additional units connecting the Pacific and Ocean Towers will have the same building height as the Pacific Tower and will not impact public views. *Section 4.11* addresses impacts to public view planes, including before and after simulations of the completed Outrigger Reef project from public view locations in the surrounding area.

The proposed project will involve some replacement within the 40 ft shoreline setback. Improvements within the shoreline setback will include the demolition of Diamond Head tower and backfilling of the basement area beneath the tower, new beachside lawn and stage, a portion of the new pool deck which is currently used as the roof connecting the existing Diamond Head Tower and Ocean Tower, drainage system improvements, and interior parking improvements in the basement of the Ocean Tower. A Shoreline Setback Variance (SSV) application will be submitted for the project at the appropriate time to ensure the project's compliance with Chapter 205A, HRS. The proposed improvements to the Outrigger Reef property will not adversely affect beach processes or further artificially fix the shoreline. In addition, while a portion of the proposed action will still encroach into the shoreline setback, the proposed project will significantly lessen the existing non-conformity on the property and is more in-line with State and County policies relating to coastal zone management.

1.5.3 Proposed Mitigation Measures

There are few potential long-term adverse impacts anticipated to result from the planned improvements. Relative to the various benefits that are expected to result from the project, with application of the various mitigation measures described in this EIS, the potential adverse impacts are not considered significant. Potential short-term impacts will be limited to construction effects such as temporary business relocation, noise, visual, and temporary air quality impacts related to dust and equipment emissions. Long-term impacts are expected to be modest and consistent with the urban environment. Potential short-term and long-term impacts, and proposed mitigative measures, are discussed in detail in *Section 4.0* and summarized below.

Air Quality Mitigation

The impact of construction activity on air quality will be mitigated by conforming to strict dust control measures, particularly those specified in the State Department of Health's (DOH) Ambient Air Quality Standards, Chapter 11-59, HAR.

Noise Mitigation

Temporary but unavoidable noise impacts may occur during the demolition and construction activities within the area. The use of properly muffled construction equipment will help ameliorate these impacts. Once construction is completed, there will be minor additional noise impacts resulting from some of the proposed new on-site activities, such as the expanded pool area in the center of the hotel property.

Traffic Mitigation

During the construction phase of the project, some inconvenience is anticipated relating to haul truck traffic, delivery and staging of material and equipment, construction worker traffic, construction worker parking and construction related closures. The project's construction-related traffic effects are considered to be potentially adverse, but not significant impacts because such effects, while sometimes inconvenient, are temporary. A Construction Management Plan (CMP) would be developed for the project that would discuss the anticipated construction schedule, phasing, and staging, as well as traffic circulation, control, parking and conflicts with site access and public transportation during the construction period. Mitigating actions would also be developed to ensure project construction activities, traffic and other effects on affected roadways, bicycles, pedestrian, and transit facilities are minimized to the greatest extent possible.

Traffic operations along the area roadways and intersections will not be significantly affected in the long-term as a result of the Outrigger Reef improvements. Based on the results of the project's trip generation estimates and a comparison of baseline condition traffic volumes, the off-site traffic impact of the revitalization project is expected to be minimal and/or temporary. Specifically, the build-out of the project is expected to typically result in less than 10 new trips in both the AM and PM peak hour, and for one to two days of the week (i.e. under event conditions) the project would add no more than 65 total net new external vehicle trips to the roadway system that for the most part is operating at acceptable levels (LOS D or better). Outrigger will implement Travel Demand Management (TDM) strategies and will coordinate with the City and County of Honolulu Department of Transportation Services (DTS) to manage traffic flow. Applicable TDM strategies detailed further in *Section 4.8* could lead to vehicle trip reduction, use of alternative modes, or better traffic management, which would in turn help achieve better conditions at the impacted location.

Wind Impact Mitigation

Design measures have been undertaken to provide wind control which will help to minimize the impacts of wind acceleration effects to pedestrians. These include the canopy along the north façade of the Pacific Tower and the wall along the west edge of the public beach access. Landscape vegetation will also be planted in selected areas to help shelter pedestrians from wind gusts. The Outrigger Reef improvements are not anticipated to create significant adverse effects upon wind conditions. No wind safety issues are expected anywhere on or near the Outrigger Reef site.

Archaeological and Cultural Resource Mitigation

Due to the concern regarding the potential for discovery of iwi kūpuna (ancestral remains) in the general coastal area of Waikīkī, an Archaeological Assessment (AA) was prepared for the Waikīkī Beach Walk project. Based on the AA, historical background and mitigations measures completed

for the Waikīkī Beach Walk project, T.S. Dye & Colleagues, Archaeologists prepared an Archaeological Monitoring Plan (AMP) for the proposed Outrigger Reef project. The AMP was prepared in advance of construction of the Outrigger Reef project and in accordance with the requirements in 13-284-5, HAR. The AMP details the proposed methodology and scope of the monitoring per the requirements of Chapter 13-276, HAR. Outrigger has also committed to complete an archaeological inventory survey beneath the porte cochere prior to construction activities. Long-term programs for cultural education at the project site continue to increase awareness of the host culture, and the history and significance of this property and its surroundings within the context of the broader Waikīkī area.

Employment Mitigation

Project construction could possibly affect neighboring off-site businesses in both beneficial and adverse ways. The redevelopment of the existing retail areas within the site will displace existing business tenants. As part of ongoing mitigation, these tenants will be advised of the development schedule and regularly updated on the status of the project. A number of businesses will also be encouraged to consider tenancy in other available retail and commercial spaces within Waikīkī.

Visual Mitigation

Improvements to the pool deck and Kālia entry will not create significant visual impacts. Since the new hotel units will fill existing open space on the site between the existing Pacific and Ocean Towers, public view planes from the mountains to the sea will not be significantly affected. The new hotel units may be visible from nearby private residential condominiums and apartment buildings; however they will look like a continuation of the existing Pacific and Ocean Tower buildings. The removal of the five-story Diamond Head Tower and its replacement with a large oceanfront lawn area will also provide a far more desirable Waikīkī Beach view. Site planning and overall project design have been guided by the policies set forth in the Waikīkī Special District (WSD) Design Guidelines.

Infrastructure and Utility Mitigation

Engineering design solutions are being developed through a detailed investigation of the City's water supply system, fire protection capabilities, wastewater system, roadways, and storm water and drainage systems. A Preliminary Engineering Report is included in the SEIS. Consultations are underway with the responsible City and County agencies, including the DPP, Department of Environmental Services (ENV), Wastewater Branch, Fire Department (HFD), and the Honolulu Board of Water Supply (BWS). The agency coordination and plan reviews will be ongoing through project design and construction. Other utility requirements will be addressed through similar levels of coordination with the companies responsible for power, telecommunications, and cable service.

Coastal Zone and Shoreline Mitigation

Landscaping treatment at the proposed beachside lawn located within the 40 ft shoreline setback will help to mitigate impacts relating to storm drainage and erosion on the Outrigger Reef property. The planting palette of the lawn area will emphasize the use of native coastal species such as coconut palm (*Cocos nucifera*), loulu palm (*Pritchardia martii*), milo (*Thespesia populnea*), naupaka (*Scaevola taccada*), nanu (*Gardenia mannii*), pohinahina (*Vitex rotundifolia*), and pohoehoe (*Ipomea pes-caprae subsp. Brasiliensis*). The non-native seashore paspalum (*Paspalum vaginatum Sw.*) may also be used if appropriate for the landscape design. The use of coastal landscaping in the coastal zone area will

provide adequate mitigation to protect the shoreline and will not further disrupt the natural processes of the site. The proposed improvements to the Outrigger Reef property that are located within the 40 ft shoreline setback will not adversely affect beach processes or further artificially fix the shoreline.

1.6 UNRESOLVED ISSUES

No unresolved issues have been identified for the proposed project at this time.

1.7 SUMMARY OF COMPATIBILITY WITH LAND USE POLICIES AND PLANS

The planned improvements are compatible with and supportive of State of Hawai'i and City and County of Honolulu land use policies, plans, and controls related to the natural and social environment. The proposed project is consistent with and permitted by applicable land use designations such as the Federal Coastal Zone Management (CZM) Act, Title III of the American with Disability Act, Environmental Impact Statements (HRS Chapter 343), Hawai'i State Plan, 2050 Sustainability Plan, State Functional Plans, Hawai'i Tourism Authority Strategic Plan, State CZM (HRS Chapter 205 A), City and County of Honolulu General Plan, Primary Urban Center Development Plan, Land Use Ordinance, Waikīkī Special District (WSD) Design Guidelines, Waikīkī Livable Communities Project, Planned Development – Resort, Special Management Area, and Shoreline Setbacks, all of which are discussed in *Section 5.0*, will contribute a wide range of benefits to further established public goals, objectives, and policies. In particular, Outrigger Reef improvements is located within the WSD Resort Mixed Use Precinct (*Figure 1-5*) are consistent with applicable design guidelines.

1.8 ALTERNATIVES CONSIDERED TO THE PROPOSED ACTION

The Outrigger Reef improvements represent the current vision and intent to transform the property through a well-defined and coordinated planning process. Outrigger has continuously reinvested in its commitment to providing a world-class visitor experience in Waikīkī through these types of planned improvement projects.

Alternatives to the Proposed Project are evaluated in *Section 6.0*. A range of potential alternative actions could be contemplated for the future of the Outrigger Reef site. For this EIS alternatives analysis, several categories of alternatives to the Proposed Project are evaluated:

- No-Action Alternative.
- Alternative Development Site.
- Alternative Design.

The following is a summary evaluation of the range of alternatives considered in *Section 6.0*.

1.8.1 No-Action Alternative

The No-Action Alternative is the baseline against which all other alternatives are measured. The no-action alternative details the "what happens" scenario to the conditions and use of the existing project area, its facilities, and infrastructure if the proposed project is not implemented.

The No-Action Alternative would maintain the property in its existing condition including retention of the five-story Diamond Head Tower on the makai/beachfront boundary. While certain short-term environmental and economic impacts of construction would be avoided (see *Section 6.1*), the significant economic, social and cultural benefits of revitalizing the existing site would not be produced, and no new jobs would be created. Ongoing operations coupled with regularly scheduled maintenance and repair activities would continue, but none of the planned improvements would be realized. Although there have been significant piecemeal improvements within the property over the years, there are still critical areas within the site that are in need of some planned intervention. Without the comprehensive renovations proposed, these specific areas within the property could possibly be maintained for the short-term, but they are likely to deteriorate over time and major repair or renovation work will eventually be required.

The No-Action Alternative would also result in maintaining the existing encroachments into the shoreline setback. Nonconformities on the property would continue as the removal of Diamond Head Tower and replacement with a large lawn area and other open space would not occur. While a portion of the proposed action will still encroach into the shoreline setback, the proposed action is more in-line with State and County policies relating to coastal zone management. The No-Action alternative is, in effect, a deferred action alternative.

1.8.2 Alternative Development Site

It is Outrigger's desire to revitalize and reinvest in the future of the Outrigger Reef resort property in Waikīkī. Given this objective, the option to redevelop an alternative site to include all the elements of the proposed project is not a practical alternative.

Building an improved pool deck, new meeting space, and new hotel units at an alternative site would be less efficient than using available Outrigger-owned land. Additional investment in the current property is a more cost-effective means of meeting the demand for new meeting space and hotel opportunities in Waikīkī and is likely to have a lesser environmental impact than off-site development, particularly if off-site development would require the demolition of existing buildings and land clearing. Developing the hotel units on the property avoids the substantial additional costs that would be required for Outrigger to purchase an alternative building site. Cultural resources and infrastructure would be affected at a different location in this scenario, possibly incurring impacts elsewhere that would be more significant than with the redevelopment of Outrigger's existing property. The additional costs of acquiring an alternative site would significantly reduce Outrigger's return on investment and would impair its ability to fund needed improvements, resulting in a reduced ability to meet the expectations of guests and the creation of fewer jobs. The Alternative Location option is not a practical strategy for Outrigger's investment.

As presented in *Section 6.2*, fewer beneficial impacts would result from this action in comparison to the proposed project. This alternative would not produce the revitalization of the Outrigger Reef. It would not provide the full services needed to meet the demands of the resort's guests and

would make it more difficult to fund improvements in the resort's facilities. A less comprehensive improvement of the project site would mean less additional revenues, fewer jobs and fewer benefits to the surrounding economy. There might be fewer adverse environmental impacts at the project site from this alternative, but those impacts would potentially occur elsewhere (and perhaps to a greater degree).

1.8.3 Alternative Design

Demolition of Pacific and Ocean Towers and Development of One Tower to Maximum Allowable Floor Area

Alternative designs for the Outrigger Reef improvements were evaluated for the project utilizing existing authorized density provided under the Waikīkī Beach Walk Planned Development-Resort (PD-R). One alternative would be demolishing the existing Pacific and Ocean hotel towers and building one tower that would maximize the allowable floor area under the existing PD-R for Waikīkī Beach Walk. The 350 ft tower would be designed to maximize the number of hotel rooms on the site to cover the loss of the Pacific and Ocean Towers (635 hotel rooms) and account for the additional rooms that would be provided with the development of the proposed action.

Under this alternative design, the floor area allowed under the existing PD-R for Waikīkī Beach Walk would be maximized to provide the highest density possible. This would create more built space on the site and less room for the Outrigger Reef to provide open spaces and recreational amenities. The site layout would need to be reconfigured which would result in a substantial amount of construction. The Outrigger Reef would be unable to remain open during the construction period as a result of room availability, thereby significantly affecting property revenues. This alternative design scenario is not the optimum property utilization for the Outrigger Reef; therefore this alternative has been dismissed from further consideration.

Redevelopment within the Shoreline Setback Area

In evaluating redevelopment options, consideration was given to demolishing the Diamond Head Tower and redeveloping the two story pool deck to the makai edge of the property to provide beach side dining, lounging, and pool and recreation amenities. This would achieve lessening of structure within the shoreline setback area (Diamond Head Tower demolition), but would not fully achieve the project goal of stepping the hotel property down to the beach to provide a smooth transition between ocean, beach and property and to amplify the open space aspects of the design arising from the beachside lawn and related elements. In short, under this redevelopment option the property-beach boundary would still be improved with a multi-story structure and the opportunity to better integrate the property with the beach and ocean beyond would be missed.

Development Outside the Shoreline Setback Area

Another alternative design for the Outrigger Reef project is the removal of most structures, with the exception of the Ocean Tower, outside of the shoreline setback area. This alternative would create an empty gap between the hotel property and the beach area and would not allow for a smooth transition between ocean, beach and property. The hotel would seem disconnected from the surrounding area as the proposed project components that would support the goal of stepping the hotel property down to the beach would not occur. In addition, the open space aspects proposed with the project from the beachside lawn and landscaping throughout would not be provided.

This alternative is also not financially feasible, as the overall project less the improvements planned for the shoreline setback area would not provide the overall visitor experience required to generate adequate revenues to finance the project. The increasingly negative consequences over time of failing to revitalize and refresh key beachside improvements including restaurant and recreational facilities would occur.

The Outrigger Reef is an existing hotel property that was built in the 1950s. The space configurations and layout of the site are established with the location of the existing Pacific and Ocean Towers. A portion of the existing hotel towers is located within the 40 ft shoreline setback. Therefore, Outrigger must work with the spaces it has available to provide visitors with improved and expanded room accommodations and hotel amenities as part of its plan to reinvigorate the site. The proposed project will not adversely affect beach processes or further artificially fix the shoreline.

In contrast to other design alternatives, the selected project design significantly reduces current structures in the shoreline setback area from existing conditions, replacing them with revitalized and refreshed world-class improvements which substantially improve current open space, ocean-beach property transition, entertainment and cultural amenities and other property elements, and, as essential components of and overall integrated project, allow for financial feasibility as measured against a no-action and other scenarios.

1.9 SUMMARY OF PUBLIC BENEFITS

Outrigger provides numerous public benefits throughout Waikīkī generally and at Waikīkī Beach Walk, including Outrigger Reef, specifically. These are provided through both Outrigger's overall commitment to the community and in fulfillment of conditions of the Waikīkī Beach Walk development. These benefits focus not only on infrastructure and logistical needs but on Outrigger's dedication to the celebration and promotion of Hawai'i's culture for visitors and residents alike, and represent a very substantial financial and operational commitment to the betterment of Waikīkī Beach Walk and of Waikīkī overall.

This proposed continuation of the Waikīkī Beach Walk project will both continue and expand existing public benefits and provide new benefits to enhance Waikīkī Beach Walk's contributions to Waikīkī. These include the following:

1.9.1 Hawaiian Music and Culture

- Outrigger has championed the preservation and enhancement of the diverse ethnicities and culture of Hawai'i throughout its Waikīkī properties. Outrigger's efforts have focused on but not been limited to the music, dance and traditions of our host culture. For example and most recently, Outrigger launched E Mele Ana (loosely, "come let's sing"), an expanded music program at its O'ahu properties focusing on Hawaiian music and culture.
- At Waikīkī Beach Walk, Outrigger's regular free outdoor activities include Na Mele No Na Pua (free weekly concerts highlighting Hawaiian music), Hawaiian quilting demonstrations and classes as well as Ku Ha'aheo (Hawaiian entertainment and hula) on Tuesdays, Christmas countdown (seven days of Hawaiian holiday music), an annual Waikīkī steel guitar festival, and a reception for the royal court during the annual Aloha Festival. They also include the

Chinese New Year's festival, Honolulu Festival, Visitor Industry Charity Walk, and Pan-Pacific Festival.

- Outrigger also provides at Waikīkī Beach Walk displays celebrating the history of music and dance in Hawai'i in partnership with the Hawaiian Music Hall of Fame and Hawai'i Academy of Recording Arts. These exhibits are available for public viewing at no fee 24 hours a day. Interpretive plaques have also been incorporated into the Waikīkī Beach Walk signage, allowing information on Waikīkī's history to be disbursed throughout the complex.
- At Outrigger Reef, the Kani Ka Pila Grille preserves the tradition of Hawaiian music in Waikīkī for visitors and residents alike in providing a venue for legends such as Uncle Cyril Pahinui to perform weekly, joined regularly by many Nā Hōkū Hanohano award winners and other musicians and their 'ohana. Outrigger also hosts an annual talent competition to foster the next generations who will carry on that tradition. This proposed continuation of the Waikīkī Beach Walk project will provide substantially improved space and facilities, on the makai oceanfront lawn and otherwise, to continue Outrigger's commitment to live Hawaiian music at the Outrigger Reef.
- The Outrigger Reef is also an integral part of Outrigger's ongoing major sponsorship of the Polynesian Voyaging Society through its quarterly O Ke Kai series with the Friends of Hōkūle'a and Hawai'iloa, including recognition of the life and works of Herb Kawainui Kane, whose life and art are memorialized in the Ke Ola Kawainui library near its lobby.

1.9.2 Reef Conservation

- OZONE (Outrigger's zone) is a global conservation initiative by Outrigger centered on protecting the health of coral reefs and the oceans surrounding the iconic beach destinations of Outrigger resorts. OZONE generates awareness surrounding the status of coral reef systems while enhancing the Outrigger resorts guest experience through education and authentic interaction. Guests have the opportunity to learn more about the platform via in-room videos and on-property lectures, while also being a part of the solution by planting a coral at participating properties.
- The worldwide kick-off for the program occurred in June 2015 at the Waikīkī Aquarium with a celebration and the signing of a Memorandum of Agreement between Outrigger and the National Oceanic and Atmospheric Administration (NOAA), stating both parties' commitment to work together to support the conservation and education needs of the public. In addition to NOAA, strategic partnerships for OZONE include the Polynesian Voyaging Society, Pacific Islands Ocean Observing System (PacIOOS), and regional partners including the Waikīkī Aquarium.
- At the Outrigger Reef, all guests were invited to the OZONE launch event at the Waikīkī Aquarium. An in-room video and informational pieces are provided to guests. The hotel is home to the interactive NOAA kiosk and is partnering with the Friends of Hōkūle'a and Hawai'iloa to advance OZONE.

1.9.3 Visitor Center

Outrigger constructed at Waikīkī Beach Walk a new Visitor Center that provides information and assistance to visitors in Waikīkī. The Visitor Center, managed by the Waikīkī Business Improvement District Association, includes a kiosk at the ground level of the Waikīkī Beach Walk retail complex and related office and public information and assistance facilities on the 2nd floor of the Wyndham Waikīkī Beach Walk.

1.9.4 Signage for Public Amenity Spaces

Outrigger provides funding and maintenance for numerous forms of signage used for public amenity spaces. These signs are critical to providing information and direction to the general public in and around Waikīkī Beach Walk.

1.9.5 Public Transportation Improvements

Outrigger provided a financial contribution of $300,000 to the City and County of Honolulu equivalent to the cost of two BRT transit stops for Waikīkī-related traffic and transportation improvements.

1.9.6 Public Parking Stalls

Outrigger provides and maintains 18 parking stalls at Waikīkī Beach Walk for exclusive use by the public at reduced rates of $1/hour with a maximum of three hours.

1.9.7 Public Restroom Facility and Access

Outrigger provides convenient public access from Waikīkī Beach to a public restroom facility located at Outrigger Reef and maintained by Outrigger together with prominent beachfront signage.

1.9.8 Removal of 5-Story Beachfront Structure and Expansion of Open Space to the Makai Boundary

The removal of the five-story Diamond Head Tower and its replacement with a large lawn area and other open space will create dramatically increased open space, providing a far more desirable Waikīkī Beach view and recreational experience in both relief from makai boundary vertical structures and in a substantially improved interface between land and sea.

1.9.9 Improved Kālia Gateway and Road Frontage

The project will substantially improve both the overall gateway experience into Waikīkī from Fort DeRussy and the Kālia Road entry to Waikīkī Beach Walk. The main entry to the property from Kālia Road will be completely renovated as part of the project improvements. In general, improvements will be made to the street side retail fronting the Kālia Road entry. Pedestrian access along Kālia Road will be opened up, invoking a more appealing welcoming experience. The Kālia gateway will expand the vibrant, safe and attractive pedestrian experience created with Waikīkī Beach Walk.

1.10 LISTING OF REQUIRED GOVERNMENT PERMITS AND APPROVALS

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

Table 1-1 LISTING OF REQUIRED GOVERNMENT PERMITS AND APPROVALS

Permit or Approval	Approving Authorities
Final SEIS Acceptance	City and County of Honolulu, Dept. of Planning and Permitting
Minor Modification to Planned Development-Resort Permit (Resolution No. 02-272, CD1, FD1, as modified) and Waikīkī Special District Permit No. 2002/SDD-46	City and County of Honolulu, Dept. of Planning and Permitting
Minor Modification to Special Management Area Use Permit (No. 2002/SMA-35)	City and County of Honolulu, Dept. of Planning and Permitting
Shoreline Setback Variance Permit	City and County of Honolulu, Dept. of Planning and Permitting
National Pollutant Discharge Elimination System, Construction Storm Water Permit Industrial Wastewater Discharge Construction Noise Permit	State of Hawai'i Department of Health Clean Water Branch Indoor and Radiological Health Branch
Authorization of Building Permits, Grading Permit, Drain Connection, Sewer Connection, Street Usage, and Construction Plan Approval	City and County of Honolulu, Dept. of Planning and Permitting Site Development Division, others

Section 2.0

PURPOSE AND NEED FOR THE PROPOSED PROJECT

2.0 PURPOSE AND NEED FOR THE PROPOSED PROJECT

Waikīkī is a residential and resort community where approximately 20,000 local residents live full-time and intermingle with 72,000 average daily visitors. A less defined part-time population adds to this mix as well as a number of local island residents that live outside of Waikīkī but frequent the area on a regular basis for recreation and employment. Although recognized as a world-renowned visitor destination, Waikīkī maintains several critical social and economic functions for O'ahu's island residents, specifically those that live and work in the area.

Waikīkī is seen by many of its residents as possessing positive qualities that define its unique sense of place. These qualities include social conveniences with numerous dining, shopping, and entertainment activities; the beauty of the beaches, shorelines, the mountain landscape in the distance, and pleasant year-round weather; and the interaction of people, the diversity of cultures, and the excitement and liveliness of an active resort city.

As will be discussed in the following sections, the proposed Outrigger Reef project will help to support Waikīkī's social and economic function and achieve an end goal to yield a quality experience for its residents, guests, and island visitors.

2.1 PURPOSE AND NEED FOR THE OUTRIGGER REEF PROJECT

Outrigger is a recognized global and local leader in the hospitality industry. Outrigger's vision is to be the premier beachfront resort brand in the world and deliver exceptional related guest experiences. This is achieved by Outrigger's leadership, both in the hospitality industry and the communities it serves.

Located at the gateway of Kālia, the Outrigger Reef is one of Outrigger's flagship properties that portrays the essence of their values and reputation for creating quality experiences. The proposed Outrigger Reef improvements are part of Outrigger's continued commitment to ensure the viability of Waikīkī as the State's most prominent economic asset and strengthen its competitive position in the global hospitality market.

The proposed project is the next chapter of Outrigger's continuing dedication to Waikīkī as a premier visitor destination. Further, the proposed project improvements will further expand Outrigger's contribution to strengthening and stabilizing the local economy through the creation of new construction and operational jobs.

The Outrigger Reef revitalization will allow Outrigger to meet a variety of accommodation needs, expectations, and demands of today's and tomorrow's resort guest. This proposed plan seeks to achieve significant physical and associated operational improvements that will improve the quality and character of the visitor experience. Upon completion, the Outrigger Reef improvements will transform the property with an opening of the property to the beach, upgrades to its recreational amenities, dining alternatives, meeting facilities, an improved guest arrival experience, and an enhancement of hotel accommodations.

2.2 PROPOSED PROJECT: OUTRIGGER REEF IMPROVEMENTS INCLUDING EXPANDED HOTEL OPPORTUNITES

The project calls for a series of proposed improvements, with highlights including additional meeting space, new recreational resort pool area, improved visitor arrival, a beachside lawn area, and construction of additional hotel units connecting the existing Pacific and Ocean Towers.

2.2.1 Recent Trends in Hawai'i's Visitor Industry

Hawai'i's economy is driven by the economic conditions in the U.S., as well as key international economies in parts of Asia, Europe, and Canada. According to the State Department of Business, Economic Development, and Tourism (DBEDT), the forecast of visitor arrivals within the next couple of years indicates that Hawai'i will continue to be on a slow incline to a more robust economy. Visitor arrivals are expected to increase by approximately 2.0% in 2015 and 1.9% in 2016. Visitor lengths of stay are also expected to be on the rise, increasing by 2.3% in 2015 and 1.9% in 2016. Visitor expenditures are expected to grow modestly at 3.6% in 2015 and 4.6% in 2016.

Waikīkī accommodates over one-half of all Hawai'i tourists. Hotel occupancies for O'ahu are growing significantly, having reached 91.3% in June 2015, which is one of the highest rates for the island in over ten years. This data is consistent with the DBEDT 2013 Annual Visitor Research Report, which found that the number of O'ahu visitors who solely stay at hotels increased by 2.4% from the previous year. However, despite the growth in visitors and hotel occupancy rates, the hotel room inventory has remained relatively flat for Hawai'i, and the number of hotel units in Waikīkī have actually declined by 5,000 units over the past several years. The current hotel inventory is also aging since more than 75% of the hotels in Waikīkī were opened in 1980 or earlier.

Overall, the data relating to recent trends in Hawai'i's visitor industry shows that the growth in the visitor industry, particularly in Waikīkī, is at odds with the current hotel inventory available to visitors. As such, the proposed revitalization at the Outrigger Reef will help to expand the availability of contemporary hotel units in the State, which will help to fortify Hawai'i's position as a leader in the global visitor industry market.

2.2.2 Past and Present Development of Hotel Opportunities in Hawai'i

Hotel development in Waikīkī began in the late 19th century, with the Sans Souci Hotel, which opened in 1884, offering private cottages and bathing facilities. Widespread resort and residential development continued throughout the early 1900s up until the late 70s and early 80s, which is when most of the existing hotel stock was built. However, since that time, new hotel developments have been relatively limited. This can be attributed to restrictive zoning codes, the limited amount of developable land, and the high costs of development which have effectively influenced developers to construct condominiums or timeshares in order to recoup costs by selling units.

With the aging and hotel inventory in Waikīkī, property redevelopment projects are on the rise. A number of hotels in the area are scheduled for major projects, such as the Sheraton Princess Kaʻiulani, Westin Moana Surfrider, Hyatt Regency, ʻOhana Waikīkī West, and Hilton Hawaiian Village. The proposed projects will result in an overall loss of hotel rooms. Planned redevelopment and renovations of existing hotels such as Sheraton Princess Kaʻiulani will result in the overall loss of hotel rooms with the renovation of ʻAinahau Tower and demolition of the Princess Tower and Kaʻiulani Tower, which will be replaced with a single tower containing 300 hotel rooms and approximately 135 residential condominiums. In addition, the Waikīkī Parc Hotel's planned renovation will consolidate the existing 297 rooms into 126 one- and two-bedroom hotel units. Most of the new hotel developments have been structured for condominium or timeshare ownership so that developers can recoup construction costs by selling the units. This trend adds to the need for more quality hotel rooms in Waikīkī to continue attracting visitor business to the State.

Maintenance of the hotel and lodging industry is important to supporting the State's economy, which contributes about one-fifth of the jobs in Hawaiʻi. In 2013, the hotel industry in Hawaiʻi generated approximately $5.3 billion in total revenue, and on average, the jobs directly or indirectly related to the lodging industry generated an estimated $998 million in State and local tax revenue.

Outrigger has invested over 65 years in the hospitality industry in Hawaiʻi. As one of its flagship properties, revitalization of the Outrigger Reef will provide improved amenities, new meeting space, and increased quality hotel lodging and services to visitors. Currently, the existing hotel room inventory and amenities are not sufficient to support the projected demand and provide the quality experiences for guests. Development of the new hotel units and accommodations is a critical to continuing Outrigger's and Waikīkī's success in the hospitality industry.

2.2.3 Planned Hotel Expansion within the Outrigger Reef

The prevailing industry outlook is that Hawaiʻi is a high quality visitor destination on a path to slow economic recovery. The proposed Outrigger Reef project will enable Outrigger to recapture part of a continuing and increasing demand for luxury hotels. For hotel visitors, the improvements throughout the property will bolster the resort as a rejuvenated product, offering a more distinct selection of accommodations and ultimately vacation experiences.

With the repurposing of 21 existing rooms and construction of 60 new rooms, improvements will result in a net increase of approximately 39 hotel units at the Outrigger Reef. The economic impacts of the project are summarized in *Section 4.12*, and the complete study is provided in *Appendix B*. The increase in hotel operations and meeting areas at the Outrigger will further add to renewed economic activity. The Outrigger Reef is expected to generate an average of 1,486 FTE development-related positions during the currently-projected construction period (2018 to 2020). An average of 568 FTE and PTE operational positions will be provided (new or existing) through 2022 (direct jobs and indirect and induced jobs). There will be 1,045 FTE positions at stabilization after 2029. There are also expected to be significant indirect contributions to the economy through associated visitor spending and off-site servicing and support operations to the Outrigger Reef property. The Outrigger is projected to generate approximately $5.07 million in net additional government operating revenue per year to State and County governments through 2022 and $7.69 million at stabilization after 2029.

In summary, the planned improvements of Outrigger Reef will help to meet market demand and the expectations of Outrigger's guests. The project is projected to yield a positive economic return of Outrigger's investment. Given known trends and projected future demand, Outrigger's planned expansion and improvement of meeting facilities, dining venues, recreation amenities, and new hotel rooms creates a sensible and balanced mix of hotel accommodations and activities throughout Waikīkī Beach Walk. Expansion of interest and participation in the visitor industry by first time visitors, seasoned travelers, and local "staycation" residents will help stabilize Hawai'i's travel market. Optimally, this translates to a healthy and stable product for the tourism sector that will stimulate investment and create new jobs. A full and detailed project description of the Outrigger Reef is provided in *Section 3.0*. The environmental conditions, impacts, and mitigation with implementation of the proposed project are detailed in *Section 4.0*.

Section 3.0

PROJECT DESCRIPTION

3.0 PROJECT DESCRIPTION

This section provides a site history and description of existing uses within the Outrigger Reef and a detailed review of the project vision and proposed improvements at the site. The redevelopment components of the project include the demolition of the Diamond Head Tower, improvements to the beachfront, pool deck, and arrival and lobby areas, and the construction of new meeting space and new hotel rooms. Descriptions, and conceptual plans, elevations, and perspectives of the proposed improvements are provided in this section.

3.1 SITE HISTORY

Outrigger founder, Roy Kelley, arrived in Hawai'i with his new wife, Estelle, in 1929. In 1947, Kelley built his first hotels, including the Edgewater Apartments, near the site of the Outrigger Reef on the Beach Hotel. The Edgewater Hotel's Ocean Wing was built three years later, and the second Edgewater tower was constructed two years after that. The Ocean Wing was luxurious for its time, boasting six stories, a swimming pool, and an elevator.

The Reef Hotel's Ocean Tower was constructed in 1955 where the Edgewater Cottages once stood. Four years later, the Reef Towers Hotel fronting Lewers Street was erected. The Outrigger name was branded in the early 1960s and the Reef Lanais were built, although the first hotel to feature the Outrigger name was the Outrigger Waikīkī, established in 1967.

In 1969, the Edgewater, Reef, and Reef Towers were sold to the Cinerama movie company so that Outrigger could finance other projects. The hotels were repurchased in 1982. In the 1980s, the Reef Hotels, Waikīkī Hotels, and Outrigger Hotels were consolidated into a single entity, and most properties took on the Outrigger name. The Edgewater and Reef Lanai hotels were demolished as part of the Waikīkī Beach Walk project, which began construction in 2005, and the Reef Towers were transformed into the Wyndham Vacation Ownership. In 2009, Outrigger completed a renovation of the Outrigger Reef's rooms, lobby areas, and porte cochere as part of the Waikīkī Beach Walk project.

3.2 EXISTING CONDITIONS AND USES

Covering approximately 2.5 acres of land and owned in fee by Outrigger Enterprises Inc., the Outrigger Reef is a resort destination located in Waikīkī Beach. The hotel is located on TMK 2-6-004:010 and is bounded by Kālia Road to the north, Waikīkī Shore Apartments to the west, Halekulani to the east, and Waikīkī Beach and the Pacific Ocean to the south *(Figure 1-1)*.

The existing hotel property consists of three towers, including two hotel towers: the Pacific Tower (436 rooms) and Ocean Tower (199 rooms), offering a total of 635 rooms, as well as the five-story Diamond Head Tower housing a restaurant, limited meeting space, a spa, and administrative and sales offices. The meeting space located in the Diamond Head Tower provides approximately 2,520 square feet (sf) of space and can be divided up into three types of meeting rooms. Aside from the Diamond Head Terrace Meeting Rooms, the hotel offers a Conference Room and Oceanfront Executive Boardrooms.

Resort recreational amenities at the hotel include a swimming pool, fitness center, spa, and demonstration areas for families and children to learn and participate in cultural activities such as ʻukulele playing, lei making, kukui nut bracelet making, Hawaiian storytelling, and more. The Outrigger Reef also provides a retail area that includes boutiques, specialty stores, and gift and sundry shops. Finally, the hotel property offers a selection of oceanfront dining options, including the Ocean House and Shorebird Restaurant and Beach Bar. Kani Ka Pila Grille, the hotel's poolside restaurant, showcases Hawaiʻi's award-winning Hawaiian musicians.

Surrounding the property are other hotel and lodging accommodations and various dining and shopping venues. A prominent land feature near the Outrigger Reef property is the large open space of Fort DeRussy Beach Park which is under the control and jurisdiction of the U.S. Army.

In 2009, Outrigger completed upgrades and renovations to the property with a $110 million investment into revamping all existing rooms, as well as improvements to the lobby, port cochere, and meeting spaces as part of the approved improvements for the Waikīkī Beach Walk revitalization project. The Outrigger Reef improvements proposed in this SEIS are envisioned to be the capstone to the full revitalization of Waikīkī Beach Walk from Kalākaua Avenue to the sands of Waikīkī Beach.

Figure 3-1 Existing Outrigger Reef Waikīkī Beach Resort Photos

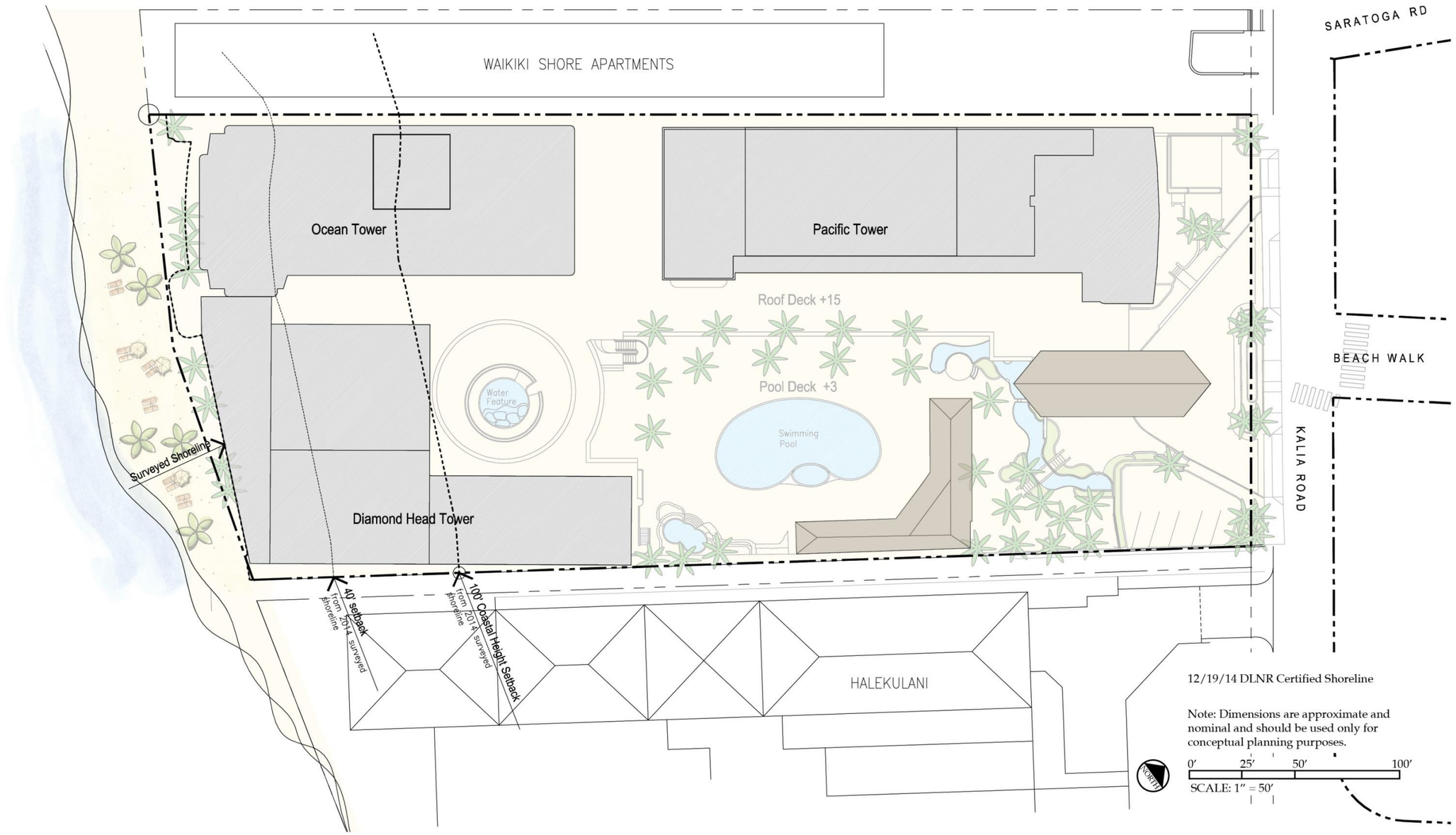


Figure 3-2 Existing Outrigger Reef Waikīkī Beach Resort Plan

3.3 PROJECT VISION

The Outrigger Reef has consistently maintained a committed vision to create exceptional guest experiences, whether for casual leisure and relaxation for vacationers or for the working traveler on-the-go. The hotel property is a signature oceanfront haven that exudes a sense of escape and tranquil serenity within the vibrancy of Waikīkī's tropical-urban environment.

The Outrigger Reef is a distinctive part of the Kālia Gateway to Waikīkī Beach Walk, presenting visitors and residents with a mix of urban and open space landscaped experiences that blend together and reflect Hawai'i's rich heritage. The proposed project improvements will enrich the Kālia Gateway and the hotel's visual relationship to Waikīkī, while fortifying its position in the hospitality industry as a special destination within Waikīkī's resort district.

A key theme for the Outrigger Reef project is to create a place where memorable vacations are shared and where the spirit of aloha flourishes in the form of hospitable service and dedication to guest satisfaction. The hotel property will be the capstone of Waikīkī Beach Walk as a gathering place for both island visitors and local residents. The project improvements will update and expand Outrigger's offering of dining, entertainment and hospitality options.

The primary goal of the project is to preserve and improve upon the existing resort experience by expanding and improving the accommodations and hospitality services for all hotel guests, island vacationers, and local residents. To achieve this goal, several design concepts were developed for the Outrigger Reef improvements:

- Improving the guest arrival experience at the Outrigger Reef, with special consideration to the porte cochere entry and front desk lobby operations and services.
- Improving the Kālia Gateway and pedestrian experience, including improvements to the street side retail units
- Improving the beachfront and transition from the property to the beach area, with the removal of the existing Diamond Head Tower and creation of large lawn area.
- Improving and expanding the pool, terrace, and outdoor recreational amenity opportunities.
- Improving current parking, and vehicular and pedestrian circulation and flow.
- Providing additional meeting space to attract the Meetings, Incentives, Conventions and Exhibitions (MICE) segment of the market.
- Meeting demand for additional guest accommodations through additional hotel units.

These design concepts are the cornerstones for the specific improvements within the hotel property. The roots of the vision emanate from Outrigger's corporate mission and its unique heritage of hospitality in Waikīkī.

3.4 PROPOSED PROJECT DETAILS

The Outrigger Reef project is a directed effort to reinvigorate the hotel property as an iconic resort through a purposeful series of redevelopment activities. The redevelopment will serve to reassert the Outrigger Reef as a major visitor destination experience in Waikīkī. Overall, the project will improve the flow of hotel features as well as the overall guest experience. Improvements are planned from the point of visitor arrival and through their stay, with planned upgrades to several amenities. The signature improvements within the project will include the construction of new

hotel rooms that will connect the existing Pacific and Ocean Towers and expand the resort's accommodations for visitors and guests, additional meeting space, the construction of a new recreational resort area, including swimming pools, a large lawn area and an improved transition to the beach front.

The proposed project improvements for the project are framed in seven distinct components, each of which is described below. The proposed site plan, floor plans, elevations, sections and renderings of the Outrigger Reef project are provided in *Figures 3-3 through 3-19*.

3.4.1 Beachfront Improvements

The Diamond Head Tower, a five-story structure running along the beachfront, will be demolished to provide an opening of the hotel property towards Waikīkī Beach. An expansive lawn will be constructed at the makai end of the site to provide a transition from the property to the beach area. This transition will improve current site conditions by providing a greater sense of open space, with new dining venues that will be set back further mauka into the property. A new large dining space will provide a three meal dining service and fine dining options. Expansion opportunities into the beachfront lawn will also provide an outdoor dining experience with direct Diamond Head and ocean views. The basement portion located below the lawn area will no longer be used as storage and parking. This area will be filled in with structure support.

A portion of the beachfront improvements will be located within the 40 ft shoreline setback. These improvements include the demolition of Diamond Head tower and backfilling of the basement area beneath the tower, new beachside lawn and stage, a portion of the new pool deck which is currently used as the roof connecting the existing Diamond Head Tower and Ocean Tower, drainage system improvements, and interior parking improvements in the basement of the Ocean Tower. A Shoreline Setback Variance application will be submitted for the project at the appropriate time. Additional details relating to the Shoreline Setback Variance request are provided in *Section 5.4.3*.

3.4.2 Improved Kālia Gateway to Waikīkī Beach Walk

The project will improve the gateway at the Kālia Road entry to Waikīkī Beach Walk and to Waikīkī from Fort DeRussy. The main entry to the property will be renovated as part of the project improvements. A newly defined pedestrian path along the porte cochere will also provide an improved experience at Kālia Road. Improvements to retail storefronts, which will be reoriented and extended along the new walkway, will offer an assorted mix of shopping opportunities. Approximately 23,480 sf of retail space will be provided. Landscaping and water features fronting Kālia Road will be opened up, invoking a more appealing welcoming experience. Overall, the Kālia gateway will provide a vibrant, safe, and attractive pedestrian experience in the tradition of Waikīkī Beach Walk.

3.4.3 Improved Arrival and Lobby Area

The visitor experience to the hotel property from Kālia begins with an escalator ride that will take guests to an arrival lobby where guests are immediately welcomed with direct views of the Pacific Ocean. This arrival experience is intended to provide visitors with an instant connection to Hawai'i and their stay at the Outrigger Reef.

The front desk area of the lobby will be reconfigured and undergo interior renovations to enhance and improve the visual relationships between the lobby, pool deck, and beach area. Key modifications include converting 21 select guestrooms into an open-air lobby, spa, fitness room, and chapel at the +15 level.

3.4.4 Improved Pool Deck and Recreation Area

The project improvements will elevate the recreational pool deck up one level to accommodate the new meeting program and dining venues below. This move will allow for the majority of all guestrooms facing Diamond Head to have views of the new expansive pool deck with enhanced pools and lounge areas.

The mauka area of the new pool deck will introduce a new keiki pool designed with a water slide and other amenity features. The middle portion of the deck will maintain a generous amount of open deck and chaise lounge space, including cabanas for visitors seeking quiet solace and a peaceful environment. The makai end of the deck will incorporate an adult pool located one-story above the lawn. Landscaping elements will be integrated throughout this recreational deck space to fit with the surrounding character of the hotel site and beach area. Overall, approximately 52,800 sf of additional recreation deck space will be added. The lawn area will consist of approximately 10,100 sf at the lower level.

The lawn and pool deck areas will also be used as a flexible outdoor space for events, pool-related activities, open-air dining, and pre-function space. At night, this area can be converted into a venue for live entertainment, such as the traditional local music that is played at the Kani Ka Pila Grille.

3.4.5 New Meeting, Event and Conference Space

New meeting facilities will be constructed below the pool deck. Approximately 7,500 sf of new meeting space will include a ballroom, breakout rooms, and pre-function spaces for small to medium size meetings, including the corporate and incentive meeting market. The new meeting space will help to attract the important Meetings, Incentives, Conventions and Exhibitions (MICE) segment of the market which will also bring about the need for increased visitor accommodations.

In addition to new meeting spaces, the beachside lawn and improved pool deck can be used as a flexible space for outdoor events and gatherings. The lawn's tropical, oceanfront setting creates an ideal location for hosting outdoor events and receptions. The Outrigger Reef hotel will also host weddings by converting a few guestrooms on the 2nd and 3rd floors of the Ocean Tower to a wedding chapel. This new location offers over 2,000 sf of function space that opens to ocean and Diamond Head views.

3.4.6 Improved Off-street Parking, Service and Circulation

The porte cochere entry and front desk lobby are the primary points of guest arrival. The porte cochere will be expanded, allowing for more cars to queue for drop off/pick-up and valet service. This expansion will help to alleviate traffic build-up that occurs during peak use periods along Kālia Road. Guests will continue to use the porte cochere for valet-only service, and large groups will be served at the nearby bus depot at the Trump Tower.

New and reconfigured parking, loading, and service routes will be provided to improve efficiencies and further remove service vehicles from Kālia Road. New off-street parking will be created to accommodate new hotel rooms and meeting function space. The most significant improvement includes the addition of off-street loading for food and beverage delivery along with trash removal.

3.4.7 New Hotel Units

The project proposes to develop new hotel units that will connect the existing Pacific and Ocean Towers on the property. The new tower connection will provide approximately 60 first class hotel rooms with a typical configuration of five units per floor. The new tower connection will be the same height as the Pacific Tower at 150 ft tall.

Twenty-one of the existing (635) hotel units on the property will be demolished or repurposed for different uses. The net total of new rooms at the Outrigger Reef will be 39 hotel units. The floor area for the additional units will be obtained through the demolition of existing structures, conversion of floor area to non-floor area uses, and the use of floor area available under the Waikīkī Beach Walk PD-R approval. Under the PD-R, 1,961,074 sf of floor area was permitted for Waikīkī Beach Walk properties. 1,865,644 sf was used for the Waikīkī Beach Walk project leaving 95,430 sf available.

Pedestrian access to and from the new hotel units will be provided on the second floor levels of the Ocean and Pacific Towers. From this area a pedestrian network will be provided between the hotel units, adjoining recreational deck, main lobby on the upper level, and to the meeting rooms and beach front dining venues on the ground floor.

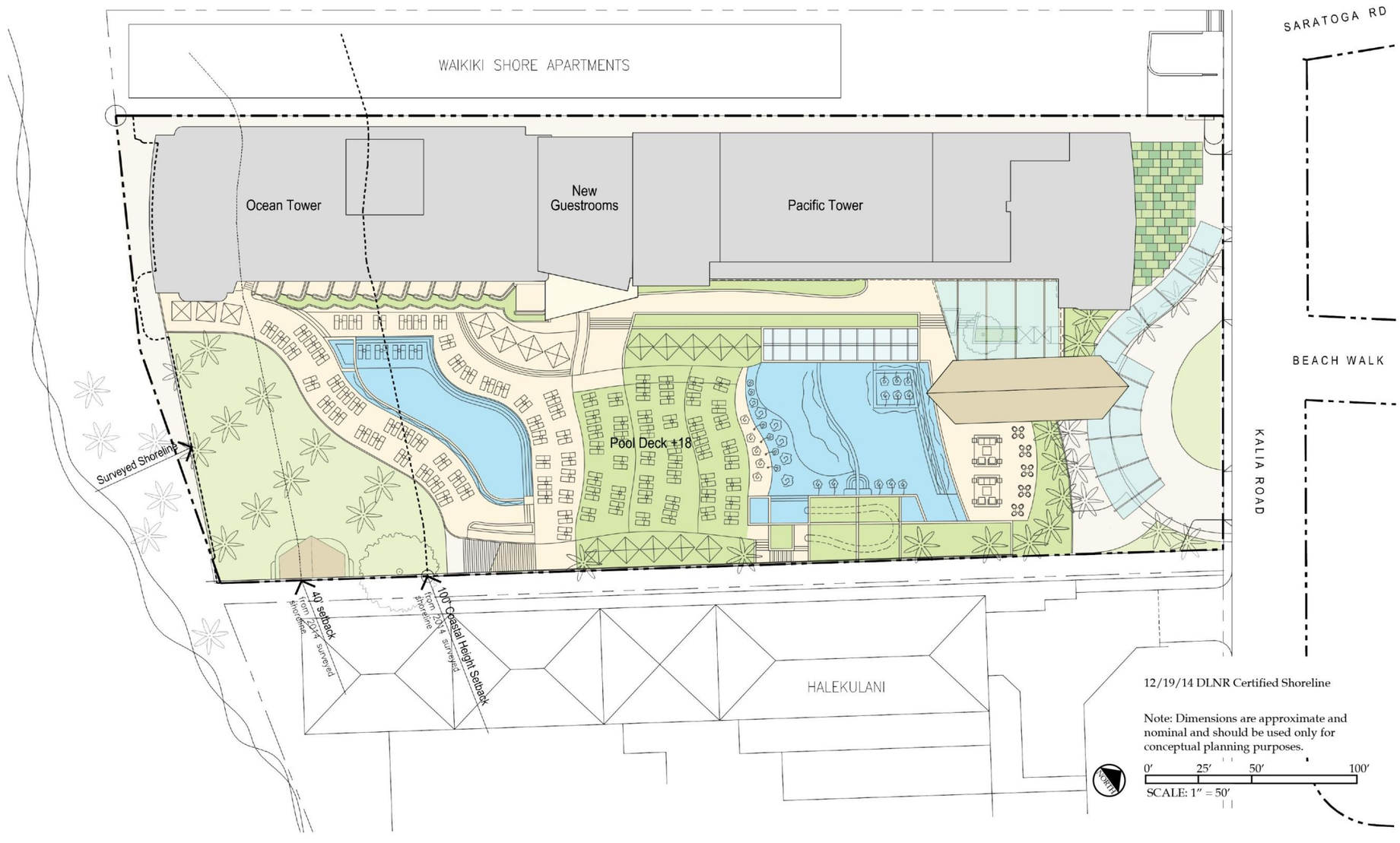


Figure 3-3 Proposed Outrigger Reef Waikīkī Beach Resort Site Plan

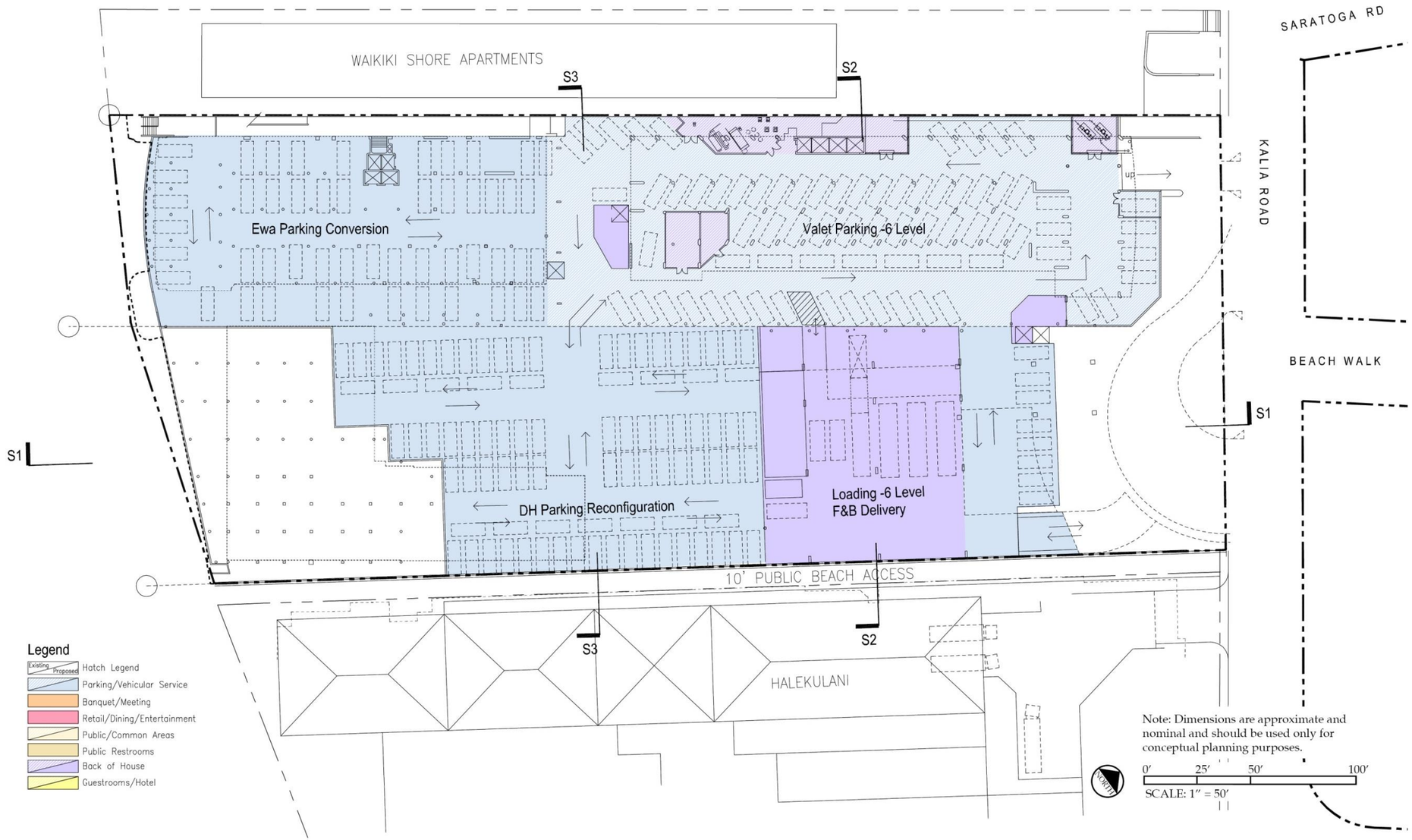


Figure 3-4 Floor Plan (-6 Basement Level)

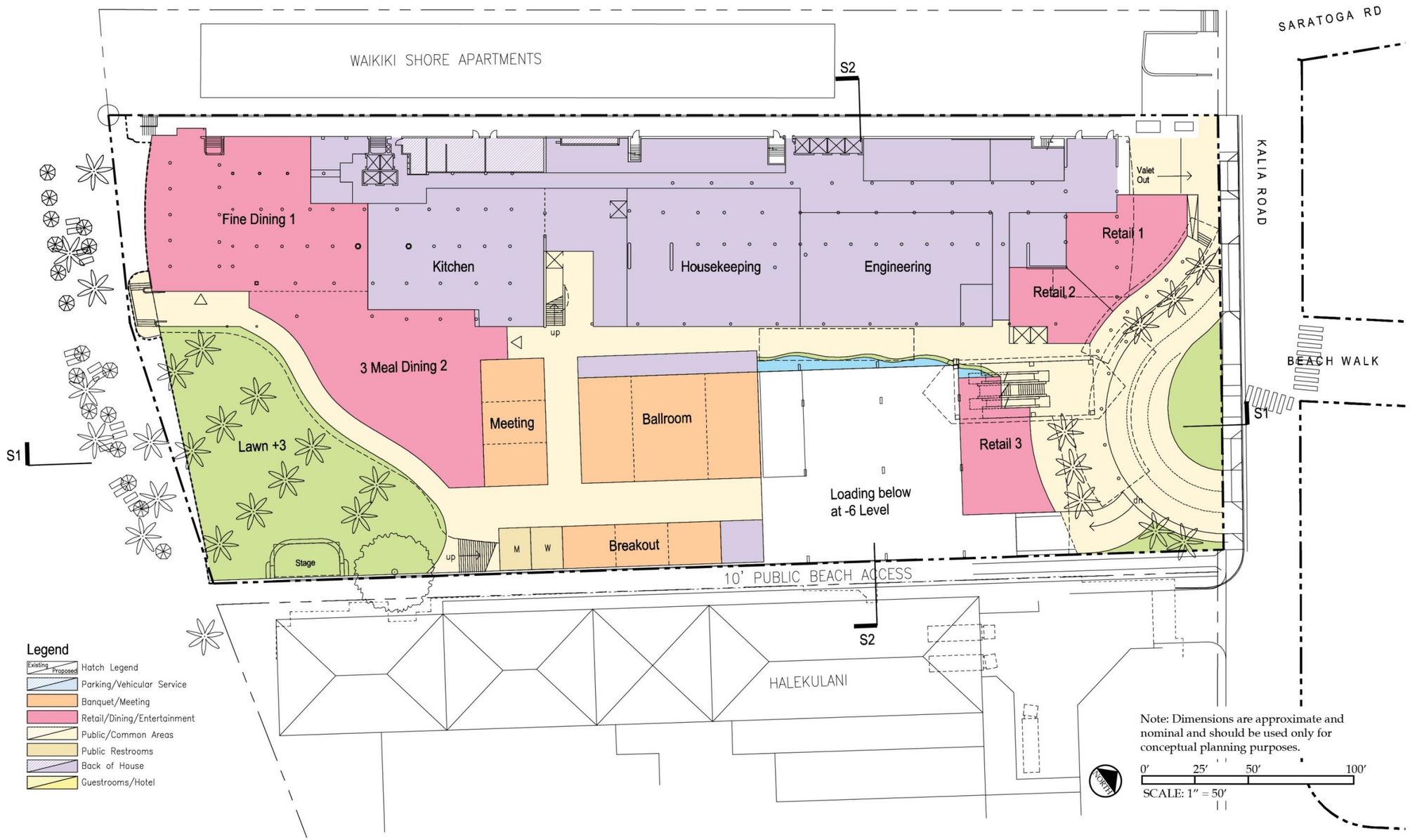


Figure 3-5 Floor Plan (+3 Level)

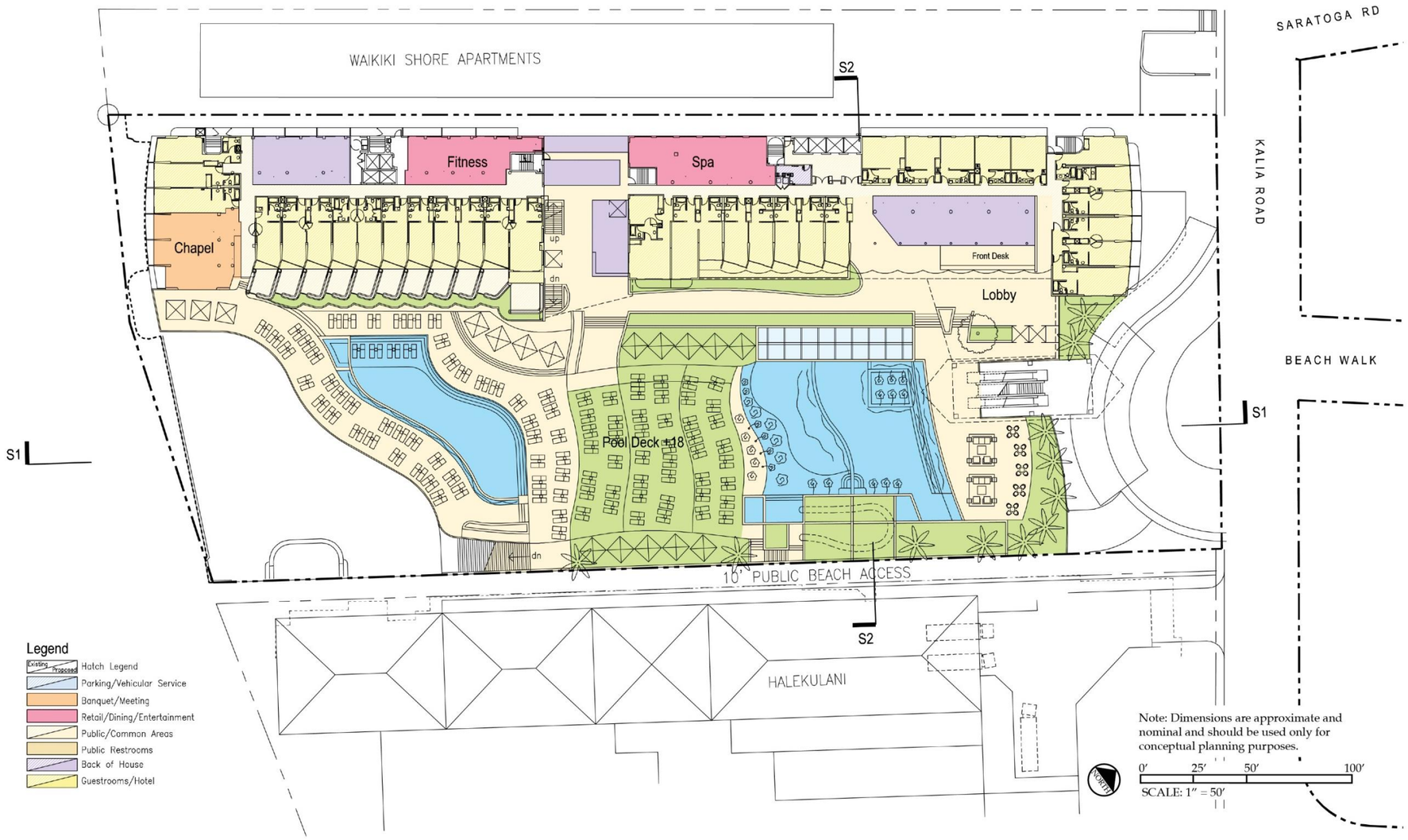


Figure 3-6 Floor Plan (+15 to +18 - Lobby/Pool Deck Level)

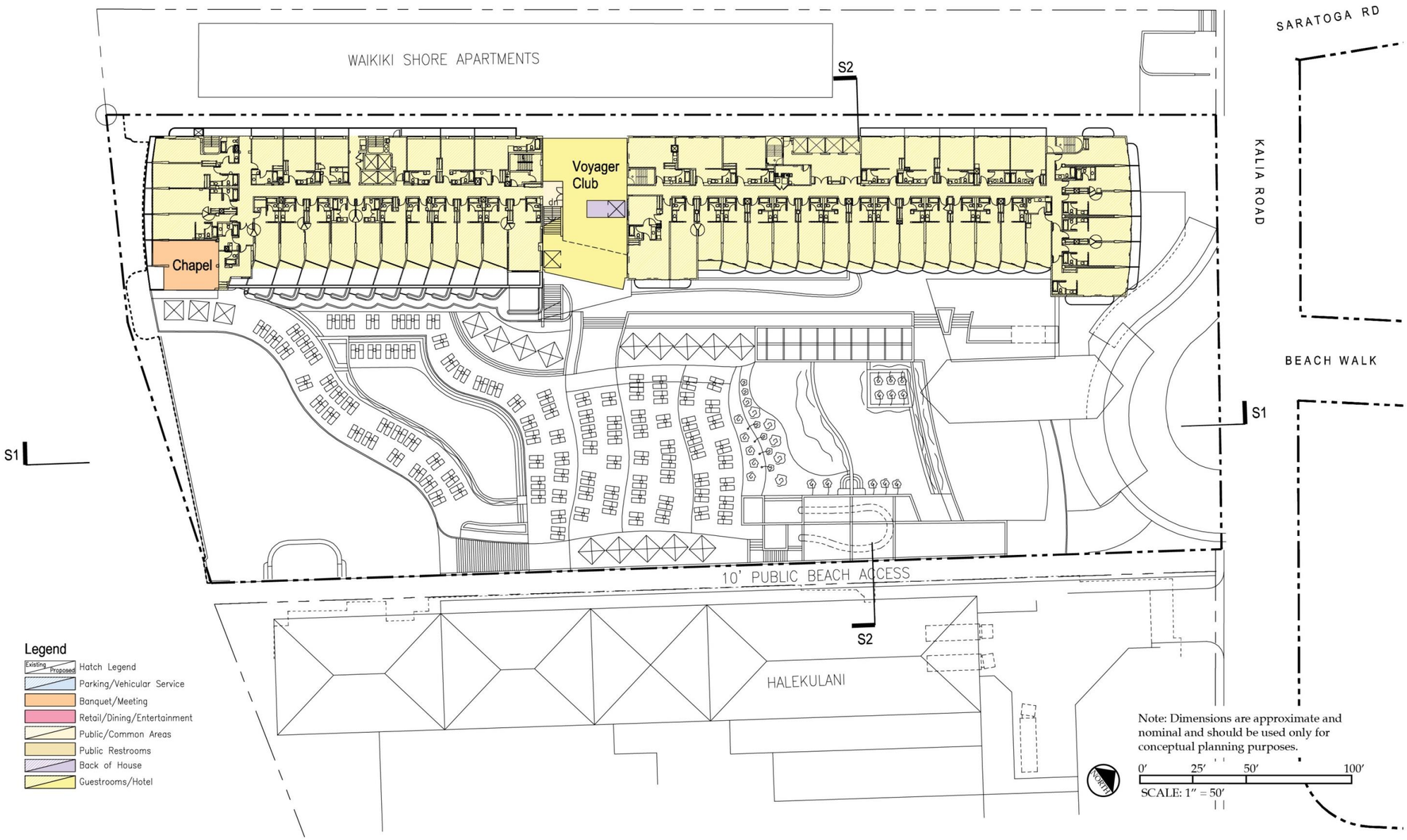


Figure 3-7 Floor Plan (+23.5 Level - 3rd Floor of Hotel Towers)

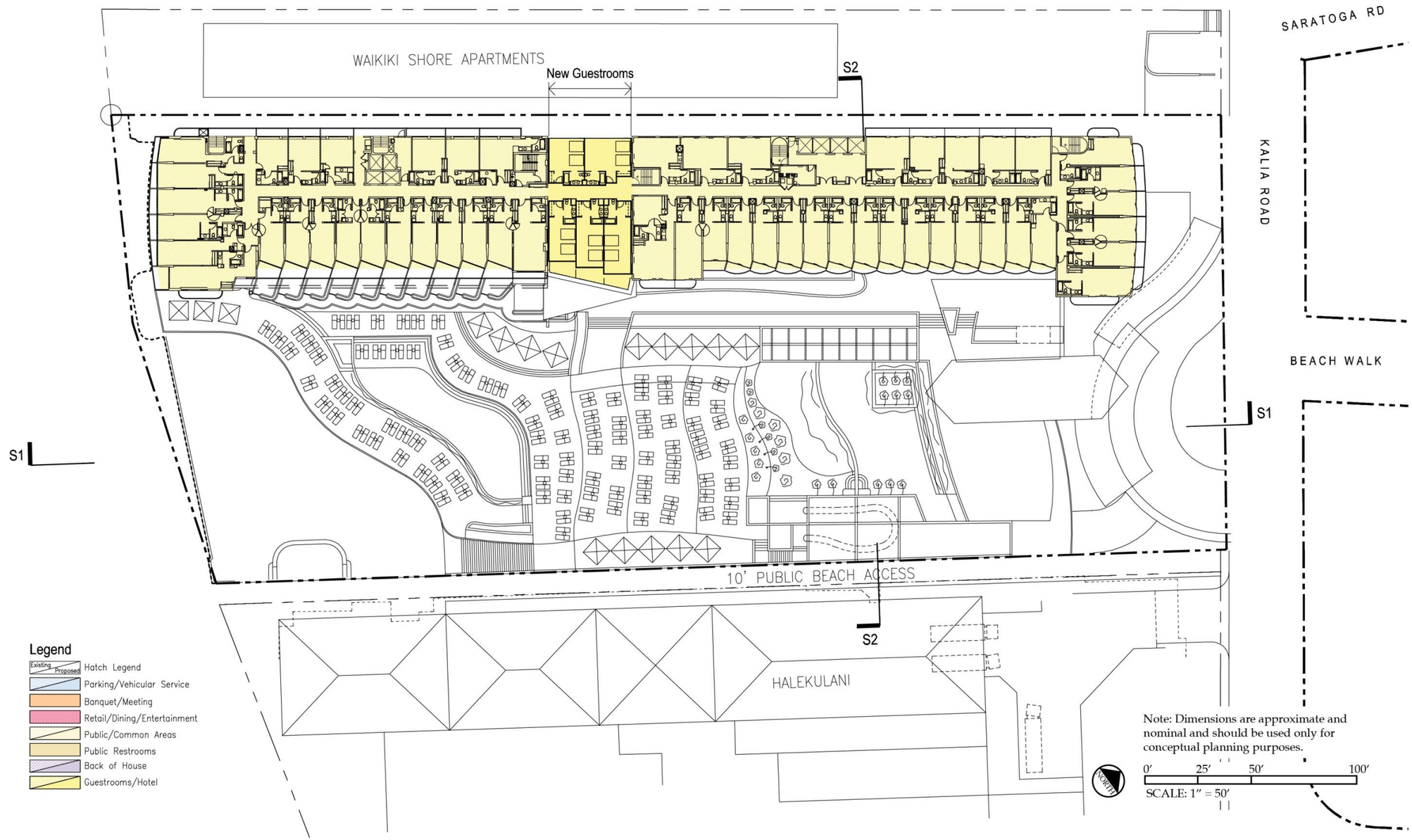


Figure 3-8 Floor Plan (Typical Guestroom Level – Floors 5 through 10)

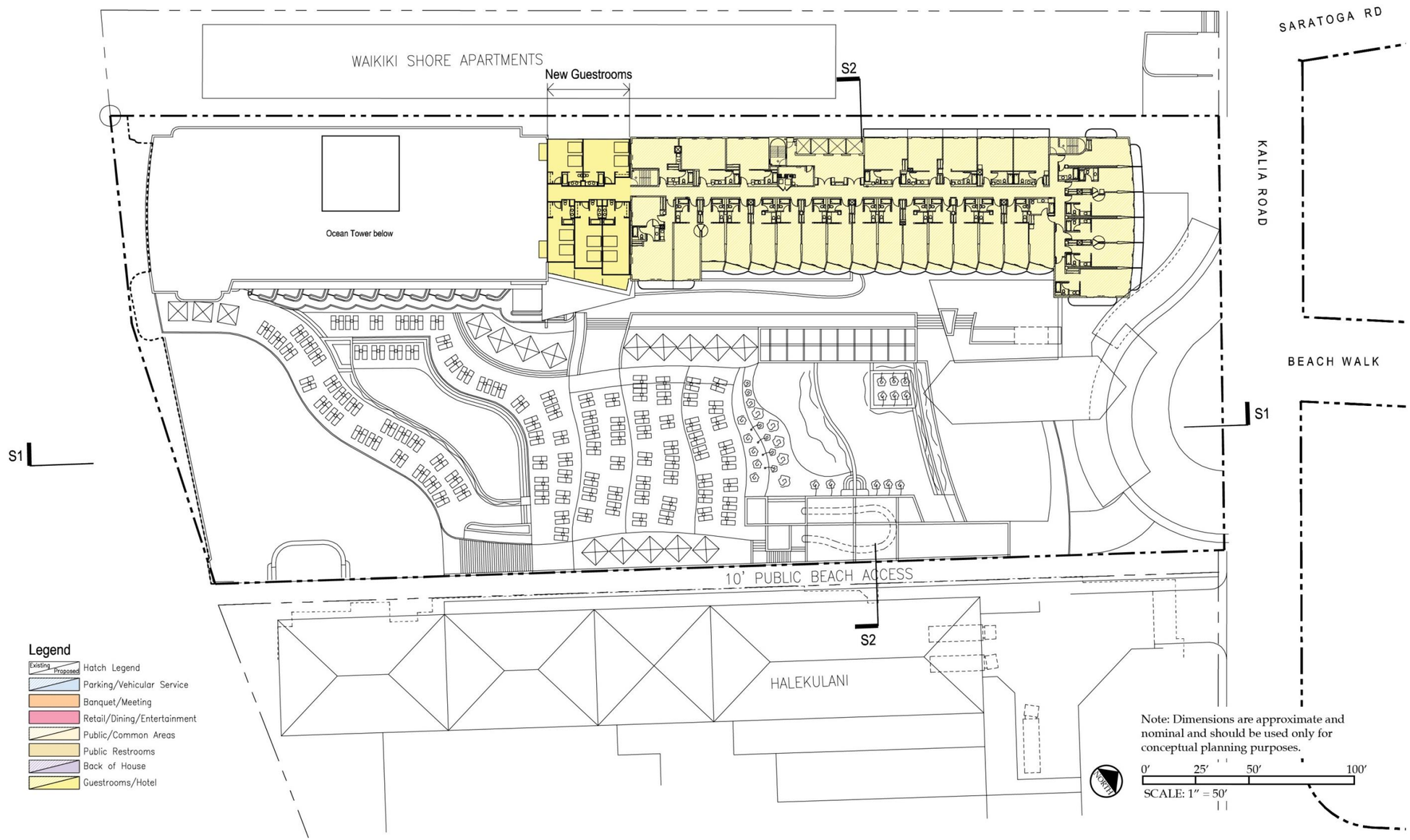


Figure 3-9 Floor Plan (+91.5 Level - 11th Floor of Hotel Tower)

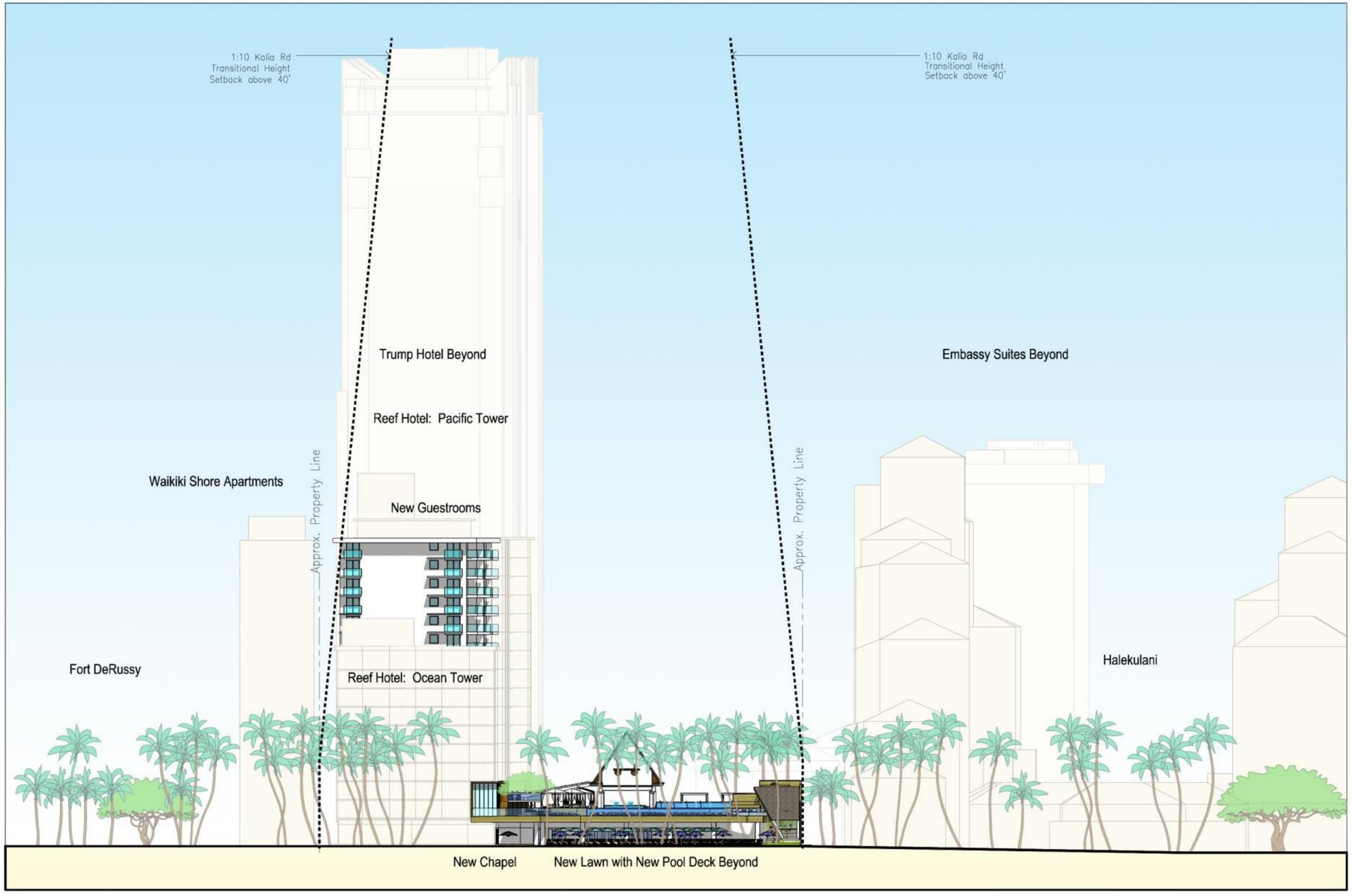


Figure 3-10 Site Elevation 1 (Makai Looking Mauka)

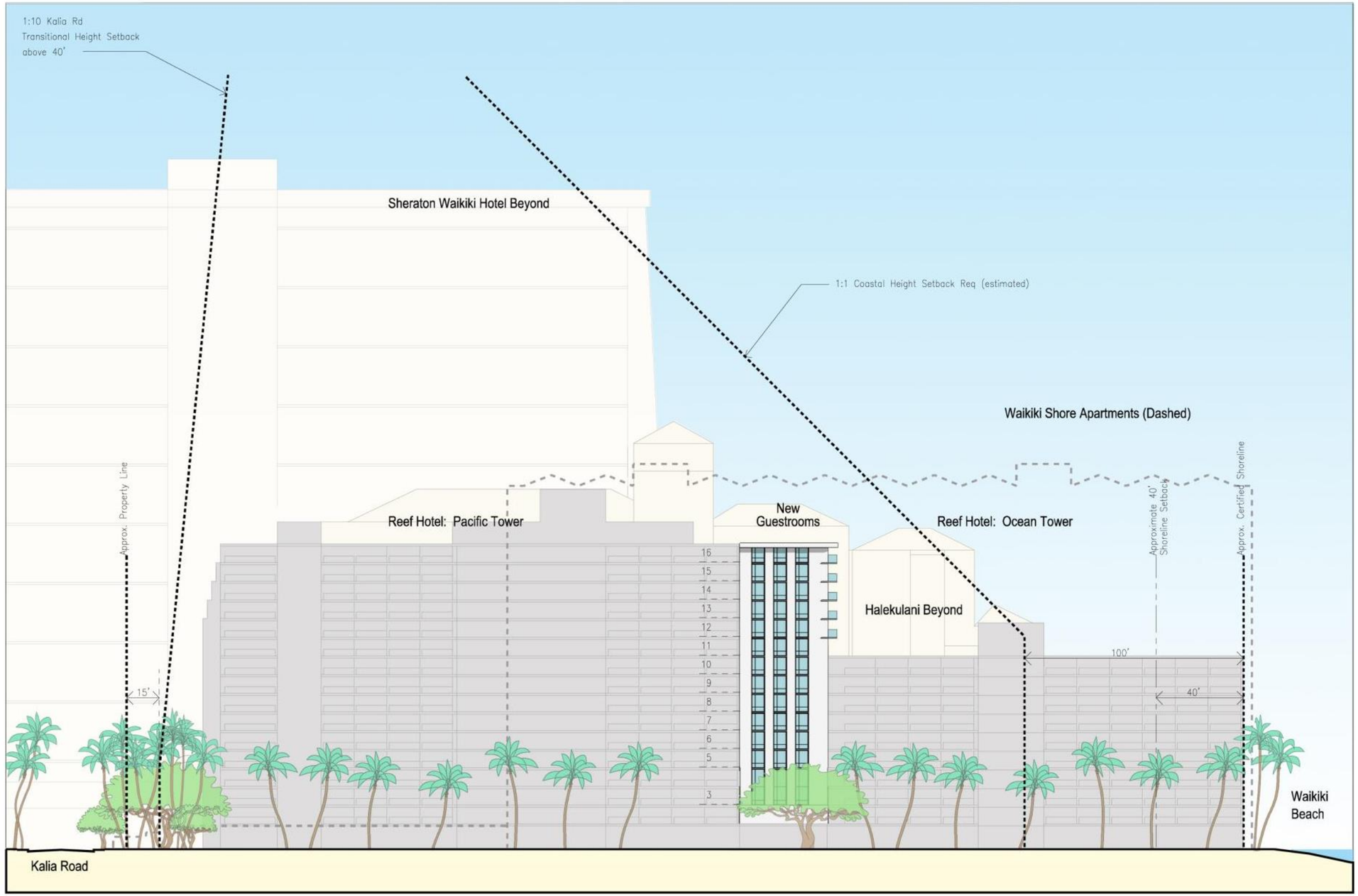


Figure 3-11 Site Elevation 2 ('Ewa Looking Diamond Head)

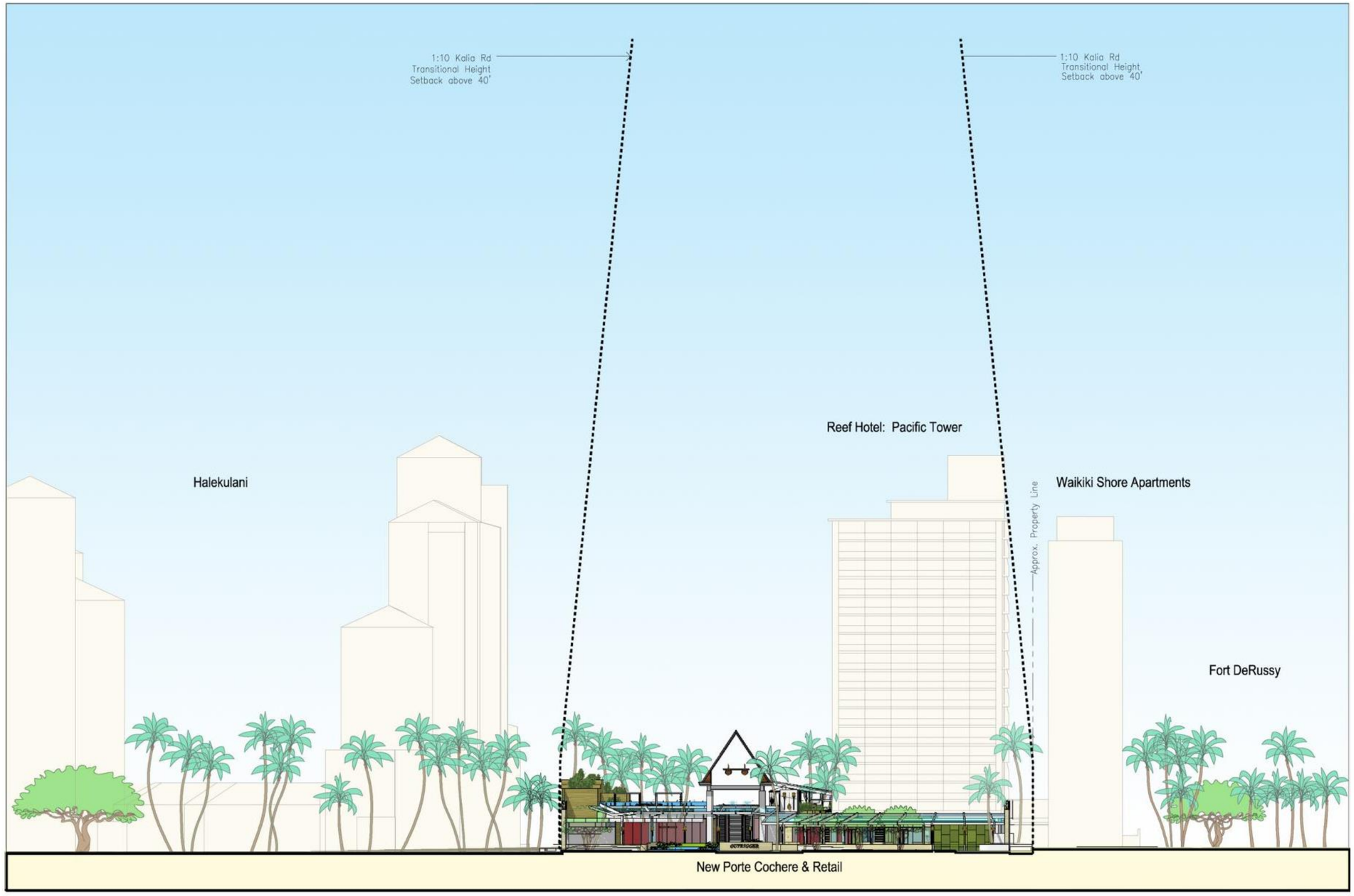


Figure 3-12 Site Elevation 3 (Kālia Road Looking Makai)

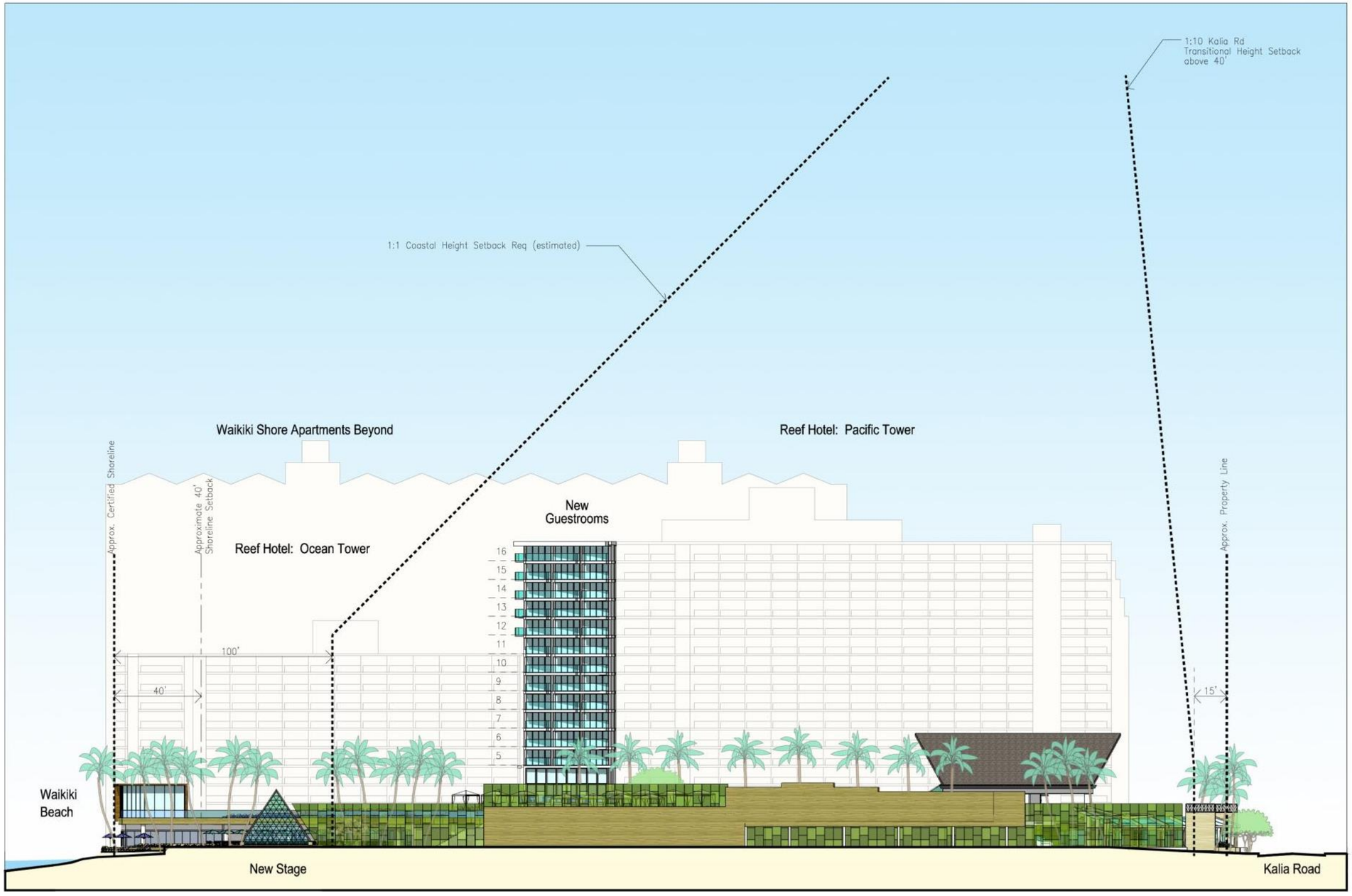


Figure 3-13 Site Elevation 4 (Diamond Head Looking 'Ewa)

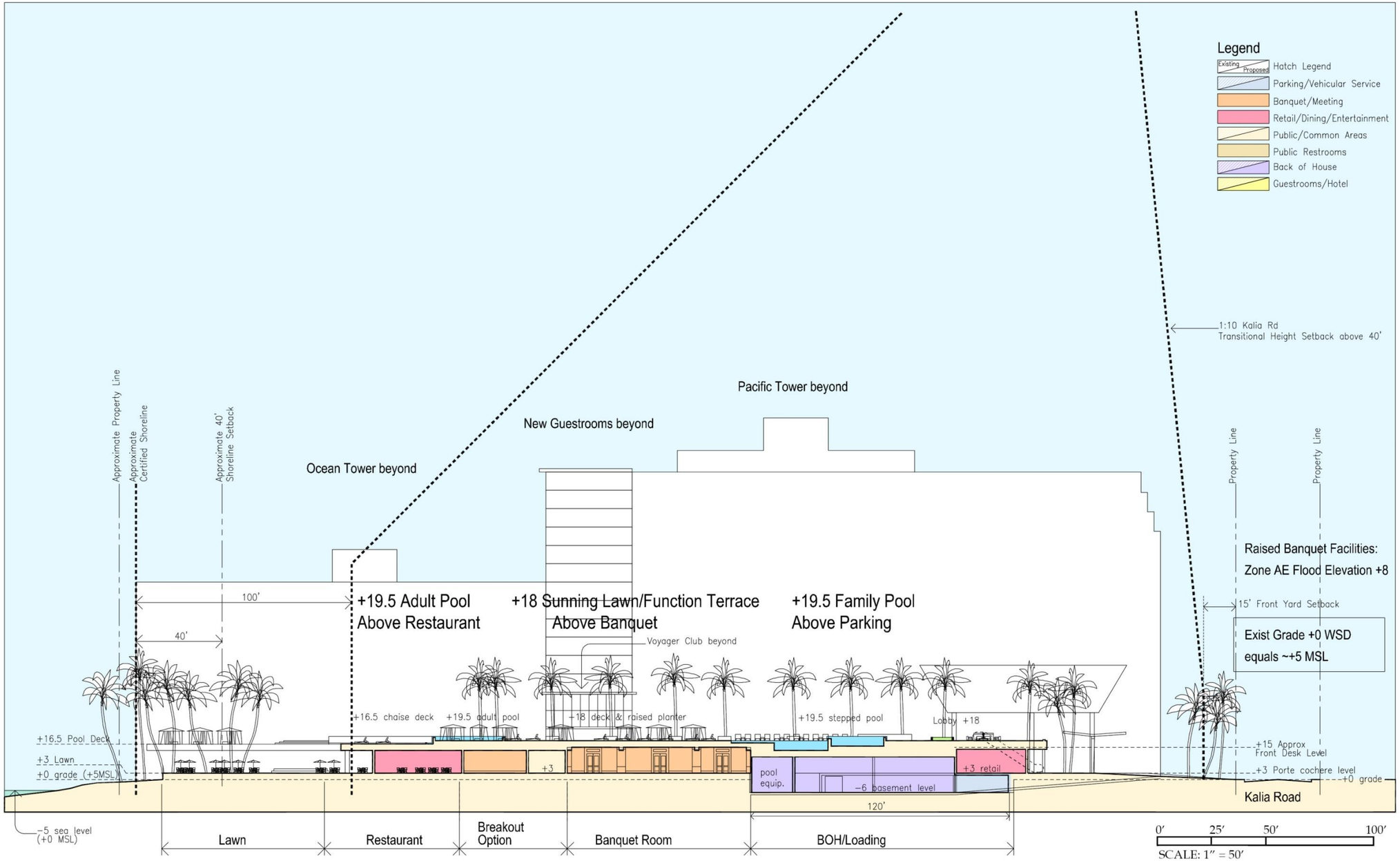


Figure 3-14 Section 1 (Diamond Head Looking 'Ewa)

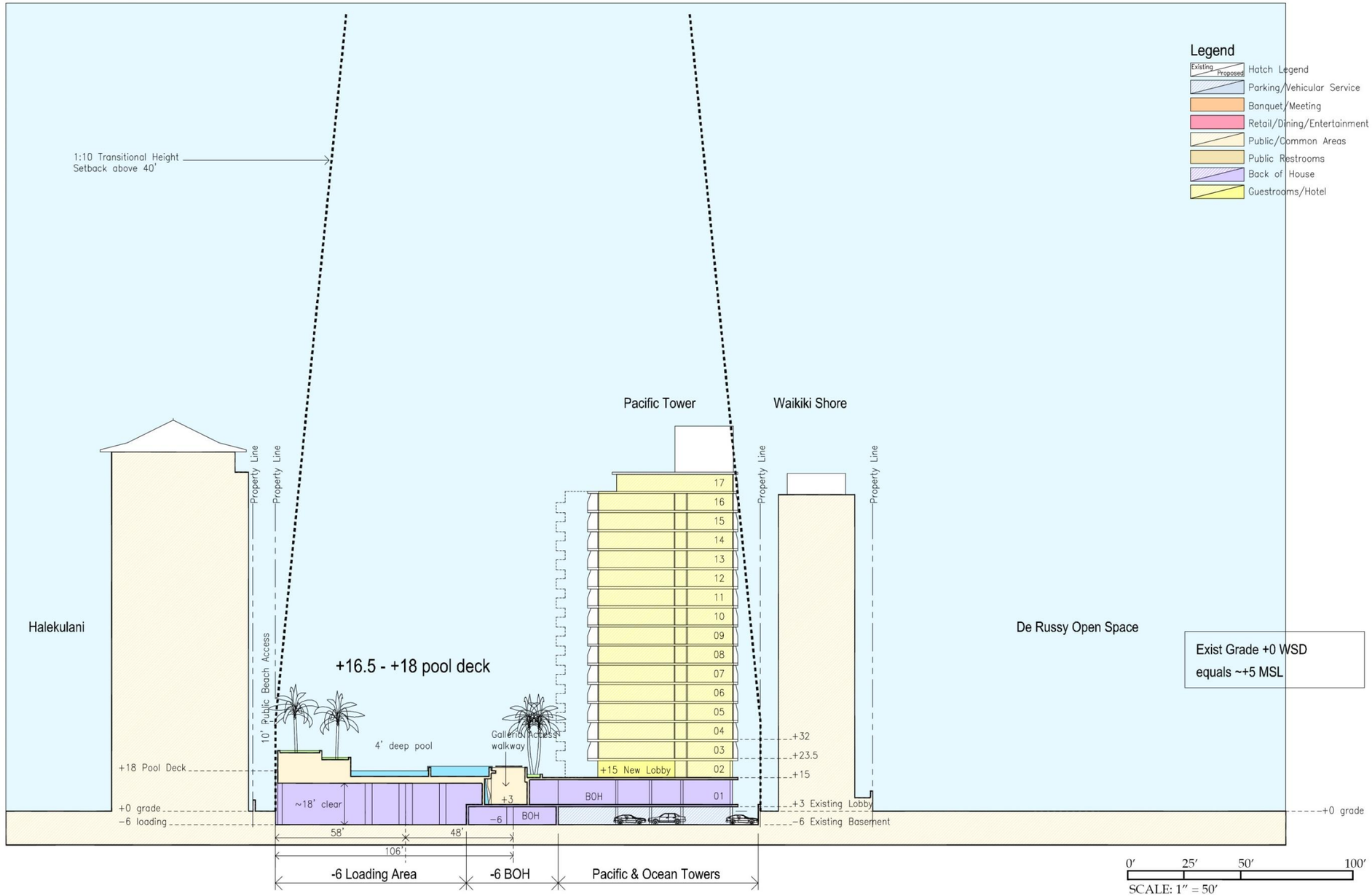


Figure 3-15 Section 2 (Looking Makai)

Figure 3-16 Conceptual View from Kālia Road

Figure 3-17 Conceptual View of the Pool Deck Looking Mauka

Figure 3-18 Conceptual View of the Proposed Project

Figure 3-19 Conceptual View from Waikīkī Beach

3.4.8 Summary of Program Improvements and Floor Area

The Outrigger Reef is one component of the overall Waikīkī Beach Walk. The approved PD-R for the Waikīkī Beach Walk project contains the allowable floor area calculations for the overall development. Under the existing PD-R, 1,961,074 sf of floor area is permitted. A total of 1,865,644 sf has been used for the Waikīkī Beach Walk project, leaving 95,430 sf of available floor area for the PD-R area.

The Outrigger Reef project utilizes the PD-R available floor area as well as floor area made available by the demolition of the Diamond Head Tower and other public spaces to provide the floor area for the proposed improvements. *Table 3-1* provides a summary of existing and proposed uses within the Outrigger Reef site and details the overall net effect. *Table 3-2* provides a summary of the existing and proposed number of hotel rooms for the project.

Table 3-1 EXISTING & PROPOSED USES AT OUTRIGGER REEF

Uses	Existing Area (sf)	Proposed Improvements (sf)	Net Change (sf)
Hotel Rooms and Related	356,360	347,135	-9,225
Back of House and Hotel Use	28,680	27,140	-1,540
Public Areas/Miscellaneous	40,310	29,230	-11,080
Retail and Food and Beverage	40,370	23,480	-16,890
Meeting and Banquet	2,520	9,250	6,730
TOTAL	**468,240**	**436,235**	**-32,005**

Table 3-2 EXISTING & PROPOSED HOTEL ROOMS

	Existing	New Connection	Total	Delta*	Notes
Current	635	0	635	0	Ocean=199, Pacific=436
Proposed	614**	60	674	+39	5 rooms/floor x 12 floors = 60 rooms

*change from current room count 635
** demolish/repurpose 21 rooms

3.4.9 Open Space and Landscaping

Under the existing PD-R, open space for Waikīkī Beach Walk development is approximately 25%. Approximately 30% of the existing Outrigger Reef property is open space (*Figure 3-20*) including a substantial portion at the existing pool deck. Refer to the open space summary in *Table 3-3*.

After improvements at the Outrigger Reef are completed, the percentage of open space (at-grade) will be approximately 15.5% and the overall open area, including the 42,360 sf pool deck, will be 54.4% (*Figure 3-21*). The resulting overall open space for Waikīkī Beach Walk will be approximately 20.5% and open area will be 32.8% (*Table 3-3*).

Table 3-3 OPEN SPACE SUMMARY

	Lot Area (sf)	PD-R Permit (September 2004)		Existing Open Space		Proposed Open Space		Open Space and Other Additional Open Areas**	
		Open Space (sf)	Percent (%)	Open Space (sf)	Percent (%)	Open Space (sf)	Percent (%)	Open Area (sf)	Percent (%)
Outrigger Reef	108,968	35,023	32.1%	32,393	29.7%	16,910	15.5%	59,270**	54.4%
Waikīkī Beach Walk	346,601*	91,132	26.3%	86,650	25.0%	71,167	20.5%	113,527	32.8%

*Total net area with Helumoa and 4 ft Kālia ROW widening as lot area reduction per PD-R permit
**The elevated recreational pool deck located (+15 level) will provide an additional 42,360 sf of open area.

Existing landscaping throughout the property includes various planted and potted trees, shrubs and flowers that are either native, Polynesian-introduced, or are characterized as tropical. The planned lawn and elevated recreational deck will integrate and expand lush, fragrant, tropical vegetation and water features to accentuate and define the quality of new open space and the connectivity to new and existing elements of the built environment within the Outrigger Reef. In addition, the pedestrian access along Kālia Road will be landscaped to invoke a more appealing and welcoming experience that fits with the tradition of Waikīkī Beach Walk.

A palette of small, medium, and large native, Polynesian-introduced, and tropical canopy trees that provide shade and screening will be selected and accented by understory foliage and groundcover that are consistent with the WSD Guidelines. As appropriate, the selection and use of native plants will be encouraged with specificity to express identified culturally appropriate themes and experiences throughout the hotel property. The existing trees (13 coconut) located on the mauka portion of the site near Kālia Road will likely be relocated to accommodate the proposed improvements. Most of the trees on the site are in planters and can be relocated to other areas within the property. No existing large trees are currently planned for removal.

Landscaping for the proposed beachside lawn located within the 40 ft shoreline setback will include a planting palette that will emphasize the use of native coastal species such as coconut palm (Cocos nucifera), loulu palm (Pritchardia martii), milo (Thespesia populnea), naupaka (Scaevola taccada), nanu (Gardenia mannii), pohinahina (Vitex rotundifolia), and pohoehoe (Ipomea pes-caprae subsp. Brasiliensis). The non-native seashore paspalum (Paspalum vaginatum Sw.) may also be used if appropriate for the landscape design.

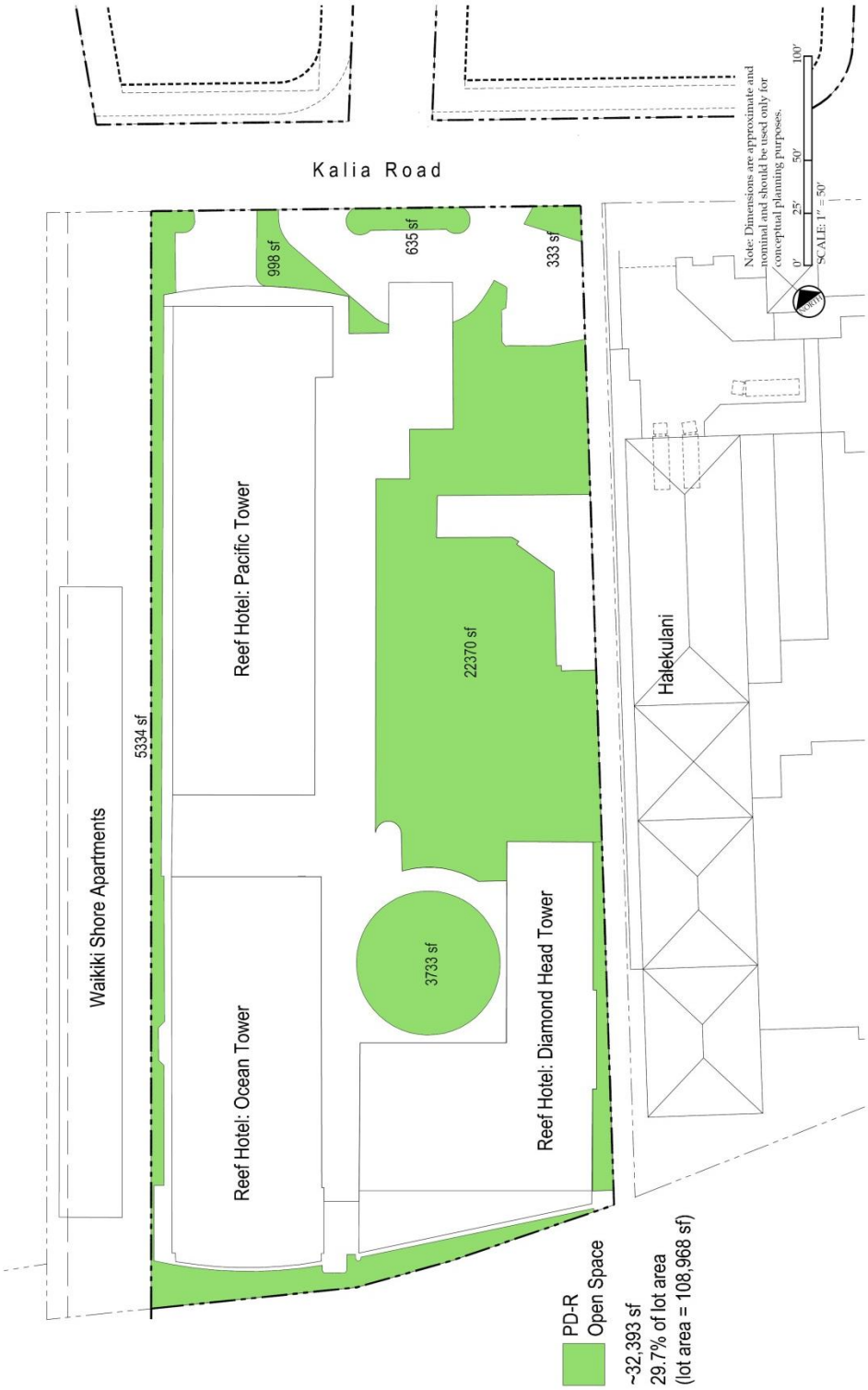


Figure 3-20 Existing Open Space Plan for the Outrigger Reef (Not to Scale)

Figure 3-21 Proposed Open Space Plan for the Outrigger Reef (Not to Scale)

3.4.10 Vehicle and Pedestrian Circulation

Vehicle Circulation

No major roadway construction or alterations are proposed with this project. Upon arrival, existing circulation on the site requires the valet service to make a hard right down into the basement parking area. The valet service retrieves cars through this same vehicular access point and makes a short loop onto Kālia Road and back into the property.

The proposed project improvements will generally maintain the existing vehicle circulation on the site, however, there will be improvements made to soften the right turn for valet service and provide off-street loading area for on-site deliveries. Loading trucks will enter off Kālia Road and have sufficient room on-site to enter and exit the new loading area. The proposed improvements will better organize and accommodate pedestrian and vehicle circulation along Kālia Road. An expanded porte cochere and arrival area and improved loading and parking strategy will help to alleviate congestion, address safety hazards and create a comfortable flow and feel for guests arriving at the property. Refer to *Figure 3-22*.

Pedestrian Circulation

Most pedestrian foot traffic along and through Kālia Road emanates from various hotel, retail, dining, and recreational activities from adjacent hotels, parks, beaches, and commercial establishments. A new dedicated walkway that connects pedestrians directly from Kālia Road to the main hotel entry will significantly improve pedestrian safety by clearly distinguishing circulation routes for both vehicles and pedestrians.

Upon arrival at the ground floor lobby (+3 level), guests have the choice to either continue through the hotel down a covered walkway to access the oceanfront dining venues, or ascend one story to the elevated recreational pool deck and hotel lobby area. Here, visitors will have the opportunity to experience the sights and sounds of the pool deck, and take in stunning views of the Pacific Ocean as pedestrian paths within the site lead them towards the lawn and beachfront areas. Refer to *Figure 3-22*.

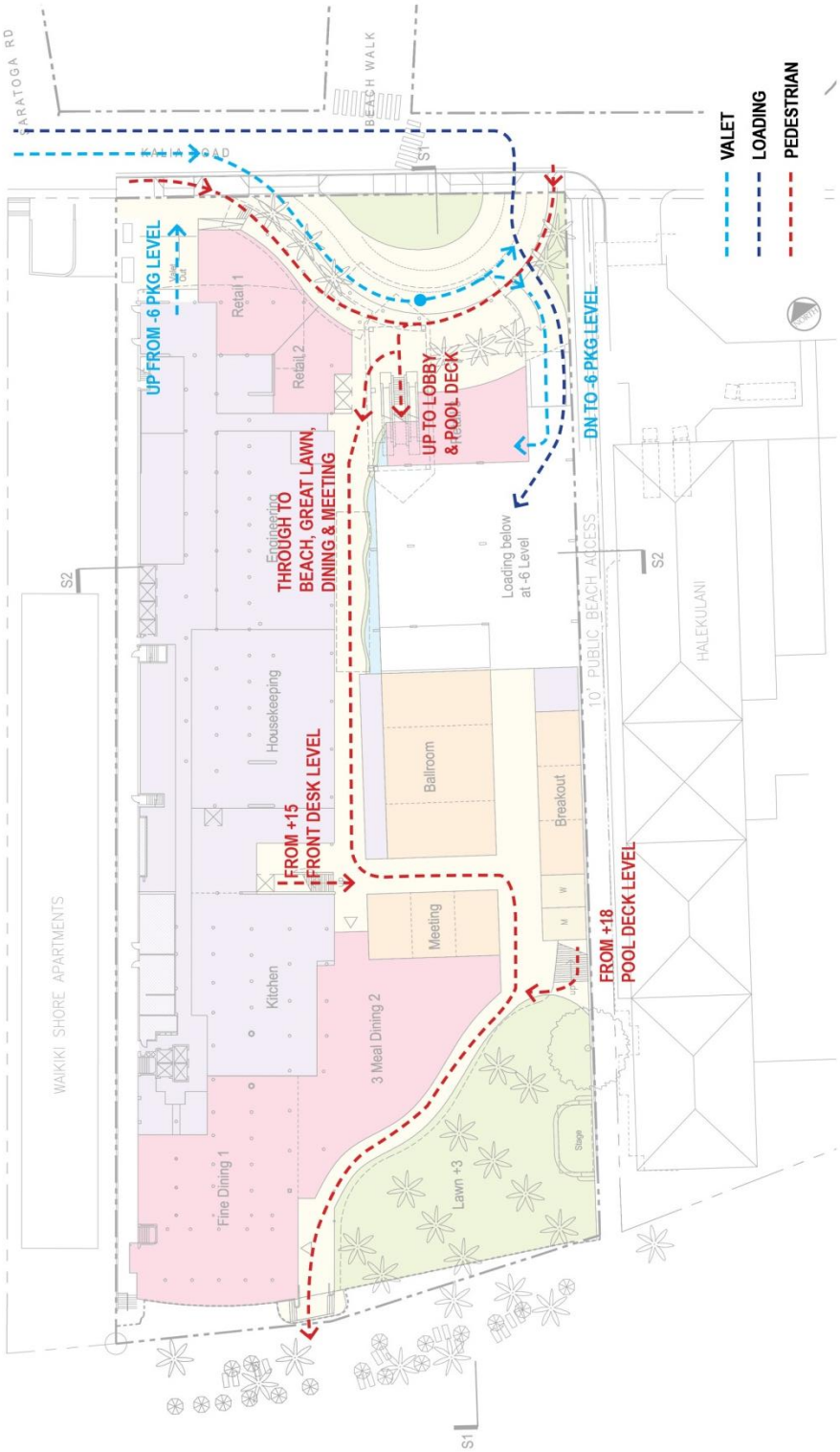


Figure 3-22 Proposed Vehicular and Pedestrian Circulation (Not to Scale)

3.4.11 On-Site Parking & Loading/Delivery Areas

A complete description of existing conditions and proposed parking and loading plans for the Outrigger Reef is provided in *Figure 3-4* and *Section 4.8.3*.

As noted in *Section 3.4*, the Outrigger Reef is included as part of the overall Waikīkī Beach Walk project. Therefore, parking and loading requirements are contained under the existing PD-R and counted for all components of the Waikīkī Beach Walk project.

WSD Off-Street Parking Standards

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

Currently, there are a total of 210 parking spaces provided within the Outrigger Reef property and a total of 851 off-street parking spaces provided for the Waikīkī Beach Walk development, which exceeds City and County of Honolulu LUO requirements. Existing demand during normal operations is currently managed on-site. Valet service is the only option provided at the Outrigger Reef.

As noted above, ground floor and basement uses in the WSD are exempt from off-street parking requirements (LUO Section 21-9.80-4(h)); therefore, once the project is completed, no additional parking spaces will be required. However, the project will provide 12 additional parking spaces for a total of 222 parking spaces within the Outrigger Reef. The Waikīkī Beach Walk development will have a total of 863 stalls, which exceeds LUO requirements by 291 stalls.

WSD Off-Street Loading Standards

LUO Sections 21-6.100 through 21-6.140 establish the off-street loading space requirements for retail and hotel (or similar uses) developments. When more than one loading area is required, there are specific dimension provisions that must be met. At least half of these spaces must be built to meet the dimension requirements of 12 ft ×35 ft, with a minimum vertical clearance of 14 feet. The other half may have horizontal dimensions of 8.5 ft ×19 ft and vertical clearance of at least ten ft. Currently, there are a total of three off-street loading spaces provided within the Outrigger Reef property and a total of 36 off-street loading spaces provided for the Waikīkī Beach Walk development.

The new off-street loading area for the Outrigger Reef will accommodate seven loading spaces. Upon construction of these stalls, there will be a total of 40 loading stalls for the Waikīkī Beach Walk development, exceeding the LUO requirement of 32 loading stalls.

3.4.12 Comparison of LUO WSD and Planned Development-Resort Development and Design Standards

The Outrigger Reef is located within the WSD, Resort Mixed Used Precinct. Project compliance and fulfillment of the goals and objectives of the WSD are discussed in further detail in *Section 5.3.3.*

Under the City and County of Honolulu LUO, Section 21-9.80-4 (General Requirements and Design Controls), there are provisions that allow for the creative redevelopment not technically possible under the strict adherence to development standards within the WSD. As stated in the LUO, "flexibility may be provided for project density, height, precinct transitional setbacks, yards, open space, and landscaping when timely, demonstrable contributions benefitting the community and the stability, function, and overall ambiance and appearance of Waikīkī are produced." Such projects are termed Planned Developments.

PD-R projects are only permitted in the designated Resort Mixed Used Precinct. The Outrigger Reef, as part of Waikīkī Beach Walk, has been conceived as a PD-R modification project as the entire development is located in the Resort Mixed-Use Precinct (*Figure 1-5*). Since the Outrigger Reef is included as part of the overall Waikīkī Beach Walk project, applicable requirements are contained under the existing PD-R and counted for all components of the Waikīkī Beach Walk project.

Described in the following sections is the project's proposed compliance to requirements of the standard LUO and PD-R requirements. The PD-R provides for special allowances and development standards for:

- Building density and floor area
- Front yards
- Building heights
- Transitional height setbacks
- Landscaping

Building Density and Floor Area

WSD General Density Standard & Maximum Floor Area
LUO Section 21-9.80-6(b) and Table 21-9.6(B) establish a maximum density floor area ratio (FAR) of 2.8 for Resort Mixed Use Precinct sites containing 90,000 sf or more of land. Further, WSD provisions related to the calculation of maximum project floor area (Section 21-9.80-4(d)(3)(A) and Table 21-9.6(B)) specify that "in computing project floor area, the FAR may be applied to the zoning lot area, plus one-half the abutting right-of-way area of any public street or alley."

WSD PD-R Project Density Standard
LUO Section 21-9.80-4(d)(3)(A) allows modifications of the general density standard for PD-R projects. Under the PD-R provision, the maximum FAR shall not exceed 4.0, unless the existing FAR is greater than 3.3, then other conditions apply.

The Waikīkī Beach Walk development is comprised of 348,224 sf of land. The calculated street bonus is 70,809 sf. Thus, the total land area available for the floor area calculation is 419,033 sf. Under the PD-R, 1,961,074 sf of floor area was permitted for Waikīkī Beach Walk properties. 1,865,644 sf has been used for the Waikīkī Beach Walk project leaving 95,430 sf of available floor area.

Building Heights

WSD Building Height Standards
LUO Section 21-9.80-4(c) (1) and LUO Exhibit 21-9.15 establish varying maximum building heights for different sections of Waikīkī. Under the WSD standards, the maximum height for buildings within the project area is 300 ft.

WSD PD-R Building Height Standards
LUO 21-9.80-4(d)(3)(B) provides that the maximum building height for PD-R projects shall be 350 ft, but that this standard may be reduced.

Existing and Proposed Building Height Conditions
All existing buildings within the Outrigger Reef and Waikīkī Beach Walk development comply with the WSD PD-R building height standard of 350 ft. The new hotel units that will connect the existing Pacific and Ocean Towers will be 150 ft tall.

Front Yards

WSD Front Yard Standards
LUO Section 21-9.80-4(c)(2) and LUO Table 21-9.6(B) establish a general minimum front yard ranging from 15 to 20 ft under the Resort Mixed Use Precinct. Side or rear yards are required only where a property in this precinct adjoins an Apartment Precinct. The Outrigger Reef property is bounded by properties of the same zoning district, and therefore does not require side or rear yard provisions.

WSD PD-R Front Yard Standards
LUO Section 21-9.80-4(d)(3)(D) establishes a minimum yard of 15 ft for front yards but allows for the modification of this standard for PD-R projects.

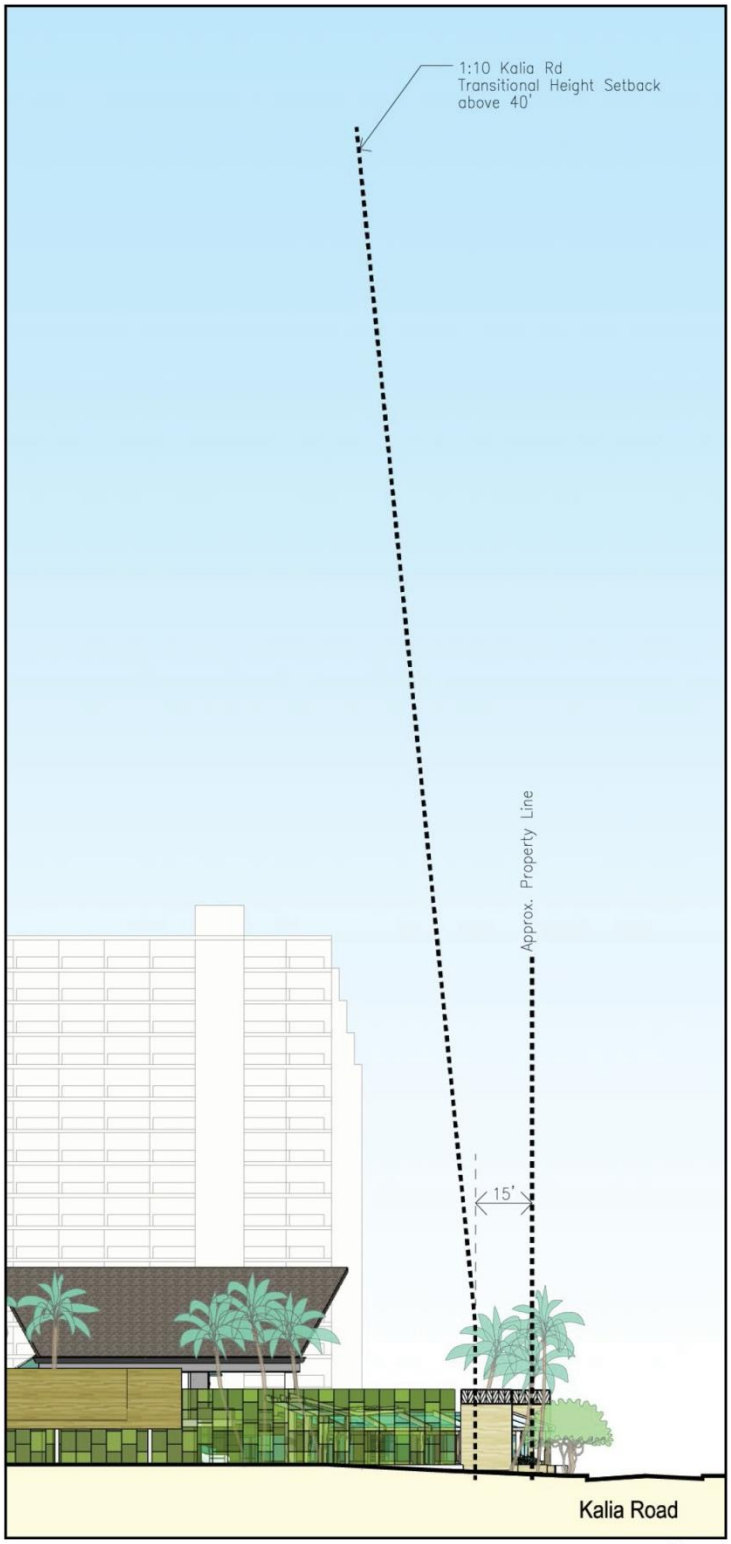
Existing and Proposed Front Yard Conditions
The project will not meet the minimum front yard requirement of 15 ft in order to incorporate gateway design features to improve the existing pedestrian experience (*Figure 3-21*). A modification of this development standard will be pursued during the PD-R modification process.

Transitional Height Setbacks

WSD Transitional Height Setback Standards
LUO Section 21-9.80-6(c)(2) and LUO Figure 21-9.2 require that in the Resort Mixed Use Precinct, for any portion of a structure above 40 ft in height, additional front, side, and rear height setbacks equal to one foot for each 10 ft (1:10) in height or fraction thereof needs to be provided.

WSD Transitional Height Setback Standards
LUO Section 21-9.80-4(d)(3)(C) allows the WSD standard to be modified for PD-R projects.

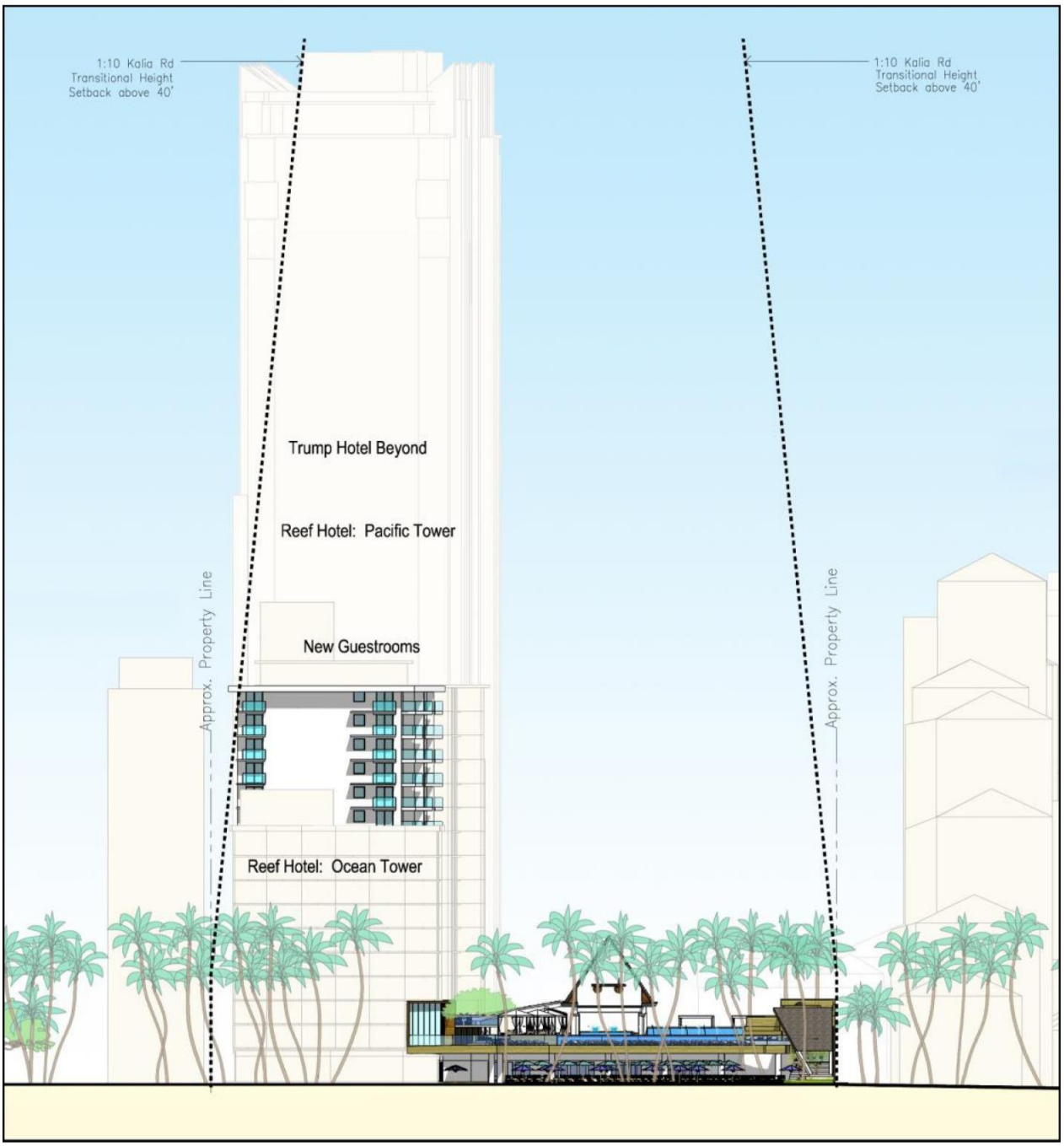
Existing and Proposed Transitional Height Setbacks
Two existing structures within the Outrigger Reef site encroach within the transitional height setback along the west side of the property. These structures, the Ocean and Pacific Towers, were built prior to current LUO standards. A portion of the proposed new hotel units will also lie within the transitional height setback (*Figures 3-23 and 3-24*). A modification of this development standard will be pursued during the PD-R modification process.



Note: Dimensions are approximate and nominal and should be used only for conceptual planning purposes.

0′ 25′ 50′ 100′
SCALE: 1″ = 50′

Figure 3-23 Front Yard for Outrigger Reef Property



Note: Dimensions are approximate and nominal and should be used only for conceptual planning purposes.

0′ 25′ 50′ 100′
SCALE: 1″ = 50′

Figure 3-24 Transitional Height Setbacks for Outrigger Reef Property

3.5 PROJECT COSTS

The estimated costs to implement and complete the Outrigger Reef improvements are $90.7 million. The project costs will be financed through Outrigger's existing sources, including cash flow from operations, and from bank financing if necessary.

3.6 PROJECT DEVELOPMENT SCHEDULE

Implementation of the Outrigger Reef improvements will commence upon issuance of the required City and County of Honolulu permits and approvals.

Construction of the project is currently projected to commence in 2018 and be completed in 2020 with initial occupancy to follow soon thereafter.

Section 4.0

ENVIRONMENTAL SETTING, PROBABLE IMPACTS & RECOMMENDED MITIGATIVE MEASURES

4.0 ENVIRONMENTAL SETTING, PROBABLE IMPACTS, & RECOMMENDED MITIGATIVE MEASURES

4.1 REGIONAL SETTING OF WAIKĪKĪ

Oʻahu is the third largest island of Hawaiʻi's main islands with a land area of 597 square miles. With a population of approximately 953,207, Oʻahu is the most populated island, accounting for about 70% of the State's population (U.S. Census Bureau, 2010). The island of Oʻahu is divided into six moku o loko (traditional land districts): Kona, Koʻolaupoko, Koʻolauloa, Waialua, Waiʻanae, and ʻEwa. These moku o loko are subdivided into smaller traditional land tracts called ahupuaʻa, wherein the composition and qualitative yield of mauka (upland) and makai (coastal) resources vary.

The ahupuaʻa of Waikīkī is located in the moku o loko of Kona, a once abundant and self-sufficient agricultural community and important political center that has transformed over the last century into a global resort destination (*Figure 4-1*). The urban core of Waikīkī is comprised of approximately 507 acres. At the ʻEwa-side entry into Waikīkī along the coastal shoreline, the Outrigger Reef is located on 2.5 acres bounded by Kālia Road to the north, Waikīkī Shore to the west, and Halekulani to the east. Resort recreational amenities at the hotel include a swimming pool, fitness center, spa, and areas for families and children to learn and participate in cultural activities such as Hawaiian storytelling, ʻukulele lessons, lei making, kukui nut bracelet making, petroglyph activities and more. The current resort area also consists of retail and dining areas showcasing different boutiques, specialty stores, and restaurants. Waikīkī Beach Walk, and the Outrigger Reef in particular, are known for their Hawaiian music programs and for supporting local musicians.

4.1.1 Pre-Contact to Early 1800s

The name "Waikīkī" translates to "spouting water," a reference to the vast and naturally occurring freshwater ponds and springs that were once a dominant feature in the region. Historical records indicate that Waikīkī was once the political and residential center of Maʻilikūkahi, the ruling aliʻi of Oʻahu in the 14th century, during the Consolidation Period (1180-1450). With Waikīkī as the center of government, Maʻilikūkahi was the first aliʻi to completely govern over Oʻahu, and is noted for developing and implementing the moku and ahupuaʻa land tenure and management system. Tradition also cites Kalamakua, ruling aliʻi of Oʻahu in the 15th century, with establishing and cultivating the lands of Waikīkī with the immense construction of numerous ʻauwai, or irrigation ditches, integrated with loʻi, or agricultural terraces. Elaborately designed, these irrigation systems created a productive agricultural community that impressed early foreigners in the late 1700s.

Traditional agricultural production yields in Waikīkī primarily consisted of various species of kalo (*Colacasia esculenta*, taro), ʻuala (*Ipomoea batatas,* sweet potato), ʻuhi (*Dioscorea alata,* yam), wauke (*Broussonetia papyrifera*, paper mulberry), ʻulu (*Aʻtocarpus altilis*, breadfruit) and kō *(Saccharum officinarum*, sugarcane).The ʻauwai, or stream, systems utilized the natural gravitational flow of water from upland sources in Mānoa and Pālolo valleys, which then fed the

arterial tributary outflows toward the coastline. The abundance of flowing freshwater created the opportunities to cultivate fish in the coastal lowland fishponds in Waikīkī. These inland fishponds were reported to contain various fish species including awa (milkfish), ʻamaʻama (mullet), ʻanae (full size mullet), ʻoʻopu (general name of fishes in the families Eleotridae, Gobiidae, and Blennidae) and āholehole (Hawaiian flagtail). Managing these traditional fishponds systems required a dedicated and cooperative community effort, emphasizing the importance of improving, maintaining and preserving existing resource yields for a fairly extensive population in traditional times. Adjacent to the land area were the freshwater Kaʻihikapu, Pāweo, and Kaʻōhai fishponds.

4.1.2 1848 Māhele and Transitional Land Use Patterns within Waikīkī

In 1848, during the reign of Kauikeaouli (Kamehameha III), a reformation of the traditional land tenure system, known as the Māhele was derived by legislation, specifically by the Organic Acts of 1845 and 1846. The Māhele transformed the traditional ahupuaʻa system into a system of possession rights and private title to land. All lands in the kingdom were classified as Crown Lands, Government Lands, and Konohiki Lands, "subject to the rights of native tenants."

Claims and subsequent titles were issued and recorded as Land Commission Awards (LCAs) during the Māhele. Awards issued by the Land Commission to the makaʻāinana (commoners) were called kuleana awards. During the Māhele, only 14,195 kuleana claims were made, of which only 8,421 were awarded. In general, those individuals awarded lands represented a small portion of the overall population. As a result of a large diminution of the native population with the introduction of foreign diseases after 1778, many Native Hawaiians were not able to either initiate or follow through on claims. Thus, the registered list of LCA awardees does not represent all legitimate native claims to land parcels.

Although the distribution of LCAs may not reflect the full scope of traditional land tenure patterns, those that were recorded do provide insight into patterns of residence and agriculture activity that were occurring in Waikīkī at this time. By examining the patterns of LCA parcels in the vicinity of the project area, insight can be gained on the likely intensity and nature of traditional activities in the area.

Due to a declining population base, many of the traditional fishponds and loʻi kalo in Waikīkī were left fallow. Transitions in agricultural productivity resulted in a rising domestic market for rice as the new staple crop, following the emergence of Chinese immigrant farmers. By 1892, more than 542 acres in Waikīkī were utilized for rice cultivation, representing 12% of total lands on Oʻahu dedicated to rice. Similarly, traditional fishponds were leased to Chinese fishermen who raised ʻamaʻama (mullet), ʻawa (milkfish), goldfish, as well as ducks.

Historical maps indicate that adjacent to the mauka portion of the project area were fishponds that were part of the royal fishpond complex of the Kālia area, including Loko Kaʻihikapu and Loko Pāweo I. Piʻinaio Stream, once located north of the project area, was one of the main freshwater tributaries that historically ran mauka-makai to the ocean in the area. According to the Archaeological Monitoring Plan completed for the project, four LCAs are identified within the project area: LCA 104 FL to Mataio Kekūanaoʻa, LCA 1408 to Kaua, LCA 1436 to Kalaipaopao, and LCA 1513 to Wailehua.

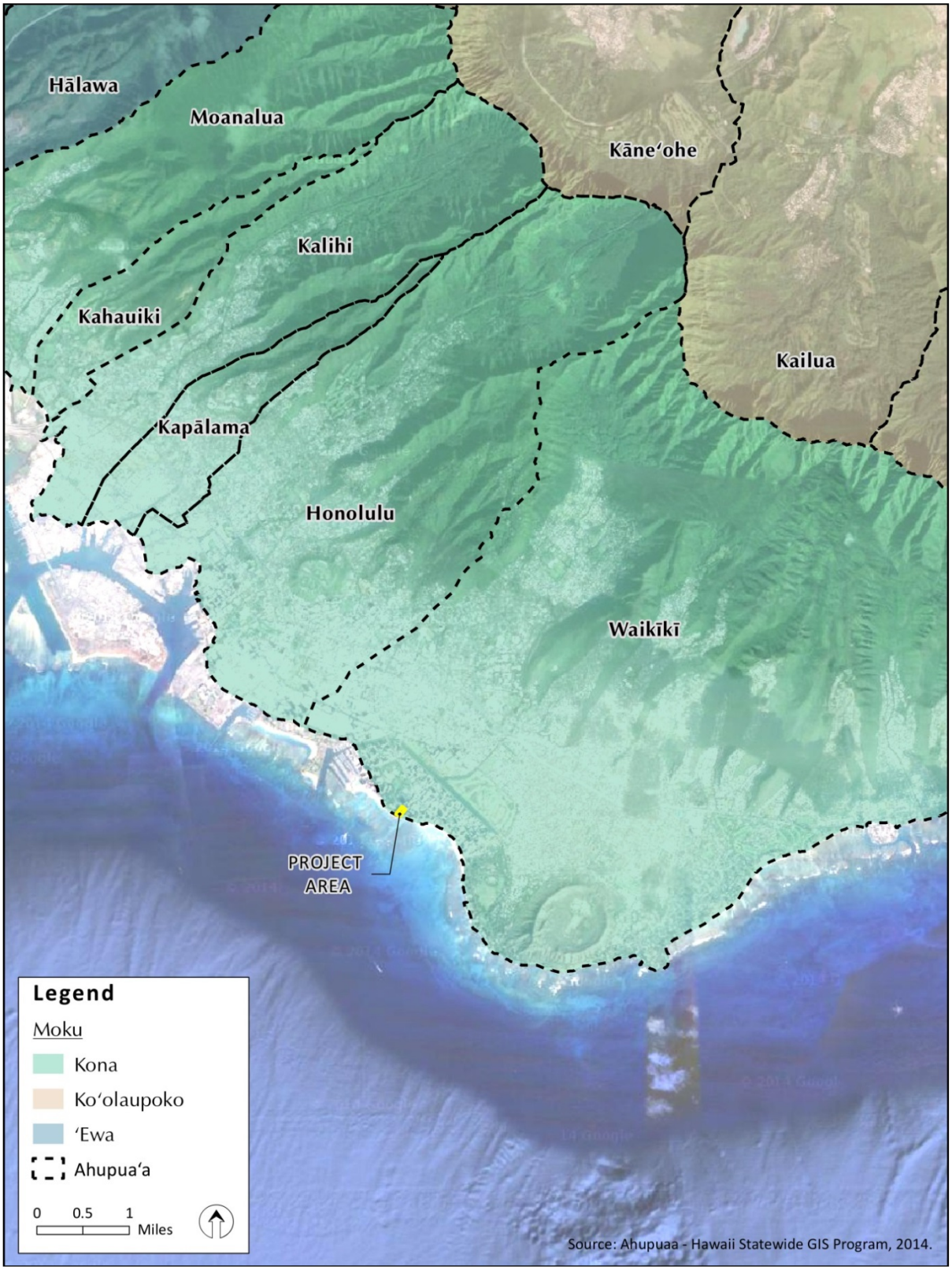


Figure 4-1 Historical Moku and Ahupuaʻa Boundary Map

4.1.3 Transition from Agricultural Center to Military Post to Global Resort Destination

As the 19th century progressed, the popularity of Waikīkī and Honolulu grew, resulting in the influx of American and European foreigners. Waikīkī began to transform from a center of political and agricultural activity to a key area for foreign trade. The nearby Honolulu Harbor became a major port for foreign ships. Coupled with the political transformation that commenced with the 1893 overthrow of Mōʻiwahine (Queen) Liliʻuokalani, the socio-political influences of American business and foreign global relations shaped Hawaiʻi's role as a strategic location critical to U.S. military interests.

By 1909, the 1st New York Volunteer Infantry Regiment arrived by ship and established Camp McKinley at Kapiʻolani Park, and a system of Coast Artillery batteries was developed to protect Pearl Harbor and Honolulu. Battery Randolph (today, home of the U.S. Army Museum) and Battery Dudley were part of the plan to establish Fort DeRussy, which resulted in the infill of old fishponds to create the land area to support the fort. Waikīkīʻs landscape was further altered in the 1920s with the construction of the Ala Wai Drainage Canal, which resulted in major dredging and infill of Waikīkī's remaining ponds and wetland fields. The Ala Wai canal was a major investment that propelled Waikīkī into becoming a major residential subdivision and tourist destination. Newly created land tracts following the Ala Wai Canal's construction spurred a rush to develop Waikīkī in the 1930s.

During World War II, Waikīkī served as a recreational area for military personnel. By the end of the war, Waikīkī quickly began evolving into a visitor destination, with enclaves of residential cottages, apartments, and hotels. As discussed in *Section 3.0*, the historical development of the Outrigger Reef project area was and continues to be a major part of Waikīkī's evolution and position in the global tourism sector.

4.2 ATMOSPHERIC AND METEOROLOGICAL ENVIRONMENT

4.2.1 Climate and Rainfall

Existing Conditions

The climate of the Waikīkī area is very much affected by its leeward and coastal location. Winds are predominantly trade winds from the east-northeast. Occasional kona storms may generate strong winds from the south, and land breeze or sea breeze circulations may develop when the trade winds are weak. Wind speeds typically vary between about 5 and 15 miles per hour (mph) providing relatively good ventilation much of the time. Temperatures in Waikīkī are generally moderate with average daily temperatures ranging from about 70°F to 84°F. The minimum average temperature recorded in the area from 1965 to 2013 was 69.2°F, while the maximum average temperature was 84.5°F. This area of Oʻahu is one of the drier locations in the State, with rainfall often highly variable from one year to the next. Monthly rainfall has been measured to vary from as little as a trace to as much as ten inches. Average annual rainfall amounts to about 23 inches, with summer months being the driest.

Probable Impacts and Mitigation Measures

Air quality issues are addressed in *Section 4.2.3.* However, air pollution emissions from motor vehicles, the formation of photochemical smog, and smoke plume rise all depend in part on air temperature. Colder temperatures tend to result in higher emissions of contaminants from automobiles, but lower concentrations of photochemical smog and ground level concentrations of air pollution from elevated plumes. In Hawai'i, the annual and daily variation of temperature depends to a large degree on the elevation above sea level, the distance inland, and exposure to the trade winds. The project would not affect climatic conditions; therefore, no mitigation measures are required.

4.2.2 Wind Conditions within the Project Area

Rowan Williams Davies & Irwin Inc. (RWDI) conducted a Pedestrian Wind Assessment in March 2016 for the project which assessed wind comfort and safety conditions around the Outrigger Reef project. The report is provided as *Appendix E*.

Existing Conditions

The Outrigger Reef is currently situated on the southern coast of O'ahu along Waikīkī Beach. The site is immediately surrounded by high-rise towers to the north and east, a high-rise building to the west, and the Pacific Ocean to the south. Beyond these surroundings, urban and suburban structures prevail to the west, north, and east. Three buildings are currently located on the site with a common podium.

The proposed changes to the existing site include a new connection between the Pacific and Ocean Towers, an increase to the meeting space and parking, a decrease in retail space, a new entry and circulation area, a revitalized pool deck, and the removal of the Diamond Head Tower.

Pedestrian areas on and around the development will include public sidewalks, the public beach access, building entrances, the porte cochere, the lobby area, the pool deck, and the lawn.

Meteorological data was collected at the Honolulu International Airport between 1980 and 2009 to define the wind conditions in the region. The distributions of wind frequency and directionality included data for the summer (May through October) and winter (November through April) seasons in Hawai'i. The data verified winds from the east-northeast and northeast directions are predominant throughout the year. Strong winds of a mean speed greater than 20 mph measured at the airport occur about 3.1% and 3.9% of the time during the summer and winter seasons, respectively. These winds could potentially be the source of uncomfortable wind conditions, depending upon the site exposure or development design.

Probable Impacts and Mitigation Measures

Pedestrian wind comfort criteria developed at RWDI were used in this assessment and are categorized by four typical pedestrian activities:

1. Sitting: Calm or light breezes desired for outdoor restaurants and seating areas where one can read a paper without having it blown away.
2. Standing: Gentle breezes suitable for main building entrances and bus stops.
3. Strolling: Moderate winds that would be appropriate for window shopping and strolling along a downtown street, plaza or park.
4. Walking: Relatively high speeds that can be tolerated if one's objective is to walk, run or cycle without lingering.

Wind conditions are considered suitable for sitting, standing, strolling, or walking if the wind speeds are expected for at least four out of five days (80% of the time). An uncomfortable designation means that the criterion for walking is not satisfied. Safety is also considered by the criteria and is associated with excessive gust wind speeds that can adversely affect a pedestrian's balance and footing. If winds sufficient to affect a person's balance occur more than 0.1% of the time, the wind conditions are considered severe. Wind control measures are typically required at locations where winds are rated as uncomfortable or they exceed the wind safety criterion.

Generally, wind speeds comfortable for walking or strolling are appropriate for sidewalks and walkways, and lower wind speeds comfortable for standing are desired at building entrances where pedestrians tend to linger. Low wind speeds comfortable for sitting are desired at outdoor terraces and the pool deck; however, standing conditions are generally accepted, as a breeze is often considered pleasant in a warmer climate, such as that found in Honolulu.

No wind safety issues are expected anywhere on or near the Outrigger Reef site.

Sidewalks

Existing wind conditions along the sidewalks around the perimeter of the site are likely comfortable for walking or better throughout the year, which is suitable. Due to the prevalence of tall towers in the vicinity of Kālia Road, much of the higher-speed winds are due to winds from high elevations downwashing off buildings such as the Pacific Tower and the towers across the street.

After the proposed changes to the site, wind conditions are expected to remain similar. The canopy along the north facade of the Pacific Tower is a positive design feature as it would help keep downwashing winds above pedestrian level.

Public Beach Access

Existing wind conditions along the public beach access to the east of the development are likely comfortable for walking or strolling throughout the year. This is considered suitable for the intended pedestrian usage.

The proposed changes to the development include a screen wall along the west edge of the beach access, as shown in *Figure 4-2*. This is a positive addition, as it prevents northeasterly winds from channeling between the proposed development and the buildings to the east. This should be retained in the final design.

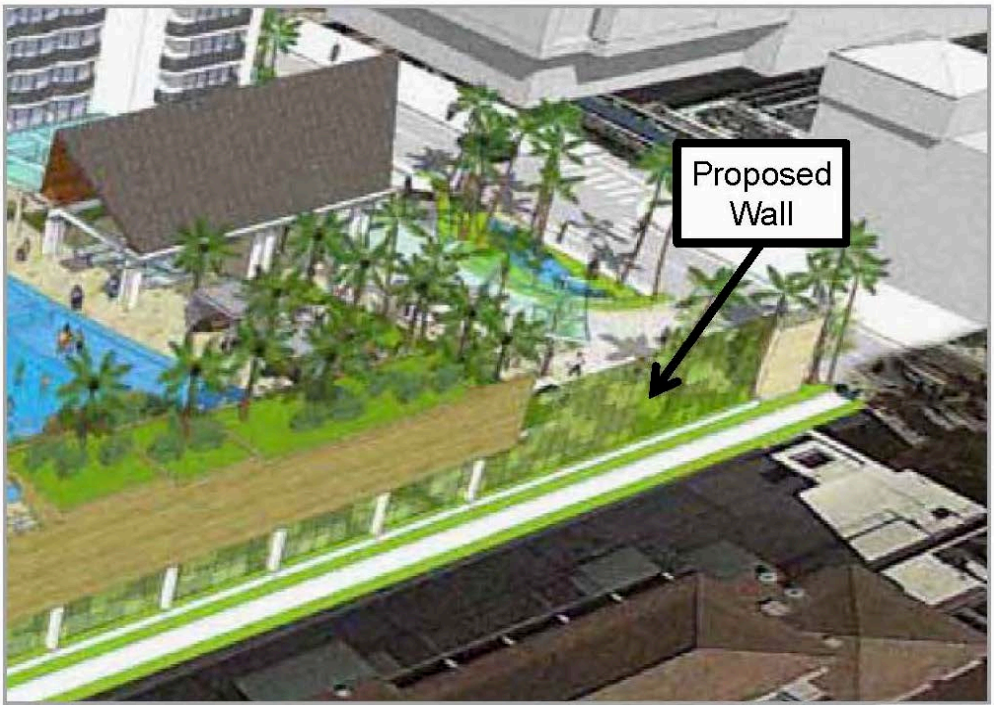


Figure 4-2 Proposed Wall near Public Beach Access

Main Entrance and Porte Cochere

The main entrance to the project site is located along Kālia Road. Existing conditions in this area are windier than desired; while they are likely comfortable for strolling or walking, they are not comfortable for lingering at an entrance area. Winds downwash off of the existing tower to the northwest, channel along Beach Walk, and flow into the porte cochere (*Figure 4-3*).

Similar conditions are expected for the proposed changes to the project site. If it is desired to lower these wind speeds, vertical components such as porous wind screens or dense landscaping would be of benefit. These elements should be at least 6ft in height to be effective. See *Figure 4-4* for examples.

Figure 4-3 Wind Flows along Beach Walk and Kālia Road

Figure 4-4 Examples of Wind Mitigation along Sidewalk

Main Lobby

The main lobby is located on the 2nd floor to the west of the escalators. If possible, the wall to the north of the lobby should be kept sealed, which will prevent northeasterly winds from infiltrating the space (Figure 4-5). If this is the case, suitable conditions comfortable for sitting or standing are expected.

Higher wind speeds suitable for walking or strolling are expected on the escalators. These may be considered windy by users. To lower these wind speeds, the landscaping to the north in the entrance area could include trees of differing height, to dissipate winds along the two-story height of the escalators. Alternatively, a vertical fin could be added below the canopy, at a porosity of preferably 20 – 30%. See Figures 4-6 and 4-7 for illustrations of these mitigation measures.

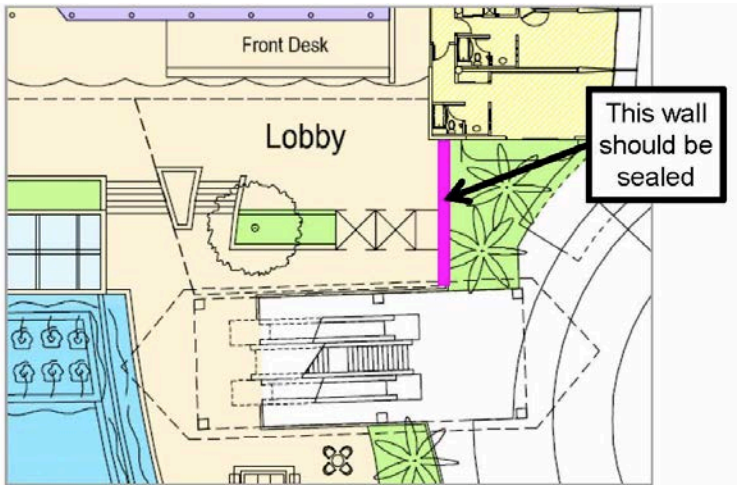


Figure 4-5 Lobby on 2nd Floor Plan

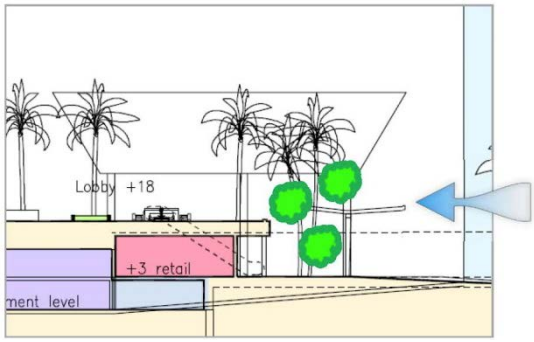


Figure 4-6 Landscaping of Differing Heights

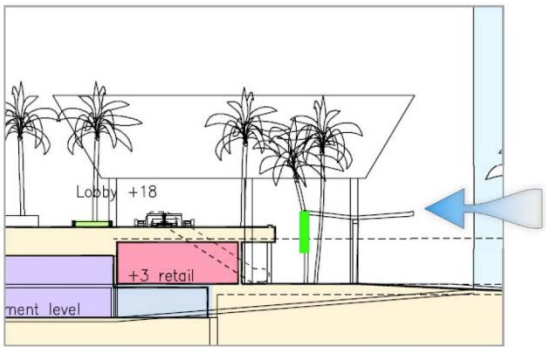


Figure 4-7 Vertical Porous Fin Below Canopy

Pool Deck and Lawn

The pool deck and lawn will both be well protected from prevailing winds. Wind conditions comfortable for sitting or standing, which are considered suitable for outdoor amenity spaces in Honolulu, are anticipated throughout the year.

The increase in height of the pool deck as the result of adding one story of meeting space below is not expected to change the wind conditions in the area. The addition of the new hotel units connecting the existing Pacific and Ocean Towers is not expected to negatively affect the wind conditions.

Summary

The current design includes several positive design features for wind control, including the canopy to the north of the development and the wall to the west of the Public Beach Access. Based on the local wind data and experience with similar projects, suitable wind conditions are generally expected on the sidewalks, the public beach access, the pool deck, and the lawn. While generally comfortable, wind speeds are expected to be higher on occasion at the porte cochere and the

escalators leading to the lobby. Street landscaping and wind screens have been suggested for wind mitigation.

No safety issues are expected to occur as a result of the Outrigger Reef improvements.

4.2.3 Air Quality

A study of current and projected air quality conditions was conducted by ARCADIS U.S., Inc. in March 2016 and is included in *Appendix F*. The study examines the potential short-term and long-term air quality impacts that could occur as a result of construction and operations, and suggests mitigative measures to reduce potential air quality impacts.

Existing Conditions

Air quality in a given location is defined by the concentration of various pollutants in the atmosphere, generally expressed in units of parts per million (ppm) or microgram per cubic meter ($\mu g/m^3$). Air quality is determined by the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions.

The ambient air quality in an area can be characterized in terms of whether it complies with National Ambient Air Quality Standards (NAAQS) and State Ambient Air Quality Standards (SAAQS), where applicable. The Clean Air Act (42 U.S.C. 7401 et seq.) requires the U.S. Environmental Protection Agency (USEPA) to set national standards for emissions that are considered harmful to public health and the environment (criteria pollutants).

The seven criteria pollutants are: carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), ozone (O_3), and particulate matter (PM_{10} and $PM_{2.5}$). The State of Hawai‘i also has a state ambient air standard for hydrogen sulfide (H_2S). Based on air monitoring data, Hawai‘i is currently classified as attainment for all Federal and State standards, except for 1-hour NO_2, for which attainment status is currently unclassified. The State of Hawai‘i has also established standards for air pollution control such as fugitive dust emissions emanating from construction activities (Chapter 11-60, HAR). These standards prohibit any visible release of fugitive dust from construction sources without taking reasonable precautions. The State standards are administered by the State DOH. *Table 4-1* presents the NAAQS and SAAQS for each criteria pollutant and the 2013 attainment designations for the State of Hawai‘i.

The State DOH, Clean Air Branch (CAB) has 14 monitoring stations on the islands of O‘ahu, Kaua‘i, Maui, and Hawai‘i. The Air Monitoring Station nearest Waikīkī is located on the roof top of the DOH main building (Kīna‘u Hale) at 1250 Punchbowl Street. Present air quality in the project area is mostly affected by air pollutants from motor vehicles due to the urban situation. Natural sources of air pollution emissions that could affect the project area at times but cannot be quantified very accurately include the ocean (sea spray), plants (aero-allergens), wind-blown dust, and perhaps distant volcanoes on the Hawai‘i Island.

Table 4-1 AIR QUALITY STANDARDS ATTAINMENT STATUS FOR HAWAI'I

Parameter		State Standard		Federal Standard		Ambient Air Quality
Ozone (O_3)	1-Hour	-	-	0.12 ppm	Attainment	0.026 ppm[S]
	8-Hour	0.080 ppm	Attainment	0.075 ppm	Attainment	
Carbon Monoxide (CO)	1-Hour	9 ppm	Attainment	35 ppm	Attainment	0.4ppm[H]
	8-Hour	4.4 ppm	Attainment	9 ppm	Attainment	
Nitrogen Dioxide (NO_2)	1-Hour	-	-	0.100 ppm	Unclassified	0.003 ppm[K]
	Annual Mean	0.040 ppm	Attainment	0.053 ppm	Attainment	
Sulfur Dioxide (SO_2)	1-Hour	-	-	0.075 ppb	Attainment	0.001 ppm[H]
	3-Hour	0.5 ppm	Attainment	0.5 ppm (secondary)	Attainment	
	24-Hour	0.14 ppm	Attainment	-	Attainment	
	Annual Mean	0.30ppm	Attainment	-	Attainment	
Particulate Matter (PM_{10})	24-Hour	150 μg/m^3	Attainment	150 μg/m^3	Attainment	11.4 μg/m^3[H]
	Annual Mean	50 μg/m^3	Attainment	-	-	
Particulate Matter-Fine ($PM_{2.5}$)	24-Hour	-	-	35 μg/m^3	Attainment	5.3 μg/m^3[H]
	Annual Mean	-	-	12 μg/m^3 (primary)	Attainment	
		-	-	15 μg/m^3 (secondary)	Attainment	
Lead (Pb)	Calendar Quarter	1.5 μg/m^3	Attainment	-	-	0.001μg/m^3[H]
	Running 3-Month Avg.	-	--	0.15 μg/m^3	Attainment	
Hydrogen Sulfide (H_2S)	1-Hour	0.025 ppm	Attainment	-	-	-

Notes:
-- = no standard available
μg/m^3 = micrograms per cubic meter
ppm = parts per million
ppb = parts per billion
* = ambient air quality measured as annual mean of 1-hour average
[S] = air quality measurements recorded at Sand Island DOH site
[H] = air quality measurements recoded at Honolulu DOH site
[K] = air quality measurements recoded at Kapolei DOH site
Sources: HAR 11-59; Ambient Air Quality Standards, 40 CFR Part 50: National Primary and Secondary Ambient Air Quality Standard; Stat of Hawai'i Department of Health: State of Hawai'i Annual Summary 2013 Air Quality Data

Probable Impacts and Mitigation Measures

Construction Impacts

Potential short-term direct and indirect impacts on air quality are primarily related to project construction. Construction activities would generate emissions of the criteria pollutants, as well as carbon dioxide (CO_2) and volatile organic compounds (VOCs). Emissions were calculated using the URBEMIS 2007 v. 9.2.4 environmental management software. Refer to *Table 4-2*. Mitigation

measures to control fugitive dust emissions during grading were included in the emissions calculations. These specific mitigation measures included: 1) replacing ground cover in disturbed areas quickly; 2) using water to control dust during loading and unloading activities; 3) applying water to disturbed surfaces and haul roads two times per day; and 4) reducing speed on paved roads to < 15 mph. Combined, the mitigation measures will be able to reduce fugitive dust by approximately 70%. Emissions from building construction consist mainly of vehicle and heavy equipment exhaust. Paving and concrete finishing activities are expected to be fairly minimal, as it will be restricted to narrow areas along Kālia Road and the public beach access east of the Outrigger Reef.

Table 4-2 ESTIMATED PROPOSED CONSTRUCTION EMISSION (TONS PER YEAR)

Construction Year	Annual Emissions (tons per year)						
	VOCs	NO_2	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
2018	0.15	1.05	0.99	0.00	1.70	0.39	236
2019	0.20	1.20	1.39	0.00	0.59	0.16	270
2020	0.61	0.50	0.66	0.00	0.03	0.02	120
Total	**096**	**2.75**	**3.04**	**0.00**	**1.17**	**0.12**	**626**

Notes: Detailed annual results presented in *Appendix F*.
Reactive organic gas (ROG) emissions reported in URBEMIS is used as a surrogate for VOCs in this analysis.
Nitrogen oxide (NO_X) emissions reported in URBEMIS is used as a surrogate for NO_2 in this analysis.
Results are calculated with mitigation measures ON

Operational Impacts

Operational emissions from the project consist of direct (area) sources and indirect (vehicle) emissions of the criteria pollutants and CO_2. The projected area source emissions and vehicle emissions are each detailed in *Tables 4-3 and 4-4*. The total projected emissions for operations at the Outrigger Reef are summarized in *Table 4-5*. The area sources estimates and annual vehicle emissions of the criteria pollutants are very low.

Table 4-3 ESTIMATED PROPOSED AREA SOURCE EMISSIONS (TONS PER YEAR) – DIRECT AREA SOURCES

Area Source	Annual Emissions (tons per year)						
	VOCs	NO_2	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Landscape Maintenance	0.09	0.02	1.16	0.00	0.00	0.00	2.11
Architectural Coatings	0.05	n/a	n/a	n/a	n/a	n/a	n/a
Total	**0.14**	**0.02**	**1.16**	**0.00**	**0.00**	**0.00**	**2.11**

Notes: Detailed annual results presented in Appendix F.
ROG emissions reported in URBEMIS is used as a surrogate for VOCs in this analysis.
NO_X emissions reported in URBEMIS is used as a surrogate for NO_2 in this analysis.
n/a = not applicable

Table 4-4 ESTIMATED PROPOSED VEHICLE EMISSIONS (TONS PER YEAR)

Area Source	Annual Emissions (tons per year)						
	VOCs	NO_2	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Hotel	0.05	0.01	0.10	0.00	0.04	0.01	22.8
Meeting/Banquet Rooms	0.06	0.06	0.64	0.00	0.26	0.05	147
Total	**0.11**	**0.07**	**0.74**	**0.00**	**0.30**	**0.06**	**169.8**

Notes: Detailed annual results presented in Appendix F.
ROG emissions reported in URBEMIS is used as a surrogate for VOCs in this analysis.
NO_X emissions reported in URBEMIS is used as a surrogate for NO_2 in this analysis.

Table 4-5 ESTIMATED TOTAL OPERATIONAL EMISSIONS (TONS PER YEAR)

Source	Annual Emissions (tons per year)						
	VOCs	NO_2	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Area	0.14	0.02	1.16	0.00	0.00	0.00	2.11
Vehicle	0.14	0.07	0.74	0.00	0.30	0.06	169.8
Total	**0.28**	**0.09**	**1.90**	**0.00**	**0.30**	**0.06**	**172**

Notes: Detailed annual results presented in Appendix F.
ROG emissions reported in URBEMIS is used as a surrogate for VOCs in this analysis.
NO_X emissions reported in URBEMIS is used as a surrogate for NO_2 in this analysis.

Greenhouse Gas Emissions

Greenhouse gases (GHGs) are pollutants of concern for air quality and climate change. They include water vapor, CO_2, methane, N_2O, O_3, and several chlorofluorocarbons.

There are currently no State or Federal standards or regulations limiting CO_2 emissions and concentrations in the ambient air. In response to the 2008 Consolidated Appropriations Act (House Resolution 2764; Public Law 110-161), the USEPA issued the Final Mandatory Reporting of Greenhouse Gases Rule (GHG Reporting Rule), which became effective January 1, 2010. The GHG Reporting Rule requires annual reporting of GHG emissions to the USEPA from large sources and suppliers in the U.S., including suppliers of fossil fuels or industrial greenhouse gases; manufacturers of vehicles and engines; and facilities that emit greater than 25,000 metric tons per year each of CO_2 and other greenhouse gases. The intent of the rule is to collect accurate and timely emissions data to inform future policy decisions and programs to reduce emissions, as well as fight against the effects of climate change.

Additionally, on September 30, 2009, USEPA proposed, under the Clean Air Act (CAA), new thresholds for GHG that would require that facilities subjected to the New Source Review and Title V operating permit programs to obtain permits and would cover nearly 70% of the nation's largest stationary source GHG emitters—including power plants, refineries, and cement production facilities, while shielding small businesses and farms from permitting requirements. The Final Rule, known as the GHG Tailoring Rule, affects sources with the potential to emit 100,000 tons per year or greater of GHGs.

Construction and operations of the Outrigger Reef revitalization project will result in very low GHGs, both for short term emissions from fuel-burning construction equipment, and long term area source emissions from the restaurant and hotel maintenance and vehicle emissions from traffic. Total CO_2 emissions from construction are projected to be 626 tons, and the average annual increase in emissions of CO_2 from operations is projected to be 172 tons. Methane and other greenhouse gases were not included in the analysis but are expected to be significantly lower than emissions of CO_2.

Overall, the air quality impact assessment concluded that there does not appear to be any significant emissions from the proposed project that would cause or contribute to any appreciable impact to local or regional air quality. If any significant changes to the Outrigger Reef construction or operations alter the potential to emit, or if the DOH requires additional restrictions, the air quality impacts will be re-evaluated for compliance.

The State DOH, CAB is the permitting authority for new and existing sources of pollutant emissions. ARCADIS performed a regulatory review of HAR Title 11 Chapters 60.1, 260, 451, and 453, and Code of Federal Regulations (CFR) 40 CFR 52.21, 40 CFR 60, and 40 CFR 63. Based on the type of project and low emissions during construction and operation, the project is exempt from any permitting considerations.

4.3 TERRESTRIAL AND MARINE ENVIRONMENT

4.3.1 Topography, Geology, and Soil Conditions

Existing Conditions

The geological formation of the Hawaiian archipelago is the result of volcanism. Each island protrusion from the ocean is the summit of a volcanic mountain rising from the ocean floor. The geologic creation of Oʻahu is a result of the Earth's crust, comprised of irregular rigid segments, known as plates, moving over a hot spot of upwelling lava, which has remained relatively stationary for many millions of years. The plate under which Oʻahu lies is known as the Pacific plate, which has slowly moved over this span of time towards the northwest. Oʻahu was created through several stages of activity emanating from two volcanic domes. Through various stages of eruptions, erosion and land movement, the volcanic forms became what are known today as the Waiʻanae and Koʻolau mountain ranges (Macdonald, 1983).

The Outrigger Reef is situated on relatively flat land with an elevation of approximately five feet above mean sea level (MSL) and is adjacent to the Pacific Ocean in Waikīkī. Waikīkī is situated upon a reef formation that extends from Kakaʻako to the base of Lēʻahi (Diamond Head) crater. Due to its location at the base of a once vast tributary system and in close proximity to Lēʻahi crater, an alluvial mantle on a coral foundation covered the area. As early as 1909, drilling data showed that there is a regular deposition of terrigenous clay and limestone overlying a substrate layer of coral, coralline algae, and shells. Additionally, the soil contains volcanic ash, olivine, and other lava residue (Carlquist, 1992).

The project area consists of two soil types (*Figure 4-8*). According to the Oʻahu soil survey, the underlying site soils consist of Beaches (Bs) and Jaucas Sand (JaC). Bs-type soil occurs as sandy, gravel, or cobble areas on all islands. Bs consists mainly of light-colored sands derived from coral

and seashells. JaC-type soils consist of excessively drained calcareous soils that occur as narrow strips on coastal plains adjacent to the ocean. This soil type developed in wind- and water-deposited sand from coral and seashells and is generally nearly level to strongly sloping. Permeability is rapid, runoff is slow, water erosion is slight, and wind erosion is severe where areas of vegetation have been removed. (U.S. Department of Agriculture Soil Conservation Service, 1972)

Probable Impacts and Mitigation Measures

Project construction will involve land disturbing activities that result in minor soil erosion, such as the removal of existing vegetation (clearing and grubbing), grading, excavation, and infilling of soil. During construction, soil erosion will be minimized through compliance with the County's grading ordinance, and the applicable provisions of the DOH's Water Quality Standards (Chapter 11-54, HAR) and Water Pollution Control requirements (Chapter 11-55, HAR). Standard Best Management Practices (BMPs) will be employed to minimize impacts. These BMPs will be detailed in subsequent construction plans, and may include phasing of construction activities, limiting site grading, use of temporary silt fencing and screens, and thorough watering of graded areas after construction activity has ceased for the day and on weekends. With implementation of BMPs, potentially significant impacts will be mitigated.

Excavation

Excavation activity will be required for certain elements of the proposed project improvements, which includes the structural footing and support structure for the new hotel units. It is anticipated that the soil associated with excavation activities will be retained on site during construction and, if possible, used for in-fill where appropriate.

Grading

Moderate earth movement will be required to implement the proposed project improvements. Grading operations, where applicable, will be in conformance with the applicable ordinances by the State DOH. The project will be required to conform to the applicable provisions of Chapter 11-54 (Water Quality Standards), HAR and Chapter 11-55 (Water Pollution Control), HAR. An application for a National Pollutant Discharge Elimination System (NPDES) permit will be submitted to the State of Hawai'i DOH for review and approval.

The project will comply with City and County of Honolulu Revised Ordinances of Honolulu, Chapter 14, Articles 12 through 16 (Public Works Infrastructure Requirements). These articles set forth the rules and regulations for the control of grading, grubbing, stockpiling, soil erosion and sedimentation; establish the administrative procedure and minimum requirements for issuance of permits and provides for the enforcement of such rules and regulations. Necessary grading, excavation and erosion control plans and best management practices will be developed and submitted to the City and County of Honolulu, DPP for their review and approval.

Figure 4-8 U.S. Department of Agriculture Soil Conservation Service, Soils Classification Map

4.3.2 Surface Water and Groundwater

A study of surface and groundwater resources was conducted by Tom Nance Water Resource Engineering in April 2015 and is included in *Appendix G*. The study examined a previous design that was considered for the Outrigger Reef; however, the findings of the study are still applicable to the current project scope. The study examines the potential impacts to surface and groundwater resources associated with the proposed Outrigger Reef project.

Existing Conditions

The project site is located on a thick coastal caprock formation. Nine deep wells were drilled in the area between the Ala Wai Canal and the shore between the years 1882 and 1914, all in search of groundwater in the Koʻolau volcanics at depth below the caprock (State Nos. 1649-01 to -09). Their records show the coastal caprock to be on the order of 700 ft thick near the Ala Wai Canal and progressively thicker toward the shoreline. Based on records of the wells, which have since been sealed, the thickness of the caprock directly beneath the Outrigger Reef parcel is almost certainly substantially in excess of 900 ft. Salinity in the Koʻolau volcanics at this depth is undoubtedly significantly more than 50% of seawater.

Groundwater resources beneath the project also exist in the coastal caprock itself, which is hydrologically isolated from the groundwater in the volcanics. Due to the heterogeneity of the caprock's sedimentary layers and the manner of their disposition, their permeability is generally very limited. In support of the 2002 Waikīkī Beach Walk EIS, three shallow monitor wells were drilled at the locations shown on *Figure 4-9*. All three encountered silty calcareous sands and decomposing organics, all of limited permeability. Two of the three wells, labeled "Mauka" and "Middle", were destroyed in the initial Waikīkī Beach Walk redevelopment. The "Makai" well is located in the driveway of the Outrigger Reef, is still intact and has been reused in the collection of field data for this update.

The groundwater in the coastal caprock in the Waikīkī Beach Walk area is quite saline, generally between 70-95% of the salinity of seawater. As shown on the original salinity profiles made in August 2001 and again in the Makai well in September 2014 there is a sigmoid shape to the salinity curves, with somewhat less saline water at the top which rapidly transitions to near seawater salinity about four to five ft below the water surface.

Prior to the development of high rises with below sea-level basements in Waikīkī, rainfall on the caprock would seep into the ground and move laterally to discharge into the Ala Wai Canal and into the ocean along the Waikīkī shoreline. Now, with need for basements to have dewatering pumping, the groundwater in the caprock has been drawn below sea level. This has essentially reversed the natural direction of groundwater flow, drawing saline water in from the shoreline and in from the Ala Wai Canal. Groundwater withdrawn by these dewatering sumps is typically discharged into the storm drains in adjacent streets and returned to the shoreline or the Ala Wai Canal.

Figure 4-9 Monitor Well Locations in the Waikīkī Beach Walk Area

The basement level of the Outrigger Reef is located five ft below sea level; eight dewatering sumps exist to keep the basement dry. Some of the sumps exclusively pump groundwater, while others also pump runoff from the roof and deck drains when the rainfall is sufficient to produce runoff and periodic discharges from the hotel's water features. *Figure 4-10* depicts water levels recorded in the Makai Monitor Well and in Pump Sump No. 4 in comparison to the basement level at -5.0 ft and the ocean level as recorded by NOAA at its tide gauge in Honolulu Harbor. Start/stop of the sump pump keeps the groundwater level at the location between 2.1 and 2.6 ft below the basement level. Based on the size of Sump No. 4, the water level recording indicates that the rate of natural seepage of groundwater into the basement is about .4 gallons per minute. The pump operates at 25 to 30 gallons per minute.

The Makai Monitor Well is in the hotel's downward sloping driveway and about 45 ft from the basement level. The pavement elevation at the well is about 8 feet higher than the basement level. The groundwater level in the monitor well over the September 25 to 29, 2014 period was generally between -0.6 and -0.7 ft MSL. On average, this was 1.1 feet lower than the actual ocean level but 8.7 ft higher than the level in Pump Sump No. 4. The muted tidal response in the monitor well lags about four hours behind the ocean tide and its amplitude is only about 5% of the ocean tide (*Appendix G*).

Groundwater Quality

Water quality sampling was performed in August 2001 and again in October 2014. Samples of the three monitor wells on August 2001 and from two depths of the Makai Monitor Well in October 2014 are considered to be representative of the shallow groundwater in the caprock formation. The groundwater is characterized as being very saline (70-93% of seawater salinity), with significantly lower nutrient (nitrogen and phosphorus) levels than is typical for most Hawaiian groundwater, and influenced by irrigation return and possibly wastewater discharges based on the higher than expected levels of silica.

Water in Sumps 4 and 6 in the Outrigger basement is a combination of groundwater seepage, residual rainfall-runoff, and, for Sump 4, drainage from hotel water features. As a result, this water is less saline (16-43% of seawater salinity) and has higher silica content. Nutrient levels are not significantly different than the ambient groundwater.

Samples in August 2001 and October 2014 from the catch basin on the makai side of the Kālia/ Saratoga road intersection are representative of water being pumped from dewatering sumps of other nearby high rises. It does not include water from the Outrigger sumps. This water is quite saline (87-93% of seawater salinity), very low in nutrients, and also relatively low in its silica content.

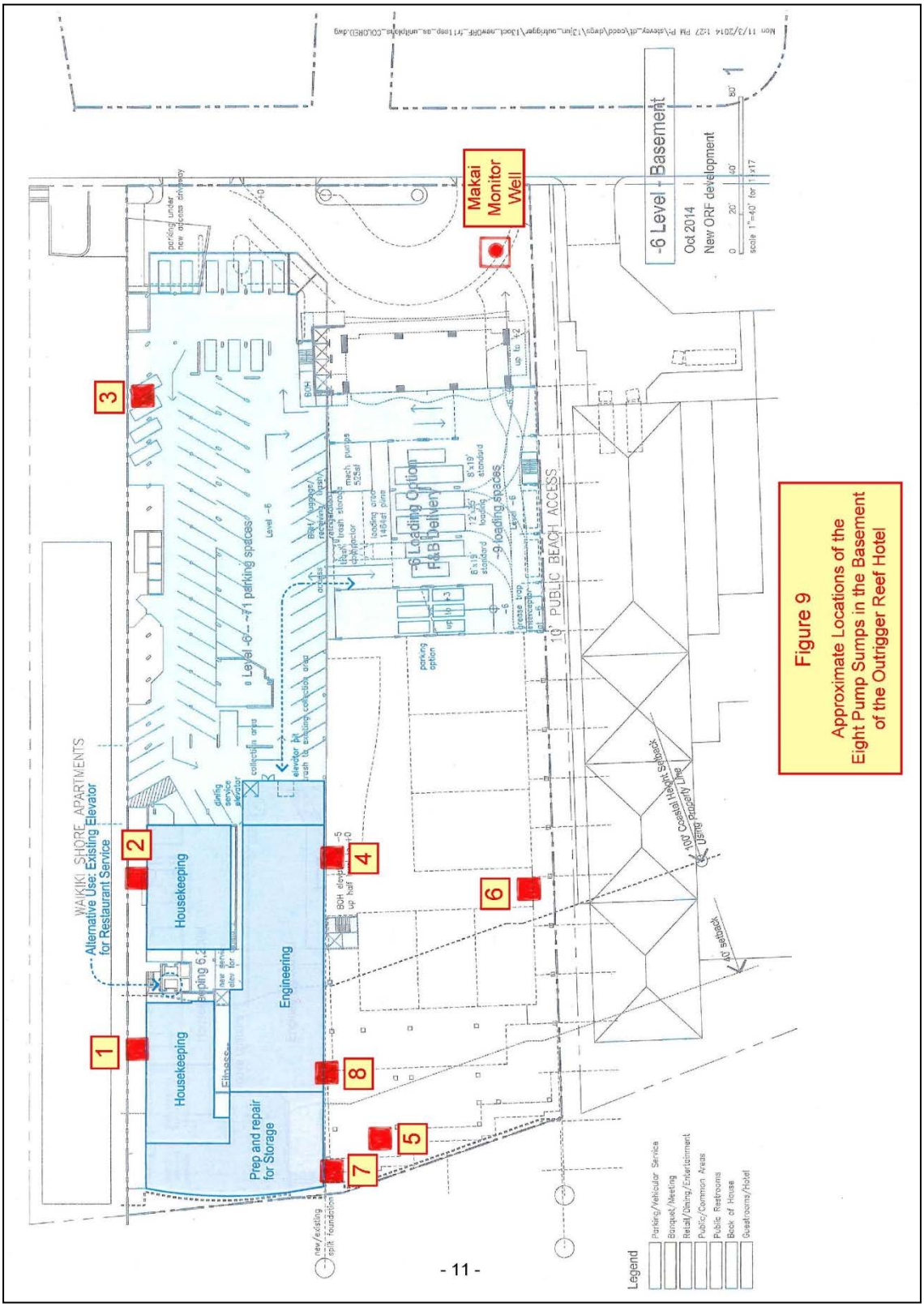


Figure 4-10 Approximate Locations of Pump Sumps in Outrigger Reef Hotel Basement

Surface Water Collection and Conveyance

The surface water drainage system in the Waikīkī Beach Walk area contains a box drain that starts and runs makai on Lewers Street, goes west on Kālia Road past the Outrigger Reef, and turns makai on the west side of the adjacent Waikīkī Shore condominium to discharge into the ocean about 250 ft offshore. The system captures surface runoff from roadway and sidewalks in catch basins and also receives water pumped by the numerous dewatering sumps from high rises connected to the system. Only a small portion of the Outrigger Reef site drains as surface runoff into catch basins along Kālia Road. Most of the site's rainfall-runoff is conveyed by roof and deck and drains into one of the Outrigger's pump sumps in its basement. Water pumped from these sumps is conveyed by a 12-inch pipeline which is connected to the drain system on the makai side of the hotel.

Probable Impacts and Mitigation Measures

The types of proposed resort-related land uses at the Outrigger Reef are essentially the same as existing. Accordingly, the project is not expected to significantly impact the groundwater pumping systems or the surface drainage system in Kālia Road. Changes to the site's basement level will include: increased parking spaces; new parking connection from the basement to the street; moving kitchen and fitness facilities to upstairs levels; and backfilling of the portion of the basement beneath the Diamond Head Tower. A portion of the backfilling will be done within the 40-ft shoreline setback area.

Moreover, there will be no significant change to the quantity or handling of the rainfall runoff at the project site. There will also be no significant changes to the dewatering system's quantity, quality, or point of delivery into the existing drainage system. As such, potential impacts to the surface and groundwater resources are not considered to be significant.

4.3.3 Drainage

Existing Conditions

A majority of the site is covered by building structures and a raised pool deck. Consequently, the majority of the onsite drainage system consists of building roof drains and pool deck drains (*Figure 4-11)*. These drains are plumbed to the basement floor below grade and are connected to eight storm drain lift stations located throughout the basement level. The property facility personnel and mechanical engineer reported that the outlets of storm drain lift stations are all connected together and discharge at a single 4-inch pipe leaving the property on the 'Ewa-beachside. The street side of the project is sloped to Kālia Road and runoff from this area flows to the Kālia Road.

Storm water draining from the project site to Kālia Road is collected by two curb catch basins and carried via a City 6.5 ft wide x 2 ft tall box culvert in Kālia Road. This culvert flows in the 'Ewa direction and connects to a larger City 8.5 ft x 6 ft box culvert that runs to the ocean between the Fort DeRussy and the Castle Waikīkī Shore Condominiums. The top of this larger culvert is the walking surface of the beach access 'Ewa of the project site and extends 875 ft from Kālia Road to the ocean. The culvert outlets empty 270 ft beyond the beach into the ocean.

Figure 4-11 Existing Storm Water System

The project site and surrounding roadways are only slightly above sea level. Therefore, the underground drainage system has little fall to the ocean and limited capacity as a result. Specific reports of flooding could not be found for Kālia Road. However, periodic ponding and sluggish drainage during heavy rain events should be expected because of the low elevations and proximity to the ocean. Additionally, the culverts and other pipes upstream will be prone to clogging with sand since the outfall extends into the ocean.

Probable Impacts and Mitigation Measures

Construction will disturb more than one acre of land. Therefore, the project will require coverage under the State's General Permit for Storm Water Discharges Associated with Construction. Coverage is obtained from the State DOH, Clean Water Branch (CWB).

Site areas (non-building areas) shall be designed to the City and County of Honolulu, DPP, Rules Relating to Storm Drainage Standards (Storm Drainage Standards) dated January 1, 2000 with subsequent amendments effective May 1, 2011 and June 1, 2013. Building drainage systems shall be designed to the City and County of Honolulu Revised Ordinances of Honolulu, Chapter 19 Plumbing Code (Plumbing Code), which refers to the 1997 Uniform Plumbing Code (UPC) with amendments.

The project area was divided into 3 drainage basins corresponding to how the basins which are categorized within the design criteria and consequently how runoff will be computed (*Figure 4-12*) Drainage Basin A encompasses the new pool deck area, Drainage Basin B encompasses the existing Ocean and Pacific Towers, and Drainage Basin C is the area that drains to Kālia Road.

Runoff from Basins A and B are collected by building roof drains or pool deck drains are considered building drainage systems that are governed by the Plumbing Code. Both basins also flow to the basement level where the runoff will be pumped to the single outlet pipe on the 'Ewa/Makai side of the project site that is connected by an existing 18-inch storm drain pipe to the City's 8.5 ft x6 ft Box Culvert. The Plumbing Code requires sizing building systems for the 100-year 1-hour storm. The resulting flow rates will be used by the Mechanical Engineer responsible for design of the building plumbing system.

Runoff from Basin C is considered site drainage that freely drains to the street and consequently sized based on a 10-year 1-hr storm per the Storm Drainage Standards.

The results of the hydrology calculations are shown in *Table 4-6*.

Table 4-6: PROPOSED BASIN SUMMARY

Tributary Area	Direction of Flow	Area (acre)	Flow, Q10 (cubic feet per second)	Flow, Q100 (cubic feet per second)
Basin #A	Basement Storm Pumps	1.27	Not applicable	3.6
Basin #B	Basement Storm Pumps	0.83	Not applicable	2.8
Basin #C	Kālia Road	0.36	1.5	Not applicable

In accordance with Storm Drainage Standards the proposed development will require implementation of stormwater quality best management practices, also known as Low Impact Design. The purpose of the water quality citeria is to reduce the pollution associated with stormwater runoff from new development and significant redevelopment. Based on the anticipated 1.63+/- acres of new construction, the proposed project requires post construction BMPs to meet these water quality requirements.

Typical BMPs include water quality swales and retention basins. These BMPs are land intensive and not feasible due to high ground water near the ocean. Therefore, alternative compliance for the pool deck and roofs can be achieved using a Manufactured Treatment Device (MTD). Incorporating green roofs and vegetated bio-filters into the pool deck as landscape amenities to treat a portion of the storm water can reduce the size of the MTD and lower the overall costs associated with storm water quality. A vegetated bio-filter (also referred to as a planter box) is a specially configured planter bed that allows runoff to percolate though the planter soil and then be collected by an underdrain system. Potential strategies are detailed in *Appendix G*. The Civil Engineer and Landscape Architect will need to coordinate the design of BMPs.

Runoff along the Kālia Road frontage will be directed to landscape areas comprise of vegetated bio-filters to meet the storm water quality requirements at that location. Treatment for the existing runoff from the Ocean and Pacific Towers is not required since only the interiors of these towers are being renovated.

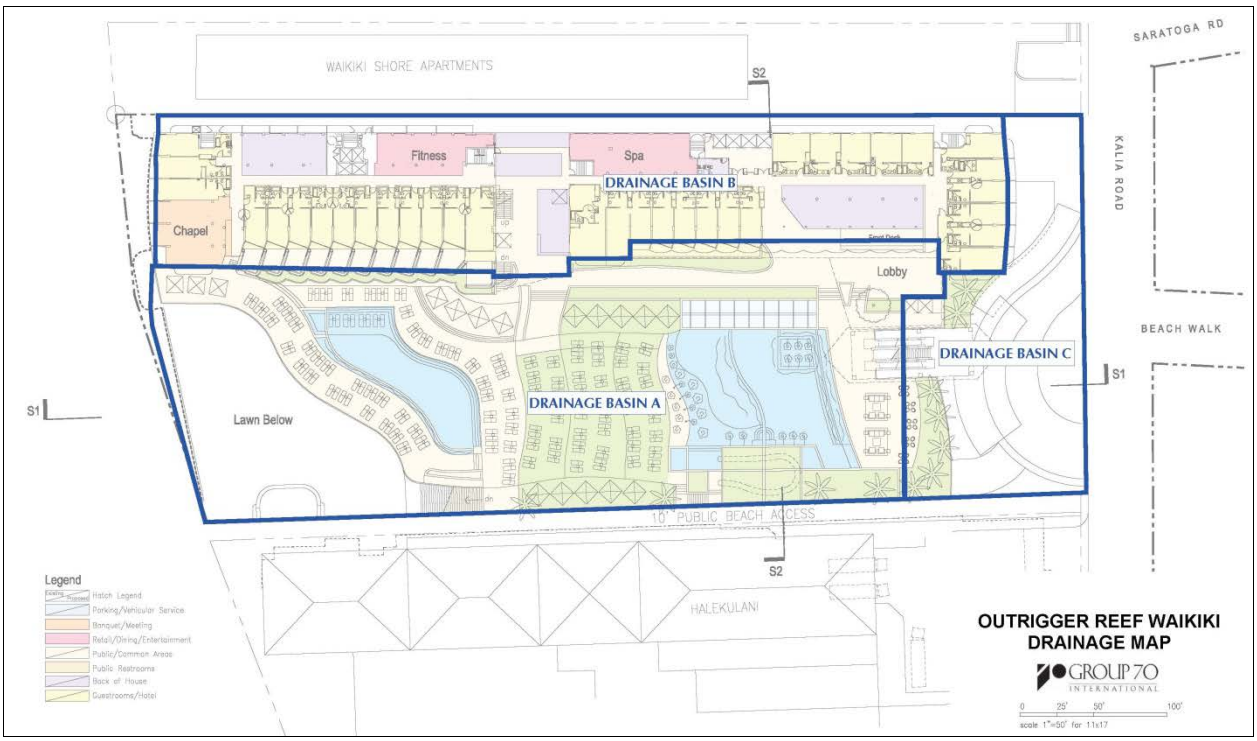


Figure 4-12 Drainage Basins

4.3.4 Botanical Resources

Existing Conditions

The majority of the hotel property consists of tropical species with the inclusion of native species. The existing plant inventory calculated approximately 39 plant species on the hotel property. An overview of species type inventoried is provided in *Table 4-7*. None of these are rare or endangered.

Table 4-7 EXTERIOR PLANT LIST

Aloe	Anthurium
Areca Palms	Banana Plants
Bouganvilla	Bromiliads
Coloramma	Crotons
Coconut	Eldorado
Euphorbia	Golden Durantia
Green Ti	Hibiscus
Kukui nut tree	Kupu kupu ferns
Lauae Fern	Loulu Fan Palm
Manila Palms	McArthur palm clusters
Money Tree	Naupaka
Palapalai Fern	Philodendrons
Portulaka	Pukinikini
Purple Durantia	Red Ginger
Red Ti	Schefalera
Spider Plants	Song of India
Strawberry Guava	Taro
Tiari	Ukiuki
Warneki	Wax Ficu
Yellow Ginger	

Probable Impacts and Mitigation Measures

The project will not significantly impact existing plants and trees. No trees greater than 6 inches in diameter are currently planned for removal. Approximately 13 coconut trees located on the mauka portion of the site will likely be relocated to accommodate the project improvements. Most of the existing trees on the site are in planters and can be relocated to appropriate areas within the property. New landscaping plants will include appropriate replacements of existing species being removed or relocated. Additionally, a palette of native and tropical trees, ferns, hedge, and grass cover will be selected during the detailed design phase and will complement existing species represented within the site.

A palette of small, medium, and large native, Polynesian-introduced, and tropical canopy trees that provide shade and screening will be selected and accented by understory foliage and groundcover that are consistent with the WSD guidelines. As appropriate, the selection and use of native plants will be encouraged with specificity to express identified culturally appropriate themes and experiences throughout the hotel property. The planned beachside lawn area and elevated recreational deck will integrate and expand lush, fragrant, tropical vegetation and water features, and the pedestrian access along Kālia Road will be landscaped to invoke a more appealing and welcoming experience.

4.3.5 Terrestrial Fauna and Avifauna

Existing Conditions

Existing terrestrial fauna on the site and within the near vicinity is limited to primarily introduced pests species common to urban environments. These include rats, mice, and feral cats. Birds that flock or reside within the project area include many common introduced species such as mynah, cardinals, pigeons, doves, house finches, and rice birds. These common birds are found throughout the urban areas of Honolulu.

In addition to the common species of birds found in and around the project site, the manuokū (White Fairy Tern, *Gygis alba*) has been observed nesting at Waikīkī Beach Walk. During the construction of Waikīkī Beach Walk, Outrigger worked closely with the U.S. Department of Fish and Wildlife to ensure a mother bird was not disturbed during the critical nesting period. In June of 2005, the baby bird successfully hatched. The manuokū is indigenous to Hawaiʻi and is on the State threatened list. It is also the official bird of the City and County of Honolulu. The manuokū is found mainly in the Northwest Hawaiian Islands as well as the island of Oʻahu. Their flight is buoyant and characterized by erratic changes in direction and speed. Manuokū typically feed by surface diving over the ocean, preying on mostly juvenile goatfish and flying fish.

Estimates are that there are approximately 15,000 breed pairs throughout the Hawaiian Archipelago with over 250 pairs on Oʻahu, mainly observed between Kapiʻolani Park and ʻIolani Palace. Most of the Oʻahu manuokū population will breed and roost exclusively in large trees, such as banyans, monkeypods, mahogany, or kukui trees. Breeding adults typically remain close to their brooding sites year round. The manuokū typically remain paired for several seasons and will often return to the same site. Primary threats to the manuokū include introduced predators like rats and feral cats, introduced insects such as big-headed ants (*Pheidole megacephala*) and issues related to areas being overfished, thereby limiting the ability of the manuokū to feed.

Probable Impacts and Mitigation Measures

There will be limited short term impacts to the existing animals and birds that reside within the vicinity of the hotel property. No manuokū have been located at the Outrigger Reef project site, however should one or more be present, appropriate consultation will be undertaken. Potential impacts will be minor and will not require mitigation measures. Common birds are located throughout urban areas of Honolulu and can temporarily relocate during the construction period. Additionally, ongoing eradication and control measures for pest species such as rats and feral cats will continue to be utilized.

4.3.6 Near-shore Water Quality and Marine Communities

An assessment of potential effects to water quality and marine communities associated with the proposed Outrigger Reef project was conducted by Marine Research Consultants, Inc. (MRC) in May 2015 and is included in *Appendix H*. The study examined a previous design that was considered for the Outrigger Reef, however, the findings of the study are still applicable to the current project scope. MRC also prepared a water quality and marine communities assessment report for the 2002 Waikīkī Beach Walk EIS.

Combining information on the existing composition of marine waters with estimates of changes in surface water discharge and groundwater percolation that will result from the redevelopment project provides the basis to estimate the potential effects to the marine environment from the proposed project. Predicted changes in groundwater flow rates and chemistry were provided by Tom Nance Water Resource Engineering. Results of the evaluation indicated if, and to what degree there is the potential for negative effects to the aquatic environments from the proposed project.

The Lewers/Kālia properties encompass approximately 1,000 ft of shoreline of Waikīkī. At present, runoff from the area of Waikīkī that encompasses the project site drains to the ocean through a box culvert with an outlet offshore of the beach. Since this culvert is the point source of runoff entering the ocean, the sampling scheme was centered around the drainage. Sampling was conducted within a corridor bounded at the west by Fort DeRussy Beach, to the east by the Halekulani sand Channel and centered on the drainage culvert. At each of these points, a transect was established that consisted of an imaginary line running perpendicular to the beach, and extending from the shoreline out to the open ocean. Transect 1 is located at Fort DeRussy, Transect 2 is located off the drainage culvert, and Transect 3 bisected the Halekulani Sand Channel. Transects extended approximately 50 meters (m) offshore. Results of the monitoring, sampling and analysis provided information relating to the existing conditions described below.

Existing Conditions

Physical Structure of the Waikīkī Marine Area

The marine area off of Waikīkī consists or a poorly defined embayment within Mamala Bay that extends from the Ala Wai Channel to the Kapahulu Groin area. The entire area has been altered substantially over the past decades, being created from infilling of wetlands following the construction of the Ala Wai Canal. The shoreline of the Waikīkī area is rimmed with a constructed sand beach. Periodically the beach has been nourished by importing sand from offshore deposits of sand that has been transported off the beach.

Offshore of the beach, the shallowest region consists of a sandy flat that extends from the shoreline for a distance or several meters. Beyond the sandy zone, the inner area of the Waikīkī embayment consists of a relatively flat limestone platform that has a depth of 0.5-2 m. A layer of constantly shifting sand covers the platform. Off of the Halekulani Hotel, a continuous channel of sand, called the "Halekulani Sand Channel" extends from the shoreline in a southwesterly direction across the reef to offshore waters.

The inner reef platform forms a basin with the outer boundary formed by a shallow reef crest. The crest consists of an elevated ridge of limestone. In some areas the ridge crest is nearly emergent at low tide. The seaward edge of the reef crest slopes gradually to an outer reef shelf that extends to the open coastal ocean. The outer edge of the reef crest is the main area where surf breaks In the Waikīkī area.

Marine Water Chemistry

A weak pattern is apparent on three transects with respect to concentrations of silica (Si), nitrates (NO_3^-), ammonium (NH_4^+), and salinity. On these three transects, concentrations of inorganic nutrients were highest in samples collected nearest the shoreline (1-25 m), and decreased slightly over the inner reef (50-150 m).

Salinity exhibited the opposite trend as nutrients, with the lowest values in samples collected in the nearshore zone closest to the shoreline.

These patterns reflect the typical physical processes that occur in the nearshore ocean off of Waikīkī. Small amounts of groundwater enter ocean near the shoreline. Groundwater normally contains higher concentrations of inorganic nutrients and low salinity relative to seawater. The groundwater input results in the small area of decreased salinity and increased nutrients near the shoreline.

Because groundwater entering the ocean is lower in density than ocean water, a surface layer characterized by high nutrient concentrations and low salinity often occurs in many nearshore areas of Hawai'i. Inspection of surface and bottom water samples indicates slight vertical gradients in salinity (elevated in bottom water compared to surface water) and NO3- (elevated in surface water compared to bottom water). None of the other chemical constituents exhibited any degree of consistent vertical stratification. Rather, concentrations of water chemistry were not stratified through the water column.

Concentrations of other nutrient constituents that do not occur in groundwater (total phosphorus [TP], total nitrogen [TN], orthophosphate phosphorus [PO_4^{3-}]) also showed a slight degree of horizontal stratification with elevated values nearest the shoreline, particularly on Transect 1. Turbidity showed a consistent pattern across all three transects. Values were highest in the samples collected within 5 m of the shoreline, with progressively lower values with distance from the shoreline. At the farthest distance from shore, all values of turbidity were uniformly low with values on the order of 0.2 Nephelometric Turbidity Unit. Similarly, values of Chlorophyll a (Chl a) were highest in the samples collected closest to shore with relatively constant values across the remainder of the transects. The highest values of Chl a, as well as the steepest gradients, occurred on Transect 3 in the Halekulani sand channel transect. This pattern may be a reflection of transport of fragments of algae or plankton by currents which flush the inner reefs through the sand channel. Temperature was also slightly elevated at the sampling stations closest to shore, likely from solar warming of shallow nearshore water.

Groundwater Chemistry

The project site sits on a thick coastal caprock formation consisting of marine sediments, some of which were imported to fill wetlands that formerly occurred in Waikīkī following the construction of the Ala Wai Canal. Three shallow monitoring wells were drilled into the caprock within the boundaries of the Outrigger Properties in support of the 2002 EIS work. At least to the depth of the monitoring wells (1.5 m below sea level), caprock consists of silty sands and decomposing

organics which are generally poorly permeable. Prior to the development in Waikīkī of high rises with below sea level basements requiring continuous dewatering pumping, rainfall on the caprock would sink into the ground and move laterally to discharge into the Ala Wai Canal and into the ocean along the Waikīkī shoreline. Now, with dewatering pumping being done by every high rise with a below sea level basement, the groundwater in the caprock has been drawn down below sea level. This has reversed the natural direction of groundwater flow, drawing saline water in from the shoreline and in from the Ala Wai Canal. Groundwater withdrawn by these dewatering sumps is typically discharged into the storm drains in adjacent streets and returned to the shoreline or the Ala Wai Canal. The monitoring wells demonstrate very little tidal response despite the close proximity to the shoreline. Tidal fluctuation lags about four hours behind the ocean tide and its amplitude is only about 5% of the ocean tide. The lack of tidal response reflects the limited permeability of the silty sands and carbonates that the wells penetrate.

The concentrations of nutrients and salinity found in water sampled from the top and bottom of the makai monitoring well, as well as two sumps within the basement of the Outrigger Reef Hotel and the box drain which runs to the shoreline between the Waikīkī Shore Apartments and Fort DeRussy are shown in *Appendix H*. Salinity in the well ranged from about 24 to 32 parts per thousand, which is about 69-91% seawater. Thus, there is a small, but distinct freshwater component to the groundwater that enters the ocean through the aquifer. Nutrient concentrations in the well, sump and drain samples were generally elevated relative to ocean water. In particular, most of the concentrations of PO_4^3-, NO_3- and NH_4^+ were elevated by as much as an order or magnitude over the values measured in ocean samples.

Compliance with DOH Standards

DOH Water Quality Standards include specific criteria for three situations; criteria that are not to be exceeded during either 10% or 2% of the time, and criteria that are not to be exceeded by the geometric mean of samples. With only one set of samples, comparison of the 10%, and 2% of the time criteria, or geometric means for any sampling station are not statistically meaningful. However, comparing sample concentrations to these criteria provide an indication of whether water quality is within the standards set out by the specific criteria.

Appendix H provides samples that exceed DOH water quality standards for open coastal waters under "wet" and "dry" conditions. The criteria for separating wet and dry conditions is whether an area receives less (dry) or more (wet) than 3 million gallons of freshwater input per mile per day. A comparison of the results of analyses of water chemistry with DOH criteria reveals that during the sampling no samples of NO_3^-, TP or TN exceeded any of the criteria. Nearshore samples of NH_4^+ on all three transects exceeded the maximum standards for wet conditions. Several of the samples nearest to the shoreline exceeded turbidity and Chl a standards. In comparison, in the sampling carried out in August 2001 for the 2002 Waikīkī Beach Walk EIS, two measures of NO_3^-, three measurements of NH_4^+, and five measurements of turbidity exceeded the 10% "dry" criteria. In August 2001, no measurements or TP, TN or Chl a exceeded any of the DOH water quality standards.

Based on these two studies, it is apparent that with some exceptions, water quality within the survey area generally complies with DOH standards. The most notable exception is for NH_4^+, which was overall higher in November 2014 relative to August 2001. As 2014 was a notable wet year, and 2001 considered dry (particularly in August), the overall elevation of NH_4^+ may be a result of increased discharge of surface water from land through the Waikīkī drainage system.

These results are important with respect to how the overall water quality in Waikīkī relates to the proposed redevelopment project. Without doubt, this area is probably the most utilized marine recreational area in the State, and is also located off a fully developed urban area. With only some of the samples exceeding the State water quality standards, this suggests that input from land or urbanization do not have a significant effect on marine water quality.

Biotic Community Structure

The biotic community structure of the Waikīkī area is divided into two major zones that correspond to the physical zonation of the area. The inner zone, consisting of the region from the shoreline over the reef platform to the reef crest is primarily a sand and rubble covered flat inhabited primarily by various species of algae. Reef corals and most other epibenthic organisms are sparse in the inner zone, primarily as a result of continuously shifting sand that is kept in motion by wave surge. Where corals do occur in the inner area, they are attached to the upper surfaces of boulders or rock outcrops, such as they occur at the edges of the channel leading to the pier at the Hilton Hawaiian Village. Predominant algae in the inner area are the alien species of red algae Acanthophora specifera, and the blue green algae Lygbya majuscula. The inner zone is the area that would be subjected to changes in water quality resulting from inputs from land.

The second major zone, which originates just seaward of the reef crest and extends seaward to offshore sand plains, is composed of a relatively flat "hardpan" limestone bottom. Because this zone is at depths below most of the destructive force of waves, and beyond the limits of sand scour, reef corals occur abundantly. As is typical on most coral reefs in Hawai'i, the most dominant corals are *Porites lobata* and *Pocillopora meandrina*.

Results from a study to assess the effects of beach sand replenishment in Waikīkī showed quantitatively that the dominant environmental factor shaping the nearshore benthic and reef fish communities off of Waikīkī is movement of sand. As Waikīkī Beach has been created by importation of sand, and will continually require sand nourishment (as was done in 2012), the situation regarding the factors controlling biotic community composition are not likely to change.

Probable Impacts and Mitigation Measures

The Outrigger Reef redevelopment does not include any plans for direct alteration of the shoreline or offshore areas. Therefore, potential impacts to the marine environment can only be considered from activities on land that may result in delivery of materials to the ocean through infiltration to groundwater and/or surface runoff. At this point in the project's planning, no substantial changes to the groundwater pumping systems or the surface drainage system in Kālia Road are envisioned. Changes to the basement level, which is five feet below sea level, will include increased parking spaces within the existing basement space, new parking connection from the basement to the street, moving kitchen and fitness facilities to upstairs levels, and backfilling of the portion of the basement beneath the Diamond Head Tower. The existing sump system will also be replaced and upgraded at the lower level parking area. Storm water from roof structures will be captured and pumped to the storm drain system. Any oil discharge in the area will be captured by the sanitary sump system. Interior sanitary drains will be provided through an oil interceptor before being discharged to the sanitary system. New parking spaces will be provided by repurposing the kitchen and fitness facilities. Existing parking on the site ranges from zero ft to 115 ft from the shoreline. The repurposing of kitchen and fitness facilities into parking spaces along with the backfilling of a

portion of the basement area beneath Diamond Head Tower are activities that will be located within the 40 ft shoreline setback area.

Structural related flood mitigation measures will be implemented with the project to meet Federal Emergency Management Agency (FEMA) flood protection requirements. Possible flood protection measures could include flood proof doors, increased concrete height, waterproofing up to expected flood levels, and concrete coatings.

No significant change to the quantity or handling of the site's rainfall runoff will occur as a result of the site redevelopment. Similarly, there will be no significant changes to the dewatering systems quantity, quality, or point of delivery into the existing drainage system. As such, potential impacts to surface and groundwater resources are not considered to be significant.

Results of the water chemistry assessment reveal that under the present development scenario, water quality throughout the survey area of Waikīkī is in within the levels that would be in compliance with respect to State of Hawai'i Water Quality Standards. The single constituent that is consistently elevated with respect to the standards is NH_4^+, which was elevated at all sampling locations. As the single sampling occurred during the wet season of a wet year, it is not possible to determine if the elevated levels of NH_4^+ are the result of seasonal events and will return to low levels. However, it is not apparent that the elevated levels of NH_4^+ are the result of activities on the Outrigger property that would be amplified by the proposed project.

The result of water quality that is generally within DOH compliance is surprising when the locations of the sampling transects are considered. The Fort DeRussy transect is situated close to the point where water from the Ala Wai Canal drains out of the Ala Wai Harbor channel to the open ocean. Similarly, the location of Transect 2 bisects the area where the box drain containing surface drainage water and sump-pumped water discharges to the ocean from the project site. As the sampling period occurred during the winter season in a year when rainfall was above average, under existing conditions the present development has minimal effect on water quality of the marine environment that is directly offshore of the project property. Because the project will not result in substantial quantitative or qualitative changes to surface water runoff or groundwater percolation, it can be concluded that the project will not cause any significant changes over the existing situation.

Shifting sand is the dominant physical feature in the nearshore marine environment that affects marine community structure. Substantial quantities of calcareous sand that has been pumped from offshore reserves and placed on the beach continue to cycle through the nearshore marine environment. Corals and other reef organisms are capable of removing sediment suspended by natural phenomena up to a threshold level. Above this level, scouring and burial by sand can result in severe abrasion or burial. Because of the existence of large quantities of naturally occurring and re-nourished beach sand in the nearshore area off of the project site, biotic community structure is presently controlled by the ability to deal with continual stress from sand stress. Organisms that occur in the nearshore area (primarily algae) are capable of withstanding the stress associated with large deposits of sediment. In comparison, the effects to marine communities from the small changes of input of materials contained in surface water and groundwater discharge would be insignificant.

The marine areas in the outer zone of the Waikīkī reef that are presently populated by well-developed coral communities are beyond the influence of the small potential changes to water chemistry that could be caused by the redevelopment. Even if changes to discharge of water from land to the ocean were greater than predicted, it is likely that these effects would be diluted to non-detectable levels prior to reaching the outer reefs. Rather, these communities are influenced by other larger scale factors (primarily wave impacts). During the construction phases, it is likely that permit regulations will require dust control measures that will limit or prevent sediment input to the nearshore area. Because there is no plan for any work in the nearshore region, there is no potential for blasting or excavation that might affect protected species, including turtles, whales and monk seals. In summary, the proposed redevelopment of the Outrigger Reef should have little or no potential to alter the marine environment fronting the project site. If best management practices are employed during the construction phases, and operational procedures proceed as in the past, there should be no adverse effects to the marine environment.

4.4 NATURAL HAZARDS

4.4.1 Hurricanes and Tropical Storms

Existing Conditions

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

In the Northern Hemisphere, a hurricane's circulation includes low pressure and counter-clockwise inflow at the surface, and high pressure and clockwise outflow at upper levels. The overall diameter of the hurricane circulation is typically between 300 and 600 miles. A hurricane or tropical storm may create hazardous conditions from high winds, torrential rainfall, coastal and inland flooding and erosion, high surf, and storm surge, which may damage or destroy property and/or threaten lives. The general season for these storms is between the months of June to December.

Hurricanes are considered to be relatively rare events in the Hawaiian Islands. Records show that strong wind storms have struck all major Hawaiian Islands. The first officially recognized hurricane in Hawaiian waters was Hurricane Hiki in August 1950. Since that time, five hurricanes have caused serious damage in Hawaiʻi: Nina (1957), Dot (1959), Iwa (1982), Estelle (1986), and Iniki (1992). Most recently in 2014, Hurricane Iselle made landfall in the southeastern part of Hawaiʻi Island, damaging homes, roadways, and utility lines affecting thousands of people.

Probable Impacts and Mitigation Measures

Since 1955, five major hurricanes or tropical storms have caused major damage to Hawaiʻi. The effects of these past storm events have caused minimal to no damage in the project area. The future threat of hurricanes in the Waikīkī area cannot be estimated beyond the fact that hurricanes will most likely continue to hit Hawaiʻi as frequently as they have in the past.

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

In the event of a hurricane or tropical storm, the Outrigger Reef has an emergency response plan that outlines procedures for natural disaster events. Hotel management, staff, and security are trained in these special operational procedures. Guests would be directed by assigned staff to take the appropriate action, which may include vertical relocation to higher floors or move to assigned shelter space on the property, depending on the established conditions under which evacuation would be necessary.

It is the hotel's policy to take care of its own guests in the event of an emergency. However, in the event that the Outrigger Reef requires a complete evacuation of guests and personnel to an off-site shelter, the closest assigned emergency public shelter in the event of a hurricane is located at the Hawai'i Convention Center. Public shelters are typically opened selectively depending on the severity of the storm and the land area most affected by the storm.

4.4.2 Earthquake

Existing Conditions

The majority of earthquakes in Hawai'i are directly related to volcanic activity, particularly to the movement of magma beneath Kīlauea and Mauna Loa, on the island of Hawai'i. Other earthquakes are the result of exerted pressures released by magma that never reaches the surface. The United States Geological Survey (USGS) conducted a probabilistic seismic-hazards assessment for the State of Hawai'i in 1997. From this assessment, seismic zones were assigned for each county.

The entire City and County of Honolulu lies in a seismic zone designated as Zone 2A. Under the United Building Code (UBC) seismic provisions, a Zone 2A area could experience seismic activity between .075 and .10 of the earth's gravitational acceleration (g-force). In comparison, the County of Hawai'i, with its ongoing volcanic activity, is designated as Zone 4, the highest seismic zonation, demonstrating that the island of Hawai'i could experience severe seismic activity between .30 and .40 g-forces.

The last significant earthquake to hit Hawai'i occurred in 2006, when a magnitude 6.7 struck Hawai'i Island in the morning. The earthquake was felt and affected by neighboring islands, including O'ahu, leaving many regions of the island without running water and power for the entire day.

Probable Impacts and Mitigation Measures

Seismic hazards are usually associated with earthquakes causing damage including landslides, ground cracks, rock falls, and tsunamis. With a rating of Zone 2A per the USGS, an earthquake is expected to cause only minor damage in the project area. New development will be in compliance with the UBC and City & County of Honolulu standards, including earthquake design

provisions. Further mitigative measures will include expanding and continuing staff training in emergency response and evacuation procedures to assist employees and guests.

4.4.3 Flooding

Existing Conditions

The project site lies within the 100-year flood zone designated as AE on the National Flood Insurance Rate Maps (#15003 C0368G), with a 1% annual change of flooding (*Figure 4-13)*. This zone represents a special flood area which has the potential to be inundated with a 100-year flood. For AE designations, base flood elevations are determined for each specific geographical area. Within the project site, areas designated as part of the AE zone have a base flood elevation identification of eight ft above MSL.

Probable Impacts and Mitigation Measures

The ground elevation associated with the Outrigger Reef is approximately eight ft above MSL. The Outrigger Reef project will comply with flood hazard requirements in accordance with current State and City & County of Honolulu standards, including the flood proofing of permitted uses below the designated flood elevation. In the event of an emergency situation resulting from flood inundation that requires evacuation from the Outrigger Reef, typically the County designates evacuation shelters to be selectively opened depending upon the severity of the damage. Shelter designations and schedules are broadcast on local radio and television stations. Information during an emergency event would also be disseminated by staff, security, and other employees to guests and visitors on-site.

4.4.4 Tsunami Inundation

Existing Conditions

Tsunamis are caused by a sudden and typically violent movement of the sea floor that generates a wave or a series of great waves which travel across the ocean until they reach a coast. Sea floor movements may include earthquake faulting, submarine land sliding, or submarine volcanic eruptions. Submarine faulting, often consisting of the vertical movement of a block of oceanic crust, may cause earthquakes.

Tsunamis are characterized by great speeds (up to 590 mph), long wave length (up to 120 miles), long periods between successive crests (ranging from minutes to a few hours), and low height in the open sea. Upon reaching a coastline, a tsunami can become a wall of water reaching heights of 30 feet or more and capable of moving inland several hundred ft.

In Hawai‘i, tsunamis have accounted for more lost lives than the total of all other local natural disasters. In the 20th century, an estimated 221 people were killed in Hawai‘i by tsunami events. Historically, the south shore of O‘ahu, including Waikīkī, has been affected only minimally by tsunamis. Known major tsunami events in Hawai‘i per the Pacific Disaster Center include the areas of Hilo (1946), North Shore O‘ahu (1952), Lā‘ie Point (1957), Hilo (1960), and Halapē Beach Park, Hawai‘i Island (1975).

According to existing County tsunami evacuation maps, the entire area of the Outrigger Reef is located in the Tsunami Evacuation Zone (*Figure 4-13*).

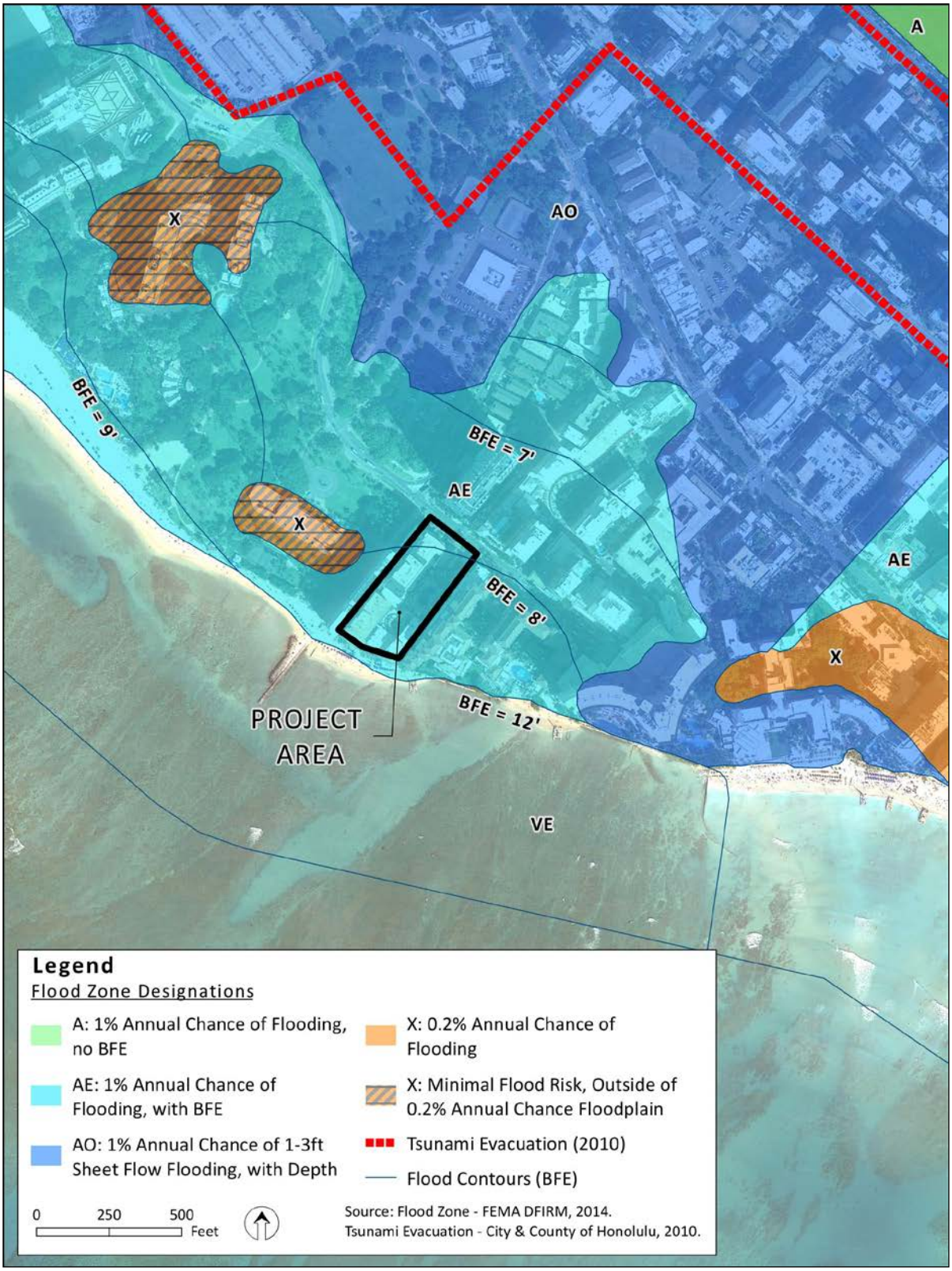


Figure 4-13 Flood Insurance Rate Map & Current County Tsunami Evacuation Zone

Probable Impacts and Mitigation Measures

In general, all coastal areas of O'ahu are vulnerable to impacts resulting from a tsunami. The actual impacts of a tsunami upon a particular area cannot be estimated beyond the possibility of the area sustaining heavy damage. The capacity of a structure to withstand the effects of a tsunami is dependent upon several factors including: the size and speed of the wave as it is transformed while approaching the shore, the type of structure, the site design and orientation of the structure and its surroundings, and the amount of debris that is swept in the movement of the wave.

Similar to other natural hazard events, the County has an emergency operations plan for evacuating potentially affected areas. Inland shelters have been identified, with the closest shelter to the Outrigger Reef being located at the McCully District Park. Potential mitigative measures are limited to maintaining current emergency places and ensuring that staff continues to be properly trained in assisting other employees and guests with appropriate response and evacuation procedures at the issuance of a tsunami warning or any other emergency event.

4.4.5 Climate Change and Sea Level Rise

Existing Conditions

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

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

According to the 2014 "Climate Change Impacts in Hawai'i – A summary of climate change and its impacts to Hawai'i's ecosystem and communities" report prepared by UH Sea Grant College Program, Hawai'i is experiencing climate change impacts in unique ways. The rapid acceleration observed in globally averaged rates of sea-level rise has not been observed in local sea-level data for Hawai'i, whereas O'ahu's daily temperature range is changing much more rapidly than the global mean. It is important to focus on the localized impacts of climate change to adequately understand and prepare for the changes to come. The SOEST report identifies the primary impacts by ecosystem to show the complex changes compounding in geographic areas, while recognizing that ecosystems are linked to one another and are impossible to separate entirely. The following list of items below is examined in the report:

Marine Ecosystems

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

Coasts and the Built Environment

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

Terrestrial Ecosystems

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

Freshwater Resources

- Changing rainfall frequency and intensity
- Saltwater intrusion

Human Health

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

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

Probable Impacts and Mitigation Measures

Proactive efforts to increase open space, restore and provide buffers for coastal wetlands, and relocate major improvements away from vulnerable areas will greatly improve Hawai'i's resilience to climate change impacts.

The proposed project will not significantly contribute to adverse impacts relating to existing climate change and sea level rise. While the project may attract additional visitors and guests to the area, the increase is not significant enough to significantly contribute to existing greenhouse gas emissions and overall long-term climate changes. In addition, many visitors will be pedestrians who will be traveling to the vicinity on foot.

4.5 ARCHAEOLOGICAL, HISTORIC AND CULTURAL RESOURCES

The Outrigger Reef project is subject to a historic preservation review by the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD) under HRS Chapter 6E and Chapter 13-284, HAR. Dye & Colleagues, Archaeologists, Inc. (T.S. Dye) prepared an AMP in September 2014 and Letter of Commitment to Carry out an Archaeological Inventory Survey in May 2015, and Keala Pono Archaeological Consulting prepared a Cultural Impact Assessment (CIA) in April 2015, which are included as *Appendices I and J*, respectively. These reports examined a previous design that was considered for the Outrigger Reef, however, the findings of the reports are still applicable to the current project scope.

4.5.1 Archaeological and Historical Resources

Existing Conditions

Paul H. Rosendahl, Inc. prepared an AA for the Waikīkī Beach Walk EIS in 2002. Based on the findings of the historical documentary research, several inferences, or predictions, were made regarding the nature and distribution of potentially significant archaeological and historical resources that may have been present in the Waikīkī Beach Walk project area. The predictive model for the nature and distribution of potentially significant archaeological and historical resources that might possibly have been present in the Waikīkī Beach Walk project area was derived from background research, consultations with SHPD staff archaeologists, and familiarity with current regulatory review requirements as contained in the draft SHPD administrative rules. Specific tasks were determined to provide adequate and appropriate scope of work for the subsurface inventory survey and related activities to be conducted during demolition work for the Waikīkī Beach Walk project.

Based on the AA, historical background and mitigation measures completed for the Waikīkī Beach Walk project, T.S. Dye prepared an AMP for the proposed Outrigger Reef project. The AMP was prepared in advance of construction of the Outrigger Reef project and in accordance with the requirements in 13-284-5, HAR. The AMP details the proposed methodology and scope of the monitoring per the requirements of Chapter 13-276, HAR. T.S. Dye also prepared a letter to SHPD expressing Outrigger's commitment to completing an Archaeological Inventory Survey (AIS)

beneath the porte cochere prior to construction activities. This letter accompanies the AMP since regardless of the inventory survey results, archaeological monitoring during construction excavations will be required.

Land Commission Awards

Historical maps and information indicate that four LCAs were made within the project area (*Figure 4-14*). LCA 104 Fort Lands, awarded to the claimant Mataio Kekūanaō'a, was recorded in the northern portion of the project area and included two ponds outside of the area. Kekūanaō'a served as the governor of O'ahu in 1839, as well as the caretaker at the fort, which is located at present day Fort Street in Honolulu. Over the duration of the Mahele, Kekūanaō'a accumulated a considerable amount of property, much of which would eventually become what is now known as Fort DeRussy. LCA 1408, awarded to the claimant Kaua, is located makai of the present Kālia Road. This land is recorded as being given to Kaua by the supervising konohiki, Nalaweha. LCA 1436, which is also located makai of Kālia Road within the project area, was awarded to Kalaipaopao who inherited the land from her father, Ahia. The land originated from Queen Ka'ahumanu I, who had given it to Ahua's parents. Once present in the area were two lo'i in the 'ili of Kanuku; two sections of a stream; and a house lot in close proximity to the stream. The last LCA in the makai region of the project area is LCA 1513, which was awarded to Wailehua, former konohiki under Victoria Kamamalu. The claim included eight lo'i, a house lot, and a kula. Similar to Kalaipaopao, the land was given to Wailehua by Queen Ka'ahumanu.

Historic Period Development

Post European contact, the project area and the greater ahupua'a of Waikīkī underwent rapid change in a relatively short amount of time. While the area was once characterized as a wetlands rich in agriculture and aquaculture with the prevalence of irrigated lo'i and loko i'a, large portions of Waikīkī were left abandoned after foreign diseases decimated the native population. Between the 1870s and early 1890s the character of Waikīkī evolved with a greater presence of foreigners. Western trade and tourism brought about ideas for hotels and residences in the area, and it is believed that the first western developments occurred in the project area during this time. Changing trends in the domestic market following the immigration of the first Chinese also led to the cultivation of more than 542 acres of rice in the Waikīkī area during the late 1800s. However, at the turn of the 20th century, Act 61 was passed, requiring property owners to convert their wetlands into dry landscapes for public health reasons. By 1921, the Waikīkī Reclamation Project began, which carved out the Ala Wai Canal. The material was then used as infill for large tracts of land in Waikīkī, including many of the ponds and terraces. In addition, records indicate that much of the Kālia area was in-filled by material pumped from the ocean by the U.S. military in establishing Fort DeRussy as a military reservation in the early 1900s. This in-fill likely consisted of coralline sands that were deposited on limestone bedrock. Together, the physical changes to the Waikīkī landscape primed the area for commercial and residential development.

Historic Sanborn Fire Insurance maps show no record of the Outrigger Reef project area prior to 1914. However, in later 1927 maps, the project area is shown as being almost completely developed with the Ocean View Court apartment building and the Edgewater Beach Apartments building. Located west of the Outrigger Reef is Battery Randolph at Fort DeRussy, which was built in 1911 as a general storehouse. It is listed on the National Register of Historic Places, with areas of significance in architecture, engineering, and military, and still operates as the location of the U.S. Army Museum of Hawai'i.

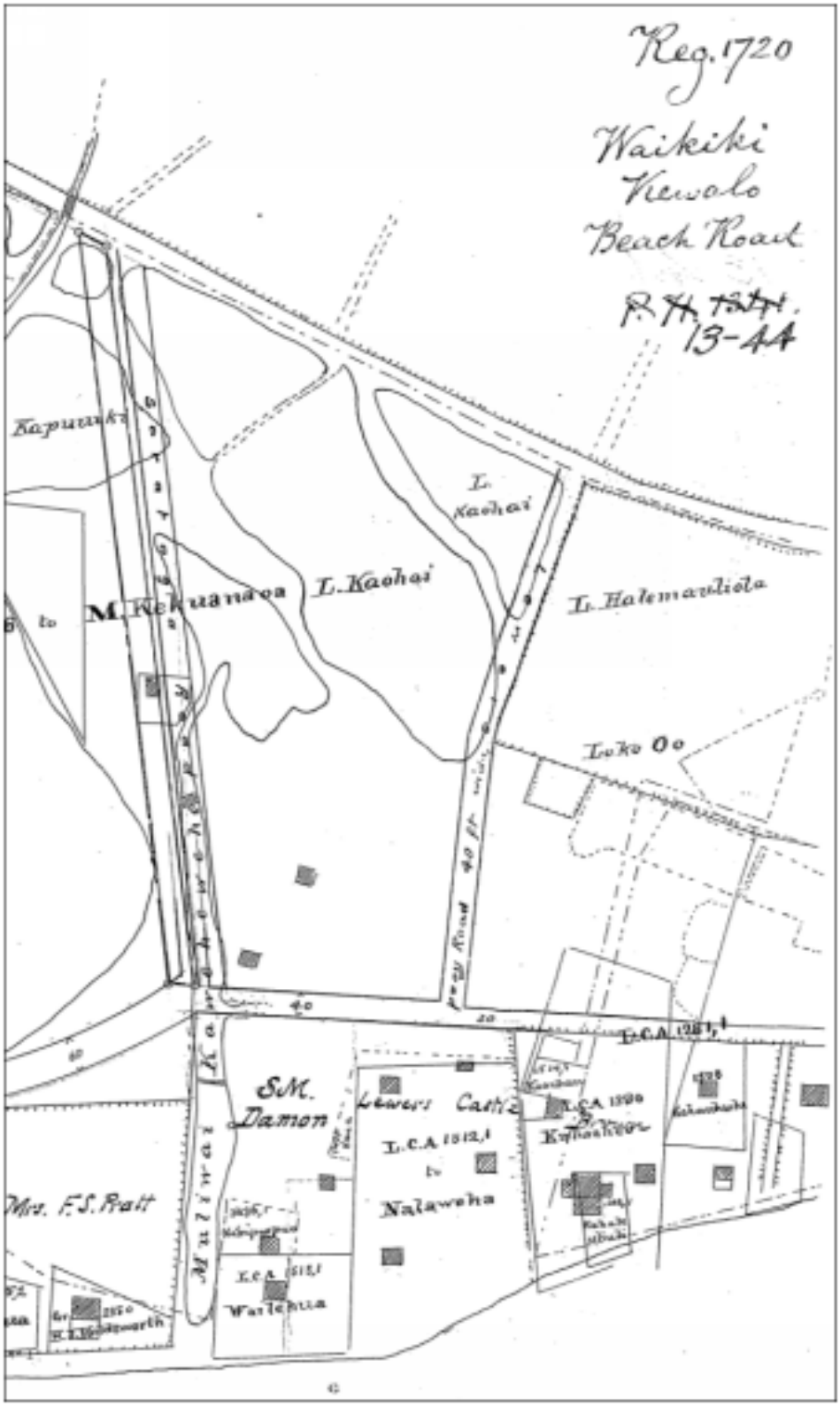


Figure 4-14 Portion of Registered Map 1720, dated 1890 Showing LCSs at the Project Area

Constructed in 1955, the Outrigger Reef has a basement beneath Pacific Tower that covers approximately half of the parcel and is currently used to park cars and for other back of the house activities. The floor of the basement is located slightly below mean sea level, so its construction removed any potentially significant historic properties that might have been located at the northeast half of the parcel. Diamond Head Tower, at the southeast end of the parcel next to the Halekūlani Hotel, was built at or near ground level. The space between the two towers is developed with facilities that also appear to be founded at or near ground level.

Previous Archaeology

Previous archaeological investigations within the vicinity of the Outrigger Reef project area identified eight sites (*Figure 4-15*):

Site 50-80-14-4570: Remnant prehistoric cultural deposits in the Fort DeRussy area

Site 50-80-14-4575: Loko Kaihikapu, a fishpond.

Site 50-80-14-4578: Loko Kaohai, a fishpond

Site 50-80-14-4679: Loko Halemauʻuola, a fishpond. Burial and habitation features were found here.

Site 50-80-14-4966: Human burials and an occupation layer at Fort DeRussy.

Site 50-80-14-9919: The Gump Building, constructed in 1929. A two-story rectangular structure with a hip-and-valley roof and decorative oriental wall perforations. Listed in the state architectural inventory but not listed on the State Inventory of Historic Properties (SIHP)

Site 50-80-14-9957: Excavation at the Halekūlani Hotel found prehistoric Hawaiian cultural remains and a large collection of late nineteenth century artifacts.

Site 50-80-14-9980: ʻUlu maika were found during the construction of the Royal Hawaiian Hotel.

No properties were found that are registered in the SIHP within the immediate project area.

Extensive archaeological investigations and monitoring has occurred over the years within the project area with the most recent being in 2013. Most significant finds have been artifacts that include human burials, historic middens, fire pits, ʻauwai and fishpond walls and remains, postholes, permanent habitation deposits, ceramics, and glassware. *Appendix I* provides a detailed description of archaeological work and findings.

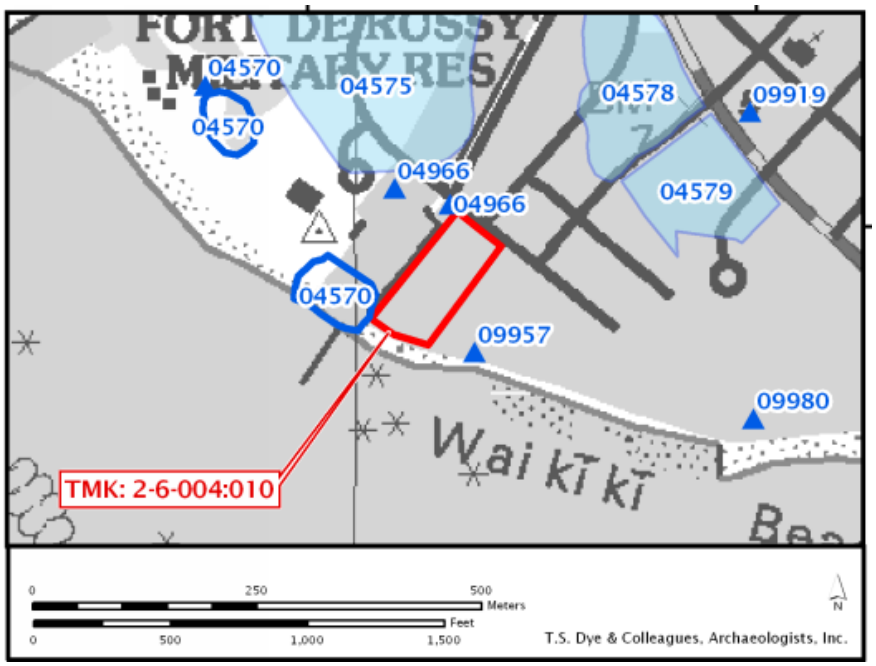


Figure 4-15 Location of the Project Site and Surrounding Sites Identified in the State Site Inventory

Probable Impacts and Mitigation Measures

Expected Site Types

Based on the findings of the historical documentary research, several inferences were made regarding the nature and distribution of potentially significant archaeological and historical resources that might possibly be present in the project area. These inferences were tentative, and subject to the qualification that any such resources that might have once been present may have been subsequently disturbed, substantially destroyed, and/or removed by construction activities undertaken in the course of the extensive commercial and residential development that occurred within and adjacent to the project area during the last 50 years and prior to the current redevelopment project.

Historic maps of the area indicate that several fishponds were once present near the project area. Loko Kaohai, Site 50-80-14-4578, and Loko Halemauʻuola, site 50-80-14-5479, were situated northwest of the project area. Previous investigations at nearby Fort DeRussy revealed subsurface evidence of fishponds, and it is possible that demolition or construction excavation in this general area might encounter buried fishpond deposits along with associated cultural remains.

Human burial and cultural deposits related to both traditional Hawaiian and historic period occupations have been recovered east and west of the project area. Excavations at the Halekulani Hotel encountered both intact and disturbed human burials, as well as historic deposits, on the property. Excavations immediately west of Fort DeRussy and the Hale Koa Hotel also encountered intact human remains. Thus it is considered possible that the coastal portion of the project area contains human burials, as well as other potentially significant cultural remains, such as habitation

deposits with portable artifacts and midden materials, and features including fire-pits, ovens, postholes, pavements, and trash pits.

Archaeological Inventory Survey

An archaeological inventory survey beneath the porte cochere will be completed prior to construction activities for the Outrigger Reef project by T.S. Dye. The AIS will be carried out by digging 4 or 5 backhoe trenches, each about 5 m long, in the approximate locations indicated in red on *Figure 4-16*. Trench excavations will extend to the water table. Regardless of the inventory survey results, archaeological monitoring during construction excavations will be required for the project.

A letter to SHPD was prepared to convey the commitment of Outrigger to complete an AIS for the project prior to construction activities. The AIS will demonstrate a good faith effort to identify human burial remains.

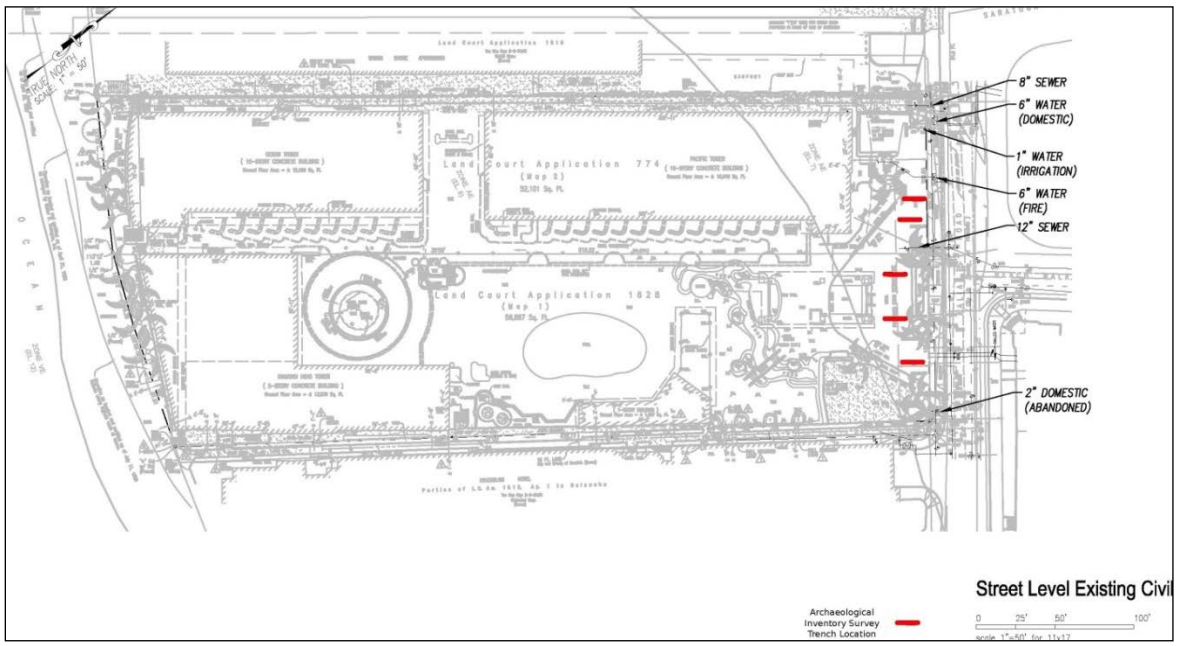


Figure 4-16 Proposed Archaeological Inventory Survey Locations

Archaeological Monitoring Plan

The AMP includes an assessment of expected site types within the study area and lays out the monitoring program design proposed during construction activities. Archaeological monitoring will be conducted for all undertaking activities with a potential for adverse effect on significant historic properties. Identified archaeological remains will be recorded and appropriate archaeological samples collected. If cultural materials that indicate the presence of undisturbed deposits are discovered, then archaeological subsurface test excavations may be conducted for the project.

Fieldwork will be carried out pursuant to the AMP and in accordance with applicable standards. Throughout the project, an archaeological monitor and field crew members will work with the project engineers to explain the purpose of the archaeological monitoring, their responsibilities as

monitors in authorizing construction activities to cease in the event of a find, and the conditions under which such authorization would be made. The meetings between archaeological monitors and engineers will also serve to coordinate and schedule the organization of the field procedures.

Field recording and sampling are intended to mitigate any potentially adverse effects to historic properties. Standards of documentation, recording, and analysis of features, soil and sediment profiles, and artifacts shall accord with Rules Governing Standards for Archaeological Monitoring Studies and Reports, HAR Chapter 13–279. Accurate map locations of test units, stratigraphic profiles, and archaeological features, deposits, and artifacts will be maintained.

Burial Treatment Plan

The project area was inhabited and used by native Hawaiians and more recently by diverse ethnic groups. Inadvertently discovered human remains might belong to one of several ethnic groups. If any historic sites or remains are discovered in the project area during site work, all construction activities will halt in the immediate area of the find and the archaeological monitor will notify the SHPD. The archaeological monitor will protect exposed bones in an appropriate fashion, such as covering them with a shallow layer of sediment, and will secure the area. Work in the area will be suspended until further recommendations are made for appropriate treatment of cultural materials.

The archaeological monitor will record and present authorities with the observed data, as appropriately related to the cultural affiliation of the human remains. No additional excavation will occur, as observations will solely be made based on the exposed or disturbed deposits. Furthermore, no additional treatment of the human remains will take place aside from documenting the remains within its archaeological context.

If no cultural remains are identified at the project location, T.S. Dye & Colleagues, Archaeologists, Inc. will prepare a document on the negative findings of the investigation. If cultural remains are discovered, the appropriate analyses will be carried out and reported.

4.5.2 Cultural Resources and Traditional Practices

Existing Conditions

A CIA was prepared by Keala Pono Archaeological Consultants, LLC. in accordance with the regulatory requirements of HRS Chapter 343 as amended by H.B. No. 2895, H.D. 1 of the State of Hawai'i Twentieth Legislature and approved as Act 50. Act 50 requires consideration of a proposed project's effects on cultural practices and resources as part of a State environmental review.

In the Native Hawaiian worldview, there exists an innate respect for all things in the universe, recognition that all elements, both animate and inanimate, possess a spiritual 'ea (essence). From this essence, the actualization of mana (inherent power and energy), is manifested. From this understanding, there arises a respect for the relationship that exists between man and the natural environment that is a governing value in the Native Hawaiian belief system. These kinds of values, then imparted through various sources of traditional and customary knowledge, provide the guiding principles for effective management practices of both natural and cultural resources. As such, the CIA helps to identify sources of traditional knowledge, identify the existing and current cultural practices within the area, and derives mitigation solutions to minimize or eliminate the

impact to the resources necessary to sustain the practice or assures continued accessibility for the cultural practice to be sustained.

The Outrigger Reef is situated in an area where traditional Hawaiian habitation and agricultural (both wetland and dry land) and aquacultural practices were common and occurring through the mid-nineteenth century. Dramatic land alterations since that time have occurred in the project area as extensive shoreline accretion and successive waves of resort development took place. The entire project area has been modified as a result of urbanization and resort development. Thus, the usual traditional and cultural practices that may occur in less developed areas (i.e., gathering rights for cultural and religious purposes, plant resources, water rights, access issues related to gathering) are found to be extremely limited to almost virtually non-existent. However, it is important to document past Hawaiian cultural practices within the study area and the surrounding vicinity through oral history and, where possible, to identify cultural practices which continue to be perpetuated even within an urbanized landscape.

Historical Setting

The Outrigger Reef is located in the Kālia portion of the Waikīkī ahupuaʻa. Kālia, meaning "waited for", is a name used for the central portion of Mānoa Stream and the name of the coastal area where the Piʻinaio Stream once flowed out to the Pacific Ocean adjacent to the project area. The name Waikīkī (spouting water) likely refers to the wetland system of pre-Contact Waikīkī, where water from the upland valleys flowed and also gushed forth from underground springs. The original marshlands of Waikīkī spanned the coastline from Diamond Head in the east and ending roughly near today's Piʻikoi Street in the west, covering 2,000 acres.

Historic maps show numerous inland fishponds in the ʻili (land section, next in importance to ahupuaʻa and usually a subdivision of an ahupuaʻa) of Kālia, and are one of the most important traditional resources associated with the project area. Many named and unnamed fishponds were once located northwest of the project area, including Kaʻihikapu and Pāweo. Inland ponds such as *loko puʻuone* (inland ponds connected through canals to the ocean), and *loko wai* (freshwater ponds) were used to supplement marine diets of ancient Hawaiians residing in Waikīkī. *Loko puʻuone* are documented as being plentiful in the Kālia delta of Piʻinaio Stream.

Due to the flow of fresh waters and sedimentation along the coast, most of Waikīkī's shoreline did not contain reef life, whereas its pelagic waters were rich with deep sea marine life. However, sections of the western end of Waikīkī near Kālia and the eastern end fronting Kapʻiolani Park are said to have contained healthy reef systems. The entire coast also offered many other types of marine resources such as crabs, shellfish, and *limu. Loko iʻa kalo*, or taro fish ponds, were also widespread throughout the ahupuaʻa, which provided taro, the staple starch in the Hawaiian diet.

Other cultivated crops in Waikīkī included *ʻuala*, *ipu*, and *wauke*. Ferns, berries, *pili* grass, *hau*, *mamaki*, *naio*, *kukui*, *lama*, *ʻohia ʻai*, *uhiuhi*, *olona*, *ʻieʻie*, and *ʻōhiʻa lehua* also grew abundantly throughout the area.

Historical Land Uses

In addition to the natural resources that were once prevalent in the area, there is historical information relating to the traditional land uses and archaeological sites of Waikīkī, including heiau, trails, royal residences and other residential compounds belonging to various aliʻi. There are

no known heiau or other tangible religious features in the current project area; however, several heiau were located east of the project area extending to Diamond Head. Some of the heiau with known names were Mauʻoki, Kupalaha, and Papaʻenaʻena. Mauʻoki was torn down in 1883 and its stones were used for roadwork. Besides a place for spiritual worship and ceremonies, the Kālia area is also part of a noted traditional trail system.

Waikīkī was historically the center of governance for the island of Oʻahu, and many places are tied to royalty. Māʻilikūkahi (Oʻahu's king in the early 1400's), Kaʻihikapuamanuia (ruler of Waikīkī), Kakuhihewa (Kaʻihikapuamanuia's son and successor), Kaʻihikapuakakuhihewa (Kakuhihewa's son and king of Oʻahu), and Kahahana (Oʻahu's last sovereign chief) were some of the notable early aliʻi connected to Waikīkī. Chief Kahekili of Maui who conquered Oʻahu, and his son and eventual successor, Kalanikūpule, both continued to rule out of Waikīkī. After the Battle at Nuʻuanu, King Kamehameha, the victor, similarly continued to reside in Waikīkī at his residence, Kuihelani, located between present-day Royal Hawaiian and Moana Surfrider hotels. Waikīkī remained central to political administration until Kamehameha moved the seat of government to Honolulu in 1809. Even after, Waikīkī continued to be an important place for royal residences, surf spots, and temples. Another notable aliʻi who called Waikīkī home was King Kamehameha V (Lota Kauaiwa), who resided at Helumoa on the grounds of present-day Royal Hawaiian hotel. After he passed away, Princess Ruth Keʻelikolani—who ultimately named Princess Bernice Pauahi as her heiress— inherited his property. Princess Keʻelikolani passed down her other Waikīkī property to Princess Kaʻiulani. The home, originally Auaukai, was renamed ʻĀinahau, or "cool breeze" by Princess Likelike, who lived there with her husband. The estate, located on the present day Outrigger Waikīkī on the Beach property, is celebrated in a *mele* named ʻĀinahau written by Princess Likelike. Another mele written for a royal residence was composed by Queen Liliʻuokalani, of her home, Paoakalani. The song was written during her imprisonment after the overthrow of the Kingdom, and tells of her affection for the Waikīkī estate where she spent most of her time composing and translating Hawaiian legends into English.

History of the Outrigger Reef Hotel

Outrigger founder, Roy Kelley, arrived in Hawaiʻi with his wife, Estelle, in 1929. In 1947, Kelley built his first hotels, including the Edgewater Apartments, near the site of the Outrigger Reef on the Beach Hotel. The Edgewater Hotel's Ocean Wing was built three years later, and the second Edgewater tower was constructed two years after that. The Ocean Wing was luxurious for its time, boasting six stories, a swimming pool, and an elevator.

The Reef Hotel's Ocean Tower was constructed in 1955 where the Edgewater Cottages once stood. Four years later, the Reef Towers Hotel fronting Lewers Street was erected. The Outrigger name was branded in the early 1960s and the Reef Lanais were built, although the first hotel to feature the Outrigger name was the Outrigger Waikīkī, established in 1967.

In 1969, the Edgewater, Reef, and Reef Towers were sold to the Cinerama movie company so Outrigger could finance other projects. The hotels were repurchased in 1982. In the 1980s, the Reef Hotels, Waikīkī Hotels, and Outrigger Hotels were consolidated into a single entity, and most properties took on the Outrigger name. The Edgewater and Reef Lanai hotels were demolished as part of the Waikīkī Beach Walk project, which began construction in 2005, and the Reef Towers were transformed into the Wyndham Vacation Ownership. The Outrigger Reef on the Beach underwent major renovations, completed in 2009, as part of the Waikīkī Beach Walk project.

Community Consultation, Ethnographic Interviews

Keala Pono Archaeological Consulting attempted to contact eight community members (community organization representatives, and individual interests such as residents, family members with ties to the area, cultural and lineal descendants, and cultural practitioners); four individuals responded and participated in talk story interviews. Some of the salient themes that were discussed in interviews are briefly described below.

Traditional Land Use/Archaeological Sites

One interviewee, whose family is from Waikīkī, recalled the fishponds and loʻi that were in the area. She also shared that, "some of these loʻi might provide some answers. In another area of Kou, the sides of a pond that belonged to another of my kupuna revealed iwi in the sidewalls of the pond." The interviewee also shared that "The whole area is an historic site. Many natives lived there and many were killed during the invasion of Kahahana, Kahekili, and again by Kamehameha. Where they died is where they were buried."

Cultural Practices, Gathering and Cultivation

Community members provided their ʻike which identified important cultural practices that continue to today, including surfing, fishing, and gathering limu (general term for seaweed). Consultants reported a significant decline in ocean life, which affects these activities.

Vast ocean and freshwater resources of Waikīkī's past were expressed by interviewees who remember gathering various ocean resources—a special limu in particular—along the shores of Waikīkī, until the waters became polluted. As one interviewee shared, "[There] used to be a lot of limu out here. My dad used to tell me that the most expensive limu came out of Waikīkī back in his day. When people got limu in Waikīkī that was the top dog. Because of the fresh water streams we used to have, all the limu was really good. And you know, this place was kapu to aliʻi only… Now it's hard to find the limu." The same interviewee recalled the abundance of schools of fish such as manini, āholehole, palani, and pualu in the distant past. Today, the fishponds of Waikīkī have been filled-in and limu and other ocean resources are limited in their supply.

Cultivation was also a large part of the area, and one interviewee shared that her kupuna, who were of the kauhale of the chief and king, lived and farmed on lands much like the Outrigger Reef property.

Potential Impacts and Mitigation Measures

Relative to defining cultural landscapes, a key understanding is that what once existed on the land still exists. For any given environment, either natural or built, the Native Hawaiian perspective embraces the notion that their ancestors continuously dwell in areas once resided, leaving an imprint that forever exists. The basic underlying thought rooted in Native Hawaiian epistemology is that the land possesses an ancestral essence and presence. Therefore, when discussing issues like the creation of a "Hawaiian sense of place," the starting point to assess that sense of place is developing an understanding of the cultural landscape through a Native Hawaiian worldview.

Waikīkī is an important place in Hawaiʻi in both the past and present. A rich corpus of background information was found for the region, including oli and mele, ʻōlelo noʻeau, moʻolelo, information on land use in traditional and historic times, and data from archaeological work. Adding significantly to

this is the information shared during oral history interviews. Those interviewed for this project all have strong family ties to the region, and Waikīkī is a cherished place for their ʻohana.

Research and ethnographic survey compiled for the study revealed that Waikīkī was a culturally significant area with many of the natural resources which supported traditional subsistence activities such as fishing, the gathering of plants, and collecting various shellfish and limu. Traditionally, the region was a marshland with abundant springs and supported loʻi agriculture and fishponds.

Community members who are knowledgeable of the cultural resources of Waikīkī provided their ʻike and reported a significant decline in ocean life, which affects these activities. Interviewees generously shared their personal and ʻohana connections to this ʻāina as well as their manaʻo of the importance of preserving our cultural heritage. It was noted that although the area has been significantly modified by modern development, human burials, subsurface cultural layers, and other historic properties may still be found.

Those interviewed for this study mentioned concern over several resources that may be affected by the Outrigger Reef project. Resources that might be affected include human burials, cultural layers, the surf, and the beach itself. While community interviewees were generally supportive of the Outrigger Reef project, they would like to have Hawaiian traditions and practices incorporated into the plans and more opportunities for the Hawaiian community to be involved. They proposed specific ways to achieve this:

- Developing a cultural monitoring plan and implementing cultural monitoring during construction;
- Displaying pictures of the Hawaiian monarchy;
- Utilizing natural landscaping to include native plants, ponds, etc.;
- Considering Hawaiian traditions in naming;
- Offering workshops;
- Hiring an on-site cultural resource person;
- Working more with the descendant families;
- Managing the beach more efficiently (e.g., with sand replenishment strategies); and
- Improving accessibility and parking to make the area more kamaʻāina friendly

4.6 ACOUSTIC ASSESSMENT

A study of current and projected noise conditions was conducted by Y. Ebisu & Associates in March 2016 and is included in *Appendix K*.

Existing Conditions

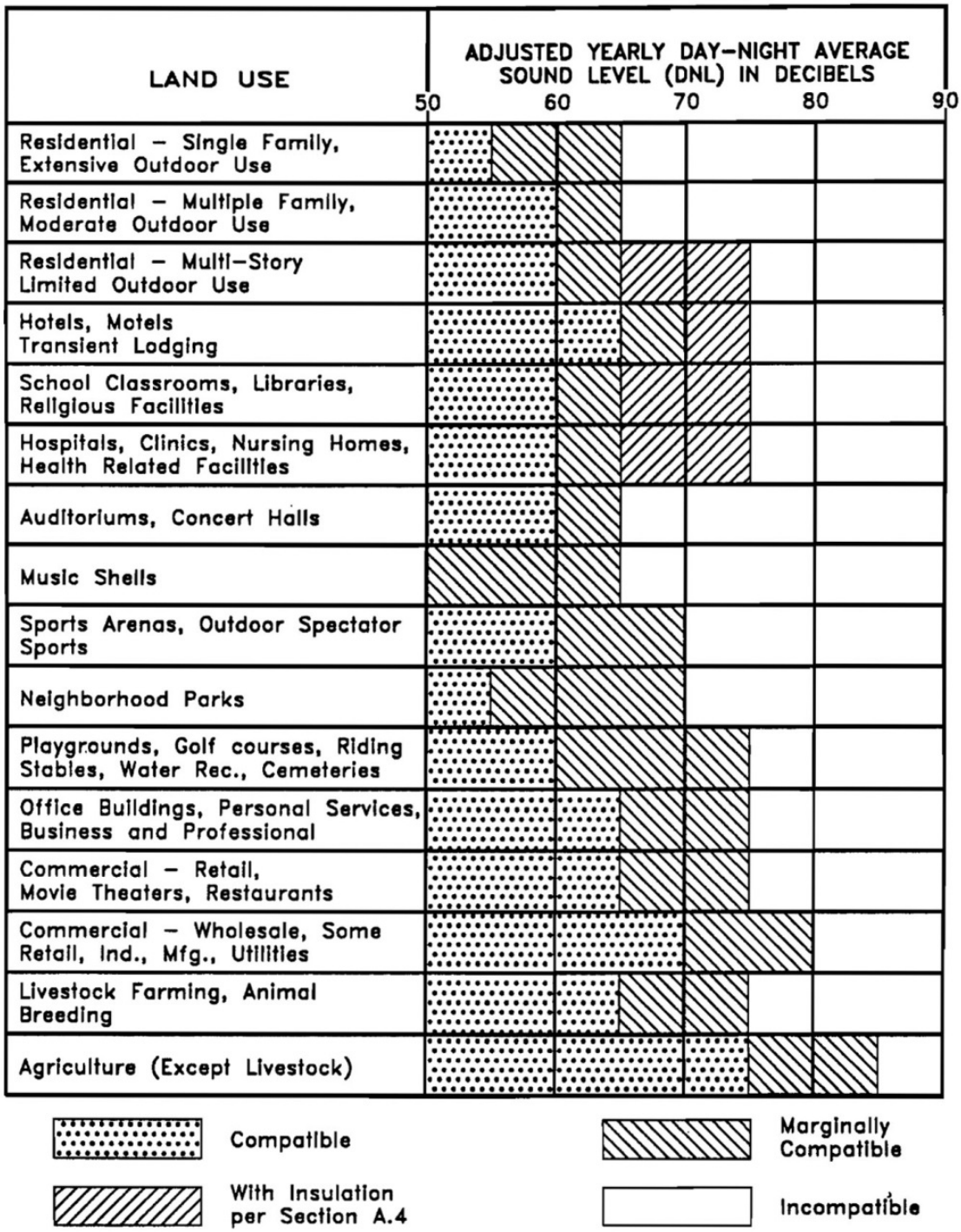
The Day-Night Average Sound Level (DNL) method, developed by the Environmental Protection Agency, is the most widely used noise descriptor. The measurement is weighted so that late night noises are penalized, on the assumption that these noises are more objectionable because they can disturb sleep.

In Hawai'i, the State DOH regulates noise from fixed mechanical equipment and construction activities. State DOH noise regulations are expressed in maximum allowable noise limits rather than DNL. Although they are not directly comparable to noise criteria expressed in DNL, State DOH noise limits for single family residential lands equate to approximately 55 DNL. For multifamily residential, commercial, and resort lands, the State DOH noise limits equate to approximately 60 DNL. For light and heavy industrial lands, the State DOH noise limits equate to approximately 76 DNL. Construction activities, which are typically noisier than the State DOH noise limits, are regulated through the issuance of permits for allowing excessive construction noise during limited time periods.

Major contributors to the existing background ambient noise levels within the project area are: traffic along Kalākaua Avenue, Saratoga Road, Beach Walk, Lewers Street, and Kālia Road; garbage collection trucks; tour buses and delivery trucks which are idling or positioning at curbside; loud motorcycles; the sirens of emergency and police vehicles; and nearby construction activities. Other noise sources include outdoor mechanical equipment at commercial and resort buildings, and maintenance activities. Periodic offshore aircraft noise can be heard but do not exceed 60 DNL, which is within acceptable limits by the State Department of Transportation, Airports Division.

Land use compatibility guidelines for various levels of environmental noise as measured by the DNL descriptor system are shown in *Figure 4-17*. In urbanized areas which are shielded from high volume streets, DNL levels generally range from 55 to 65 DNL, and are usually controlled by motor vehicle traffic noise. Residences and resort units which front major roadways are generally exposed to levels of 65 DNL, and as high as 75 DNL when the roadway is a high speed freeway. In the project area, traffic noise levels associated with Kalākaua Avenue, Kālia Road, and Saratoga Road are greater than 70 DNL along their Rights-of-Way due to the large volumes of traffic and heavy vehicles (trucks and buses) on those major thoroughfares.

Traffic noise levels tend to be lowest during the early morning hours between 3:00 and 5:00 AM, and tend to be highest during the daytime and evening hours when tour buses and trolleys operate. The existing traffic volumes and their noise contributions at 50, 75, and 100 ft setback distances from the centerlines of the roadways servicing the project are shown in *Appendix K*. The corresponding setback distances from the roadways' centerlines to their corresponding 65, 70, and 75 DNL traffic noise contours for ground level receptors are shown in *Appendix K*. Based on the results, it was concluded that existing background noise levels in the project environs currently exceed 65 DNL at essentially all buildings which front Kalākaua Avenue, Saratoga Road, Lewers Street, and Kālia Road. In addition, at the upper floors of buildings which front the lower volume streets such as Beach Walk, distant traffic noise plus the other non-traffic noise sources in the area cause ambient noise levels to exceed 65 DNL. At those receptor locations which front Kalākaua Avenue, Saratoga Road, and Kālia Road, existing background ambient noise levels exceed 70 DNL. The existing noise levels in the project environs are highest along Saratoga Road and Kalākaua Avenue, and lowest along Beach Walk Street and Kālia Road east of Lewers Street.



LAND USE COMPATIBILITY WITH YEARLY AVERAGE DAY - NIGHT AVERAGE SOUND LEVEL (DNL) AT A SITE FOR BUILDINGS AS COMMONLY CONSTRUCTED.
(Source: American National Standards Institute S12.9-1998/Part 5)

Figure 4-17: Day-Night Average Sound Level Descriptor System

Existing noise levels on the mauka face of the Pacific Tower at Outrigger Reef range from 70-71 DNL. At receptor locations which are shielded from traffic noise, such as within the interior of Outrigger Reef, existing background ambient noise levels are lower due to the noise shielding effects of the surrounding buildings. Noise reductions of 5 to 20 decibels (dBA) can be expected from these noise shielding effects. Background ambient noise levels at these locations range from 65-70 DNL, and are controlled by the surf or pool side activities on the grounds of Outrigger Reef rather than by traffic noise.

Future Noise Environment

Predictions of future traffic noise levels were made for year 2020 without the proposed project, with the project for a typical day, and with the project on a day with a project event. In year 2020, the dominant traffic noise sources in the project area will continue to be traffic noise from Kalākaua Avenue, Saratoga Road, Kālia Road, and Lewers Street. Both non-project and project related traffic noise increases are predicted to be very small by year 2020, and will be difficult to perceive.

Essentially all locations which front Kalākaua Avenue, Saratoga Road, Kālia Road, and Lewers Street will continue to experience relatively high noise levels above 65 DNL. Lower elevation receptors which benefit from the noise shielding from existing and new buildings may experience traffic noise levels less than 65 DNL. In addition, those receptor locations (such as those locations on the project site at the pool deck level), which are also removed from the major roadways as well as shielded by existing and new buildings, should experience traffic noise levels less than 65 DNL. The relatively high noise levels within the project area are characteristic of Waikīkī, and will remain high through year 2020, with or without the project.

On the mauka face of the existing Pacific Tower building, future noise levels are predicted to range from 70 to 71 DNL on a typical day, and be similar to existing noise levels. On a project event day, future noise levels are predicted to be slightly higher and range from 70 to 71 DNL on the mauka face of the Pacific Tower building.

On the ʻEwa and Diamond Head faces of the project's new guestrooms located between the existing Pacific and Ocean Towers, future noise levels are predicted to range from 62 to 63 DNL on a typical day. On a project event day, future noise levels are predicted to be slightly higher but continue to range at 62 to 63 DNL on the ʻEwa and Diamond Head faces of the project's new guestrooms. The noise levels at the new guestrooms are predicted to be much lower than those at the existing Pacific Tower's mauka guestrooms due to the larger setback of the new guestrooms from Kālia Road.

Aircraft noise levels over the project site should not change significantly between year 2014 and 2020, and should remain at or below the current levels of 45 to 50 DNL.

Probable Impacts and Mitigation Measures

General Construction Noise

Audible construction noise will be unavoidable during the entire project construction period. It is anticipated that the actual construction work will be moving from one location on the project site to another during the construction period. Actual length or exposure to construction noise at any receptor location will probably be less than the total construction period for the entire project.

Micropiles and auger cast piles are planned to be used for the foundations of the new guestroom connection, so very high noise and vibration levels should be avoidable at nearby receptors and buildings. Direct line-of-sight distances from the construction equipment to existing resort, residential, and commercial buildings will range from 20 feet to 600+ ft, with corresponding average noise levels of 94 to 62 dBA (plus or minus 5 dBA). For receptors along a cross-street, the construction noise level should be reduced by approximately 8 dBA when the work is occurring at the intersection with the cross street, and should be reduced by15 dBA when work is occurring at least 100 ft from the intersection (and the visual line-of-sight is blocked by intervening buildings). Typical levels of construction noise inside naturally ventilated and air conditioned structures are approximately 10 and 20 dB less, respectively.

Noise sensitive receptors predicted to experience the highest noise levels during construction activities are located at the Waikīkī Shore, Halekulani, Trump International Hotel Waikīkī, and Embassy Suites. Predicted construction noise levels at these buildings during the demolition of the Diamond Head Tower and site preparation phase of the work on the new guestroom connection are predicted to range from 70 to 97 dBA (plus or minus 5 dBA). The highest noise levels during construction are expected to occur at the Halekulani east of the project site during demolition of the Diamond Head Tower and at the Waikīkī Shore during foundation work at the new guestroom tower connection, where buffer distances are relatively small (in the order of 25 to 50 ft). Across Kālia Road at the Trump International Hotel Waikīkī and Embassy Suites, construction noise levels during demolition and site preparation are predicted to range from 70 to 75 dBA. Units at the Waikīkī Shore should be shielded from construction noise from the pool deck area by the existing Pacific Tower Building. Adverse impacts from construction noise are not expected to fall within the "public health and welfare" category due to the temporary nature of the work, as well as the administrative controls available for regulating construction noise. Instead, these impacts will most likely be limited to the temporary degradation of the quality of the acoustic environment in the immediate vicinity of the project site.

Mitigation of construction noise to inaudible levels will not be practical in all cases due to the intensity of construction noise sources (80 to 90+ dB at 50 feet distance), and due to the exterior nature of the work (excavation, grading, trenching, concrete pouring, hammering, etc.). The use of properly muffled construction equipment will be utilized on the job site during this period.

Severe noise impacts are not expected to occur inside air conditioned structures which are beyond 70 to 450 feet from the project construction sites. Inside naturally ventilated structures, interior noise levels (with windows or doors opened) are estimated to range between 73 to 55 dBA at 70 feet to 450 feet distances from the construction site. Closure of all doors and windows facing the construction site would generally reduce interior noise levels by an additional 5 to 10 dBA.

The project will adhere to the State DOH construction noise limits and curfew times. Noisy construction activities are not allowed on Sundays and holidays, during the early morning, or during the late evening and nighttime periods under DOH permit procedures.

Traffic Noise

For the guest units in the proposed new guestroom tower connection, as well as all of the existing guest units which are planned for renovations, noise mitigation measures are recommended. Closure and air conditioning of the units in the building is an effective noise mitigation measure

for this project. Approximately 30 to 35 dB of exterior-to-interior noise reduction is recommended for those units which have unobstructed line-of-sights to Kālia Road, Saratoga Road, Lewers Street, and Kalākaua Avenue. Noise impacts from project related traffic is not anticipated due to the relatively low levels of noise of project related traffic noise when compared to non-project related traffic and other noise sources. In addition, the existing resort units which are located in the immediate vicinity of the project are currently provided with air conditioning.

Parking Garage and Other On-Site Sources

The lower level parking area ventilation openings are expected to be adjacent to existing hotel and condominium units along the western boundary of the property. Along the eastern property boundary, the solid face of the adjacent hotel building should reduce risks of adverse impacts from noise emanating from the project's parking areas. Audible tire squeal noise from the circulation and parking areas of the project are possible. These noises will be mitigated through the use of a brushed or other coarse finish on the circulation driveways. Closure of the west sides of the proposed parking areas which face adjoining hotel or residential units through the use of solid walls are not required since the two upper level parking areas on the west side are planned for valet parking only.

The project's emergency generator is planned to be located near the west property boundary of the project site, and will probably require sound attenuation treatments to minimize risks of potential noise impacts at the adjacent Waikīkī Shore. The emergency generator will probably be operated during monthly testing operations and during utility power outages. Sound attenuation treatments applied to the generator could include the use of insulation within the generator room, sound attenuation treatments to the room's ventilation openings, sound rated doors, generator exhaust silencers with high insertion loss values, and vibration isolation mounts at the generator. The State DOH noise regulations require that best available noise control technology be applied to the emergency generator installation.

Mechanical equipment, such as air conditioning chillers or cooling towers, and garage and kitchen ventilation fans are the primary on-site sources of noise expected to be located on the project site. These equipment, singly or together, have the potential of exceeding the allowable State DOH property line noise limits. The State DOH noise limits which apply along the property boundaries of resort districts are 60 dBA and 50 dBA during daytime (7:00 AM to 10:00 AM) and nighttime (10:00 PM to 7:00 AM) periods, respectively. Typical noise levels of untreated mechanical equipment are significantly higher (by at least 15 dBA) than the allowable DOH noise limits. Sound attenuation treatment of the mechanical equipment will likely be implemented in order to comply with DOH noise regulations. Since residual background ambient noise levels in the project area are similar to or even higher than the State DOH noise limits, it is anticipated that compliance with the DOH noise limits will minimize risks of adverse noise impacts on neighboring properties and within the project area.

4.7 HAZARDOUS MATERIALS

Existing Conditions

J.R. Herold & Associates conducted a preliminary study of the Waikīkī Beach Walk project area and related historical documents to indicate the presence of hazardous materials which require abatement prior to demolition of existing structures. Since the Outrigger Reef was constructed during the 1950s and 1960s, buildings in the hotel property may contain certain types of hazardous materials.

Asbestos – Buildings on the project site may contain asbestos in acoustic ceiling material, floor tile, electrical conduits, and thermal pipe insulation, and other building materials. A comprehensive survey and abatement program will be conducted prior to any building demolition.

Lead Containing Paint – Given the age of the property in the project area, it is assumed that lead paint exist both in the interior and exterior. Appropriate buildings will be tested and any lead containing paint that is peeling or flaking will be removed prior to demolition.

Underground Storage Tanks (USTs) – There are no known USTs in the project area.

Polychlorinated Biphenyls (PCB) – Light ballasts, assumed to contain PCB, occur in large numbers throughout the project area. These will be removed and transported to a permitted facility prior to demolition. Transformers and capacitors containing PCB will be treated appropriately.

Mercury Containing Lamps – Unless recently replaced, fluorescent lamps can be expected to contain mercury vapor. These lamps will be removed and transported to a permitted facility prior to demolition.

Soil and Groundwater Contamination – During site inspection of the Waikīkī Beach Walk project sites, no activities were observed to suggest possible sources of soil and groundwater contamination.

Other Hazardous Materials – There are small quantities of various hazardous materials used in the daily maintenance of hotel property. Prior to demolition, these chemicals will be used, transferred, or disposed of properly.

Probable Impacts and Mitigation Measures

Hazardous materials are likely present within the project area. Without proper containment and disposal, these materials could pose serious health threats. Prior to building demolition or major renovation, environmental regulatory and historical research will be performed for the project site. This will identify sources of potential soil and groundwater contamination which, if present, would be remediated. An assessment of asbestos, lead containing paint, and light ballasts and fixtures will be conducted prior to demolition and appropriate abatement actions will be taken.

4.8 ROADWAYS AND CIRCULATION

The existing Outrigger Reef is located in a densely developed area with a high volume of pedestrian and vehicular traffic. The property is located makai of Kālia Road, closest to the junctions of Kālia Road/Saratoga Road and Kālia Road/Beachwalk Drive. Kālia Road, Saratoga Road, and Beachwalk Drive are under the authority of the City and County of Honolulu.

4.8.1 Traffic

A Transportation Assessment (February 2016) was prepared for the Outrigger Reef Waikīkī Beach Resort by Fehr & Peers to identify and assess potential impacts of the project on existing roadways and traffic conditions (*Appendix C*).

Existing Conditions

Weekday morning and afternoon peak hour traffic counts were conducted at each of the five study intersections in late August 2014. *Figure 4-18* illustrates the existing traffic study area for each of the following intersections:

- Saratoga Road and Kalākaua Avenue
- Lewers Street and Kalākaua Avenue
- Saratoga Road and Kālia Road
- Beachwalk Drive and Kālia Road
- Lewers Street and Kālia Road

The AM peak hour of traffic generally occurs between the hours of 6:00 AM and 9:00 AM. During the afternoon, the PM peak hour of traffic generally occurs between the hours of 3:00 PM and 6:00 PM. Existing lane configurations and signal controls were obtained through field observations.

Level of service (LOS) is a qualitative measure describing the condition of traffic flow, ranging from ideal or free-flow traffic operating conditions at LOS A to unacceptable or potentially congested traffic operating conditions at LOS F. The City and County of Honolulu has established LOS D, which is typically recognized as the minimum satisfactory level of service in most urban areas, as the minimum acceptable level of service or its intersections. *Table 4-8* below summarizes the results of the level of service analysis for each of the five study intersections.

Figure 4-18 Study Area and Analyzed Intersections

Table 4-8 EXISTING INTERSECTION LEVEL OF SERVICE

Intersection	Traffic Control	Peak Hour	Delay (sec/veh)	LOS
1. Saratoga Road/Kalākaua Avenue	Signalized	AM PM	17.2 24.3	B C
2. Lewers Street/Kalākaua Avenue	Signalized	AM PM	13.6 20.8	A C
3. Saratoga Road/Kālia Road	Signalized	AM PM	6.9 8.2	A A
4. Beachwalk Drive/Kālia Road	SSSC[1]	AM PM	16.4 33.9	C D
5. Lewers Street/Kālia Road	AWSC[2]	AM PM	8.1 9.0	A A

1. SSSC – Side street stop-controlled intersection.
2. AWSC – All-way stop controlled intersection.

Figure 4-19 presents the existing AM and PM peak hour turning movement volumes, corresponding lane configurations and traffic control devices. Results from the LOS calculations of current traffic conditions in the study area indicate that all of the existing study intersections operate at an overall acceptable service level (LOS D or better); however at two of the signalized intersections some of the traffic movements are operating at LOS E or LOS F during at least one of the peak conditions.

Figure 4-19 Peak Hour Traffic Volumes and Lane Configurations – Existing Conditions (2014)

Field observations showed that traffic moves fairly well throughout the study area during the AM and PM peak hours. Some short delays were experienced on some streets as vehicles changed lanes to avoid vehicles turning into side streets or to avoid buses. Short delays for turning vehicles were also observed as drivers yielded to pedestrians crossing the street. In the PM peak hour, some delays and moving queues were observed along Kalākaua Avenue from its intersection at Saratoga Road to Lewers Street, which were unable to be captured in the calculated and isolated intersection analysis. The conditions of slow traffic progression and flow along Kalākaua Avenue are not due to any volume-to-capacity issues at the study intersections, but instead due to heavy traffic and/or poor operating conditions at locations further downstream.

Traffic flow has improved along Kālia Road with the signalization of Intersection 3: Saratoga Road/Kālia Road. During the AM and PM peak hour along Kālia Road, no major delays or queues were observed, with the exception of the occasional minor back-up onto Kālia Road caused by vehicles waiting to turn into the Outrigger Reef entrance driveway. Anecdotal feedback from hotel employees also indicated that traffic along Kālia Road only experiences minor delays occasionally. They also mentioned that poor conditions are not directly related to the hotel's traffic and are usually caused by factors away from the Outrigger Reef (i.e., construction near the Hilton Hawaiian Village and Ala Mona Boulevard, TV and movie filming, etc.).

High pedestrian activity during the PM peak hour was also observed at all the signalized study intersections and pedestrian calls were made at every cycle. The heavy pedestrian volumes observed within the study area are reflective the variety of land uses fronting the study roadways and the overall walkability of Waikīkī.

Outrigger Reef room occupancy differences between weekdays and weekends are usually not as pronounced as occupancy variations at resort hotels on neighboring islands and at corporate-type hotels on the mainland; however, some major three-day holiday weekends and/or major events are notable exceptions when the hotel experiences increased weekend activity. As a result, it is reasonably assumed that the differences in weekday versus weekend peak hour hotel trip generation are negligible. To further validate this assumption, the weekday PM peak hour volumes and weekend volumes collected in 2010 and 2011, and used in the existing condition intersection analysis reported in Traffic Impact Analysis Report (TIAR) for the International Market Place Revitalization Project, were compared to gauge the variation in traffic conditions in the Waikīkī resort district. Based on this comparison of total intersection volumes, nine (9) out of the 13 study intersections reported higher traffic volumes during the weekday PM versus the weekend/Saturday condition. At the four locations reporting higher total intersection volumes on the weekend, the average increase in total intersection volumes is only 6%. Therefore, no weekend peak hour traffic analysis was conducted for the project. This is also consistent with the TIARs prepared for the Hilton Hawaiian Village Renovations and the K3 Waikīkī Development (Ritz Carlton).

Probable Impacts and Mitigation Measures

Development of future traffic projections related to the amount of traffic added to the roadway system by the Outrigger Reef renovation is estimated using a three-step process: (1) project trip generation, (2) trip distribution and (3) trip assignment. The new trips generated by the Outrigger Reef are expected to be associated with the new hotel units and conference meeting space.

Project Trip Generation

Hotel Trip Generation

The project trip generation estimates was prepared using survey data conducted at hotels located outside central business districts, with little or no transit service, nearby pedestrian amenities, or travel demand management. Thus, the available ITE trip rate data for estimating vehicle trip generation for hotel rooms may not accurately reflect the travel mode split for Waikīkī hotels such as Outrigger Reef, which is located in an urban, high-density setting where many land uses are within a short walk and there is an extensive use of taxis and high-occupancy vehicles (i.e. buses and shuttles).

Due to the possibility that the standard ITE trip rate per room may overestimate the traffic generation for the proposed Outrigger Reef's expansion of 39 new rooms, a trip generation survey was conducted at the existing hotel to either validate the available ITE data or to supplant it if the results were substantially different. Traffic counts were collected at the entrance and exit driveways located on Kālia Road during the AM and PM peak periods over two weekdays in late August 2014. Counting these driveways included all site generated traffic including valet activities and deliveries.

During the days of the trip generation survey, the existing 635-room hotel was 91% and 80% occupied. One of the days included a 20-person wedding reception in the evening from 6:00 PM to 10:00 PM and the other day included a 15-person conference from 8:00 AM to 5:00 PM (both were negligible events from a traffic perspective). For both days, the hotel's subterranean parking garage was able to accommodate the hotel and restaurant parking demand.

The survey results revealed that the existing hotel trip rates per room and the ITE rates differed, where the surveyed rates were substantially lower (i.e., approximately 30%-33% percent lower) than the ITE rates as was expected. To more appropriately calculate the project-generated trips, the empirical rates derived from the busier of the two survey days were used in the trip generation analysis. According to results of the project's trip generation analysis, full occupancy of the 39 new hotel rooms is expected to generate 8 weekday AM peak hour net new trips (4 inbound, 4 outbound) and 9 weekday PM peak hour net new trips (4 inbound, 5 outbound). The estimated proposed project trip generation for the typical (hotel only) scenario is shown in *Table 4-9*.

Table 4-9 TRIP GENERATION ESTIMATES FOR TYPICAL PROJECT CONDITIONS[1]

SUMMARY OF RATES							
Land Use	Rate	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Outrigger Reef Waikīkī Beach Resort[2]	per room	0.11	0.11	0.22	0.09	0.12	0.21

VEHICLE TRIP ESTIMATES								
Land Use	Quantity	Unit	AM Peak Hour			PM Peak Hour		
			In	Out	In	Out	In	Out
Outrigger Reef Waikīkī Beach Resort[2]	39	rooms	4	4	8	4	5	9
Total Net New Vehicle Trips			**4**	**4**	**8**	**4**	**5**	**9**

Source: Fehr and Peers, 2016

Notes:
1. Typical Project conditions represent full occupancy of the new hotel rooms and vacancy of the meeting and conference facilities. During this time, it is assumed that there are no special events hosted at the hotel.
2. The peak hour trip rate data were estimated based on a trip generation survey conducted of the existing hotel over the course of two days. The higher trip rates derived from the empirical data were used to estimate project trips associated with expansion of the hotel rooms.

Conference and Meeting Space Trip Generation

Based on consultation with a hotel operator, it was reasonably assumed that the maximum capacity for the project's three new breakout rooms and new meeting room totaling 3,300 SF would be about 165 persons. Trip generation estimates for the full occupancy of the new breakout rooms and meeting room were derived based on the assumption that half of the 165 participants attending a meeting at one of the new facilities would already be staying at the hotel and would not generate a peak hour vehicle trip, while the remaining 83 persons were then assumed to arrive by car. Using an average vehicle occupancy rate of 1.5 persons per vehicle, the full use of the following conference and meeting spaces would generate 56 new external vehicle trips in both the AM peak hour (50 inbound, 6 outbound) and PM peak hour (6 outbound, 50 inbound). Additionally, the AM peak hour trip distribution split was assumed to be 90% entering and 10% exiting the project site, while the PM peak hour trip distribution split was assumed to be 10% entering and 90% exiting the project site. This approach is also considered conservative in that the likelihood of all of the hotel's meeting space (with the exception of the large banquet room) being used at the same time is low and would occur infrequently. Also under these conditions, more than half of the attendees would likely be staying at the hotel or would be staying at a nearby property within walking distance.

As shown in *Table 4-10*, the project would generate an estimated net increase of 64 trips during the AM peak hour (54 inbound, 10 outbound) and 65 trips during the PM peak hour (10 inbound, 55 outbound) assuming full occupancy of all of the new hotel rooms and full use of the smaller breakout/meeting rooms. The following forecasted peak hour project trips are representative of the less frequent "With Project Event" conditions, where it is anticipated that the occupancy of the three breakout rooms and meeting room would occur less than once to twice a week on average based on consultation with the project sponsor. Additionally, since the use of the ballroom will be used less frequently (i.e., once a week), it was excluded.

Table 4-10 TRIP GENERATION ESTIMATES FOR PROJECT EVENT CONDITIONS[1]

SUMMARY OF RATES							
Land Use	Rate	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Outrigger Reef Waikīkī Beach Resort[2]	per room	0.11	0.11	0.22	0.09	0.12	0.21
Breakout/Meeting Rooms[3]	N/A	0.30	0.03	0.33	0.03	0.30	0.33

VEHICLE TRIP ESTIMATES								
Land Use	Quantity	Unit	AM Peak Hour			PM Peak Hour		
			In	Out	In	Out	In	Out
Outrigger Reef Waikīkī Beach Resort[2]	39	rooms	4	4	8	4	5	9
Breakout/Meeting Rooms[3]	165	persons	50	6	56	5	50	56
Total Net New Vehicle Trips			**54**	**10**	**64**	**10**	**55**	**65**

Source: Fehr and Peers, 2016

Notes:
1. Project event conditions represent not only the full occupancy of the new hotel rooms, but also the occupancy of the smaller meeting/breakout rooms. These conditions are not a daily occurrence and full occupancy of these facilities are expected to only occur once or twice a week.
2. The peak hour trip rate data were estimated based on a trip generation survey conducted of the existing hotel over the course of two days. The higher trip rates derived from the empirical data were used to estimate project trips associated with expansion of the hotel rooms.
3. In consultation with the hotel operator, person occupancy for the meeting facilities were derived and used to estimate its associated vehicle trip generation. It is assumed that the maximum capacity of the three breakout rooms and new board room totaling 3,300 SF would be 165 persons.

Project Trip Distribution and Assignment

The geographic distribution of trips generated by the project is dependent on characteristics of the street system serving the project site; the level of accessibility of routes to and from the proposed project site; and residential areas from which the hotel guests, local visitors, and employees would be drawn. A trip distribution pattern was developed for the project based on the assessment of the existing directional distribution of the intersection traffic counts collected and hotel driveway counts. The existing directional distribution was refined based on locations of complementary land uses and local arterial streets and access to the regional transportation system to yield the following overall trip distribution pattern estimates for the project-generated traffic.

Trip Distribution Patter Estimates

- 40% to/from Kālia Road (west)
- 30% to Saratoga Road/Kalaimoku Street (north)
- 3% to Lewers Street (north)
- 27% to Kalākaua Avenue (east)
- 35% from Kalākaua Avenue to Saratoga Road (west)
- 25% from Kalākaua Avenue to Beachwalk Drive (west)

Figure 4-20 illustrates the project trip distribution pattern described above.

Figure 4-20 Project Trip Distribution

Using the estimated trip generation and the distribution patterns discussed above, the traffic generated by the proposed project under two project scenarios were separately assigned to the street network. *Figure 4-21* and *Figure 4-22* show the assignment of trips generated by the proposed project under both typical and event conditions, respectively.

Figure 4-21 Peak Hour Traffic Volumes and Lane Configurations – Project Trips for Typical Conditions

Figure 4-22 Peak Hour Traffic Volumes and Lane Configurations – Project Trips for Event Conditions

Potential Off-Site Traffic Improvements

The project under typical non-event conditions is not expected to result in significant negative impacts to vehicle circulation in the study area based on the following:

- Under typical conditions, which characterize an average of 70% or more of the week, the project is anticipated to generate no more than nine (9) additional peak hour trips to the roadway network (i.e. 8 net new trips in the AM peak hour and 9 net new trips in the PM peak hour).
- The negligible amount of new project trips will load onto local and regional facilities and traverse intersections that currently serve relatively low traffic volumes and/or experience limited delays during each peak period.

Under event conditions, Outrigger Reef is projected to generate 64 and 65 total net new vehicle trips in the AM peak hour and PM peak hour, respectively. Although the project-generated traffic under event conditions is significantly more than typical conditions, it is very likely the study intersections would continue to operate at LOS C or better in the both the AM and PM peak hour, with the exception of Intersection 4: Beachwalk Drive/ Kālia Road during the PM peak hour. Currently, the poorest movement of this side-street stop controlled intersection is operating at LOS D with 33.9 seconds of delay per vehicle, which is right at the cusp of operating at LOS E (i.e. greater than 35.0 and up to 50.0 seconds of delay per vehicle). Thus, it is possible that under future year and full project buildout conditions Beachwalk Drive/Kālia Road could have a vehicular delay increase of greater than one (1) second and therefore operate at LOS E. However, the projected undesirable operating condition at this location during the PM peak hour would primarily be due to the effects of overall regional growth and development in and around the study area and would still occur without the project; thus, the project would only contribute to a cumulative impact at this location. Overall, event conditions or full occupancy of the 39 new hotel rooms plus full occupancy of all the smaller meeting/breakout rooms is expected to occur once or twice a week, and so any potential traffic delays causing negative impacts would be temporary and infrequent.

Potential Traffic Improvements

Potential traffic improvements were identified to increase the capacity and/or efficiency at Intersection 4: Beachwalk Drive/Kālia Road, where the addition of project-related traffic under both typical and event-related conditions could contribute to projected poor operating baseline conditions in the PM peak hour. Usually, the emphasis would be to identify minor physical and/or operational improvements that could be implemented within the existing or planned roadway rights-of-way. However, the limited curb-to-curb roadway widths and relatively low traffic volumes do not allow for the addition of additional turn lanes. The only improvement that would technically improve operations to LOS D or better during event conditions is the installation of a traffic signal at this location. That said, a new signal is not recommended in this case for the following reasons: 1) the projected delay would only slightly exceed the LOS D threshold for one approach, 2) the primary volume that will be delayed is comprised of vehicles turning right from Beachwalk to Kālia Road, and 3) the signal would add new delays to traffic on Kālia Road for many other hours of the day and days of the week when no impact is anticipated (i.e., under Typical Conditions).

It should be noted that hourly segment volumes along Kālia Road from Beachwalk Drive to Lewers Street provided in the 2011 HDOT traffic database and existing peak hourly volumes at Beachwalk Drive and Kālia Road were reviewed to gauge whether or not Intersection 4: Beachwalk Drive/ Kālia Road would currently warrant a traffic signal based on the Four-Hour and Eight-Hour warrant thresholds outlined in the 2009 Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD). Upon review, it is expected that current hourly volumes at the Beachwalk Drive and Kālia Road intersection do not meet either of the signal warrant conditions and volume requirement for at least four hours and eight hours of an average day.

Instead, the implementation of travel demand management (TDM) strategies are recommended that could lead to vehicle trip reduction, use of alternative modes, and better traffic management to achieve better operating conditions at this location. TDM strategies that should be applied include: encouraging meeting attendees to carpool, pricing parking to encourage carpooling/mode shift, providing on-site bicycle storage facilities, providing a hotel shuttle, and developing parking and traffic management plans, especially during special events.

Potential Travel Demand Management Strategies

TDM measures were also explored to alleviate the anticipated impact at Intersection 4: Beachwalk Drive/Kālia Road that could be experienced once the Outrigger Reef renovation is complete. Below are potential applicable TDM strategies that could lead to vehicle trip reduction, use of alternative modes, or better traffic management, which would in turn help achieve better conditions at the impacted location. These strategies include:

- Implementation of a TDM plan for the study area led by a TDM coordinator who would coordinate monitoring efforts, parking and traffic management plans, and the implementation of TDM recommendations.
- Frequent interaction between the TDM coordinator and the hotel event coordinator to ensure that conference/meeting participants not staying at the hotel would be fully informed as to mobility choices and options to parking at the site (e.g., provide each hotel guest with information for utilizing the transit system in Waikīkī, such as maps and schedules, and the location of available structures and lots in the area).
- Provide wayfinding that provides travel times to destinations by walk, bike, and transit (e.g. "only an eight-minute walk to the Waikīkī Shopping Plaza." This could include promotion of the RideScout app).
- Contribution towards a car share program or participation in a bicycle sharing system (including providing an area for a bike share station).
- Provide or promote walking and bicycle tours.
- Encourage carpooling and vanpools among visitors.
- Pricing parking to encourage the replacement of auto trips by, bicycle, and pedestrian trips when possible (e.g. price parking by in/out movements, instead of a daily rate, to encourage alternate modes once visitors have arrived at the hotel).
- Free or reduced rate transit passes available to all hotel guests and/or employees.
- Provide or contribute to an area hotel shuttle (in addition to the existing airport shuttle service).

- Provide special event accommodations and traffic management. For example, during high attendance/special hotel events or simultaneous use of all meeting and event space a traffic officer could direct traffic at the Beachwalk Drive/Kālia Road intersection or off-site parking could be made available to accommodate the increased vehicular activity.

Prior to the implementation of any TDM measures the applicant will coordinate with the City and County of Honolulu and/or transit service providers.

Construction Impacts

Although detailed construction related activities are unknown, qualitative assessments of potential construction traffic impacts were assessed. There are five potential areas of construction traffic impacts. These include haul truck traffic, delivery and staging of material and equipment, construction worker traffic, construction worker parking and construction related closures. Refer to *Appendix C*.

The project's construction-related traffic effects are considered to be potentially adverse, but not significant impacts because such effects, while sometimes inconvenient, are temporary. It is recommended that a Construction Management Plan (CMP) be developed for the project. In general, The CMP would discuss the anticipated construction schedule, phasing, and staging, as well as traffic circulation, control, parking and conflicts with site access and public transportation during the construction period. As a component of the CMP, mitigating actions would be developed that ensure that any project construction activities, traffic and other effects on affected roadways, bicycles, pedestrian, and transit facilities are minimized to the greatest extent possible. Additionally, the direct site access for all modes and on-site parking for hotel guests will be maintained as much as possible.

The CMP will include a detailed discussion of traffic control during the construction period. Traffic control shall consist of all work and materials necessary to maintain safe vehicular, pedestrian, and cyclist traffic during construction and mitigate high peak and high volume construction traffic, prevent or keep at a minimum idling and queuing, establish site access limitations and mitigation measures, identify haul routes, and provide overall control of all construction traffic entering and exiting and operating within the project area. Refer to *Appendix C* for a list of mitigation actions that should be included in the CMP.

The CMP will be developed and approved by the City and County of Honolulu prior to the mobilization of any construction equipment to the site and commencement of daily construction activities. The applicant will coordinate as necessary with the City and County of Honolulu, State Department of Transportation, and the transit service provider, The Bus, for traffic controls and measures affecting their facilities and services. Implementation of the CMP and all its components are expected to reduce potential impacts to less than significant levels.

Site Access and On-Site Circulation

Vehicle access to the project site would continue to be provided at the driveways on Kālia Road, directly adjacent to the Beachwalk Drive/Kālia Road intersection. As part of the project improvements, the porte cochere would be expanded, which would allow for more vehicles to queue on-site for drop-off/pick-up and valet service. Guests will continue to use the porte cochere for valet-only service and large groups will be served at the bus depot at the Trump Tower nearby.

New and reconfigured parking, loading, and service routes will be provided to improve efficiencies and further remove service vehicles from Kālia Road. For example, service vehicles will be able to directly enter the hotel via the Diamond Head project driveway to access the new off-street loading area for food and beverage delivery along with trash removal located in what is currently parking.

Additionally, the site layout has been designed to improve the existing circuitous travel of valet drivers exiting out of the project outbound/Diamond Head driveway, turning left onto Kālia Road, and then making an immediate left into the entrance/ewa driveway for guest pick-up. The new valet circulation would provide a new valet outbound driveway on the ewa side of the porte cochere entrance, where valet drivers can exit out of the new driveway and immediately turn right into the inbound project driveway. This update to the valet circulation would remove any valet-related queuing on Kālia Road and internally shift it to the new parking area. Overall, any on-site queuing that could possibly back up into the external roadway and any heavy vehicle activity at the hotel entrance would be temporary and would not generally affect the through traffic on Kālia Road.

Conclusions

Based on the results of the project's trip generation estimates and a comparison of baseline condition of traffic volumes, the off-site traffic impact of the revitalization project is expected to be minimal and/or temporary. Specifically, the build-out of the project is expected to typically result in less than 10 new trips in both the AM and PM peak hour, and for one to two days of the week (i.e. under event conditions) the project would add no more than 65 total net new external vehicle trips to the roadway system that for the most part is operating acceptable (LOS D or better). The Department of Planning and Permitting (DPP) has indicated that a follow up study conducted within one year of project completion should be completed to verify the findings and conclusions of presented in this evaluation.

4.8.2 Multi-Modal

The project is consistent with the State and City and County of Honolulu policies on Complete Streets. The project is not expected to result in significant impacts to the overall existing and planned external multi-modal transportation system. The project design adheres to the policies and principles outlined in the City and County of Honolulu's Ordinance relating to Complete Streets (2012) to provide safe mobility and access and mobility choices for all its guests and other users using all modes of transportation.

Existing Conditions

Pedestrian Facilities

Pedestrian facilities are available in most parts the project study area. Pedestrian facilities consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections. Since the study area is in the Waikīkī resort district, heavy pedestrian activity is generated by the surrounding retail, restaurant, and hotel facilities.

There are generally sidewalks or paved walkways along both sides of each of the streets within the study area, including Kalākaua Avenue, Lewers Street, Saratoga Road, Kālia Road, and Beachwalk Drive. Sidewalks that provide pedestrian access to the retail and restaurant frontage on Kalākaua Avenue and portions of Lewers Street are wide and well maintained. Although not as wide, the sidewalks on Saratoga Road, Beachwalk Drive, and Kālia Road are in fairly good condition. While some sidewalk sections along Saratoga Road and Kālia Road are relatively narrow, these sections generally accommodate the level of pedestrian activity generated.

Marked crosswalks are provided at all study intersections where pedestrian crossings are permitted. All the marked pedestrian crossings are high visibility crosswalks striped using the continental pattern, with the exception of Intersection 2: Lewers Street/Kalākaua Avenue which provides regular marked crosswalks. At all the signalized study intersections, pedestrian signals and push buttons are also provided on all crossing legs. Additionally, Intersection 2: Lewers Street/Kalākaua Avenue provides a pedestrian scramble phase to serve the large numbers of pedestrians crossing at this location.

A high-visibility mid-block crossing exists on Saratoga Avenue at the US Post Office driveway. Pedestrian crossing signs are also posted on both ends of the mid-block crossing to warn motorists to yield to pedestrians crossing at this location. Additionally, the Beachwalk Drive/Kalākaua Avenue and Lewers Street/Don Ho Street intersections provide marked pedestrian crosswalks on each of their makai and Ewa legs.

Bicycle Facilities

Within the project study area, a Diamond Head-bound bike lane exists along the makai side of Kalākaua Avenue. The bicycle lane extends approximately one mile from Ala Moana Boulevard to Kapahulu Avenue and provides a designated, separate facility for bicyclists to travel from Ala Mona Boulevard to Diamond Head via a connection to existing bicycle lanes that extend along Kalākaua Avenue near Kapiolani Park. Additionally, a ewa-bound bicycle lane is provided along the north side of Ala Wai Boulevard that extends approximately 1.1 miles from Ainakea Way to Keoniana Street, where it transitions into a bike route.

Refer to *Appendix C* for an illustration of the existing bicycle lanes and existing bicycle trails within Fort DeRussy Beach Park and along Waikīkī Beach.

Transit Services

"The Bus" is O'ahu's primary form of public transit. This system provides access within the greater urban area of Honolulu, as well as in communities on the North Shore, Leeward Coast, and Windward Coast. *Appendix C* provides an illustration of the transit services within the study area. There are currently no bus stops adjacent to the project site. Convenient access to public transportation within the study area is provided via bus stops along Kalākaua Avenue, Kália Road, Saratoga Road, and Kūhiō Avenue. The fixed-route bus lines that serve stops in the study area include: 2, 2L, 8, 13, 19, 20, 22, 23, 42, 98A, W1, W2, W3.

Private transportation services are also readily available for Waikīkī visitors. In particular, the Waikīkī Trolley, Ala Moana Premium Express, and LeaLea Trolley have lines that traverse the study area and are accessible via two stops along Saratoga Road between Kālia Road and Kalākaua Avenue.

Probable Impacts and Mitigation Measures

Pedestrian Facilities

The pedestrian environment within the project area will continue to sufficiently meet the needs of hotel guests, as the existing marked, high-visibility crossing treatments at adjacent intersections and sidewalks would remain, and no major changes to the overall walking environment are expected in the future and with project. However, it is recommended that appropriate crossing treatments be provided where pedestrians will cross the expanded in and out driveways serving the project site.

On-site pedestrian circulation will be improved through landscaping and the creation of a vibrant and expanded gateway at the Kālia Road entry. The Kālia gateway will provide pedestrians easy and clear access to the Waikīkī Beach Walk and to Waikīkī form Fort DeRussy. Additionally a newly defined pedestrian path along the porte cochere will also provide an improved experience at Kālia Road and direct access to retail storefronts that will be reoriented along this new walkway as part of the project. With all the project's pedestrian enhancements creating a safe and attractive pedestrian experience, the on-site pedestrian circulation is generally considered to be acceptable.

Bicycle Facilities

The Oʻahu Bike Plan (August 2012) does plan for enhanced bicycle facilities to be implemented within the study area. The following are planned bicycle projects relevant to the project site and study area:

- Bicycle route with sharrow markings on Kālia Road from Ala Mona Boulevard to Saratoga Road;
- Bicycle route with sharrow markings on Saratoga Road from Kālia Road to Kalākaua Avenue; and
- Bicycle route with sharrow markings on Kūhiō Avenue from Kalākaua Avenue to Kapahulu Avenue.

No additional designated bicycle paths or lanes are necessary as part of project implementation. However, bicycle racks should be provided near each set of major building entrances on the site to encourage cycling by both employees and hotel patrons and to provide a dedicated location for bike parking and secure storage.

Transit Network

The project would not significantly impact transit service within the study area. The Kālia Road bus stop closest to the project site, located on the Diamond Head-bound side and ewa of Intersection 3: Saratoga Road/Kālia Road, provides a covered shelter and bench for transit users. The Saratoga Road bus stop on the makai-bound side and located makai of Intersection 1: Saratoga Road/Kalākaua Avenue to better serve transit riders and increase the attractiveness of taking transit. The existing study area sidewalks would continue to provide safe connections between the project site and the nearby bus stops.

Conclusion

Generally, the proposed project is not expected to substantially increase the walking, biking, or transit demand to a level where it could not be accommodated by existing or planned facilities. The proposed project would expand the porte cochere which would allow for more vehicles to queue on-site for drop-off/pick-up and valet service circulation would be improved with the addition of an adjacent valet only outbound driveway. In addition, the new valet circulation reduces the number of times that vehicles will cross the sidewalk to access the porte cochere. The pedestrian experience on-site and adjacent to the hotel would be improved through the creation of a vibrant and expanded gateway at the Kālia Road entry, which would provide pedestrians easy and clear access to the Waikīkī Beach Walk and to Waikīkī from Fort DeRussy.

4.8.3 Parking

Existing Conditions

LUO Table 21-6.3 establishes the following off-street parking requirements for developments in the WSD, Resort Mixed Use Precinct: 1) one space for every four hotel rooms; 2) one space per ten seats or 200 sf for meeting facilities; and 3) one space per 800 sf for all other permitted uses. However, there is an exception that ground floor and basement uses in the WSD, other than dwelling uses, are exempt from off-street parking requirements. Currently, hotel parking is valet only with 152 striped stalls on site and the ability to accommodate more with use of unstriped areas. Existing demand during normal operations is currently managed on-site. Outrigger Reef currently coordinates with the Embassy Suites parking garage, located directly across the street, to absorb parking overflows.

Parking for the Outrigger Reef is calculated as one component of the overall Waikīkī Beach Walk project approved in 2002. The existing parking for Waikīkī Beach Walk is 851 stalls which exceed LUO parking requirements.

Probable Impacts and Mitigation Measures

Parking for the proposed project will continue to be valet only. The number of proposed parking stalls (222 stalls) for the Outrigger Reef will be able to accommodate normal operations, particularly relating to parking requirements for hotel use. However, the on-site parking may not be sufficient to meet the parking demands associated with full use of the new conference and event spaces. During special events, banquets, and other major events, Outrigger Reef will continue to coordinate and use the Embassy Suites parking garage located on Waikīkī Beach Walk, directly across the street. Outrigger also has other options for secondary parking areas within the Waikīkī Beach Walk area. Parking procedures will be outlined in a special event traffic and parking management plan.

Parking for the project will exceed LUO requirements. With the proposed Outrigger Reef improvements, parking for Waikīkī Beach Walk will provide 863 spaces. Parking required by LUO for Waikīkī Beach Walk is 572 spaces.

4.8.4 Loading & Delivery

Existing Conditions

LUO Sections 21-6.100 through 21-6.140 establish the off-street loading space requirements for retail and hotel (or similar uses) developments. When more than one loading space is required, there are specific dimension provisions that must be met. At least half of these spaces must be built to meet the dimension requirements of 12 ft ×35 ft, with a minimum vertical clearance of 14 ft. The other half may have horizontal dimensions of 8.5 ft ×19 ft and vertical clearance of at least ten ft. Under the LUO, the required number of existing off-street loading stalls at Waikīkī Beach Walk is 32.

Probable Impacts and Mitigation Measures

The proposed project improvements will generally maintain the existing vehicle circulation pattern on the site, however, there will be improvements made to soften the right turn for valet service and to provide a loading area for on-site deliveries. The proposed improvements will better organize and accommodate pedestrian and vehicle circulation along Kālia Road. An expanded porte cochere and arrival area and improved loading and parking strategy will help to alleviate congestion, address safety hazards and create a comfortable flow and feel for a guest arriving to the property. Large bus and passenger loading will utilize the bus depot at the adjacent Trump Tower.

The proposed project will improve existing loading and service operations at the Outrigger Reef by providing 7 loading stalls. Loading trucks will enter off Kālia Road and have sufficient room on-site to enter and exit the new loading area. Upon completion of the project, there will be a total of 41 loading stalls for the Waikīkī Beach Walk development, exceeding the LUO requirement for 32 loading stalls. These improvements will remove some service vehicles that currently park on Kālia Road to service area properties.

Delivery management strategies, including enforcement of parking restrictions and management of loading/unloading times, use of additional attendants or security, and the development of a delivery schedule program will be employed to alleviate congestion as needed.

4.9 INFRASTRUCTURE AND UTILITIES

Group 70 International, Inc. prepared a Preliminary Engineering Report (PER) for the project in June 2015. The PER is included as *Appendix D*.

4.9.1 Water Supply

Existing Conditions

The City and County of Honolulu Board of Water Supply operates the City's water system consisting of transmission mains, distribution lines, service laterals, water meters and fire hydrants in the vicinity of the project. An existing 12-inch water main is located in Kālia Road.

Onsite domestic water is supplied by a BWS 4-inch compound meter (No. 05120004) near the 'Ewa property line connected to the 12-inch main in Kālia Road. The Onsite building automatic fire sprinkler system is supplied from a 6-inch -inch main in Kālia Road.

There are no onsite fire hydrants. There are three offsite fire hydrants in the vicinity of project. The first is located across Kālia Road on Beach Walk. The second is across Saratoga Road near Kālia Road and is closest to the fire department connections for the site, which are located near the ʻEwa property line. The third is in the Diamond Head direction on the same side of Kālia Road as the project.

Probable Impacts and Mitigation Measures

Water for the proposed development will be provided by the City and County of Honolulu water system. The existing water meters and backflow preventers currently connected to the 12-inch main in Kālia Road will be utilized for the existing buildings and new construction.

BWS has confirmed that the existing water system is adequate to accommodate the originally proposed project at the present time. A final decision on the availability of water will be confirmed when the project's building permit application is submitted for approval.

4.9.2 Wastewater Treatment and Disposal

Existing Conditions

The City and County of Honolulu operates the wastewater system in the Outrigger Reef area.

The project sewer laterals are connected to an 18-inch sewer main in the Kālia Road sidewalk closest to the project site. Refer to *Figure 4-23* – HoLIS – Existing Sewer Infrastructure. The wastewater flows a short distance in the Diamond Head direction in Kālia Road then flows mauka in Lewers Street to Kūhiō Avenue where it connects into the Beachwalk Wastewater Pump Station a quarter mile away. The existing City system has limited capacity. The limiting factors of the offsite system are a 15-inch sewer line at 0.20% slope on Lewers Street (between sewer manholes City IDs 688595 and 688230) and the 21-inch sewer line at 0.12% slope on Kūhiō Avenue (sewer City ID: 68914).

The Beachwalk Wastewater Pump Station was recently upgraded in 2008 with the construction of 7,000 ft of new pipelines to convey wastewater from the Waikīkī area to the gravity sewer at Ala Moana Park. The system consists of two 33-inch micro tunnels for the first 1,200 ft and one 72-inch micro tunnel for the remaining 5,800 ft. Currently this system is being used as a force main to provide redundancy to the existing force main, however in the future it will be converted to a deep gravity sewer.

Probable Impacts and Mitigation Measures

The existing 8-inch and 12-inch sewer laterals will be used for both the existing towers to remain and the new hotel units connecting the Pacific and Ocean Towers. A new lateral will be designed to accommodate the projected flows from the new ballroom and restaurant after flowing through an elevated grease interceptor planned for the parking basement floor.

Figure 4-23 Existing Wastewater System

A Sewer Connection Application (SCA) for the original project, which included a new hotel tower, was submitted to the City's Department Planning and Permitting Wastewater Branch (WWB) and was initially denied stating that two off-site sewer mains were over capacity. The first is a 340 linear-foot (LF) 15-inch sewer in Lewers close to the project. The second is a 28 LF 21-inch sewer at the intersection of Lewers and Kūhiō. However, the City's Department of Environmental Services (ENV) was contacted and they noted that WWB has more stringent criteria for evaluating SCAs and stated that ENV will permit sewers in this area of Waikīkī to surcharge. A formal appeal was submitted to and approved by ENV. The connection is approved without requiring costly offsite improvements. The SCA was approved on March 29, 2016 and is valid two years after the approval date. Construction plans should be completed and approved within this two year period. Construction should commence within one year after approval of the plans.

4.9.3 Solid Waste

Existing Conditions

Solid waste at the hotel site is compacted onsite, and then collected by a private contractor. The waste is hauled to the City and County of Honolulu's H-Power waste-to-energy plant and its Waimanalo Gulch landfill, as well as the privately owned (PVT) Landfill in Nānākuli and various recycling facilities. Recyclables collected included cardboard, glass, newspapers, aluminum, paper, metals, greenwaste and food.

Probable Impacts and Mitigation Measures

The project will result in an increase in waste generated from the hotel property. Outrigger will continue its materials recycling program to minimize solid waste. In 2014, Outrigger Waikīkī properties collected 20 tons of recyclables and donated more than $30,000 in Hi5 redemption reimbursements to Parents and Children Together (PACT), a local non-profit organization. Solid waste at the site will continue to be compacted, collected by a private contractor, and hauled to the Waimanalo Gulch landfill. Significant adverse impacts on the City's waste stream and disposal are not anticipated.

4.9.4 Power and Telecommunications

Existing Conditions

Power

Power to the existing Outrigger Reef property is provided by Hawaiian Electric Company (HECO) from Kālia Road to the existing HECO Vault No. 328, located in the basement along the 'Ewa property line. The entire property is metered on the medium voltage service, 12 KV, through HECO Meter No. 486858. From the HECO vault, the medium voltage is distributed to three Outrigger owned transformers. Two are padmounts and are located in the exterior enclosure at the front of the property on the 'Ewa property line. The two padmounts feed power to everything except the Pacific Tower. The third transformer is located on the 9th floor of the Pacific Tower and feeds only the Pacific Tower. Existing switchboards and distribution panels, rated at either 480/277 volts and 208/120 volts, are fed from the three transformers.

Telecommunications

The Outrigger Reef is presently serviced by Hawaiian Telcom and Oceanic Time Warner Cable. Hawaiian Telcom and Oceanic Time Warner Cable both provide outside plant services directly to the existing Main Distribution Frame (MDF) located on the ʻEwa side of the ground floor (Level +3 ft). The main private branch exchange (PBX), on-command cable TV (CATV), and data systems reside within the MDF.

Probable Impacts and Mitigation Measures

Power

A new HECO medium voltage service will be provided from Kālia Road to the new HECO vault on the ground floor (Level +3 ft). Two new HECO padmount transformers and one primary switch will be provided by HECO. The new HECO service will be required to be in a concrete jacket up to the new HECO vault. From the HECO vault, new secondary service conductors will be routed to the new main switchboard located in the new main electric room. The switchboard will be double ended with a tie breaker in the middle to allow redundancy. The switchboard will be rated 4000A, 480/277 volts, 3 phase. The new main electric room will be on the same ground floor (Level +3 ft) as the HECO vault.

The main switchboard will feed existing switchboards and distribution panels associated with the ʻEwa side of the property, including the Pacific Tower and the Ocean Tower. The Pacific Tower's existing transformer on the 9th floor, along with an abandoned transformer and medium voltage cables, will be removed in its entirety. A new 1600A, 208/120V feeder will be installed up to the existing distribution panel located in the 9th floor electric vault/room. The two existing main switchboards, MDP2 and MDP4, for Ocean Tower and other loads will remain and will be refed from the new main electric room.

Existing load fed from existing switchboards and distribution panels will remain on the ʻEwa side of the property in areas where renovation is not planned. Loads on the Diamond Head side will be scheduled for demolition, disconnected and removed in its entirety. Existing breakers will be reused for new proposed loads.

The new switchboard will feed the new banquet room area and the new water feature panels, provided by the water feature contractor. Provisions for special event power will be provided in the main ballroom. New restaurants and new retail spaces will be fed from a new distribution panel with integral digital sub-metering. Empty power raceways will be provided to each restaurant and retail space for use by the tenant. Service to the tenant spaces will be at 480/277 volts.

Loads located in the basement (Level -6) will be fed from panel boards located on the ground floor (Level +3 ft). All circuits will be required to be ground fault protected. All circuiting will be installed in raceway. Cables will be permitted from luminaire to luminaire, wiring device to wiring device, and light to light switch. All wire will be made of copper material.

Telecommunications

The existing services from Hawaiian Telcom and Oceanic Time Warner Cable will require relocation from Kālia Road to the MDF. New ductlines from existing Hawaiian Telcom and Oceanic Time Warner Cable handholes will be required to facilitate new services to the MDF to allow removal of the existing services.

New Intermediate Distribution Frame (IDF) rooms will be required on every third floor up through the new units connecting the Pacific and Ocean Towers. Additional IDFs will be required at the banquet/meeting area and also at the Makai end of the Ocean Tower.

All new structured cabling will be Category 6 for voice and data. Coax cabling will be RG6. All new IDF's will be connected back to the existing MDF with multi-mode fiber and copper pair cable.

4.9.5 Gas

Existing Conditions

Natural gas is used for cooking, hot-water heating, and outdoor illumination within the Outrigger Reef property.

The Gas Company has existing gas lines on Kālia Road, and also along both the Diamond Head and Ewa sides of the Outrigger property. A 4-inch gas line is located along Kālia Road. On the Diamond Head side of the property, a 4-inch gas branch line runs along the beach access between the Outrigger and Halekulani properties and connects to the 4-inch line in Kālia Road. Along this beach access branch, two 1 ½-inch branches with gas meters connect near the pool deck, with one branch serving the pool deck restaurant and the other serving tiki torches in the deck area. A separate branch also breaks to serve the Halekulani property. As the beach access line continues to the Diamond Head Tower, a branch splits to serve the tower before the main 4-inch gas line splits, with a 2-inch branch routing to serve the Halekulani property, and a 1 ½-inch branch continuing to the Makai end of the Diamond Head Tower to serve the existing restaurant kitchen equipment.

On the opposite side of the property, two 2-inch gas lines route from Kālia Road at the Ewa-Mauka corner of the property and route along the utility corridor between the Outrigger Reef and adjacent property. A branch line splits from one of the lines to serve the Pacific Tower before both of the 2-inch lines continue and turn to serve the adjacent Waikīkī Shore Apartments.

Probable Impacts and Mitigation Measures

The Gas Company has existing pipeline infrastructure around the property and this infrastructure could potentially be used to serve the new development. Depending on the location and demand of the equipment in the new development, it will be determined whether the existing branch lines can be reused or if a new line will be connected to the gas line near Kālia Road. Coordination with the Gas Company will be carried out during the design phase to verify the gas demand and capacities.

4.10 PUBLIC SERVICES

4.10.1 Police Protection

Existing Conditions

The Waikīkī region is under the protection of the City and County of Honolulu Police Department (HPD). The area is part of HPD District 6, which extends across the Waikīkī peninsula from the Ala Wai Canal to Diamond Head and consists of twelve beats (650 to 662). The Outrigger Reef on the Beach is within District 6, Sector 1, Beat 655, which includes the area makai of Kalākaua Avenue, bounded on the ʻEwa side by Saratoga Road and Lewers Street facing Diamond Head.

The HPD Waikīkī substation is located on Kalākaua Avenue at Waikīkī Beach. The district's Burglary-Theft Detail and Crime Reduction Unit (CRU) offices are located on Diamond Head Road and 22nd Avenue. The CRU focuses on drugs, prostitution, violent crimes, and other quality-of-life cases. In addition, the District's Bicycle All-Terrain Vehicle Detail is a detail that provides high visibility and mobility on beaches and in parks. The Beach Detail continues patrols on the beach from the Duke Kahanamoku Lagoon to the Natatorium.

Waikīkī hosts over a hundred events per year, including numerous parades, surfing contests, marathons, hoʻolauleʻa, and other cultural and community events. District officers work with community partners including the Visitor Aloha Society of Hawaiʻi, Business Watch, Hawaiʻi Hotel Security Association, Waikīkī Business Improvement District, and others, to create a safe environment for Waikīkī residents and visitors. The District's CRU offers classes to hotel personnel (management, security, and housekeeping) on crime trends that could affect their guests.

Probable Impacts and Mitigation Measures

Continued coordination between Outrigger Reef on the Beach security and HPD will be ongoing to ensure adequate police coverage is provided during construction activities that require police-assisted traffic guidance. For operational impacts, the Outrigger Reef redevelopment will increase the on-site population by adding more visitor units to the region and adding entertainment gathering opportunities for residents and visitors. The project will ensure guests continue to be informed of proper safety recommendations to secure their room and their valuables during their stay to minimize opportunities for theft on-property.

4.10.2 Fire Protection

Existing Conditions

The Waikīkī region is in the 2nd Battalion area designated by the City and County of HFD. The region is served by three fire stations, which include:

- Station 2: The Pāwaʻa Fire Station is located at Makaloa Street near Don Quijote. It has a ladder company, an engine company, and a rescue company.
- Station 7: The Waikīkī Fire Station is located at the corner of Kapahulu Avenue and Paki Street. It has a ladder and engine company.

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

First response for medical and fire emergencies at the project site and the surrounding area is provided by HFD Station 2. The other stations would respond in case of a need for additional support for first response or alarm fire.

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

Probable Impacts and Mitigation Measures

The Outrigger Reef revitalization will impact fire protection services by increasing the de facto service population. By adding more guestrooms, the project will increase the structural occupancy capacity. This impact is unavoidable and can be mitigated by meeting fire flow requirements. Coordination with the Board of Water Supply and the HFD will be ongoing to ensure the provision of a water supply that is capable of supply required fire flow for fire protection needs.

Civil drawings for the project will be submitted and HFD officials will be consulted during the preparation of the project's detailed design phase.

4.10.3 Emergency Medical Services & Hospital Services

Existing Conditions

EMS provides pre-hospital emergency medical care and emergency ambulance service on Oʻahu. In 2013, EMS accepted 89,806 calls through the 911 system. This led to 84,692 EMS responses, from which 51,307 patients were transported to hospitals. EMS has 20 ambulance units and 2 Rapid Response units on the island, which are assigned to two districts. Waikīkī is under District 2 and is covered by an EMS unit at the Waikīkī Fire Station.

A Straub Doctors on Call (SDOC) clinic is located on the second floor of the Rainbow Bazaar, as well as on the lobby level of the Sheraton Princess Kaʻiulani Hotel. SDOC offers a broad range of non-emergency medical care services, including 24-hour physician services, laboratory, and x-ray for visitors and employees. Additionally, Urgent Care Clinic of Waikīkī is located on the third floor of the Bank of Hawaiʻi Building, and offers comprehensive medical services. The Waikīkī Health Clinic (WHC), a private non-profit community health center, also provides non-emergency comprehensive services. Kapiʻolani Medical Center for Women and Children (KMC), and the Queen's Medical Center (QMC) are the two primary main healthcare and emergency facilities that would service guests or visitors at the Outrigger Reef. Urgent Care Clinic of Waikīkī is located approximately .3 miles from the Outrigger Reef, on Kalākaua Avenue; WHC is located approximately 2 miles away on ʻŌhua Avenue; KMC is located approximately 1.8 miles on Punahou Street; and QMC is approximately 3.3 miles away on Punchbowl Avenue near the State Capitol building.

Probable Impacts and Mitigation Measures

The Outrigger Reef revitalization will have an impact on local medical emergency services by increasing the de facto service population through the addition of guestrooms and the provision of public gathering spaces. Resort staff and security will continue to be trained in first aid and CPR response as a first response and procedures for implementing 911 emergencies. Resort guests will also be advised, as necessary, to available on-site non-emergency health care services.

4.10.4 Schools

Existing Conditions

The Waikīkī community is part of the State Department of Education's Kaimukī-McKinley-Roosevelt Complex Area. The public schools closest to Outrigger Reef include: Ala Wai Elementary; Jefferson Elementary; Washington Middle School; Kaimukī High School; and McKinley High School.

Probable Impacts and Mitigation Measures

The project is not expected to affect existing educational facilities near the project site. No mitigation is proposed.

4.10.5 Libraries

The State public libraries closest to the Outrigger Reef include the Main State Library; the McCully-Mōʻiliʻili Library; and the Waikīkī-Kapahulu Library.

Probable Impacts and Mitigation Measures

The Outrigger Reef project is not expected to affect existing library facilities near the project site. No mitigation is proposed.

4.10.6 Public Parks

Public parks provide open space and a natural outdoor environment for both residents of Hawaii and tourists to enjoy. The following State and City and County of Honolulu public parks are within Waikīkī and walking distance to the project area: Duke Kahanamoku Beach Park; Fort DeRussy Beach Park; Ala Wai Community Park; Ala Wai Neighborhood Park; Ala Wai Promenade, Don Ho Memorial Park (formerly known as Beach Walk Triangle); King Kalākaua Park; Kūhiō Avenue Mini Park; Kūhiō Beach Park; Honolulu Zoo, Kapiʻolani Park, and Princess Kaʻiulani Triangle.

Probable Impacts and Mitigation Measures

The Outrigger Reef revitalization will not affect existing public park facilities, therefore, no mitigation is recommended.

4.11 VIEW PLANES, CORRIDORS AND RESOURCES

Existing Conditions

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

- Intermittent ocean views from Kālia Road across Fort DeRussy Park and from the Ala Wai Bridge on Ala Moana Boulevard.
- Continuous ocean views along Kalākaua Avenue, from Kūhiō Beach to Kapahulu Avenue.
- Ocean views from Ala Wai Yacht Harbor.
- Ocean views from Kūhiō Beach Park.
- Views of the Ala Wai Yacht Harbor from Ala Moana Park (Magic Island Park).
- Mauka views from the portions of the following streets mauka of Kūhiō Avenue: Nohonani Street, Nāhua Street, Kānekapōlei Street, Kaiʻolu Street, Lewers Street, Walina Street, and Seaside Avenue.
- View of Diamond Head from Ala Wai Boulevard between McCully Street and Kapahulu Avenue.

The visual landscape in the area is defined as a balanced mix of buildings, ranging in heights from 45 to 350 ft in the surrounding area and 50 to 150 ft on the property (*Table 4-11*). This built landscape is complemented by pockets of open space throughout the property and surrounding areas.

Views toward the ocean along Ala Moana Boulevard are restrictive due to the presence of existing structures within and outside the project area and along the shoreline. A limiting ocean view is accessible along Kālia Road primarily from Paoa Place. Views of the ocean along Kālia Road open up beyond the Hale Koa hotel near Fort DeRussy Park.

Within the hotel property, views of the ocean are accessible in primarily the makai area of the property. Similarly, views of the Koʻolau Range are accessible in primarily the mauka end of the property. Views of Diamond Head are only accessible along the shoreline portion of the project and surrounding area. Diamond Head is not visible from any major pedestrian level road view within the existing project area or near adjacent public areas such as Kālia Road. Views of Diamond Head and the ocean within the project area and immediate surrounding area are accessible in buildings at higher floor levels.

Table 4-11 HEIGHTS OF EXISTING MAIN BUILDINGS	
Main Building	**Height (feet)**
Ocean Tower	93
Pacific Tower	150
Diamond Head Tower (To Be Removed)	50

Probable Impacts and Mitigation Measures

With the proposed redevelopment, the Diamond Head Tower will be removed. Certain areas such as the main entry along Kālia Road, the main lobby area, the pool and recreation area, and beachside lawn area will have increased open views and an overall improvement to the visual quality at a pedestrian scale.

A visual impact analysis was conducted with a series of visual simulations. *Figure 4-24 through Figure 4-27* provide the following view analysis:

1. View from Waikīkī Aquarium

2. View from Magic Island and Ala Moana Beach Park

Public views will not be affected by construction of the new hotel units connecting the existing Pacific and Ocean Towers. The new tower connection will be the same height as the Pacific Tower at 150 feet. Changes to the urban landscape will be minimal with the new tower connection and will not be visible from selective angles from Waikīkī Beach, Magic Island, and Ala Moana Beach Park. Most of these views already consist of buildings that define the urban form of Waikīkī. The new tower connection will blend with the existing Pacific and Ocean Towers located on the site and with the surrounding urban-scape, and will be designed appropriately in orientation, scale, height, form, and design.

Figure 4-24 Photo Key Map of Visual Analysis

1. View from Waikīkī Aquarium - Existing

1. View from Waikīkī Aquarium - Proposed

Figure 4-25 View from Waikīkī Aquarium

2. View from Magic Island - Existing

2. View from Magic Island - Proposed

Figure 4-26 View from Magic Island and Ala Moana Beach Park

4.12 SOCIOECONOMIC CONDITIONS

An Economic Impact analysis was prepared for the Outrigger Reef by John M. Knox & Associates, Inc., in March 2016 to estimate the economic (and population) impacts of the project. The report is included as *Appendix B*.

Socio-Economic Context

The project site is located in the Waikīkī community of urban Honolulu. Waikīkī is a densely populated square mile of land on the south shore of the island of O'ahu. The study area for the Outrigger Reef resides in Waikīkī Neighborhood Board No. 9, comprised of ten census tracts: 18.01, 18.03, 18.04, 19.01, 19.03, 19.04, 20.3, 20.04, 20.05, and 20.06. Waikīkī is considered to be both a residential and resort community, where both visitors and residents go to recreate.

Population and Demographic Characteristics

In 2010, Waikīkī had a residential population of approximately 23,073, which was approximately 2.4% of O'ahu's total population. As shown in *Table 4-12*, Waikīkī's population is generally older; has a racial mix with proportionately more Caucasians than and fewer Asians and Native Hawaiian and Pacific Islanders. Proportionately homeownership rates were lower and vacancy rates greater, with many of the vacant units held for occasional use as timeshares or second homes. Nearly all Waikīkī residents live in apartments, half of which are single occupants.

Over the last 50 years, Waikīkī's residential population showed sharp growth rate increases in the 1960s through the 1980s, then leveling off in the 1990s (*Table 4-13*). Following the 1990s, the residential population growth rate in Waikīkī decreased by -0.23%. From 2000 to 2010, the population took a turn upwards, growing by 16.98%

Table 4-12 POPULATION TRENDS, 1960-2010

Total Population	1960	1970	1980	1990	2000	2010
Waikīkī	11,075	13,124	17,384	19,768	19,723	23,073
Percent Growth	*N/A*	*18.5%*	*32.45%*	*13.71%*	*-0.23%*	*16.99%*
O'ahu	500,409	629,176	762,565	836,231	875,670	953,207
Percent Growth	*N/A*	*25.73%*	*21.2%*	*9.66%*	*4.72%*	*8.85%*

Source: John M. Knox & Associates Inc., US Census Bureau 2010 Decennial Census

Table 4-13 WAIKĪKĪ VS. O'AHU POPULATION AND DEMOGRAPHICS, 2010

	Waikīkī	O'ahu
Total Population	**23,073**	**953,207**
Age (% of Total Population)		
Under 18 Years (% of total population	8.4%	22.1%
18-24 Years	10.9%	10.3%
25-44 Years	10.9%	27.2%
45-64 Years	33.8%	25.8%
65 Years and Older	31.5%	14.5%
Median Age	**43.24 yr**	**37.8 yr**
Race (% of Total Population)		
White (alone)	46.5%	20.8%
Asian (Alone)	34.4%	43.9%
Native Hawaiian and other Pacific Islander (alone)	4.5%	9.5%
Other Races (alone)	1.4%	1.1%
Two or More Races	10.4%	22.3%
Housing Occupancy and Tenure		
Total Housing Units	**18,821**	**336,899**
Occupied Units	69.0%	92.0%
By Owner (% of all occupied units)	34.0%	56.0%
By Renter	66.0%	44.0%
Single Occupancy	50.9%	22.8%
Multi-Person Occupancy	49.1%	77.2%
Vacant Units	31.0%	8.0%
For Rent	33.8%	33.4%
For Sale Only	3.4%	7.5%
For Seasonal, Recreational, or Occasional Use	54.9%	34.0%
Other Vacant	7.9%	25.1%
Household Type		
Total Occupied Households	13,002	311,047
Family Households	35.0%	70.00%
Married Couple Family (% of all family households)	26.8%	51.8%
Female householder, no husband present	5.7%	12.7%
With Own Children, under 18	9.3%	28.0%
Non-family Households	65.0%	30.0%
65 years and over household	13.7%	8.0%
Average Persons per Household	**1.71**	**2.95**

Source: US Census Bureau, 2010 Decennial Census SF 1, 100 Percent Data for most; SF3 sample data for units in structure)

Housing Characteristics

The total occupied housing units in Waikīkī experienced a steady rise between 1960 and 1990, plateaued through 2000, and increased again between 2000 and 2010 (*Table 4-14)*. Housing units generally grew faster than the overall population in Waikīkī which reflects a decline in average household size. This trend is particularly noticeable when viewing housing data from the 1960s and 1970s, when much of the earlier single-family housing stock was cleared and replaced by condo and apartment units. Rates of ownership and higher single-person occupancy held a steady rise over time, however, these rates reached almost their present levels by 1980 and grew only slightly thereafter until 2010.

Table 4-14 OCCUPIED HOUSING UNITS, 1960-2010

Total Occupied Housing Units	1960	1970	1980	1990	2000	2010
Waikīkī	5,200	6,830	9,852	11,408	11,397	13,002
Percent Growth	*N/A*	*31.35%*	*44.25%*	*15.79%*	*-0.1%*	*14.08%*
O'ahu	117,856	164,763	230,214	265,304	286,450	311,047
Percent Growth	*N/A*	*39.80%*	*39.72%*	*15.24%*	*7.97%*	*8.59%*

Source: John M. Knox & Associates Inc., US Census Bureau 2010 Decennial Census

Economic Characteristics

Waikīkī is a significant asset to the State, as it supports around 7.2% of all State civilian jobs, as well as 8.7% of Hawai'i's State taxes. Approximately $7.2 billion (or 44%) of tourism's statewide economic contribution comes from Waikīkī-based visitor expenditures. As of 2002, tourism related activities in Waikīkī account for an estimated 8% or Hawai'i's Gross State Product. Waikīkī is the most important tourist destination in the State, with around 79,550 visitors per day, accounting for 39.2% of the State's total yearly visitors.

In 2002, visitor industry firms accounted for more than 122,000 jobs statewide, with nearly half (an estimated 56,000) in Waikīkī. DBEDT's input-output model generated an estimate that approximately 56,000 direct jobs statewide were derived from visitors staying in Waikīkī. With the inclusion of indirect jobs, an estimated 73,000 jobs around the State were due to activities in Waikīkī alone in 2002.

Economic and Market Conditions

The economic impacts study assessed the Outrigger Reef project within the State and within the City and County of Honolulu. For this report, all dollar amounts are stated in 2016 dollars. The base study period for this report extended from 2018 to 2029, an 11-year time frame that spans from the construction phase to stabilization. The assessment evaluated economic impacts, population, and fiscal impacts.

Probable Impacts and Mitigation Measures

The project would generate significant on-going economic and fiscal benefits. For purposes of this study, impacts are classified as total impacts. Total impacts include direct and indirect/ induced "ripple effects" statewide, with the vast majority of impacts on O'ahu. Direct impacts are economic, population, or other impacts attributable to persons or activities that are a direct result

of the project. Indirect or induced impacts occur when businesses or persons who are directly affected make expenditures for additional supplies or services.

Development of facilities would generate employment and consequent income and taxes. Additionally, by attracting new visitors, the project is expected to support long-term impacts, including additional consumer expenditures, employment opportunities, personal income, and government revenue enhancement.

Summary of Construction Phase

The construction phase for the Outrigger Reef project is currently projected to extend from June 1, 2018 through June 30, 2020. The total estimated economic activity for the project during construction is approximately $196.3 million. The total household earnings are projected to be $61.5 million. Total full and part-time jobs supported by both construction phases are estimated at 1,486, and the associated resident population supported by the project is 2,338. Refer to *Table 4-15*.

Table 4-15 CONSTRUCTION PHASE TOTAL ECONOMIC IMPACTS

Cumulative Construction Impacts	Total
Total Economic Activity (2016 $Millions)	$196.3
Total Household Earnings (2016 $Millions)	$61.5
Total Jobs (Job-Years) Supported	1,486
Associated Resident Population Supported	2,338

Summary of Operational Phase

The operational phase of the project is estimated to generate $437 million in economic activity from 2018 through stabilization in 2029. Total household earnings are projected to amount to $133.6 million. The hotel operations in 2029 are expected to support a total of 1,045 full- and part-time jobs, and 1,745 residents. Visitor population is also projected to increase by an average of 216 guests per day. *Table 4-16* shows two sample years and, for dollar measures, cumulative results.

These figures are based only on visitor spending of guests staying at Outrigger Reef on O‘ahu. A certain proportion of these guests will also visit Neighbor Islands before or after their stays on O‘ahu. These potential additional benefits are also measured and reported in this study.

Table 4-16 OPERATIONAL PHASE TOTAL ECONOMIC IMPACTS

Average Annual Operational Effects	Impacts 2022	Impacts 2029	Cumulative Impacts, 2018-29
Total Economic Activity (2016 $Millions)	$59.1	$97.9	$437.0
Total Household Earnings (2016 $Millions)	$17.9	$29.1	$133.6
Total Jobs (Full-/Part-Time) Supported	568	1,045	
Associated Resident Population Supported	948	1,745	
Average Daily Visitor Population Increase	127	216	

Summary of Net County and State Fiscal Revenue

As shown in *Table 4-17*, both County and State governments would enjoy overall net balances of revenues over costs. The project is expected to contribute almost $13 million in additional net revenue to the County over the 11-year period. In addition, the project is expected to generate approximately $40 million in State net revenue over the 11-year period. Both levels of government would enjoy overall net balances of revenues over costs. *Table 4-20* shows results for sample years and an 11-year cumulative period, and is conservatively based only on Oʻahu visitor spending.

Table 4-17 GOVERNMENT FISCAL COST-REVENUE NET IMPACTS

Average Annual Net Revenues	Impacts 2022	Impacts 2029	Cumulative Impacts, 2018-29
City and County of Honolulu (2016 $Millions)	$1.32	$1.51	$12.92
State of Hawaiʻi (2016 $Millions)	$3.75	$6.18	$39.90

4.13 SUMMARY OF PROBABLE IMPACTS

4.13.1 Interrelationships and Cumulative Environmental Impacts

The Outrigger Reef is part of Outrigger's continuing reinvestment into one of Waikīkī's resort destinations within the Waikīkī Beach Walk development. The project also represents a continuing trend of reinvestment into Waikīkī with the recent completion, near completion, and soon-to-be-under redevelopment for several projects. Some notable and completed redevelopment projects within the last decade that have transformed the Waikīkī corridor include the Grand Waikikian and Duke Kahanamoku Lagoon restoration, Waikīkī Beach Walk, Waikīkī Beach Hotel, Waikīkī Trade Center, Royal Hawaiian Hotel, Sheraton Waikīkī, Royal Hawaiian Center, Trump Hotel and Tower, and Allure Waikīkī. Currently, there are several ongoing public and private redevelopment efforts in Waikīkī, which include:

- The Waikīkī Shopping Plaza along Kalākaua Avenue expansion with a new, 4-story, 29,655 sf retail addition.
- Kyo-ya renovation and redevelopment of the Sheraton Princess Kaʻiulani site and the development of a new Diamond Head Tower to replace the existing tower located adjacent to the Banyan Wing of the Westin Moana Surfrider Hotel.
- Kyo-ya restoration and stabilization of Gray's Beach fronting the Sheraton Waikīkī hotel. The project will add 38,000 sf of dry beach and merge with the beach in front of the Royal Hawaiian hotel.
- The 280 Beach Walk retail development adding over 34,000 sf of high-end lifestyle space along Kalākaua Avenue and will be the new home of Hard Rock Cafe.
- Ohana Waikīkī Malia recently completion of $6.6 million renovation of lobby and guest rooms.
- The U.S. Army Museum of Hawaiʻi at Battery Randolph in Fort DeRussy major renovations to double its existing gallery space.

- Queen Emma Land Company redevelopment of International Market Place along Kalākaua Avenue.
- DLNR sand replenishment of 1,700-ft-long segment of Waikīkī Beach between the Kūhiō Beach crib wall and the Royal Hawaiian groin. Approximately 24,000 cubic yards of sand recovered from offshore deposits and pumped to the shoreline where it is dewatered and placed along the beach.
- Kings Village redevelopment.
- Ritz Carleton construction of two new towers.

Effects of cumulative impacts were either qualitatively or quantitatively assessed for acoustic quality, air quality, traffic, utility and infrastructure, and fiscal resources.

Acoustic Quality

Project related construction noise will be unavoidable during the project construction period. The highest noise levels during construction are expected to occur at the Halekulani east of the project site during demolition of the Diamond Head Tower and at the Waikīkī Shore during foundation work at the new guestroom tower connection. Units at the Waikīkī Shore should be shielded from some construction noise from the pool deck area by the existing Pacific Tower building. Adverse impacts from construction noise are not expected to fall within the "public health and welfare" category due to the temporary nature of the work, as well as the administrative controls available for regulating construction noise. Noise mitigation measures are recommended for the guest units in the proposed new tower connection, as well as all existing guest units slated for renovations. Noise mitigation measures in the form of closure and air conditioning of the units in the building is recommended for units that have unobstructed line-of-sites to Kālia Road, Saratoga Road, Lewers Street, and Kalākaua Avenue. No additional measures are necessary for areas beyond the project area. Noise impacts from project related traffic is not anticipated, due to the already high levels of noise of non-project related traffic and other noise sources.

Air Quality

Potential short-term impacts on air quality are primarily related to project construction. Construction activities would generate emissions of the criteria pollutants, as well as CO_2. Mitigation measures to control fugitive dust include: 1) replacing ground cover in disturbed areas quickly; 2) using water to control dust during loading and unloading activities; 3) applying water to disturbed surfaces and haul roads two times per day; and 4) reducing speed on paved roads to < 15 mph. Emissions from construction consist mainly of vehicle and heavy equipment exhaust. Paving and concrete finishing activities are expected to be minimal. Operational emissions from the project consist of direct (area) sources such as combustion of natural gas for cooking in the restaurants, fuel combustion from gas-powered landscape maintenance equipment, and exterior and interior architectural coasting maintenance (repainting), and indirect (vehicle) emissions of the criteria pollutants and CO_2.

Construction and operations of the Outrigger Reef revitalization project will result in low GHGs. Overall, there does not appear to be significant emissions from the proposed project that would cause or contribute to any appreciable impact to local or regional air quality.

Traffic

With the completion of the Outrigger Reef project, the off-site traffic impact is expected to be minimal and/or temporary. Specifically, the buildout of the project is expected to typically result in less than 10 new trips in both the AM and PM peak hour. For one to two days of the week, under event conditions, the project would add no more than 65 total net new external vehicle trips to the roadways system that is typically operating at acceptable levels.

The development of the Outrigger Reef improvements is not expected to have a significant impact on traffic operations in the project vicinity. The implementation of potential TDM strategies could lead to vehicle trip reduction, use of alternative modes, and better traffic management to achieve better operating conditions overall and, specifically at Intersection 4: Beachwalk Drive/Kālia Road. These strategies include:

- Implementation of a TDM plan for the study area led by a TDM coordinator who would coordinate monitoring efforts, parking and traffic management plans, and the implementation of TDM recommendations.
- Frequent interaction between the TDM coordinator and the hotel event coordinator to ensure that conference/meeting participants not staying at the hotel would be fully informed as to mobility choices and options to parking at the site (e.g., provide each hotel guest with information for utilizing the transit system in Waikīkī, such as maps and schedules, and the location of available structures and lots in the area).
- Provide wayfinding that provides travel times to destinations by walk, bike, and transit (e.g. "only an eight-minute walk to the Waikīkī Shopping Plaza." (e.g., this could include promotion of the RideScout app).
- Provide wayfinding that provides travel times to destinations by walk, bike, and transit (e.g. "only an 8-minute walk to the Waikīkī Shopping Plaza." This could include promotion of RideScout app.)
- Contribution towards a car share program or participation in a bicycle sharing system (including providing an area for a bike share station).
- Provide or promote walking and bicycle tours.
- Encourage carpooling and vanpools among visitors.
- Pricing parking to encourage the replacement of auto trips by, bicycle, and pedestrian trips when possible (e.g. price parking by in/out movements, instead of a daily rate, to encourage alternate modes once visitors have arrived at the hotel).
- Free or reduced rate transit passes available to all hotel guests and/or employees.
- Provide or contribute to an area hotel shuttle (in addition to the existing airport shuttle service).
- Provide special event accommodations and traffic management. For example, during high attendance/special hotel events or simultaneous use of all meeting and event space a traffic officer could direct traffic at the Beachwalk Drive/Kālia Road intersection or off-site parking could be made available to accommodate the increased vehicular activity.

Utility and Infrastructure

Water - Water for the proposed development will be provided by the City and County of Honolulu water system. The existing water meters and backflow preventers currently connected to the 12-inch main in Kālia Road will be utilized for the new and existing buildings.

BWS has confirmed that the existing water system is adequate to accommodate the proposed project at the present time. A final decision on the availability of water will be confirmed when the project's building permit application is submitted for approval.

Wastewater - The existing 8-inch and 12-inch sewer laterals will be used for both the existing towers to remain and the 35-story tower to be constructed. A new lateral will be designed to accommodate the projected flows from the new ballroom and restaurant after flowing through an elevated grease interceptor planned for the parking basement floor.

A SCA for the project is approved without requiring costly offsite improvements. The SCA was approved on March 29, 2016 and is valid two years after the approval date. Construction plans should be completed and approved within this two year period. Construction should commence within one year after approval of the plans.

Solid Waste - Solid waste at the hotel site is compacted onsite, and then collected by a private contractor. The waste is hauled to the City and County of Honolulu's H-Power waste-to-energy plant and its Waimanalo Gulch landfill, as well as the privately owned PVT Landfill in Nānākuli and various recycling facilities. Recyclables collected included cardboard, glass, newspapers, aluminum, paper, metals, greenwaste and food.

Power- Outrigger will coordinate with HECO to update electrical service to the Outrigger Reef. A new HECO medium voltage service shall be provided from Kālia Road to a new HECO vault at the hotel. Distribution service within the hotel will be replaced.

Telecommunications – The Outrigger Reef is presently serviced by Hawaiian Telcom and Oceanic Time Warner Cable. This service will continue.

Gas - The Gas Company has existing pipeline infrastructure around the property and this infrastructure could potentially be used to serve the new development. Depending on the location and demand of the equipment in the new development, it will be determined whether the existing branch lines can be reused or if a new line will be connected to the gas line near Kālia Road.

Economic Impact

The economic impacts of the project are summarized in *Section 4.12*, and the complete study is provided in *Appendix B*. The increase in hotel operations and revitalized recreational resort areas will add to renewed economic activity. The Outrigger Reef project is expected to generate 1,486 FTE development-related positions during the currently-projected construction period (2018 to 2020). An average of 568 FTE and PTE operational positions would be provided (new or existing) through 2022 (direct jobs and indirect and induced jobs). There will be 1,045 FTE positions at stabilization after 2029. There is also expected to be significant indirect contributions to the economy through associated visitor spending and off-site servicing and support operations to the Outrigger Reef. The project is expected to contribute $12.92 million in additional net revenue to

the County over the 11-year period from 2018 to 2029. In addition, the project is expected to generate $39.90 million in State net revenue over the 11-year period.

In addition, there will be associated visitor spending and off-site servicing and support operations to the Outrigger Reef. In summary, the planned improvements are focused to provide additional hotel accommodations which will attract global interest, help to stabilize Hawai'i's economy, and expand its influence in the hospitality industry.

Near-shore Water Quality and Marine Communities

No significant change to the quantity or handling of the site's rainfall runoff will occur as a result of the site redevelopment. Similarly, there will be no significant changes to the dewatering systems quantity, quality, or point of delivery into the existing drainage system. As such, potential impacts to surface and groundwater resources are not considered to be significant. Results of the water chemistry assessment reveal that under the present development scenario, water quality throughout the survey area of Waikīkī is in within the levels that would be in compliance with respect to State of Hawai'i Water Quality Standards.

The proposed redevelopment of the Outrigger Reef should have little or no potential to alter the marine environment fronting the project site. Best management practices will be implemented during the construction phase, and operational procedures will continue to proceed as in the past. Since there is no plan for any work in the nearshore region, there is no potential for blasting or excavation that might affect protected species, including turtles, whales and monk seals.

Visual Resources

With the proposed redevelopment, existing Diamond Head Tower will be removed. Certain areas such as the main entry along Kālia Road, the main lobby area, and the new pool and recreation area will have increased open views and overall an improvement to the visual quality at a pedestrian scale.

A visual impact analysis was conducted with a series of visual simulations. The new tower connecting the existing Pacific and Ocean Towers will not impact prominent view corridors. The new hotel units may be visible from nearby private residential condominiums and apartment buildings; however it will look like a continuation of the existing Pacific and Ocean Tower buildings. The height of the tower will be the same as the Pacific Tower at 150 feet and the design will fit with the existing site and urban landscape of the area.

4.13.2 Potential Secondary Effects

As part of the Waikīkī Beach Walk, improvement of the hotel property will help improve the image of Waikīkī as a whole for visitors and residents. The revitalization of the pedestrian and retail experience along Kālia and within the hotel property may encourage nearby businesses along Ala Moana Boulevard to take similar measures to restore some of the uniqueness to Waikīkī.

Construction activity will generate direct employment as well as indirect and induced employment in construction-related industries. In the long term, additional retail and hotel space will require additional employees as well as additional goods and services from visitor industry businesses.

4.13.3 Relationship between Local Short-term Uses of the Environment and the Maintenance and Enhancement of Long-term Productivity

- Narrowing of the range of beneficial uses of the environment;

The project area has been developed as a tourist destination since its inception. The project does not propose a change in land use or a narrowing of the range of beneficial uses of the environment. Instead, it proposes a revitalization of existing retail and dining areas, the main entry, main lobby, and pool amenities and the planned construction of a new hotel tower.

- Long-term risks to health and safety;

The project will not create long term risk to health and safety. Older buildings and facilities within the site, such as the existing Diamond Head Tower, are planned to be removed or renovated. Accordingly, hazardous materials will be disposed of properly prior to demolition.

- Foreclosure of future options;

The project maintains the existing and reasonable uses of the property and does not foreclose future options.

- Trade-offs among short-term and long-term gains and losses.

The short-term inconveniences caused by construction activity include the possible closure of businesses and amenity areas, increased noise and dust, and increased traffic due to construction vehicles. Once construction is completed, the Outrigger Reef will have new hotel accommodations, upgraded retail and dining venues, and overall upgraded recreational amenities with increased open views throughout the property. These long-term benefits outweigh the relatively short-term losses anticipated during construction.

4.13.4 Irreversible and Irretrievable Commitments of Resources

The construction and operation of the planned new improvements will involve the irretrievable commitment of fiscal resources, labor, construction materials and energy. There will be a permanent commitment of funds and resources to plan, design, construct and operate the facilities.

4.13.5 Adverse Environmental Effects that Cannot Be Avoided

Implementation of the project will produce unavoidable affects in the short and long term. Short-term effects are generally associated with construction, and prevail only for the duration of the construction period. Long-term effects generally follow completion of the improvements and relate to net changes to either programs or operations, and are permanent. Effects that can be considered both adverse and unavoidable are discussed below.

Unavoidable Adverse Short-Term Effects

- Temporary increases in soil erosion will result from construction operations, and small amounts of soil and dust may be carried beyond construction sites in surface runoff water.
- Existing retail vendors within the construction limits will be closed during demolition and construction activities.

- Unavoidable, but temporary, noise impacts may occur during the demolition and construction activities within the project area, and particularly during the demolition and excavation activities on the project site.
- Construction activities are expected to generate short-term impacts to air quality primarily from fugitive dust emissions.
- Traffic impacts from construction activities would be expected to occur as the result of the three following types of activities:
  - Increases in truck traffic associated with removal and redistribution of excavation spoil or with imported fill materials and delivery of construction materials;
  - Increases in automobile traffic associated with construction workers travelling to and from the site;

These traffic impacts may be offset by the decline in private and service vehicles associated with the closure of retail operations.

Unavoidable Adverse Long-Term Effects

- An increase in hotel accommodations will result in an increase in water consumption, wastewater disposal, and solid waste generation.
- There will be increased demand on existing utilities and infrastructure. Where practical and feasible, sustainable design practices and technology will be utilized to reduce demand requirements.
- With the added number of persons at the Outrigger Reef, there will be positive long-term effects of increased spending on-site and at nearby neighboring shops and restaurants. There will also be some increase in noise as more people will frequent the area.
- There will be some increase in traffic in the immediate project area.

4.14 UNRESOLVED ISSUES

No unresolved issues have been identified for the proposed project at this time.

Section 5.0

RELATIONSHIP OF PROPOSED ACTION TO LAND USE PLANS, POLICIES AND CONTROLS FOR THE AFFECTED AREA

5.0 RELATIONSHIP OF PROPOSED ACTION TO LAND USE PLANS, POLICIES AND CONTROLS FOR THE AFFECTED AREA

An important consideration in evaluating the potential impacts of a proposed action on the environment is how it may conform or conflict with approved or proposed Federal, State, and County land use plans, policies and controls for the affected area. The relationship of the Outrigger Reef revitalization to the following land use plans, policies and regulatory controls is assessed below:

Federal:

- Coastal Zone Management Act (CZMA)
- Title III of the Americans with Disability Act (ADA)

State of Hawai‘i

- Environmental Impact Statements (Hawai‘i Revised Statutes (HRS) Chapter 343)
- State Land Use Law (HRS Chapter 205)
- Hawai‘i State Plan (HRS Chapter 226)
- 2050 Sustainability Plan
- State Functional Plans
- Hawai‘i Tourism Authority Strategic Plan
- Coastal Zone Management (CZM) (HRS Chapter 205A)

City and County of Honolulu

- General Plan
- Primary Urban Center Development Plan (PUC)
- Land Use Ordinance (LUO)
- Waikīkī Special District (WSD) Design Guidelines
- Waikīkī Livable Community Project (WLCP)
- Planned Development – Resort (PD-R)
- Special Management Area (SMA)
- Shoreline Setbacks

5.1 FEDERAL CONTROLS

This section assesses the relationship of the project with primary and applicable Federal regulatory controls, which include the CZMA and Title III of the ADA.

5.1.1 Coastal Zone Management Act (CZMA)

In 1972, the Federal government enacted the CZMA to effectively manage, use, protect, and develop coastal areas in the U.S. The CZMA was a government response to increasing and competing demands upon habitats and resources of coastal lands and waters. Such demands often resulted in a loss of living marine resources and wildlife; depleted nutrient-rich areas; shoreline erosion; diminished open space for public use; and permanent and adverse changes to ecological systems. Under the CZMA, States are authorized to work in a unified manner with Federal and local governments to develop programs, policies, evaluation criteria, development standards that lend to the effective protection and prudent use of coastal lands and waters. The enforcement authority for the Federal Coastal Management Program (Public Law 104-150, as amended in 1996) has been delegated to the State of Hawai'i under HRS Chapter 205A, CZM Program.

Discussion: *The Outrigger Reef is located within the coastal zone as defined by the State of Hawai'i. The project improvements are designed to conform to the goals, policies, and objectives of Hawai'i's CZM Program. A full discussion of the plan's compatibility with HRS 205A is provided in Section 5.2.7. Additionally, the approval of a SMA permit (major use) application by the City and County of Honolulu DPP will be required as part of the entitlements necessary for the project to proceed.*

5.1.2 Title III of the American Disabilities Act

In 1991, the Federal government enacted the ADA to provide equal accessibility for persons with disabilities. The ADA Title III covers businesses and nonprofit service providers that are public accommodations, privately operated entities offering certain types of courses and examinations, privately operated transportation, and commercial facilities. Public accommodations include private entities that own, lease, lease to, or operate facilities such as restaurants, retail stores, and hotels. Public accommodations must comply with basic nondiscrimination requirements that prohibit exclusion, segregation, and unequal treatment. They also must comply with specific requirements related to architectural standards for new and altered buildings; reasonable modifications to policies, practices, and procedures; effective communication with people with hearing, vision, or speech disabilities; and other access requirements. Additionally, public accommodations must remove barriers in existing buildings where it is easy to do so without much difficulty or expense, given the public accommodation's resources.

Discussion: *The project improvements that qualify under Title III as public accommodations will adhere to architectural standards for new and altered buildings to be ADA-accessible. There are no ADA barriers within existing buildings.*

5.2 STATE OF HAWAI'I PLANS AND CONTROLS

This section assesses the relationship of the proposed project to the State's environmental review process; State Land Use District designations; the Hawai'i State Plan; the Hawai'i 2050 Sustainability Plan; the CZMA, HRS Chapter 205A; State Functional Plans; and the Hawai'i Tourism Strategic Plan.

5.2.1 Environmental Impact Statements, Hawai'i Revised Statutes Chapter 343

Under HRS Chapter 343 (EISs), the State legislature found that the quality of humanity's environment is critical to humanity's well being, that humanity's activities have broad and profound effects upon the interrelations of all components of the environment, and that an environmental review process is necessary to integrate the review of environmental concerns with existing planning processes of the State and counties. This process is to alert decision makers to significant environmental effects which may result from the implementation of certain actions. HRS Chapter 343 states that a process of reviewing environmental effects is desirable because environmental consciousness is enhanced, cooperation and coordination are encouraged, and public participation during the review process benefits all parties involved and society as a whole. As such, the State has established a system of environmental review to ensure that environmental concerns are given appropriate consideration in decision making along with economic and technical considerations.

Discussion: *This SEIS has been prepared in compliance with environmental requirements outlined in HRS Chapter 343 and Chapter 11-200, HAR. An EIS is required for this project since the project lies within the WSD and SMA. An SEISPN was published in the OEQC The Environmental Notice on October 8, 2014. Comment letters received during the SEISPN review period and corresponding response letters are included in Appendix A.*

5.2.2 Land Use Commission, Hawai'i Revised Statutes Chapter 205

HRS Chapter 205 establishes the State Land Use Commission as well as defines the four major land use districts in which all lands in the State of Hawai'i are classified. These districts include the following: Urban, Rural, Agricultural, or Conservation. Standards for determining the boundaries for each district and the allowable uses and activities are defined in statute.

Discussion: *The Outrigger Reef property is within the State Land Use Urban District. Existing resort uses and activities as well as the proposed uses are allowable within the Urban District.*

5.2.3 Hawai'i State Plan, Hawai'i Revised Statutes Chapter 226

In 1978, the Hawai'i State Legislature found a need to improve the planning process in the State, to increase the effectiveness of government and private actions, to improve the coordination among different agencies and levels of government, and to provide for the wise use of Hawai'i's resources to guide the future development of the State. Under HRS Chapter 226 (Hawai'i State Planning Act), the Hawai'i State Plan serves as a guide for the future long-range development of the State. The Hawai'i State Plan identifies the goals, objectives, policies, and priorities for the State; provides a basis for determining priorities and allocating limited resources, such as public funds, services, human resources, land, energy, water, and other resources; improves coordination of Federal, State, and County plans, policies, programs, projects, and regulatory activities; and establishes a system for plan formulation and program coordination to provide for an integration of all major State and County activities.

Table 5-1 assesses and evaluates how the Outrigger Reef revitalization supports the Hawai'i State Plan, as promulgated under HRS Chapter 226. Where appropriate, if the State Plan goals are not applicable, it is so noted.

Table 5-1 HAWAI'I STATE PLAN, HAWAI'I REVISED STATUTES, CHAPTER 226 S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
Section 226-4: State Goals. 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	X		
(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.	X		
(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.	X		
Discussion: *The project supports the goals of the State of Hawai'i to achieve a strong, viable economy. The Outrigger Reef includes improvements to the hotel site's main entry and guest arrival area, the expansion of recreational amenities, additional meeting space, and the construction of new hotel units. The proposed revitalization will enable Outrigger to fortify its position in the hospitality industry; thereby strengthening's Waikīkī's position in the global resort market.*			
Section 226-5: Objective and Policies for Population. (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; (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		
(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 significantly add to Hawai'i's residential population growth. However, the project reaffirms Outrigger's committed reinvestment in Waikīkī and Hawai'i and will expand Hawai'i's visitor base. Implementation of the project will add vibrancy to the Kālia gateway of Waikīkī, positively stimulate Hawai'i's tax base, and create new jobs both in the short-term construction phase and long-term visitor service operations. The project's planned revitalization is a coordinated effort to utilize available developed land and infrastructure, and will ensure valuable resources are utilized in a prudent and efficient manner.*			
Section 226-6: Objectives and Policies for the Economy in General. (A) Planning for the State's economy in general shall be directed toward achievement of the following objectives:			
(1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawai'i's people.	X		
(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.	X		
(B) To achieve the general economic objectives, it shall be the policy of this State to:			
(1) 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		

Table 5-1 HAWAIʻI STATE PLAN, HAWAIʻI REVISED STATUTES, CHAPTER 226 S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
(2) Promote Hawai'i as an attractive market for environmentally and socially sound investment activities that benefit Hawaiʻi's people.	X		
(3) Seek broader outlets for new or expanded Hawai'i business investments.	X		
(4) Expand existing markets and penetrate new markets for Hawaiʻi's products and services.	X		
(5) Assure that the basic economic needs of Hawaiʻi's people are maintained in the event of disruptions in overseas transportation.			X
(6) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.	X		
(7) Encourage the formation of cooperatives and other favorable marketing arrangements at the local or regional level to assist Hawaiʻi's small scale producers, manufacturers, and distributors.	X		
(8) Encourage labor-intensive activities that are economically satisfying and which offer opportunities for upward mobility.	X		
(9) Foster greater cooperation and coordination between the government and private sectors in developing Hawaiʻi's employment and economic growth opportunities.	X		
(10) Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems.	X		
(11) Maintain acceptable working conditions and standards for Hawaiʻi's workers.	X		
(12) Provide equal employment opportunities for all segments of Hawaiʻi's population through affirmative action and nondiscrimination measures.	X		
(13) Encourage businesses that have favorable financial multiplier effects within Hawaiʻi's economy.	X		
(14) Promote and protect intangible resources in Hawai'i, such as scenic beauty and the Aloha spirit, which are vital to a healthy economy.	X		
(15) 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		
(16) 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: *Implementation will result in a net increase of approximately 39 hotel units in the Outrigger Reef property. The increase in hotel operations and revitalized recreational resort areas will add to renewed economic activity. The Outrigger Reef project is expected to generate a total of 1,486 FTE development-related positions during the currently-projected construction period (2018 to 2020). There are also expected to be significant indirect contributions to the economy through associated visitor spending and off-site servicing and support operations to the Outrigger Reef. The project is expected to contribute $12.92 million in additional net revenue to the County over the 11-year period from 2018 to 2029. In addition, the project is expected to generate $39.90 million in State net revenue over the same period.*			
Section 226-7 Objectives and Policies for the Economy – Agriculture. (A) Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:			
(1) Viability of Hawaiʻi's sugar and pineapple industries.			X
(2) Growth and development of diversified agriculture throughout the State.			X
(3) An agriculture industry that continues to constitute a dynamic and essential component of Hawaiʻi's strategic, economic, and social well-being.			X
(B) To achieve the agriculture objectives, it shall be the policy of this State to:			
(1) Establish a clear direction for Hawaiʻi'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 Hawaiʻi's economy.			X

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(6) Seek the enactment and retention of federal and state legislation that benefits Hawaiʻi's agricultural industries.			X
(7) Strengthen diversified agriculture by developing an effective promotion, marketing, and distribution system between Hawaiʻi'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
(12) Expand Hawaiʻi'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 Hawaiʻi'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
Discussion: *While Outrigger supports the State's policies for the economy in regard to agriculture, they are not directly applicable to the project.*			
Section 226-8 Objective and Policies for the Economy - Visitor Industry. (A) Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawaiʻi's economy. (B) To achieve the visitor industry objective, it shall be the policy of this State to:			
(1) Support and assist in the promotion of Hawaiʻi'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 Hawaiʻi'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 Hawaiʻi's people.	X		
(6) Provide opportunities for Hawaiʻi'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 Hawaiʻi'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 Hawaiʻi's cultures and values.	X		
Discussion: *The project will improve upon and expand the State's visitor unit inventory. The revitalization will support and promote the ongoing improvement and transformation of Waikīkī for a global audience seeking a variety of vacation experiences. Project improvements will benefit neighboring shops, markets, and restaurants, particularly in the Waikīkī Beach Walk area, with increased spending by its visitors. The revitalization of the Outrigger Reef, one of Hawaiʻi's only locally-owned and operated resorts, underscores Outrigger's dedication, investment, and long-time commitment to Hawaiʻi.*			
Section 226-9 Objective and Policies for the Economy - Federal Expenditures. (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 Hawaiʻi's economy. (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 Hawaiʻi's supportive role in national defense.			X

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(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: *While Outrigger supports the State's policies related to economy and federal expenditures, they are not directly applicable to the proposed project.*			
Section 226-10 Objective and Policies for the Economy - Potential Growth Activities. (A) Planning for the State's economy with regard to potential growth activities shall be directed towards achievement of the objective of development and expansion of potential growth activities that serve to increase and diversify Hawai'i's economic base. (B) To achieve the potential growth activity objective, it shall be the policy of this State to:			
(1) Facilitate investment and employment in economic activities that have the potential for growth such as diversified agriculture, aquaculture, apparel and textile manufacturing, film and television production, and energy and marine-related industries.			X
(2) Expand Hawai'i's capacity to attract and service international programs and activities that generate employment for Hawai'i's people.	X		
(3) Enhance and promote Hawai'i's role as a center for international relations, trade, finance, services, technology, education, culture, and the arts.	X		
(4) Accelerate research and development of new energy-related industries based on wind, solar, ocean, and underground resources and solid waste.			X
(5) Promote Hawai'i's geographic, environmental, social, and technological advantages to attract new economic activities into the State.	X		
(6) Provide public incentives and encourage private initiative to attract new industries that best support Hawai'i's social, economic, physical, and environmental objectives.			X
(7) Increase research and the development of ocean-related economic activities such as mining, food production, and scientific research.			X
(8) 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
(9) Foster a broader public recognition and understanding of the potential benefits of new, growth-oriented industry in Hawai'i.			X
(10) 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
(11) Increase research and development of businesses and services in the telecommunications and information industries.			X
Discussion: *The project will help to maintain Waikīkī as one of the world's most sought-after travel destinations for vacationers and corporations by continuing to provide a meeting and convention venue for local, national, and international programs. Each year, the Outrigger Reef hosts a number of events, and the proposed improvements will enable the resort to expand its service orientation to host events and welcome future industry groups to the State.*			
Section 226-10.5 Objectives and Policies for the Economy - Information Industry. (A) Planning for the State's economy with regard to the information industry shall be directed toward the achievement of the objective of positioning Hawai'i as the leading dealer in information businesses and services in the Pacific Rim. (B) To achieve the information industry objective, it shall be the policy of this State to:			
(1) Encourage the continued development and expansion of the telecommunications infrastructure serving Hawai'i to accommodate future growth in the information industry;			X

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(2) Facilitate the development of new business and service ventures in the information industry which will provide employment opportunities for the people of Hawaiʻi;			X
(3) Encourage greater cooperation between the public and private sectors in developing and maintaining a well- designed information industry;			X
(4) 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 Hawaiʻi's people;			X
(5) Provide opportunities for Hawaiʻi's people to obtain job training and education that will allow for upward mobility within the information industry;			X
(6) Foster a recognition of the contribution of the information industry to Hawaiʻi's economy; and			X
(7) Assist in the promotion of Hawaiʻi as a broker, creator, and processor of information in the Pacific.			X
Discussion: *Outrigger supports the policies related to economy and the information industry, although these are not directly applicable to the Outrigger Reef revitalization. However, the project will strengthen Outrigger's appeal to serve as a venue for hosting meetings and conferences for companies in this sector; further supporting Hawaiʻi's overall marketing position as a favorable conference location and supporting business climate. Further, Outrigger continues to invest in innovative technology for its own support and operations.*			
Section 226-11 Objectives and Policies for the Physical Environment - Land-based, Shoreline, and Marine Resources. (A) Planning for the State's physical environment with regard to land-based, shoreline and marine resources shall be directed towards achievement of the following objectives:			
(1) Prudent use of Hawaiʻi's land-based, shoreline, and marine resources.	X		
(2) Effective protection of Hawaiʻi's unique and fragile environmental resources.	X		
(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 Hawaiʻi'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 uses 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 Hawaiʻi.	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 is a balanced development proposal that is compatible with existing uses and relationships between the urban and nearby shoreline environment. The redevelopment demonstrates a prudent use of an urban landscape that has undergone major transformation over the past 80 years. The required SMA Minor Modification and Shoreline Setback Variance are listed as next steps in the approval process, which will ensure that marine and nearshore habitats fronting the Outrigger will be properly protected during project construction and operations.*			
Section 226-12 Objective and Policies for the Physical Environment - Scenic, Natural Beauty, and Historic Resources. (A) Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawaiʻi's scenic assets, natural beauty, and multi-cultural/historical resources. (B) To achieve the scenic, natural beauty, and historic resources objective, it shall be the policy of this State to:			
(1) Promote the preservation and restoration of significant natural and historic resources.	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		

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(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawaiʻi's ethnic and cultural heritage.	X		
(5) Encourage the design of developments and activities that complement the natural beauty of the islands.	X		
Discussion: *Planned improvements within the Outrigger, as an oceanfront resort, are designed to complement the natural beauty of Hawaiʻi. The demolition of the existing Diamond Head Tower fronting Waikīkī Beach will help to create a greater sense of open space and a smoother transition from the property to the beachfront. Further, the project will not impact any defined Significant Public Views, since none are located in areas that are applicable to the proposed project.*			
Section 226-13 Objectives and Policies for the Physical Environment - Land, Air, and Water Quality. (A) Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives:			
(1) Maintenance and pursuit of improved quality in Hawaiʻi's land, air, and water resources.	X		
(2) Greater public awareness and appreciation of Hawaiʻi's environmental resources.	X		
(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 Hawaiʻi's limited environmental resources.	X		
(2) Promote the proper management of Hawaiʻi's land and water resources.	X		
(3) Promote effective measures to achieve desired quality in Hawaiʻi'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 Hawaiʻi'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 Hawaiʻi'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 Hawaiʻi's people, their cultures and visitors.	X		
Discussion: *The project is in close proximity to many available services and facilities within Waikīkī's core. The Outrigger Reef, as part of the larger Waikīkī Beach Walk, encourages a design that enhances the pedestrian experience. The landscaped grounds of the improved Outrigger Reef will foster the education and passive recreational enjoyment of a Hawaiian resort. Although the acoustic environment and surrounding air quality may experience minor impacts during construction, best management practices and regulatory controls will ensure aural and air quality levels are within acceptable regulatory limits on-site and within the immediate area. Most of Waikīkī is within the tsunami evacuation zone and the project is within a defined flood zoned area. Design controls will ensure the planned development meets regulatory requirements.*			
Section 226-14 Objective and Policies for Facility Systems - In General. (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. (B) To achieve the general facility systems objective, it shall be the policy of this State to:			
(1) Accommodate the needs of Hawaiʻi'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: *Off-site and on-site improvements to surrounding facility systems (water, wastewater, roadways, solid waste, power, and telecommunications) will be coordinated with the appropriate State and County agencies or private utility companies.*			

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226-15 Objectives and Policies for Facility Systems - Solid and Liquid Wastes. (A) Planning for the State's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives:			
(1) Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes.	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: *Solid waste and wastewater disposal systems will be efficiently designed to minimize impacts on existing solid and liquid waste facilities. Outrigger has a materials recycling program to minimize solid waste and employs water conservation principles in its facility operations. In 2014, Outrigger Waikīkī properties collected 20 tons of recyclables and donated more than $30,000 in Hi5 redemption reimbursements to PACT, a local non-profit organization.*			
226-16 Objective and Policies for Facility Systems - Water. (A) Planning for the State's facility systems with regard to water shall be directed towards achievement of the objective of the provision of water to adequately accommodate domestic, agricultural, commercial, industrial, recreational, and other needs within resource capacities. (B) To achieve the facility systems water objective, it shall be the policy of this State to:			
(1) Coordinate development of land use activities with existing and potential water supply.	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: *The Board of Water Supply has determined that its existing water system is adequate to accommodate and supply project demand. Presently low-flow plumbing fixtures are currently utilized in existing hotel units, retail, dining, and banquet areas, as well as back of house services and maintenance facilities. Continued conservation measures and best management practices for water use will be implemented for future improvements.*			
226-17 Objectives and Policies for Facility Systems - Transportation. (A) Planning for the State's facility systems with regard to transportation shall be directed towards the achievement of the following objectives:			
(1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods.	X		
(2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State.	X		
(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		

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(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 Hawaiʻi's natural environment;	X		
(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 projected traffic demand after implementing the proposed improvements is a very nominal increase from existing conditions. However, these slight increases in traffic within and around the project area will be addressed through the implementation of TDM strategies and a Traffic Management Plan. Outrigger also recognizes its environmental responsibility and is committed to improving its performance towards a sustainable future by continuing to evaluate incentives for its team members to utilize alternative means of transportation.*			
226-18 Objectives and Policies for Facility Systems - Energy. (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:			
(1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people;			X
(2) Increased energy self-sufficiency where the ratio of indigenous to imported energy use is increased;			X
(3) Greater energy security in the face of threats to Hawaiʻi's energy supplies and systems; and			X
(4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use.	X		
(B) To achieve the energy objectives, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable energy services to accommodate demand. (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: (A) Development of cost-effective demand-side management programs; (B) Education; and (C) Adoption of energy-efficient practices and technologies;	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 Hawaiʻi's greenhouse gas emissions through agriculture and forestry initiatives.			X

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Discussion: *Outrigger has developed a sustainability platform to guide its business practices. To ensure sustainable business practices, Outrigger focuses on key environmental commitments such as energy efficiency and sustainable building operations. The use of energy efficient technologies is a continuing part of planned designs for the Outrigger Reef revitalization.*			
226-18.5 Objectives and Policies for Facility Systems - Telecommunications. (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. (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. (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: *While these policies apply more directly to government, Outrigger will continue to incorporate current and efficient telecommunication technologies.*			
226-19 Objectives and Policies for Socio-Cultural Advancement - Housing. (A) Planning for the State's socio-cultural advancement with regard to housing shall be directed toward the achievement of the following objectives:			
(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 affordable housing is made available to very low-, low- and moderate-income segments of Hawai'i's population.			X
(2) The orderly development of residential areas sensitive to community needs and other land uses.			X
(3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawai'i's people.			X
(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 housing choices for low-income, moderate-income, and gap-group 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 housing units and residential areas.			X
(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: *Residential development, such as new condominiums or conversion, is not proposed in the Outrigger Reef project.*			
226-20 Objectives and Policies for Socio-Cultural Advancement - Health. (A) Planning for the State's socio-cultural advancement with regard to health shall be directed towards achievement of the following objectives:			
(1) Fulfillment of basic individual health needs of the general public.	X		
(2) Maintenance of sanitary and environmentally healthful conditions in Hawai'i's communities.	X		
(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

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(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
Discussion: *The project will have no effect to public health. Solid waste services and wastewater disposal will meet regulatory requirements to maintain public health standards. Outrigger supports the health and well-being of its team members and guests through training that promote a safe and healthy work environment.*			
226-21 Objective and Policies for Socio-Cultural Advancement - Education. (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. (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
(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: *Outrigger supports opportunities for individuals seeking to network with skilled professionals in the hospitality industry through its internship program for college and high school students, providing hands-on learning experiences in Outrigger's operational departments. Outrigger also participates in the Hawai'i State Teachers Association (HSTA) Teacher Intern Program of three-day internships for Department of Education (DOE) teachers, exposing them to business cultures and work experiences outside of the classroom.* *At the hotel property, Outrigger provides demonstration areas for families and children to learn and participate in cultural activities such as ukulele lessons, lei making, kukui nut bracelet making, Hawaiian storytelling, Hawaiian tattoo, petroglyph activities, etc.*			
226-22 Objective and Policies for Socio-Cultural Advancement - Social Services. (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. (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

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(3) Facilitate the adjustment of new residents, especially recently arrived immigrants, into Hawaiʻi'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: *Outrigger supports the policies for government actions for socio-cultural advancement, social services. However, the Outrigger Reef revitalization project is not directly applicable to these policies.*			
226-23 Objective and Policies for Socio-Cultural Advancement - Leisure. (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. (B) To achieve the leisure objective, it shall be the policy of this State to:			
(1) Foster and preserve Hawaiʻi'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		
(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 Hawaiʻi'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 Hawaiʻi'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 Hawaiʻi's population to participate in the creative arts.	X		
(10) Assure adequate access to significant natural and cultural resources in public ownership.			X
Discussion: *Visitors staying at the Outrigger Reef are able to participate in cultural and artistic educational programs. A sample of cultural programs offered weekly at the Outrigger Reef include: Native Hawaiian plants and uses, walking tours of Waikīkī, Hawaiian crafts, ukulele lessons, hula lessons, and live music performances. The Outrigger Reef will continue to serve as a venue for multi-ethnic cultural events, artistic demonstrations, and performances.*			
226-24 Objective and Policies for Socio-Cultural Advancement - Individual Rights and Personal Well-Being. (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. (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		

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Discussion: *Outrigger supports the individual rights and personal well-being of Outrigger team members, guests, and local residents who visit the Outrigger by having trained staff and security provide a safe and accommodating environment.*			
226-25 Objective and Policies for Socio-Cultural Advancement - Culture. (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 Hawaiʻi's people. (B) To achieve the culture objective, it shall be the policy of this State to:			
(1) Foster increased knowledge and understanding of Hawaiʻi's ethnic and cultural heritages and the history of Hawaiʻi.	X		
(2) Support activities and conditions that promote cultural values, customs, and arts that enrich the lifestyles of Hawaiʻi'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 Hawaiʻi.	X		
(4) Encourage the essence of the aloha spirit in people's daily activities to promote harmonious relationships among Hawaiʻi's people and visitors.	X		
Discussion: *Outrigger has championed the preservation and enhancement of the diverse ethnicities and culture of Hawaii throughout its Waikīkī properties. Outrigger's efforts have focused on but not been limited to the music, dance and traditions of our host culture.* *At Waikīkī Beach Walk, Outrigger's regular free outdoor activities include Na Mele No Na Pua (a twice-a-month Sunday concert highlighting Hawaiian music), Hawaiian quilting demonstrations and classes as well as Ku Haʻaheo (Hawaiian entertainment and hula) on Tuesdays, Christmas Countdown (seven days of Hawaiian holiday music), an annual Waikīkī steel guitar festival, and a reception for the Royal Court during the annual Aloha festival. They also include the Chinese New Year's Festival, Honolulu Festival, Visitor Industry Charity Walk, and Pan-Pacific Festival.* *At Outrigger Reef, the Kani Ka Pila Grille preserves the tradition of Hawaiian music in Waikīkī for visitors and residents alike in providing a venue for legends such as Uncle Cyril Pahinui to perform weekly, joined regularly by many Nā Hōkū Hanohano award winners and other musicians and their ʻohana. Outrigger also hosts an annual talent competition to foster the next generations who will carry on that tradition. Also at the hotel property, Outrigger provides demonstration areas for families and children to learn and participate in cultural activities such as ukulele lessons, lei making, kukui nut bracelet making, Hawaiian storytelling, Hawaiian tattoo, and petroglyph activities.* *These activities create authentic cultural experiences for guests that promote the spirit of aloha as a fundamental core value in hospitality service.*			
226-26 Objectives and Policies for Socio-Cultural Advancement - Public Safety. (A) Planning for the State's socio- cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives:			
(1) Assurance of public safety and adequate protection of life and property for all people.	X		
(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.	X		
(3) Promotion of a sense of community responsibility for the welfare and safety of Hawaiʻi's people.	X		
(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

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(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: *Outrigger takes the responsibility of the wellness and safety of its guests seriously. Hotel security and staff are trained to address a range of situations that require immediate response to emergencies or unlawful activity on-site. Response plans are also in place in the event of natural disaster events.*			
226-27 Objectives and Policies for Socio-Cultural Advancement - Government. (A) Planning the State's socio-cultural advancement with regard to government shall be directed towards the achievement of the following objectives:			
(1) Efficient, effective, and responsive government services at all levels in the State.			X
(2) Fiscal integrity, responsibility, and efficiency in the state government and county governments.			X
(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
Discussion: *Policies related to the operation of government are the responsibility of the State and are not directly applicable to the Outrigger Reef project.*			
Hawai'i State Plan - HRS Ch. 226 - Part III. Priority Guideline			
226-101 Purpose. The purpose of this part is to establish overall priority guidelines to address areas of statewide concern.			
226-102 Overall Direction. The State shall strive to improve the quality of life for Hawai'i's present and future population through the pursuit of desirable courses of action in five major areas of statewide concern which merit priority attention: economic development, population growth and land resource management, affordable housing, crime and criminal justice, and quality education.			
226-103 Economic Priority Guidelines. (A) Priority guidelines to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawai'i's people and achieve a stable and diversified economy:			
(1) Seek a variety of means to increase the availability of investment capital for new and expanding enterprises. (a) Encourage investments which:			
(i) Reflect long term commitments to the State;	X		
(ii) Rely on economic linkages within the local economy;	X		
(iii) Diversify the economy;	X		
(iv) Reinvest in the local economy;	X		
(v) Are sensitive to community needs and priorities; and	X		
(vi) Demonstrate a commitment to provide management opportunities to Hawai'i residents.	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

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(4) Seek to ensure that state business tax, labor laws, and administrative policies are equitable, rational, and predictable.			X
(5) Streamline the building and development permit and review process, and eliminate or consolidate other burdensome or duplicative governmental requirements imposed on business, where 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:			
(a) An industry that can take advantage of Hawai'i's unique location and available physical and human resources.	X		
(b) A clean industry that would have minimal adverse effects on Hawai'i's environment.	X		
(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.	X		
(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:			
(A) Expand vocational training in diversified agriculture, aquaculture, information industry, and other areas where growth is desired and feasible.			X
(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		
(C) Allocate educational resources to career areas where high employment is expected and where growth of new industries is desired.			X
(D) Promote career opportunities in all industries for Hawai'i's people by encouraging firms doing business in the State to hire residents.	X		
(E) Promote greater public and private sector cooperation in determining industrial training needs and in developing relevant curricula and on- the-job training opportunities.			X
(F) Provide retraining programs and other support services to assist entry of displaced workers into alternative employment.			X
(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		

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(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
(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 inter-island 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
(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 non-potable 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, 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

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(6) Support promotional activities to market Hawaiʻi's information industry services.			X
Discussion: *The Outrigger Reef revitalization will enhance the quality of the visitor experience at the Waikīkī Beach Walk and will have a positive effect on the State's economy. Economic benefits will result from increased employment, the net State and County tax revenue derived from the new hotel units, and increased spending by new hotel guests in Hawaiʻi. Further, the use of water and energy efficient fixtures and systems will net a cost savings and promote water and energy resource conservation.*			
226-104 Population Growth and Land Resources Priority Guidelines.			
(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 Hawaiʻi's people.			X
(2) Manage a growth rate for Hawaiʻi's economy that will parallel future employment needs for Hawaiʻi'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 Kakaʻako 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		
(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 Hawaiʻi'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		

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(13) Protect and enhance Hawaiʻi's shoreline, open spaces, and scenic resources.	X		
Discussion: *The planned improvements for Outrigger are defined as an urban revitalization project, which supports the priority guidelines relating to land resources. Outrigger will finance the cost for building infrastructure and utilities. Outrigger recognizes its environmental responsibility and follows a sustainability platform. Sustainable business practices and goals of Outrigger document their commitment to the protection of the environment.*			
226-105 Crime and Criminal Justice Priority Guidelines. (A) 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: *Policies related to public safety are primarily the responsibility of government agencies and are not directly applicable to the Outrigger Reef project. However, Outrigger does ensure the safety of its guests with the provision of hotel security and emergency response plans, procedures, and training in-place.*			
226-106 Affordable Housing Priority Guidelines. (A) Priority guidelines for the provision of affordable housing:			
(1) Seek to use marginal or nonessential agricultural land and public land to meet housing needs of low- and moderate-income and gap-group 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 Hawaiʻi's low- and moderate-income households, gap-group households, and residents with special needs.			X
(5) Encourage continued support for government or private housing programs that provide low interest mortgages to Hawaiʻi'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
(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 Hawaiʻi's residents and less priority to development of housing intended primarily for individuals outside of Hawaiʻi.			X
Discussion: *Outrigger supports the Hawaiʻi State Plan Priority Guideline Policy of affordable housing; however, this policy is directed toward government, and does not apply to the project.*			
226-107 Quality Education Priority Guidelines. (A) 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 work force.			X
(4) Promote increased opportunities for greater autonomy and flexibility of educational institutions in their decision-making responsibilities.			X

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(5) Increase and improve the use of information technology in education by the availability of telecommunications equipment for.			X
(a) The electronic exchange of information.			X
(b) Statewide electronic mail.			X
(c) Access to the Internet.			X
Discussion: *Outrigger supports the Hawaiʻi State Plan Priority Guideline Policy regarding quality education; however, this policy is directed toward government, and does not apply to the proposed revitalization project beyond the opportunities Outrigger provides through it career development.*			
226-107 Sustainability Priority Guidelines. (A) Priority guidelines to promote sustainability:			
(1) Encourage balanced economic, social, community, and environmental priorities	X		
(2) Encourage planning that respects and promotes living within the natural resources and limits of the State.	X		
(3) Promote a diversified and dynamic economy.	X		
4) Encourage respect for the host culture.	X		
(5) Promote decisions based on meeting the needs of the present without compromising the needs of future generations.	X		
(6) Consider the principles of the ahupuaʻa system.	X		
(7) Emphasize that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawaiʻi.	X		
Discussion: *Outrigger supports the Hawaiʻi State Plan Priority Guideline Policy promoting sustainability. The State established Green Business Standards for Hotels and Motels, which include standards for solid waste reduction and recycling, energy conservation standards, water conservation standards, and pollution prevention standards. Outrigger is dedicated to implementing sustainable business practices and was a 2014 recipient of the State's Green Business Award. Also in 2014, Outrigger Waikīkī properties collected 20 tons of recyclables and donated more than $30,000 in Hi5 redemption reimbursements to PACT, a local non-profit organization.* *Some of the sustainability initiatives and improvements taking place at the Outrigger Reef include reducing water consumption by installing ultra-low flow plumbing devices in all guest rooms and public areas; increasing energy efficiency by converting to 10.5 watt LED fixtures in all hotel floor corridors and installing temperature and humidity controls in each guest room with an energy-conserving mode option; increasing energy savings and efficiency through the installation of a new OTIS compass system for all elevators which improves flow of traffic; and reducing waste by recycling bottles and cans from the property. In 2012, Outrigger also installed electric vehicle charging stations at ten of its Waikīkī and Oʻahu properties to provide residents and visitors the opportunity to charge electric vehicles. Finally, Outrigger Enterprises is a Working Group Member of Hawaiʻi Green Growth, a multi-sector collaboration joining leaders and organizations in the energy, food, environment, and related green sectors.*			
226-109 Climate Change Adaptation Priority Guidelines. (A) Priority guidelines to adapt to climate change:			
(1) Ensure that Hawaii'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 Hawaii'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		

Table 5-1 HAWAIʻI STATE PLAN, HAWAIʻI REVISED STATUTES, CHAPTER 226 S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
(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.			
(10) Encourage planning and management of the natural and built environments that effectively integrate climate change policy.	X		
Discussion: *Outrigger supports the Hawaiʻi State Plan Priority Guideline Policy regarding climate change adaptation, and actively participates in a number of organizations dedicated to investing in environmental solutions relating to climate change. Outrigger was a signatory of the Memorandum of Agreement to establish and implement the PacIOOS, which is dedicated to improving the regional coastal observing system and focuses on six areas: water quality, coastal hazards, ocean conditions, marine ecosystems, modeling, and data management. Outrigger is also part of the World Travel Tourism Council (WTTC), which in 2009 outlined the following focus efforts to support climate change mitigation and adaptation: accountability and responsibility; local community growth and capacity building; educating customers and stakeholders; greening supply chains; and innovation, capital investment, and infrastructure.*			

5.2.4 Hawaiʻi 2050 Sustainability Plan

In 2005, the Hawaiʻi State Legislature determined that the State of Hawaiʻi should be responsible not only for resolving current public needs, but provide guidance to assure that the preferred vision and goals for our future are met. Recognizing that the present generation must address sustainability issues essential to maintaining Hawaiʻi's quality of life for future generations, the State Legislature enacted Act 8 (2005), which provided for the development of a Sustainability Plan to address the vital needs of Hawaiʻi through the year 2050. Act 8 then established the Hawaiʻi 2050 Sustainability Task Force to review the Hawaiʻi State Plan and the State's comprehensive planning system and promulgated the creation of the Hawaiʻi 2050 Sustainability Plan (Hawaiʻi 2050). Hawaiʻi 2050 has as its main tenants a respect for culture, character, beauty, and history of the state's island communities; balance among economic, community, and environmental priorities; and an effort to meet the needs of the present without compromising the ability of future generations to meet their own needs. Hawaiʻi 2050 defines five goals intended to lead toward a sustainable future for Hawaiʻi. These goals are accompanied by specific strategic actions for implementation and indicators to measure the success or failure of these actions over time. *Table 5-2* provides and evaluation and summary of the project's compatibility with Hawaiʻi 2050.

Table 5-2 HAWAIʻI 2050 SUSTAINABILITY PLAN (SB2532 HD1, 2010 Legislative Session) S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
The State's first definition of sustainability: A. Hawaiʻi that achieves the following: • Respects the culture, character, beauty and history of our state's island communities • Strikes a balance among economic, social and community, and environmental priorities • Meets the needs of the present without compromising the ability of future generations to meet their own needs			
GOAL 1: Living sustainably is part of our daily practice in Hawaiʻi.			
Develop a sustainability ethic.	X		
Integrate sustainability principles and practices into public and private school curricula.			X
Develop a statewide marketing and public awareness campaign on sustainability principles and practices.	X		
Conduct ongoing forums and cross-sector dialogue to promote collaboration and progress on achieving Hawaiʻi's sustainability goals.	X		
Continually monitor trends and conditions in Hawaiʻi's economy, society and natural systems.	X		
Discussion: *Outrigger has made a commitment to sustainability in regard to the communities it services, its team members, guests, and the daily operations of its corporate properties. The State of Hawaiʻi has established Green Business Standards for Hotels and Motels, which include standards for solid waste reduction and recycling, energy conservation standards, water conservation standards, and pollution prevention standards. Outrigger is dedicated to implementing sustainable business practices and was a 2014 recipient of the State of Hawaiʻi's Green Business Award. In addition, Outrigger properties in Waikīkī collected 20 tons of recyclables in 2014 and donated more than $30,000 in Hi5 redemption reimbursements to PACT, a local non-profit organization.*			
GOAL 2: Our diversified and globally competitive economy enables us to meaningfully live, work and play in Hawaiʻi.			
Develop a more diverse and resilient economy.	X		
Provide incentives that foster sustainability-related industries, which include, but aren't limited to renewable energy, innovation and science-based industries, and environmental technologies.			X
Increase production and consumption of local foods and products, particularly agricultural products.	X		
Increase commercialization and technology transfer between post-secondary institutions and the business sector.			X
Support the building blocks for economic stability and sustainability.	X		
Recognize and support established industries such as the visitor industry, military, construction and agriculture as strong components of the Hawaiʻi economy.	X		
Provide incentives for industries to operate in more sustainable ways.			X
Attract local and outside capital and investments in Hawaiʻi's economic activities.	X		
Reduce regulations and lower the cost of running a business.			X
Increase the competitiveness of Hawaiʻi's workforce.	X		
Invest in and improve our public education system to provide for a skilled workforce.	X		
Create incentives and opportunities for workforce skills upgrade training programs, including the availability of remedial education programs.			X
Increase student enrollment in post-secondary educational programs.			X
Adopt living wage guidelines and measurements.			X
Identify, prioritize and fund infrastructure "crisis points" that need fixing.			X
Discussion: *The Outrigger Reef is an important piece of Waikīkī's economy. Implementation will result in a net increase of approximately 39 hotel units in the Outrigger Reef property. The increase in hotel operations and revitalized recreational resort areas will add to renewed economic activity. The Outrigger Reef project is expected to generate a total of 1,486 FTE development-related positions during the currently-projected construction period (2018 to 2020). There are also expected to be significant indirect contributions to the economy through associated visitor spending and off-site servicing and support operations to the Outrigger Reef. The project is expected to contribute $12.92 million in additional net revenue to the County over the 11-year period from 2018 to 2029. In addition, the project is expected to generate $39.90 million in State net revenue over the same period. In summary, the planned improvements are focused to balance the inventory of the Outrigger's hotel accommodations which will attract global interest, help to stabilize*			

Table 5-2 HAWAI'I 2050 SUSTAINABILITY PLAN (SB2532 HD1, 2010 Legislative Session) S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
Hawai'i's economy, and expand its influence in the hospitality industry. Finally, Outrigger provides opportunities for training & career development in the hospitality industry through its internship program.			
GOAL 3: Our natural resources are responsibly and respectfully used, replenished and preserved for future generations.			
Reduce reliance on fossil (carbon-based) fuels.	X		
Expand renewable energy opportunities.	X		
Increase energy efficiency in private and public buildings, including retrofitting existing buildings.	X		
Improve energy efficiencies and options in transportation.			X
Encourage the production and use of locally produced bio-fuels.			X
Adopt building codes that encourage "green building" technology.			X
Encourage all government agencies to adopt sustainable practices, including purchasing hybrid cars, buying biodegradable products, and mandating recycling.			X
Conserve water and ensure adequate water supply.	X		
Reduce water consumption by means of education and incentives.	X		
Encourage greater production and use of recycled water.	X		
Continually review water-conserving technologies for possible incorporation in county building codes.			X
Encourage price structures for water use that furthers conservation.			X
Require water conservation plans from large private users.			X
Increase recycling, reuse and waste reduction strategies.	X		
Provide greater protection for air, and land-, fresh water- and ocean-based habitats.	X		
Strengthen enforcement of habitat management.			X
Fund public and private conservation education.			X
Improve management of protected watershed areas.			X
Incorporate the values and philosophy of the ahupua'a resource management system as appropriate.			X
Establish funding for invasive species control and native ecosystems protection.			X
Conserve agricultural, open space and conservation lands and resources.	X		
Create compact patterns of urban development.	X		
Encourage "smart growth" concepts in land use and community planning.	X		
Research and strengthen management initiatives to respond to rising sea levels, coastal hazards, erosion and other natural hazards.			X
Develop a comprehensive environmental mapping and measurement system to evaluate the overall health and status of Hawai'i's natural ecosystems.			X
Discussion: *The Outrigger Reef is dedicated to sustainable business operations. At the Outrigger Reef, many recent and continuing initiatives and improvements are taking place to reduce their environmental impact. These improvements include reducing water consumption by installing ultra-low flow plumbing devices in all guest rooms and public areas; increasing energy efficiency by converting to 10.5 watt LED fixtures in all hotel floor corridors and installing temperature and humidity controls in each quest room with an energy-conserving mode option; increasing energy savings and efficiency through the installation of a new OTIS compass system for all elevators that improves flow of traffic; and reducing waste by recycling bottles and cans from the property. In 2014, Outrigger Waikīkī properties collected 20 tons of recyclables and donated more than $30,000 in Hi5 redemption reimbursements to PACT, a local non-profit organization.* *The renovations of the Outrigger Reef also support compact urban development and smart land use and community planning concepts. Renovating and improving previously developed properties allows for the conservation of open space and undeveloped land.*			
GOAL 4: Our community is strong, healthy, vibrant and nurturing, providing safety nets for those in need.			
Strengthen social safety nets.	X		
Increase affordable housing opportunities for households up to 140% of median income.			X
Ensure access to affordable health care for all residents.			X
Reduce crime and violence.			X

Table 5-2 HAWAI'I 2050 SUSTAINABILITY PLAN (SB2532 HD1, 2010 Legislative Session) S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
Provide access to elderly housing, care-giving and other long-term care services.			X
Invest in greater prevention and treatment of those suffering from substance abuse and mental illness.			X
Increase awareness of and competency in financial literacy and asset building.			X
Strengthen the nonprofit sector, philanthropy and volunteerism.			X
Ensure that persons with disabilities are afforded equal opportunity to participate & excel in all aspects of community life.	X		
Provide after-school and extra-curricular programs to enable Hawai'i's youth to broaden their life experiences.			X
Improve public transportation infrastructure and alternatives.	X		
Reduce traffic congestion.			X
Encourage and provide incentives for telecommuting.			X
Increase and improve bicycle and pedestrian facilities, including multi-use pathways.	X		
Strengthen public education.			X
Support parenting, educational and financial literacy initiatives that span early childhood through lifelong learning.			X
Increase high school graduation rates.			X
Strengthen career pathways for technical and trade schools that enhance Hawai'i's workforce.			X
Support post-secondary and distance learning programs that broaden personal and professional learning opportunities.			X
Provide access to diverse recreational facilities and opportunities.			X
Discussion: *The Outrigger Reef provides all of its guests with an equal opportunity to participate and enjoy its experiences. Planned improvements are intended to reduce service traffic congestion on Kālia Road with the construction of a new on-site loading area. The improvements along Kālia Road will also provide expanded and safer pedestrian walkways.*			
GOAL 5: Our Kanaka Maoli and island cultures and values are thriving and perpetuated.			
Honor Kanaka Maoli culture and heritage.	X		
Ensure the existence of and support for public and private entities that further the betterment of Kanaka Maoli.	X		
Increase fluency in Kanaka Maoli language. It is one of the official languages of Hawai'i.	X		
Sponsor cross-sector dialogue on Kanaka Maoli culture and island values.	X		
Protect Kanaka Maoli intellectual property and related traditional knowledge.			X
Provide Kanaka Maoli cultural education for residents, visitors and the general public.	X		
Celebrate our cultural diversity and island way of life.			
Identify and protect the places, features and sacred spaces that give Hawai'i its unique character and cultural significance.	X		
Increase the number of educators who teach cultural and historic education.			X
Enable Kanaka Maoli and others to pursue traditional Kanaka Maoli lifestyles and practices.			X
Provide Kanaka Maoli mentors with opportunities to pass on Hawaiian culture and knowledge to the next generation of Kanaka Maoli and others. The power of wisdom comes from communication.			X
Perpetuate Kanaka Maoli food production associated with land and ocean traditions and practices.			X
Provide support for subsistence-based businesses and economies.			X
Discussion: *Outrigger honors the indigenous Hawaiian culture and heritage while celebrating the diverse richness of Hawai'i's other cultural groups. Hawaiian influence and history have historically been incorporated into the architecture, paintings and artwork as well as hosting special cultural events and programs, and expanding on-site guest experiences to perpetuate a Hawaiian sense of place.* *At Waikīkī Beach Walk, Outrigger's regular free outdoor activities include Na Mele No Na Pua (a twice-a-month Sunday concert highlighting Hawaiian music), Hawaiian quilting demonstrations and classes as well as Ku Ha'aheo (Hawaiian entertainment and hula) on Tuesdays, Christmas Countdown (seven days of Hawaiian holiday music), an annual Waikīkī steel guitar festival, and a reception for the Royal Court during*			

Table 5-2 HAWAIʻI 2050 SUSTAINABILITY PLAN (SB2532 HD1, 2010 Legislative Session) S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
the annual Aloha festival. They also include the Chinese New Year's Festival, Honolulu Festival, Visitor Industry Charity Walk, and Pan-Pacific Festival. *At Outrigger Reef, the Kani Ka Pila Grille preserves the tradition of Hawaiian music in Waikīkī for visitors and residents alike in providing a venue for legends such as Uncle Cyril Pahinui to perform weekly, joined regularly by many Nā Hōkū Hanohano award winners and other musicians and their ʻohana. Outrigger also hosts an annual talent competition to foster the next generations who will carry on that tradition. The Outrigger Reef is also an integral part of Outrigger's ongoing major sponsorship of the Polynesian Voyaging Society through its quarterly O Ke Ke Kai Series with the Friends of Hōkūleʻa and Hawaiʻiloa, including recognition of the life and works of Herb Kawainui Kane, whose life and art are memorialized in the Ke Ola Kawainui Library near its lobby.*			

5.2.5 Hawaiʻi State Functional Plans

Developed in the late 1980s and early 1990s as part of the Statewide Planning System, the State Functional Plans are the primary guidance tools for implementing the Hawai'i State Plan. While the Hawaiʻi State Plan establishes long-term objectives for Hawaiʻi, the purposes of the Functional Plans are to identify major statewide concerns; define current strategies for the functional area; identify major relationships among functional areas; and to provide strategies for departmental policies, programs, and priorities. The Functional Plans provide guidance as to State and County roles and the allocation of resources to fulfill identified activities in the areas of agriculture, conservation lands, education, employment, energy, health, higher education, historic preservation, housing, human services, recreation, tourism, transportation, and water resources. The applicable Functional Plan for the project is the Tourism Functional Plan. The Tourism Functional Plan focuses on issues that are critical in maintaining a competitive edge in the global market. The overview of the plan includes objectives and potential implementing actions regarding issues of growth, physical development, environmental and cultural resources, community and visitor relations, career development, and marketing strategies. The applicable objectives, the associative policies, and recommended implementing actions that are applicable to the project are discussed in *Table 5-3*.

Table 5-3 HAWAI'I STATE TOURISM FUNCTIONAL PLAN S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
OBJECTIVE I.A: Development, implementation, and maintenance of policies and actions which support the steady and balanced growth of the visitor industry.	X		
Policy I.A.1. Identify and ensure a rate of industry growth that is consistent with the social, physical and economic needs of the residents and the preservation of Hawaiʻi's natural environment.	X		
Policy I.A.2. Ensure that visitor industry growth maximizes benefits to the residents of the State in general and revenues to State and County governments specifically.	X		
Policy I.A.3. Provide opportunities for the visitor industry to grow keeping in mind the effects of the importation of labor.	X		
Policy I.A.4. Ensure that the growth of the visitor industry assists in the overall State goal of expansion and diversification of the economy.	X		
Policy I.A.5. Ensure that the benefits of tourism development are spread evenly throughout the state, to the extent desired by the counties, by making special efforts to distribute growth to the Neighbor Islands.			X
Policy I.A.6. Identify, support, and coordinate priority statistical and research activities in tourism needed to support optimum tourism growth.			X

Table 5-3 HAWAI'I STATE TOURISM FUNCTIONAL PLAN S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
Discussion: *The project will lend to the growth of the visitor industry in Waikīkī. The new hotel units and amenity upgrades will positively contribute to the State's economic welfare. Economic expansion will result from increased employment, increased tax revenues to the State and County governments, and overall increased visitor spending. The project's economic impacts are discussed in Section 4.12.*			
OBJECTIVE II.A: Development and maintenance of well-designed visitor facilities and related developments which are sensitive to the environment, sensitive to neighboring communities and activities, and adequately serviced by infrastructure and support services.	X		
Policy II.A.1. Maintain high standards of overall quality of existing visitor destination and attraction areas.	X		
Policy II.A.2. Enhance tourism product and encourage continued development of a diverse range of tourism products.	X		
PolicyII.A.3. Facilitate the reasonable distribution of financial responsibilities between government and private parties to fund tourism-related capital improvements and related infrastructure requirements.	X		
Policy II.A.4. Coordinate tourism development planning with human resource planning.			X
Policy II.A. 5. Improve the availability of affordable housing for those employed in the visitor industry			X
Policy II.A.6. Improve accessibility and arrival conditions at ports of entry.			X
Policy II.A. 7. Improve the quality of existing parks and recreational areas, and ensure that sufficient recreational areas--including scenic byways and corridors--are available for the future.	X		
Policy II.A.8. Encourage the development of hotels and related facilities within designated visitor destination areas with adequate infrastructure and support services before development of other possible visitor destinations.	X		
Discussion: *The planned redevelopment will enhance the quality of accommodations and amenities within the Waikīkī Beach Walk, which is located in the designated Resort-Mixed Use area within the WSD. The demolition of the Diamond Head Tower and creation of a large beachside lawn area will improve the quality of the Waikīkī visitor destination experience. The revitalization of the retail storefronts and purposeful design of the pedestrian flow and movement through the Outrigger Reef property will reinvigorate the visitor experience. The new design improvements to the Outrigger Reef fronting Kālia Road will be an added benefit to the surrounding community, adding continuity to the Waikīkī Beach Walk pedestrian corridor, and will complement the surrounding character of Kālia Road.*			
OBJECTIVE III.A: Enhancement of respect and regard for the fragile environment which comprise Hawai'i's natural and cultural environment. Increased preservation and maintenance efforts.	X		
Policy III.A.I. Assist in preserving and maintaining recreational resources.	X		
Policy II I.A.2. Assist in preserving, perpetuating, and interpreting cultural, historic and archaeological resources. Preserve cultural authenticity as much as possible in commercialized and tourist-oriented presentations.	X		
Policy III.A.3. Assist in keeping Hawai'i clean, beautiful and safe.	X		
Discussion: *Outrigger strives to perpetuate a Hawaiian sense of place as well as promote a celebration through design of the richness and diversity of other cultures in Hawai'i. One of Outrigger's core values is "wahi," or place, and it is demonstrated in its commitment to protecting Hawai'i's pristine environment and conserving its natural resources through a number of sustainable business practices.* *OZONE is a global conservation initiative centered on protecting the health of coral reefs and the oceans surrounding the iconic beach destinations of Outrigger Resorts. OZONE generates awareness surrounding the status of coral reef systems while enhancing the Outrigger Resorts guest experience through education and authentic interaction. Guests have the opportunity to learn more about the platform via in-room videos and on-property lectures, while also being a part of the solution by panting a coral at participating properties.* *The worldwide kick-off for the program occurred June 2015 at the Waikīkī Aquarium with a celebration and the signing of a memorandum of agreement between Outrigger and NOAA, stating both parties' commitment to work together to support the conservation and education needs of the public. In addition to NOAA, strategic partnerships for OZONE include the Polynesian Voyaging Society, PacIOOS, and regional partners including the Waikīkī Aquarium.*			

Table 5-3 HAWAI'I STATE TOURISM FUNCTIONAL PLAN S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
At the Outrigger Reef, all guests were invited to the OZONE launch event at the Waikīkī Aquarium. An in-room video and informational pieces are provided to guests. The hotel is home to the interactive NOAA kiosk and hosts a quarterly O Ke Kai event with the Friends of Hōkū le'a and Hawai'iloa to highlight the worldwide voyage and the voyage's goal of education regarding ocean health.			
OBJECTIVE IV.A: Support of Hawai'i's diverse range of lifestyles and natural environment.	X		
Policy IV.A.1. Maintain a Visitor Impact Management System which monitors and disseminates information about visitor industry activities that affect the social, physical, and economic needs and aspirations of Hawai'i's people.			X
Policy IV.A.2. Make recommendations and disseminate information as needed to address impacts including, but not limited to, those identified through the Visitor Impact Management System.			X
Discussion: *Outrigger supports Hawai'i's diverse range of lifestyles and natural environments, offering access to outdoor ocean recreation, fine dining restaurants, conference facilities, spa facilities, and hotel accommodations. However, Outrigger does not have a direct relationship with the Visitor Impact Management System; therefore this project does not apply to this objective of the Tourism Functional Plan.*			
OBJECTIVE IV.B: Achievement of mutual appreciation among residents, visitors, and the visitor industry	X		
Policy IV.B.1. Expand and improve programs designed to inform residents about the contributions of the visitor industry (including job and small business opportunities, and community support), and the roles residents play in making the industry successful.	X		
Policy IV.B.2. Expand and improve programs designed to inform visitors about: what to expect when visiting Hawai'i, what is expected of them, water safety practices, and safety procedures in the event of emergencies.	X		
Policy IV.B.3. Develop, maintain, and encourage corporate citizenship programs which monitor and disseminate information about the type and degree of community support provided by tourism-related businesses, and which coordinate community needs and visitor industry contributions.	X		
Discussion: *Outrigger recognizes the importance of island residents, both as a source of its workforce and source of its visitor pool. Outrigger seeks to create an environment that is fun and safe for all of its guests and team members, with resort security and staff training in safety procedures in response to emergencies. Outrigger supports and takes part in corporate citizenship programs within the local community, supporting various causes and community-based organizations such as PACT, which receive the proceeds of recycled cans and bottles collected at the Outrigger Reef.*			
Objective V.A: Development of a productive workforce to maintain a high quality visitor industry.	X		
Policy V.A.1. Expand the available workforce taking into consideration seasonal unemployment and importation of labor.	X		
Policy V.A.2. Encourage development of training programs which improve the quality of services provided at tourism-related facilities.	X		
Discussion: *The project will expand employment by providing new operation-related jobs. Development of an expanding workforce will assist in maintaining a high quality visitor industry in Hawai'i. The high quality of service provided at all Outrigger properties reflects Outrigger's commitment to its existing staff and to the value of team building and employee training.*			
OBJECTIVE V.B. Enhancement of career and employment opportunities in the visitor industry.	X		
Policy V.B.1. Provide opportunities for Hawai'i's people to obtain job training and education that will allow for upward mobility within the visitor industry.	X		
Policy V.B.2. Encourage the visitor industry to consider Hawai'i residents first when hiring and to provide opportunities for upward mobility.	X		
Discussion: *Training and educational opportunities are provided to Outrigger's team members to foster a positive working environment. Moreover, the Outrigger offers internship opportunities to local college and high school students interested in learning about the operations of the visitor and hotel industry.*			
OBJECTIVE VI.A: Maintenance of a high customer awareness of Hawai'i as a visitor destination in specific desired market segments.	X		
Policy VI.A.1. Diversify pleasure markets geographically and by market segment through opening new source markets which exhibit desired characteristics and strong potential for growth, while allowing for a modest increase in established markets.	X		

Table 5-3 HAWAI'I STATE TOURISM FUNCTIONAL PLAN S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
Policy VI.A.2. Ensure that the business segment increases as a percentage of overall visitors.	X		
Policy VI.A.3. Provide adequate backup and support to maintain marketing campaigns. The following actions will be completed during the preparation and implementation of the marketing campaigns; however they are of such high priority that they merit specific mention.	X		
Discussion: *In Waikīkī, approximately 75% of the hotels opened in 1980 or earlier, illustrating the aging inventory of visitor units. The development of new hotel units at the Outrigger Reef will help Waikīkī stay competitive amidst an increasing global market demand for first-class accommodations.*			

5.2.6 Hawai'i Tourism Authority- Hawai'i Tourism Strategic Plan: 2005-2015

The Hawai'i Tourism Authority (HTA) was created in 1998 through a legislative act to strategically manage Hawai'i tourism, one of the leading sources of economic revenue for the State. The mission of the HTA is to manage Hawai'i tourism in a sustainable manner consistent with the state's economic goals, cultural values, preservation of natural resources, community desires, and visitor industry needs. In 2004, the HTA developed the *Hawai'i Tourism Strategic Plan: 2005-2015* (State TSP). The State TSP identifies a shared vision for Hawai'i tourism and stakeholders in creating a sustainable future for Hawai'i's visitor industry. The value created in the HTA nourishes a successful and sustainable visitor industry for Hawai'i tourism, residents, and stakeholders. The applicable strategies, programs, and plans within the State TSP are discussed below (*Table 5-4*).

Table 5-4 HAWAI'I TOURISM AUTHORITY - HAWAI'I TOURISM STRATEGIC PLAN: 2005-2015
The goal of the Hawai'i Tourism Strategic Plan (TSP): 2005-2015 is by the year 2015, tourism in Hawai'i will: 1) Honor Hawai'i's people and heritage; 2) value and perpetuate Hawai'i's natural and cultural resources; 3) engender mutual respect among all stakeholders; 4) support a vital and sustainable economy; and 5) provide a unique, memorable and enriching visitor experience.
Hawai'i Tourism Authority Strategic Initiatives, and Programs & Plans
1. Access
• The goal of the access initiative is to maintain and improve transportation access, infrastructure, and services; to facilitate travel to, from, and within Hawai'i.
• The HTA plays a supporting role for the access initiative. The primary programs include airlift efforts and statewide airport greeting programs.
• HTA's airlift development program is a cooperative program with airlines and wholesalers, to bring visitors to Hawai'i. HTA provides funding for cooperative programs in conjunction with airlines and travel wholesalers which were required to provide at least a 3:1 match in funds to support travel to the state during spring and fall periods. The HTA addresses changes in the airline industry through its work with airline consulting firms together with the Hawai'i Visitors and Convention Bureau, to monitor air access, conduct ongoing air service reviews, providing recommendations on maintaining and growing domestic and international lift to Hawai'i, and assisting with the state in discussion with airline carriers. Airline meetings also take place to facilitate relationships with current and potential airlines serving Hawai'i.
• The HTA Statewide Airport Greeting Program seeks to provide a positive arrival and departure experience that ensures a "Hawaiian sense of place" for Hawai'i's visitors at the Honolulu, Hilo, Kona, Kahului, and Līhu'e airports. Through entertainment, hula, lei greetings, hospitality services, visitor information, airport displays, and other services the spirit of Aloha and the uniqueness of the islands are showcased and shared with visitors.
Discussion: *Outrigger supports the HTA initiatives regarding transportation access to the State of Hawai'i; however, the initiative is directly applicable to government and not the project. The project is not a transportation-related infrastructure development.*
2. Communications and Outreach
• The goal of the communications and outreach initiative is to facilitate interaction among all stakeholders, improve the lines of communication and enhance greater understanding of roles, values and concerns.

Table 5-4 HAWAIʻI TOURISM AUTHORITY - HAWAIʻI TOURISM STRATEGIC PLAN: 2005-2015
• Through communications and community outreach activities information is provided to local stakeholder groups about agency initiatives, programs and plans as well as educating the public about tourism issues. The following ongoing communication efforts take place: news releases, monthly electronic newsletters distributed to government officials, industry leaders, and community members; speeches and presentations given by HTA board members, management and staff in Hawaiʻi and abroad; face-to-face meetings with government, industry, business, and community leaders statewide; and HTA supported web sites providing agency information, RFP's, marketing information, statistics, trip planning, safety, and information on annual events and seminars.
• Public relation efforts through media relations activities focused on educating and informing the local residents about HTA programs, and initiatives. Tourism 101 initiative launched in 2009 provides policy-makers with first-hand look at Hawaiʻi's visitor industry and the HTA through briefings with industry leaders, and site visits to visitor industry- related businesses. As a result of Act 5, Special Session of 2009, HTA began overseeing tourism research and data responsibilities previously conducted by State Department of Business, Economic Development, and Tourism ("DBEDT"). Hawaiʻi visitor statistics and other visitor related information is provided on the HTA Hawaiʻi Visitor Statistics News Releases available on HTA's website.
Discussion: *The Outrigger Reef offers conference and meeting room facilities to support the gathering of stakeholders and related industry leaders. Outrigger supports HTA efforts for communication and outreach and benefits directly from their marketing and tourism research data and statistics. The Outrigger Reef positively benefits from the communications and outreach provided by HTA as well as tourism research data and statistics.*
3. Hawaiian Culture
• The goal of the Hawaiian Culture initiative is to honor and perpetuate the Hawaiian culture & community.
• Recognizing that the Hawaiian culture and community is what makes Hawaiʻi unique and therefore critical to the sustainability of Hawaiʻi's visitor industry.
• Kūkulu Ola: Living Hawaiian Culture Community Program. HTA provides funding to organizations for various projects that help to strengthen and perpetuate Hawaiian culture. Review and evaluation of organizations submitting for funding is conducted by the HTA's Hawaiian Culture Program Advisory Council (HCPAC).
• HTA provides support to the Native Hawaiian Hospitality Association who focused their efforts in 2009 on developing a status report on the progress of Hawaiian Culture initiative for the industry and the community to accomplish the priorities of the Hawaiian Culture initiative in the State TSP.
• Additional funds are set aside to support a variety of Hawaiian culture programs. Some of these programs include the Council for Native Hawaiian Advancements Annual Conference, which seeks to empower and educate Native Hawaiians, and the Nā Hōkū Hanohano Awards which support Hawaiian music and artists.
Discussion: *Outrigger supports HTA's initiatives regarding honoring and perpetuating the Hawaiian culture and community. The revitalization of the Outrigger Reef in conjunction with the Waikīkī Beach Walk strives to contribute to the perpetuation of a Hawaiian sense of place in the historically and culturally important area. This philosophy and commitment is currently evident throughout the Waikīkī Beach Walk, where Native Hawaiian influence and history has been incorporated into the architecture, art, landscaping, and programs offered. Outrigger offers various educational opportunities for guests and the general public to learn about Hawaiian history, music, dance, art, and craft. Additionally, Outrigger supports other important cultural events to the community such the Aloha Festivals, which includes an afternoon luʻau luncheon and show, appearances by the Aloha Festivals Royal Court, and a special hoʻokupu presentation at the Outrigger Reef, and the annual Waikīkī Steel Guitar Festival celebrating the art of the Hawaiian steel guitar.* *At Outrigger Reef, the Kani Ka Pila Grille preserves the tradition of Hawaiian music in Waikīkī for visitors and residents alike in providing a venue for legends such as Uncle Cyril Pahinui to perform weekly, joined regularly by many Nā Hōkū Hanohano award winners and other musicians and their ʻohana. Outrigger also hosts an annual talent competition to foster the next generations who will carry on that tradition. The Outrigger Reef is also an integral part of Outrigger's ongoing major sponsorship of the Polynesian Voyaging Society through its quarterly O Ke Ke Kai Series with the Friends of Hōkūleʻa and Hawaiʻiloa, including recognition of the life and works of Herb Kawainui Kane, whose life and art are memorialized in the Ke Ola Kawainui Library near its lobby.*

Table 5-4 HAWAIʻI TOURISM AUTHORITY - HAWAIʻI TOURISM STRATEGIC PLAN: 2005-2015
4. Marketing
• The goal of the marketing initiative is to develop marketing programs that contribute to sustainable economic growth.
• The HTA board of directors allocates money to marketing-related initiatives to help stimulate travel to Hawaiʻi. Marketing opportunity fund created by the HTA provides the HTA flexibility to immediately respond and fund activities that will boost short-term travel to Hawaiʻi through putting funds into the marketplace to fund activities in North America, Japan, and Oceania.
• HTA aggressively pursues opportunities to market Hawaiʻi through: Leisure marketing, Business Marketing and Sports Marketing. Marketing categories include leisure marketing, Hawaiʻi arts program, corporate meetings & incentives, Hawaiʻi Convention Center, marketing flexibility fund, other marketing funds, reallocated marketing funds, marketing opportunity fund, sports, and HTA marketing projects. Focus is placed on source markets for visitors to Hawaiʻi including: North America, Japan, other Asia (South Korea and China), Oceania (Australia & New Zealand), and the German and United Kingdom marketplace.
• The HTA conducts Leisure Marketing through contracts with five marketing organizations: Hawaiʻi Visitors & Convention Bureau, Hawaiʻi Tourism Japan, Hawaiʻi Tourism Oceania, Hawaiʻi Tourism Asia, and Hawaiʻi Tourism Europe; to promote Hawaiʻi in major market areas which include U.S. East, U.S. West, Japan, Canada, and other developing international markets.
• Other marketing projects include industry stakeholder marketing meetings, Japan Hawaiʻi Tourism Council, and the Mahalo Month program designed as a destination educational program to increase visits to Hawaiʻi in spring by travel professionals. Additionally new images to the Knowledge Bank photo library for media usage, marketing of Hawaiʻi's arts & Culture to showcase the diversity of culture and arts Hawaiʻi has to offer throughout the year, and online marketing initiatives.
• Business marketing is strategized to promote Hawaiʻi as a preferred destination for business tourism (to attend corporate meetings, conventions or incentive conferences) by increasing promotional presence and brand identity of the destination on a global basis. Hawaiʻi Convention Center sales and marketing, and corporate meetings & incentives.
• Sporting event offer several benefits for Hawaiʻi: economic impact, media coverage, and enhancing residents' quality of life. Recognizing these benefits, HTA developed a sports marketing program designed to increase Hawaiʻi's sports presence to a globally competitive level and to facilitate sports business development in Hawaiʻi.
Discussion: *This initiative is directly applicable to government and not the Outrigger Reef. Outrigger benefits from the marketing provided by HTA in regard to leisure marketing and business marketing.*
5. Natural Resources
• The goal is to respect, enhance and perpetuate Hawaiʻi's natural resources to ensure a high level of satisfaction for residents and visitors.
• HTA's Natural Resources Program began fiscal year 2003 following a provision by the Hawaiʻi State Legislature in the 2002 Session that directed HTA to provide at least $1M annually from its budget to support efforts to manage, improve, and protect Hawaiʻi's natural environment and areas frequented by visitors. An additional $1M from HTA's Tourism Special Fund is also provided annually to the Hawaiʻi State Department of Land and Natural Resources (DLNR) to support the Nā Ala Hele Trails and Access Program and its State Parks Division. Funding also supports 26 community-based projects through the state.
• The HTA established the Natural Resources Advisory Group (NRAG), a group of individuals from the public and private sectors, whose expertise relative to Hawaiʻi's natural environment have helped to shape the HTA's Natural Resources Program in line with the State TSP by identifying priorities, establishing objectives and setting criteria.
Discussion: *Outrigger supports the HTA initiatives regarding respecting, enhancing, and perpetuating Hawaiʻi's natural resources for residents and visitors; however, the initiative is directly applicable to government and not the Outrigger Reef revitalization project. Outrigger benefits from the HTA Natural Resources Program, the Tourism Special Fund, and the Natural Resources Advisory Group (NRAG), as these initiatives are perpetuating the natural beauty in Hawaiʻi that many of its hotel guests seek as part of their visitor experience.*
6. Research and Planning
• The goal is to perform collaborative research and planning for use in the development of programs, policies and plans that will positively contribute to the state's economy, benefit the community and sustain Hawaiʻi's resources.
• The HTA continues its accountability measurement system to track the impact and effectiveness of its marketing programs in the three major marketing areas – U.S. West, U.S. East and Japan through the Marketing Effectiveness Study.

Table 5-4 HAWAIʻI TOURISM AUTHORITY - HAWAIʻI TOURISM STRATEGIC PLAN: 2005-2015
• HTA also conducts market share analysis of Hawaiʻi's major markets to further evaluate its performance against competitors.
• HTA conducts resident sentiments on tourism surveys to gauge resident's feelings about tourism and to understand stress triggers and benefits generated by Hawaiʻi's leading industry.
• HTA Strategic Plan: 2010-2012 is currently in its development stage. Inherent in the plan is the recognition that a successful, sustainable tourism industry honors Hawaiʻi's host culture, its customs and its history.
• HTA began overseeing tourism research functions and responsibilities previously conducted by DBEDT due to Act 5, Special Session of 2009.
Discussion: *Outrigger supports the HTA initiatives regarding research and planning in regards to Hawaiʻi's visitor industry; however, the initiative is directly applicable to government and not to the Outrigger Reef project. Outrigger benefits from the research and planning conducted by HTA in regard to the visitor industry.*
7. Safety & Security
• To achieve a safe Hawaiʻi visitor experience.
• HTA is committed to assisting other lead agencies and organizations that are responsible for ensuring that Hawaiʻi continues to be a safe and secure visitor destination. Safety and security actions through HTA include: crisis planning with the state, county, and visitor industry businesses, and federal emergency agencies; development of security camera surveillance systems - a state and county partnership, and visitor assistance programs.
Discussion: *Outrigger supports the HTA initiative regarding safety and security in regard to Hawaiʻi's visitor experience. Outrigger benefits from the safety and security initiative conducted by HTA in regards to the visitor industry. The safety and security of guests is extremely important and Outrigger actively participates in overall community efforts to create a safe environment in Waikīkī for visitors and residents.*
8. Tourism Product Development
• To provide a diverse and quality tourism product unique to Hawaiʻi that enhances the Hawaiʻi visitor experience and enriches resident's quality of life.
• The County Product Enrichment Program (CPEP) is a partnership between HTA and the four counties to diversify and enrich Hawaiʻi's tourism product in line with Chapter 201B of the Hawaiʻi Revised Statutes, which provides for HTA to coordinate the development of new products with the counties and other persons in the public and private sectors, including the development of sports, culture, health and wellness, education, technology, agriculture, and nature tourism. As HTA already has a program dedicated to sports tourism, the CPEP focuses on developing new and enhancing existing community –based events, experiences and projects related to activities in the other six niche areas.
• HTA supports Major Festivals that portray the diversity and culture of Hawaiʻi while drawing significant attendance to the state. Technical assistance and capacity building support is provided to festival and event organizers for capacity building and improving the quality of festivals and events offered in the state. Two efforts under this include the Annual Festivals and Events Seminar and the Certified Festival and Event Executive Program.
Discussion: *Outrigger supports the HTA initiative regarding tourism product development; The Outrigger Reef project will provide new beachfront hotel rooms. Outrigger does benefit from the programs associated with tourism product development initiative, which are aimed to improve Hawaiʻi's tourism product line. Outrigger supports other important events such the Aloha Festivals, which includes an afternoon luʻau luncheon and show, appearances by the Aloha Festivals Royal Court, and a special hoʻokupu presentation at the Outrigger Reef, and the annual Waikīkī Steel Guitar Festival celebrating the art of the Hawaiian steel guitar.*
9. Workforce Development
• To ensure a sufficient and highly- qualified workforce that is provided with meaningful careers and advancement opportunities.
• Hiring of a Tourism Workforce Coordinator, establishment of a Tourism Workforce Advisory Council, and establishment of a tourism workforce web site were implemented through partnership with the State Department of Labor and Industrial Relations as recommended in the Tourism Workforce Development Strategic Plan 2007-2015, as workforce development initiatives.

Table 5-4 HAWAIʻI TOURISM AUTHORITY - HAWAIʻI TOURISM STRATEGIC PLAN: 2005-2015
• Hospitality education program is an expansion of the Academy of Hospitality of Tourism program (AOHT). The program focuses on encouraging Hawaiʻi students to consider a career in Hawaiʻi's visitor industry in an effort to sustain and support current and future industry workforce.
• Chinese, Korean, and Japanese Language and Culture Training programs to prepare visitor industry workforce with the tools they need through HTA partnership with Kapiʻolani Community College (KCC).
• Hoʻokipa Me Ke Aloha Program is an initiative through KCC's interpreted Hawaiʻi Program, to work with selected trainers statewide and certify them to deliver hospitality training to their respective islands. Industry personnel learn practical methods to enhance customer service practices with traditional Hawaiian values that can be uniformly applied to co-worker, community and customer interactions.
Discussion: *Outrigger supports the HTA initiative regarding workforce development in regard to Hawaiʻi's visitor experience, as Outrigger benefits from the workforce development initiative conducted by HTA. Attracting a highly qualified workforce and providing meaningful careers to team members specializing in the hospitality industry results in an improved guest experience and success of a resort.*

5.2.7 Coastal Zone Management, Hawaiʻi Revised Statutes Chapter 205A

Under HRS Chapter 205A, the CMP is a comprehensive nationwide program that establishes and enforces standards and policies to guide the development of public and private lands within the coastal areas. In the State of Hawaiʻi, the CMP is articulated in the State CZM Law in Chapter 205A of the HRS. The State CZM objectives and policies address the following 10 subject areas: (1) recreational resources, (2) historic resources, (3) scenic and open space resources, (4) coastal ecosystems, (5) economic uses, (6) coastal hazards, (7) managing development, (8) public participation, (9) beach protection, and (10) marine resources. Virtually all relate to potential development impacts on the shoreline, near shore, and ocean area environments. The Hawaiʻi CZM Law charges the counties with designating and administering SMA within the State's coastal areas. A "development", as defined by the CZM Law, that is located within the SMA requires a Special Management Area Use Permit (SMP).

Discussion: *The project is located within the SMA, and subject to the Hawaiʻi Coastal Zone Management and City and County of Honolulu's SMA policies and controls. Table 5-5 outlines the objectives and policies of HRS Chapter 205A and discusses the applicability to the project.*

Table 5-5 COASTAL ZONE MANAGMENT PROGRAM HRS SECTION 205 A- OBJECTIVES AND POLICIES S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
OBJECTIVES & POLICIES			
(1) Recreational resources;			
Provide coastal recreational opportunities accessible to the public.			
(A) Improve coordination and funding of coastal recreational planning and management; and			X
(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;	X		
(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;	X		
(iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;	X		

Table 5-5 COASTAL ZONE MANAGMENT PROGRAM HRS SECTION 205 A- OBJECTIVES AND POLICIES S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
(iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;	X		
(v) Ensuring public recreational uses of county, state and federally-owned or controlled shoreline lands having recreational value consistent with public safety standards and conservation of natural resources.			X
(vi) Adopting water quality standards and regulating point and non-point sources of pollution to protect	X		
(vii) Developing new shoreline recreational opportunities	X		
(viii) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of section 46-6.	X		
Discussion: *Outrigger fully supports CZM objectives for recreational opportunities. The Outrigger Reef is a beach resort ensuring access to coastal recreational opportunities. Amenities will include parking, shopping, and open space recreation. Improvements to the Kālia gateway entrance of the Outrigger Reef will enhance both the pedestrian and vehicular experience to the shoreline. The Outrigger Reef also provides educational programs to encourage responsible stewardship of the ocean resources.*			
(2) Historic resources;			
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.			
(A) Identify and analyze significant archaeological resources;	X		
(B) Maximize information retention through preservation of remains and artifacts or salvage operations; and	X		
(C) Support state goals for protection, restoration, interpretation, and display of historic resources.	X		
Discussion: *The Outrigger Reef supports the CZM historic resources objective and policies to protect, preserve, and where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture. An AMP and a CIA were prepared for the SEIS. Previous archaeological investigations within the immediate project area have not identified any historic properties within the immediate project area. Extensive archaeological monitoring has also occurred over the years within the project area. Most significant finds have been artifacts that include bottle fragments, ceramics, glassware, metal, clay tiles, and animal bone. Interpretation and display of cultural and historical resources and values are part of the Outrigger Reef experience. Guests and the public are made aware of the area's rich history through educational programs, interpretive displays, special events, and visitor materials.*			
(3) Scenic and open space resources;			
Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.			
(A) Identify valued scenic resources in the coastal zone management area;	X		
(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;	X		
(C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and	X		
(D) Encourage those developments that are not coastal dependent to locate in inland areas.			X
Discussion: *The Outrigger Reef is an existing resort hotel located along the Waikīkī shoreline. The property is located within the SMA and two of the existing buildings are located within the 40 ft shoreline setback. The revitalization project will include the demolition of the existing 5-story Diamond Head Tower that currently runs along Waikīkī Beach. New hotel units connecting the existing Pacific and Ocean Towers will be constructed outside of the shoreline setback, creating a smoother transition and greater sense of open space from the beach into the property. In general, improvements will be made to the street side*			

Table 5-5 COASTAL ZONE MANAGMENT PROGRAM HRS SECTION 205 A- OBJECTIVES AND POLICIES S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
appearance and enhance the visitor arrival experience. Landscaping and pedestrian walkways fronting the Kālia Gateway will be opened up, invoking a more appealing welcoming pedestrian experience.				
(4)	**Coastal ecosystems;**			
	Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.			
(A)	Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;	X		
(B)	Improve the technical basis for natural resource management;			X
(C)	Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;	X		
(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	X		
(E)	Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and non-point source water pollution control measures.	X		
Discussion: *The Outrigger Reef revitalization minimizes the disruption or degradation of coastal water ecosystems and exercises an overall conservation ethic in the use of marine and coastal resources. The project includes the redevelopment of the existing resort area, with a vision to create a more gradual transition from the shoreline to the property. An SMA Minor Modification and Shoreline Setback Variance will be obtained as part of the approval processes, and all aspects of the project will comply with coastal and environmental rules and regulations. In order to minimize impacts to the coastal ecosystems, runoff will generally be contained on-site and disposed of by percolation in landscaped areas. Water quality studies conducted as part of this SEIS have verified that the project should have little to no potential to alter the marine environment fronting the project site.* *OZONE is a global conservation initiative centered on protecting the health of coral reefs and the oceans surrounding the iconic beach destinations of Outrigger Resorts. OZONE generates awareness surrounding the status of coral reef systems while enhancing the Outrigger Resorts guest experience through education and authentic interaction. Guests have the opportunity to learn more about the platform via in-room videos and on-property lectures, while also being a part of the solution by panting a coral at participating properties.* *The worldwide kick-off for the program occurred June 2015 at the Waikīkī Aquarium with a celebration and the signing of a memorandum of agreement between Outrigger and NOAA, stating both parties' commitment to work together to support the conservation and education needs of the public. In addition to NOAA, strategic partnerships for OZONE include the Polynesian Voyaging Society, PacIOOS, and regional partners including the Waikīkī Aquarium.* *At the Outrigger Reef, all guests were invited to the OZONE launch event at the Waikīkī Aquarium. An in-room video and informational pieces are provided to guests. The hotel is home to the interactive NOAA kiosk and hosts a quarterly O Ke Kai event with the Friends of Hōkū leʻa and Hawaiʻiloa to highlight the worldwide voyage and the voyage's goal of education regarding ocean health.*				
(5)	**Economic uses;**			
	Provide public or private facilities and improvements important to the State's economy in suitable locations.			
(A)	Concentrate coastal dependent development in appropriate areas;	X		
(B)	Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and	X		

Table 5-5 COASTAL ZONE MANAGMENT PROGRAM HRS SECTION 205 A- OBJECTIVES AND POLICIES S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
(C) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when: (i) Use of presently designated locations is not feasible; (ii) Adverse environmental effects are minimized; and (iii) The development is important to the State's economy.	X		
Discussion: *The Outrigger Reef is located in WSD Resort Mixed-Use Precinct. Situated along the beach of Waikīkī and within the SMA, the project will comply with County, State and Federal regulations regarding development along the coastal and shoreline environment. The Outrigger Reef revitalization features expanded retail and restaurant space to serve visitors and local residents. Improvements are being made to the guest arrival experience, upgraded pool amenities, new meeting facilities, reconfigured parking, loading, and service routes, and the development of new hotel units. The project is a significant financial investment into the economy of Hawai'i. This project will continue Outrigger's efforts as a leader to position the State of Hawai'i in the global resort destination market.*			
(6) Coastal hazards;			
Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.			
(A) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and non-point source pollution hazards;	X		
(B) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and non-point source pollution hazards;	X		
(C) Ensure that developments comply with requirements of the Federal Flood Insurance Program; and	X		
(D) Prevent coastal flooding from inland projects.	X		
Discussion: *Most of Waikīkī, including the project site, is located within the State's tsunami evacuation zone. The immediate Outrigger Reef area is contained within the Federal Emergency Management Agency AE flood zone. Coordination with both State and City & County of Honolulu Civil Defense will be ongoing to ensure the project will be designed in accordance to standards for tsunami preparedness and flood proofing of permitted uses. Hotel security and staff are trained to address a range of situations that require immediate response to emergencies or unlawful activity on-site. Response plans are also in place in the event of natural disasters.*			
(7) Managing development;			
Improve the development review process, communication, and public participation in the management of coastal resources and hazards.			
(A) Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;	X		
(B) Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and	X		
(C) Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.	X		
Discussion: *Outrigger is communicating potential short-term and long-term impacts of the redevelopment on coastal areas early in the planning process through this SEIS document. The Outrigger Reef revitalization will require an application and approval of development permits in which public review and comment are essential components of the process. Additionally, in the early stages of planning and design, Outrigger has held a series of informal and formal presentations with interested organizations to discuss potential impacts the project may have. Outrigger will continue to hold these types of meetings and presentations to keep the public informed throughout the various processes.*			
(8) Public participation;			
Stimulate public awareness, education, and participation in coastal management.			
(A) Promote public involvement in coastal zone management processes;	X		

Table 5-5 COASTAL ZONE MANAGMENT PROGRAM HRS SECTION 205 A- OBJECTIVES AND POLICIES S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
(B) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and	X		
(C) Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.	X		
Discussion: *Outrigger supports CZM's stipulation for open streams of communication and public participation throughout the redevelopment process. All information regarding planned improvements and possible coastal management issues and mitigation strategies are detailed in Outrigger's documentation and presentations.*			
(9) Beach protection;			
Protect beaches for public use and recreation.			
(A) Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;	X		
(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	X		
(C) Minimize the construction of public erosion-protection structures seaward of the shoreline.	X		
Discussion: *Outrigger recognizes the cultural and ecologic importance of Waikīkī Beach, one of the area's greatest natural assets, and supports the CZM Program's policy for beach protection. The project does not include plans for direct alteration of the shoreline or offshore areas. Existing stormwater collection, storage, treatment, and disposal systems will be maintained. Water quality is currently within DOH compliance.*			
(10) Marine resources;			
Promote the protection, use, and development of marine and coastal resources to assure their sustainability.			
(A) Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;	X		
(B) Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;	X		
(C) Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;			X
(D) Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and	X		
(E) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.			X
Discussion: *While the project includes improvements to existing structures along the shoreline, the redevelopment will reconfigure the Outrigger Reef to create a more gradual transition from the beach to the property, with the demolition of the Diamond Head tower and the construction of new hotel units connecting the existing Pacific and Ocean Towers located outside of the shoreline setback. The Outrigger Reef will work on obtaining approvals for an SMA Minor Modification as well as a Shoreline Setback Variance. Once the project is approved to more forward, all rules, regulations, and best management practices will be implemented to ensure the highest standards of environmental monitoring and compliance.*			

5.3 CITY AND COUNTY OF HONOLULU PLANS, POLICIES AND CONTROLS

5.3.1 City and County of Honolulu General Plan

The General Plan of the City and County of Honolulu is a statement of long-range socio-economic, environmental, and design objectives and policies to be achieved for the general prosperity and welfare for the people of the city. It is intended to serve as a guide for all levels of

government, private enterprise, neighborhood and citizen groups, organizations, and individual citizens (City and County of Honolulu Revised Charter 2000, Sec. 6-1508). The General Plan consists of eleven subject areas and provides the framework for the City's expression of public policy concerning the needs of the people and the functions of government. The subject areas address all aspects of health, safety, and welfare for Oʻahu's communities, and include: population trends and growth, economic activity, the natural environment, housing, transportation and utilities, energy, physical development and urban design, public safety, health and education, culture and recreation, and government operations and fiscal management. *Table 5-6* discusses how the project addresses the applicable objectives and policies of the City and County of Honolulu General Plan.

Table 5-6 CITY & COUNTY OF HONOLULU GENERAL PLAN - OBJECTIVES AND POLICIES **S = Supportive, N/S = Not Supportive, N/A = Not Applicable**	**S**	**N/S**	**N/A**
PART I: POPULATION			
OBJECTIVE A: To control the growth of Oʻahu's resident and visitor populations in order to avoid social, economic, and environmental disruptions.			
Policy 1: Participate in State and Federal programs which seek to develop social, economic, legal, and environmental controls over population growth.			X
Policy 2: Seek a balance between the rate of in-migration and the rate of out-migration by reducing in-migration.			X
Policy 3: Support Federal policies providing for a more even distribution of immigrants throughout the country.			X
Policy 4: Seek to maintain a desirable pace of physical development through City and County regulations.	X		
Policy 5: Encourage family planning.			X
Policy 6: Publicize the desire of the City and County to limit population growth.			X
OBJECTIVE B: To plan for future population growth.			
Policy 1: Allocate efficiently the money and re- sources of the City and County in order to meet the needs of Oʻahu's anticipated future population.			X
Policy 2: Provide adequate support facilities to accommodate future growth in the number of visitors to Oʻahu.	X		
OBJECTIVE C: To establish a pattern of population distribution that will allow the people of Oʻahu to live and work in harmony.			
Policy 1: Facilitate the full development of the primary urban center.	X		
Policy 2: Encourage development within the secondary urban center at Kapolei and the ʻEwa and Central Oʻahu urban-fringe areas to relieve developmental pressures in the remaining urban-fringe and rural areas and to meet housing needs not readily provided in the primary urban center.			X
Policy 3: Manage physical growth and development in the urban-fringe and rural areas so that: (a) An undesirable spreading of development is prevented; and (b) Their population densities are consistent with the character of development and environmental qualities desired for such areas.			X
Policy 4: (Amended, Resolution 02-205, CD1): Direct growth according to Policies 1, 2, and 3 above by providing land development capacity and needed infrastructure to seek a 2025 distribution of Oʻahu's residential population as follows:	X		

Location	% Share of 2025 Island-wide Population
Primary Urban Center	46.0%
ʻEwa	13.0%
Central Oʻahu	17.0%
East Honolulu	5.3%
Koʻolaupoko	11.6%
Koʻolauloa	1.4%
North Shore	1.7%
Waiʻanae	4.0%

Discussion: *The Outrigger Reef revitalization is an opportunity to direct population and employment center growth in a manner consistent with planned development in the PUC.*

Table 5-6 CITY & COUNTY OF HONOLULU GENERAL PLAN - OBJECTIVES AND POLICIES S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
PART II: ECONOMIC ACTIVITY			
OBJECTIVE A: To promote employment opportunities that will enable all the people of Oʻahu to attain a decent standard of living.			
Policy 1: Encourage the growth and diversification of Oʻahu's economic base.	X		
Policy 2: Encourage the development of small businesses and larger industries, which will contribute to the economic and social well-being of Oʻahu residents.	X		
Policy 3: Encourage the development in appropriate locations on Oʻahu of trade, communications, and other industries of a nonpolluting nature.			X
Policy 4: Encourage the development of local, national, and world markets for the products of Oʻahu-based industries.			X
Policy 5: Encourage the wider distribution of available employment opportunities through such methods as shortening the work-week and reducing the use of overtime.			X
Policy 6: Encourage the continuation of a significant level of Federal employment on Oʻahu.			X
OBJECTIVE B: To maintain the viability of Oʻahu's visitor industry.			
Policy 1: Provide for the long-term viability of Waikīkī as Oʻahu's primary resort area by giving the area priority in visitor industry related public expenditures.	X		
Policy 2: Provide for a high quality and safe environment for visitors and residents in Waikīkī.	X		
Policy 3: Encourage private participation in improvements to facilities in Waikīkī.	X		
Policy 4: Prohibit major increases in permitted development densities in Waikīkī.	X		
Policy 5: Prohibit further growth in the permitted number of hotel and resort condominium units in Waikīkī.	X		
Policy 6: Permit the development of secondary resort areas in West Beach, Kahuku, Makaha, and Lāʻie.			X
Policy 7: Manage the development of secondary resort areas in a manner which respects existing lifestyles and the natural environment, and avoids substantial increases in the cost of providing public services in the area.			X
Policy 8: Preserve the well-known and widely publicized beauty of Oʻahu for visitors as well as residents.	X		
Policy 9: Encourage the visitor industry to provide a high level of service to visitors.	X		
OBJECTIVE C: To maintain the viability of agriculture on Oʻahu.			
Policy 1: Assist the agricultural industry to ensure the continuation of agriculture as an important source of income and employment.			X
Policy 2: Support agricultural diversification in all agricultural areas on Oʻahu.	X		
Policy 3: Support the development of markets for local products, particularly those with the potential for economic growth.	X		
Policy 4: Provide sufficient agricultural land in ʻEwa, Central Oʻahu, and the North Shore to encourage the continuation of sugar and pineapple as viable industries.			X
Policy 5: Maintain agricultural land along the Windward, North Shore, and Waiʻanae coasts for truck fanning, flower growing, aquaculture, livestock production, and other types of diversified agriculture.			X
Policy 6: Encourage the more intensive use of productive agricultural land.			X
Policy 7: Encourage the use of more efficient production practices by agriculture, including the efficient use of water.			X
Policy 8: Encourage the more efficient use of non- potable water for agricultural use.			X
OBJECTIVE D: To make full use of the economic resources of the sea.			
Policy 1: Assist the fishing industry to maintain its viability.			X
Policy 2: Encourage the development of aquaculture, ocean research, and other ocean- related industries.			X
Policy 3: Focus the development of ocean related economic activities in the Northwestern Hawaiian Islands on those, which are compatible with preserving the area's unique environmental, marine, and wildlife assets.			X
OBJECTIVE E: To prevent the occurrence of large-scale unemployment.			
Policy 1: Encourage the training and employment of present residents for currently available and future jobs.	X		
Policy 2: Make full use of State and Federal employment and training programs.			X
Policy 3: Encourage the provision of retraining programs for workers in industries with planned reductions in their labor force.			X

Table 5-6 CITY & COUNTY OF HONOLULU GENERAL PLAN - OBJECTIVES AND POLICIES S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
OBJECTIVE F: To increase the amount of Federal spending on Oʻahu.			
Policy 1: Take full advantage of Federal programs and grants which will contribute to the economic and social well-being of Oʻahu's residents.			X
Policy 2: Encourage the Federal government to pay for the cost of public services used by Federal agencies.			X
Policy 3: Encourage the Federal government to lease new facilities rather than construct them on tax exempt public land.			X
Policy 4: Encourage the military to purchase locally all needed services and supplies which are available on Oʻahu.			X
OBJECTIVE G: To bring about orderly economic growth on Oʻahu.			
Policy 1: Direct major economic activity and government services to the primary urban center and the secondary urban center at Kapolei.			X
Policy 2: Permit the moderate growth of business centers in the urban-fringe areas.			X
Policy 3: Maintain sufficient land in appropriately located commercial and industrial areas to help ensure a favorable business climate on Oʻahu.	X		
Policy 4: Encourage the continuation of a high level of military-related employment in the Hickam-Pearl Harbor, Wahiawā, Kailua-Kāneʻohe, and ʻEwa areas.			X
Discussion: *The Outrigger Reef revitalization will add to the economic activity of Waikīkī, and uphold it as the State's most prominent economic asset. Moreover, the redevelopment of the Outrigger Reef and its benefits to the surrounding area will strengthen Waikīkī's competitive position in the global tourism market, in a time where Hawaiʻi must keep pace with the quickly evolving expectations of visitors. The project promotes the ongoing improvement and transformation of Waikīkī for a global audience seeking first-class vacation experiences. The Outrigger Reef will continue to be a critical piece of the economic equation in Waikīkī. Implementation will result in a net increase of approximately 39 hotel units in the Outrigger Reef property. The increase in hotel operations and revitalized recreational resort areas will add to renewed economic activity. The Outrigger Reef project is expected to generate a total of 1,486 FTE development-related positions during the currently-projected construction period (2018 to 2020). There are also expected to be significant indirect contributions to the economy through associated visitor spending and off-site servicing and support operations to the Outrigger Reef. The project is expected to contribute $12.92 million in additional net revenue to the County over the 11-year period from 2018 to 2029. In addition, the project is expected to generate $39.90 million in State net revenue over the same period. In summary, the planned improvements are focused to increase the inventory of the Outrigger's hotel accommodations which will attract global interest, add to Waikīkī's economy, and expand its influence in the visitor industry. The proposed improvements will also create positive direct, indirect, and induced fiscal benefits for neighboring shops, markets, and restaurants through increased spending by its hotel visitors.*			
PART III: NATURAL ENVIRONMENT			
OBJECTIVE A: To protect and preserve the natural environment.			
Policy 1: Protect Oʻahu's natural environment, especially the shoreline, valleys, and ridges, from incompatible development.	X		
Policy 2: Seek the restoration of environmentally damaged areas and natural resources.	X		
Policy 3: Retain the Island's streams as scenic, aquatic, and recreation resources.	X		
Policy 4: Require development projects to give due consideration to natural features such as slope, flood and erosion hazards, water- recharge areas, distinctive land forms, and existing vegetation.	X		
Policy 5: Require sufficient setbacks of improvements in unstable shoreline areas to avoid the future need for protective structures.	X		
Policy 6: Design surface drainage and flood-control systems in a manner, which will help preserve their natural settings.	X		
Policy 7: Protect the natural environment from damaging levels of air, water, and noise pollution.	X		
Policy 8: Protect plants, birds, and other animals that are unique to the State of Hawaiʻi and the Island of Oʻahu.	X		
Policy 9: Protect mature trees on public and private lands and encourage their integration into new developments.	X		

Table 5-6 CITY & COUNTY OF HONOLULU GENERAL PLAN - OBJECTIVES AND POLICIES S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
Policy 10: Increase public awareness and appreciation of O'ahu's land, air, and water resources.	X		
Policy 11: Encourage the State and Federal governments to protect the unique environmental, marine, and wildlife assets of the Northwestern Hawaiian Islands.	X		
OBJECTIVE B: To preserve and enhance the natural monuments and scenic views of O'ahu for the benefit of both residents and visitors.			
Policy 1: Protect the Island's well-known resources: its mountains and craters; forests and watershed areas; marshes, rivers, and streams; shoreline, fishponds, and bays; and reefs and offshore islands.	X		
Policy 2: Protect O'ahu's scenic views, especially those seen from highly developed and heavily traveled areas.	X		
Policy 3: Locate roads, highways, and other public facilities and utilities in areas where they will least obstruct important views of the mountains and the sea.	X		
Policy 4: Provide opportunities for recreational and educational use and physical contact with O'ahu's natural environmental.	X		
Policy 5: Identify all areas where priority should be given to preserving rural character and lifestyle.			X
Policy 6: 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		
Policy 7: Protect and enhance Hawai'i's shoreline, open spaces, and scenic resources.	X		
Discussion: *Outrigger supports the protection and preservation of the natural environment including plants, trees, open spaces and shoreline resources. Recreational use of the public beach fronting the Outrigger Reef will continue to be promoted in an environmentally responsible manner. Short-term air quality, noise quality, and drainage issues related to construction activities will be mitigated. While the planned redevelopment does involve the modification of structures near the shoreline, a SMA Minor Modification and Shoreline Setback Variance will be obtained for the project. The project will comply with all rules and regulations to ensure continued environmental monitoring and protection. Building and site design will use principles that ensure compatibility with the character of the surrounding area.* *OZONE is a global conservation initiative centered on protecting the health of coral reefs and the oceans surrounding the iconic beach destinations of Outrigger Resorts. OZONE generates awareness surrounding the status of coral reef systems while enhancing the Outrigger Resorts guest experience through education and authentic interaction. Guests have the opportunity to learn more about the platform via in-room videos and on-property lectures, while also being a part of the solution by panting a coral at participating properties.* *The worldwide kick-off for the program occurred June 2015 at the Waikīkī Aquarium with a celebration and the signing of a memorandum of agreement between Outrigger and NOAA, stating both parties' commitment to work together to support the conservation and education needs of the public. In addition to NOAA, strategic partnerships for OZONE include the Polynesian Voyaging Society, PacIOOS, and regional partners including the Waikīkī Aquarium.* *At the Outrigger Reef, all guests were invited to the OZONE launch event at the Waikīkī Aquarium. An in-room video and informational pieces are provided to guests. The hotel is home to the interactive NOAA kiosk and hosts a quarterly O Ke Kai event with the Friends of Hōkū le'a and Hawai'iloa to highlight the worldwide voyage and the voyage's goal of education regarding ocean health.*			
PART IV: HOUSING			
OBJECTIVE A: To provide decent housing for all the people of O'ahu at prices they can afford.			
Policy 1: Develop programs and controls, which will provide decent homes at the least possible cost.			X
Policy 2: Streamline approval and permit procedures for housing and other development projects.			X
Policy 3: Encourage innovative residential development, which will result in lower costs, added convenience and privacy, and the more efficient use of streets and utilities.			X

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Policy 4: Establish public, and encourage private, programs to maintain and improve the condition of existing housing.			X
Policy 5: Make full use of State and Federal programs that provide financial assistance for low- and moderate-income homebuyers.			X
Policy 6: Expand local funding mechanisms available to pay for government housing programs.			X
Policy 7: Provide financial and other incentives to encourage the private sector to build homes for low and moderate-income residents.			X
Policy 8: Encourage and participate in joint public- private development of low- and moderate- income housing.			X
Policy 9: Encourage the preservation of existing housing which is affordable to low- and moderate-income persons.			X
Policy 10: Promote the construction of affordable dwellings, which take advantage of O'ahu's year-round moderate climate.			X
Policy 11: Encourage the construction of affordable homes within established low-density communities by such means as "'ohana" units, duplex dwellings, and cluster development.			X
Policy 12: Encourage the production and maintenance of affordable rental housing.			X
Policy 13: Encourage the provision of affordable housing designed for the elderly and the handicapped.			X
Policy 14: Encourage equitable relationships between landowners and leaseholders, between landlords and tenants, and between condominium developers and owners.			X
OBJECTIVE B: To reduce speculation in land and housing.			
Policy 1: Encourage the State government to coordinate its urban-area designations with the developmental policies of the City and County.			X
Policy 2: Discourage private developers from acquiring and assembling land outside of areas planned for urban use.			X
Policy 3: Seek public benefits from increases in the value of land owing to City and State developmental policies and decisions.			X
Policy 4: Require government-subsidized housing to be delivered to appropriate purchasers and renters.			X
Policy 5: Prohibit the selling or renting of government-subsidized housing for large profits.			X
OBJECTIVE C: To provide the people of O'ahu with a choice of living environments which are reasonably close to employment, recreation, and commercial centers and which are adequately served by public utilities.			
Policy 1: Encourage residential developments that offer a variety of homes to people of different income levels and to families of various sizes.			X
Policy 2: Encourage the fair distribution of low- and moderate-income housing throughout the Island.			X
Policy 3: Encourage residential development near employment centers.			X
Policy 4: Encourage residential development in areas where existing roads, utilities, and other community facilities are not being used to capacity.			X
Policy 5: Discourage residential development where roads, utilities, and community facilities cannot be provided at a reasonable cost.			X
Policy 6: Preserve older communities through self-help, housing-rehabilitation, improvement districts, and other governmental programs.			X
Discussion: *Outrigger supports the City and County of Honolulu General Plan in regard to housing; however, the policy relates to government and is not directly applicable to the project. The project does not relate to residential development.*			
PART V: TRANSPORTATION AND UTILITIES			
OBJECTIVE A: To create a transportation system which will enable people and goods to move safely, efficiently, and at a reasonable cost; serve all people, including the poor, the elderly, and the physically handicapped; and offer a variety of attractive and convenient modes of travel.			
Policy 1: Develop and maintain an integrated ground-transportation system consisting of the following elements and their primary purposes:			X
Public transportation-for travel to and from work, and travel within Central Honolulu;			X
Roads and highways-for commercial traffic and travel in non-urban areas			X

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Bikeways-for recreational activities and trips to work, schools, shopping centers, and community facilities; and			X
Pedestrian walkways-for getting around Downtown and Waikīkī, and for trips to schools, parks, and shopping centers.	X		
Policy 2: Provide transportation services to people living within the ʻEwa, Central Oʻahu, and Pearl City-Hawaiʻi Kai corridors primarily through a mass transit system including exclusive right-of-way rapid transit and feeder-bus components as well as through the existing highway system with limited improvements as may be appropriate.			X
Policy 3: Provide transportation services outside the ʻEwa, Central Oʻahu, and Pearl City-Hawaiʻi Kai corridors primarily through a system of express- and feeder-buses as well as through the highway system with limited to moderate improvements sufficient to meet the needs of the communities being served.			X
Policy 4: Improve transportation facilities and services in the ʻEwa corridor and in the trans-Koʻolau corridors to meet the needs of ʻEwa and Windward communities.			X
Policy 5: Improve roads in existing communities to reduce congestion and eliminate unsafe conditions.			X
Policy 6: Consider both environmental impact as well as construction and operating costs as important factors in planning alternative modes of transportation.			X
Policy 7: Promote the use of public transportation as a means of moving people quickly and efficiently, of conserving energy, and of guiding urban development.	X		
Policy 8: Make available transportation services to people with limited mobility: the young, the elderly, the handicapped, and the poor.			X
Policy 9: Promote programs to reduce dependence on the use of automobiles.	X		
Policy 10: Discourage the inefficient use of the private automobile, especially in congested corridors and during peak-hours.	X		
Policy 11: Make public, and encourage private, improvements to major walkway systems.	X		
Policy 12: Encourage the provision of separate aviation facilities for small civilian aircraft.			X
Policy 13: Facilitate the development of a second deep-water harbor to relieve congestion in Honolulu Harbor.			X
OBJECTIVE B: To meet the needs of the people of Oʻahu for an adequate supply of water and for environmentally sound systems of waste disposal.			
Policy 1: Develop and maintain an adequate supply of water for both residents and visitors.			X
Policy 2: Develop and maintain an adequate supply of water for agricultural and industrial needs.			X
Policy 3: Encourage the development of new technology, which will reduce the cost of providing water and the cost of waste disposal.			X
Policy 4: Encourage a lowering of the per-capita consumption of water and the per-capita production of waste.	X		
Policy 5: Provide safe, efficient, and environmentally sensitive waste-collection and waste- disposal services.	X		
Policy 6: Support programs to recover resources from solid-waste and recycle wastewater.	X		
Policy 7: Require the safe disposal of hazardous waste.	X		
OBJECTIVE C: To maintain a high level of service for all utilities.			
Policy 1: Maintain existing utility systems in order to avoid major breakdowns.	X		
Policy 2: Provide improvements to utilities in existing neighborhoods to reduce substandard conditions.	X		
Policy 3: Plan for the timely and orderly expansion of utility systems.	X		
Policy 4: Increase the efficiency of public utilities by encouraging a mixture of uses with peak periods of demand occurring at different times of the day.			X
OBJECTIVE D: To maintain transportation and utility systems which will help Oʻahu continue to be a desirable place to live and visit.			
Policy 1: Give primary emphasis in the capital- improvement program to the maintenance and improvement of existing roads and utilities.			X
Policy 2: Use the transportation and utility systems as a means of guiding growth and the pattern of land use on Oʻahu.			X
Policy 3: Encourage the study and use of telecommunications as an alternative to conventional transportation facilities.			X

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Policy 4: Evaluate the social, economic, and environmental impact of additions to the transportation and utility systems before they are constructed.	X		
Policy 5: Require the installation of underground utility lines wherever feasible.	X		
Policy 6: Seek improved taxing powers for the City and County in order to provide a more equitable means of financing transportation and utility services.			X
Discussion: *Outrigger supports the County's policy to create and maintain quality transportation and utility systems. The revitalization of the Outrigger Reef, as part of the larger Waikīkī Beach Walk, will improve vehicular, bicycle, and pedestrian traffic flow along Kālia Road. Alternative transportation, including The Bus and The Trolley, are accessible to the project site. Furthermore, Outrigger encourages its team members to consider alternative modes of transportation to work through pre-tax incentives for monthly bus pass holders.* *The Outrigger Reef will incorporate the latest technology in building design. Modern systems in new and renovated facilities will replace, where applicable, less efficient systems in older buildings improving the existing utility systems. The utility connections and infrastructure improvements required to support the proposed actions will be privately funded.*			
PART VI: ENERGY			
OBJECTIVE A: To maintain an adequate, dependable, and economical supply of energy for O'ahu residents.			
Policy 1: Develop and maintain a comprehensive plan to guide and coordinate energy conservation and alternative energy development and utilization programs on O'ahu.			X
Policy 2: Establish economic incentives and regulatory measures which will reduce O'ahu's dependence on petroleum as its primary source of energy.			X
Policy 3: Support programs and projects which contribute to the attainment of energy self- sufficiency on O'ahu.	X		
Policy 4: Promote and assist efforts to establish adequate petroleum reserves within Hawai'i's boundaries.			X
Policy 5: Give adequate consideration to environmental, public health, and safety concerns, to resource limitations, and to relative costs when making decisions concerning alternatives for conserving energy and developing natural energy resources.	X		
Policy 6: Work closely with the State and Federal governments in the formulation and implementation of all City and County energy-related programs.			X
OBJECTIVE B: To conserve energy through the more efficient management of its use.			
Policy 1: Ensure that the efficient use of energy is a primary factor in the preparation and administration of land use plans and regulations.	X		
Policy 2: Provide incentives and, where appropriate, mandatory controls to achieve energy- efficient siting and design of new developments.			X
Policy 3: Carry out public, and promote private, programs to more efficiently use energy in existing buildings and outdoor facilities.	X		
Policy 4: Promote the development of an energy- efficient transportation system.			X
OBJECTIVE C: To fully utilize proven alternative sources of energy.			
Policy 1: Encourage the use of commercially available solar energy systems in public facilities, institutions, residences, and business developments.	X		
Policy 2: Support the increased use of operational solid waste energy recovery and other biomass energy conversion systems.	X		
OBJECTIVE D: To develop and apply new, locally available energy resources.			
Policy 1: Support and participate in research, development, demonstration, and commercialization programs aimed at producing new, economical, and environmentally sound energy supplies from:			X
a. solar insulation;			X
b. biomass energy conversion;			X
c. wind energy conversion;			X
d. geothermal energy; and			X
e. ocean thermal energy conversion.			X
Policy 2: Secure State and Federal support of City and County efforts to develop new sources of energy.			X

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OBJECTIVE E: To establish a continuing energy information program.			
Policy 1: Supply citizens with the information they need to fully understand the potential supply, cost, and other problems associated with O'ahu's dependence on imported petroleum.			X
Policy 2: Foster the development of an energy conservation ethic among O'ahu residents.	X		
Policy 3: Keep consumers informed about available alternative energy sources and their costs and benefits.			X
Policy 4: Provide information concerning the impact of public and private decisions on future energy use.			X
Discussion: *The Outrigger Reef is a recognized member of the State of Hawai'i's Green Business Program, which assists and recognizes businesses that operate in an environmentally friendly way. The Green Business Standards for Hotels and Motels includes topic areas such as solid waste reduction and recycling standards, energy conservation standards, water conservation standards, and pollution prevention standards. Some efficient energy measures that may be included are innovative architectural design of buildings, high-efficiency air conditioners and appliances, and occupant-sensing environmental controls.*			
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.			
Policy 1: Plan for the construction of new public facilities and utilities in the various parts of the Island according to the following order of priority: first, in the primary urban center; second, in the secondary urban center at Kapolei; and third, in the urban- fringe and rural areas.	X		
Policy 2: Coordinate the location and timing of new development with the availability of adequate water supply, sewage treatment, drainage, transportation, and public safety facilities.	X		
Policy 3: Phase the construction of new developments so that they do not require more regional supporting services than are available.	X		
Policy 4: Require new developments to provide or pay the cost of all essential community services, including roads, utilities, schools, parks, and emergency facilities that are intended to directly serve the development.	X		
Policy 5: Provide for more compact development and intensive use of urban lands where compatible with the physical and social character of existing communities.	X		
Policy 6: Encourage the clustering of developments to reduce the cost of providing utilities and other public services.	X		
Policy 7: Locate new industries and new commercial areas so that they will be well related to their markets and suppliers, and to residential areas and transportation facilities.			X
Policy 8: Locate community facilities on sites that will be convenient to the people they are intended to serve.			X
Policy 9: Exclude from residential areas, uses which are major sources of noise and air pollution.			X
Policy 10: Establish danger zones to exclude incompatible uses from hazardous areas surrounding airfields, electromagnetic- radiation sources, and storage places for fuel and explosives.			X
Policy 11: Prohibit new airfields, electromagnetic-radiation sources, and storage places for fuel and explosives from locating on sites where they will endanger or disrupt nearby communities.			X
OBJECTIVE B: To develop Honolulu (Wai'alae-Kāhala to Halawā), 'Aiea, and Pearl City as the Island's primary urban center.			
Policy 1: Stimulate development in the primary urban center by means of the City and County's capital improvement program and State and Federal grant and loan programs.			X
Policy 2: Provide for the expanded development of low-rise multi-unit housing.			X
Policy 3: Encourage the establishment of mixed-use districts with appropriate design and development controls to insure an attractive living environment and compatibility with surrounding land uses.	X		
Policy 4: Provide downtown Honolulu and other major business centers with a well-balanced mixture of uses.	X		
Policy 5: Encourage the development of attractive residential communities in downtown and other business centers.			X
Policy 6: Maintain and improve downtown as the financial and office center of the Island, and as a major retail center.			X
Policy 7: Provide for the continued viability of the Hawai'i Capital District as a center of government activities and as an attractive park-like setting in the heart of the City.			X
Policy 8: Foster the development of Honolulu's waterfront as the State's major port and maritime center, as a people-oriented mixed-use area, and as a major recreation area.			X

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Policy 9: Facilitate the redevelopment of Kakaʻako as a major residential, as well as commercial and light industrial area.			X
OBJECTIVE C: To develop a secondary urban center in ʻEwa with its nucleus in the Kapolei area.			
Policy 1: Allocate funds from the City and County's capital-improvement program for public projects that are needed to facilitate development of the secondary urban center at Kapolei.			X
Policy 2: Encourage the development of a major residential, commercial, and employment center within the secondary urban center at Kapolei.			X
Policy 3: Encourage the continuing development of Barbers Point as a major industrial center.			X
Policy 4: Coordinate plans for the development of the secondary urban center at Kapolei with the State and Federal governments and with the sugar industry.			X
Policy 5: Cooperate with the State and Federal governments in the development of a deep water harbor at Barbers Point.			X
Policy 6: Encourage the development of the ʻEwa Marina Community as a major residential and recreation area emphasizing recreational boating activities through the provision of a major marina and a related maritime commercial center containing light-industrial, commercial, and visitor accommodation uses.			X
OBJECTIVE D: To maintain those development characteristics in the urban-fringe and rural areas which make them desirable places to live.			
Policy 1: Develop and maintain urban-fringe areas as predominantly residential areas characterized by generally low rise, low density development which may include significant levels of retail and service commercial uses as well as satellite institutional and public uses geared to serving the needs of households.			X
Policy 2: Coordinate plans for developments within the ʻEwa and Central Oʻahu urban-fringe areas with the State and Federal governments and with the sugar, pineapple, and other emerging agricultural industries.			X
Policy 3: Establish a green belt in the ʻEwa and Central Oʻahu areas of Oʻahu in the Development Plans.			X
Policy 4: Maintain rural areas as areas which are intended to provide environments supportive of lifestyle choices which are dependent on the availability of land suitable for small to moderate size agricultural pursuits, a relatively open and scenic setting, and/or a small town, country atmosphere consisting of communities which are small in size, very low density and low rise in character, and may contain a mixture of uses.			X
OBJECTIVE E: To create and maintain attractive, meaningful, and stimulating environments throughout Oʻahu.			
Policy 1: Prepare and maintain a comprehensive urban-design plan for the Island of Oʻahu.			X
Policy 2: Integrate the City and County's urban-design plan into all levels of physical planning and developmental controls.	X		
Policy 3: Encourage distinctive community identities for both new and existing districts and neighborhoods.	X		
Policy 4: Require the consideration of urban-design principles in all development projects.	X		
Policy 5: Require new developments in stable, established communities and rural areas to be compatible with the existing communities and areas.	X		
Policy 6: Provide special design standards and controls that will allow more compact development and intensive use of lands in the primary urban center.	X		
Policy 7: Promote public and private programs to beautify the urban and rural environments.	X		
Policy 8: Preserve and maintain beneficial open space in urbanized areas.	X		
Policy 9: Design public structures to meet high aesthetic and functional standards and to complement the physical character of the communities they will serve.			X
Policy 10: Establish a review process to evaluate the design of major development projects.			X
OBJECTIVE F: To promote and enhance the social and physical character of Oʻahu's older towns and neighborhoods.			
Policy 1: Encourage new construction to complement the ethnic qualities of the older communities of Oʻahu.			X
Policy 2: Encourage, wherever desirable, the rehabilitation of existing substandard structures.			X
Policy 3: Provide and maintain roads, public facilities, and utilities without damaging the character of older communities.	X		
Policy 4: Seek the satisfactory relocation of residents before permitting their displacement by new development, redevelopment, or neighborhood rehabilitation.			X

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Discussion: *The Outrigger Reef revitalization will promote development in a previously developed, compact property located in the PUC, WSD. The development is compatible with neighboring properties and community of high-rise resort and residential towers. The characteristics of design associated with project renovations and development will complement and align with the existing Waikīkī Beach Walk physical and social setting, in regard to landscape and architecture, as well as that of the surrounding community of Waikīkī. The project supports compact development by utilizing available vertical space while staying in alignment with building codes and standards.*			
PART VIII: PUBLIC SAFETY			
OBJECTIVE A: To prevent and control crime and maintain public order.			
Policy 1: Provide a safe environment for residents and visitors on O'ahu.	X		
Policy 2: Provide adequate criminal justice facilities and staffing for City and County law- enforcement agencies.			X
Policy 3: Emphasize improvements to police and prosecution operations which will result in a higher proportion of wrongdoers who are arrested, convicted, and punished for their crimes.			X
Policy 4: Keep the public informed of the nature and extent of criminal activity on O'ahu.			X
Policy 5: Establish and maintain programs to encourage public cooperation in the prevention and solution of crimes.			X
Policy 6: Seek the help of State and Federal law- enforcement agencies to curtail the activities of organized crime syndicates on O'ahu.			X
Policy 7: Conduct periodic reviews of criminal laws to ensure their relevance to the community's needs and values.			X
Policy 8: Cooperate with other law-enforcement agencies to develop new methods of fighting crime.			X
Policy 9: Encourage the improvement of rehabilitation programs and facilities for criminals and juvenile offenders.			X
OBJECTIVE B: To protect the people of O'ahu and their property against natural disasters and other emergencies, traffic and fire hazards, and unsafe conditions.			
Policy 1: Keep up-to-date and enforce all City and County safety regulations.	X		
Policy 2: Require all developments in areas subject to floods and tsunamis to be located and constructed in a manner that will not create any health or safety hazard.	X		
Policy 3: Participate with State and Federal agencies in the funding and construction of flood- control projects.			X
Policy 4: Cooperate with State and Federal agencies to provide tsunami warning and protection for O'ahu.			X
Policy 5: Cooperate with State and Federal agencies to provide protection from war, civil disruptions, and other major disturbances.			X
Policy 6: Reduce hazardous traffic conditions.	X		
Policy 7: Provide adequate fire protection and effective fire prevention programs.	X		
Policy 8: Provide adequate search and rescue and disaster response services.			X
Policy 9: Design safe and secure public buildings.			X
Policy 10: Provide adequate staff to supervise activities at public facilities.			X
Policy 11: Develop civil defense plans and programs to protect and promote public health, safety and welfare of the people.			X
Policy 12: Provide educational materials on civil defense preparedness, fire protection, traffic hazards and other unsafe conditions.	X		
Discussion: *Outrigger strongly supports the City and County of Honolulu General Plan policy regarding public safety. The revitalization project is consistent with existing land uses and is not anticipated to affect public health. The project will be conducted following all building codes and Occupational Safety and Health Administration (OSHA)/Hawai'i Occupational Safety and Health (HIOSH) standards to ensure the security of public health and safety are protected during construction and through day-to-day operations. The Outrigger Reef provides Safety & Security Officers who are uniformed and available 24 hours a day to help ensure the safety of visitors and guests. In the event of a natural disaster or emergency, Outrigger is equipped with educational materials and emergency procedures in order for guests to take proper action.*			

Table 5-6 CITY & COUNTY OF HONOLULU GENERAL PLAN - OBJECTIVES AND POLICIES S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
PART IX: HEALTH AND EDUCATION			
OBJECTIVE A: To protect the health of the people of O'ahu.			
Policy 1: Encourage the provision of health-care facilities that are accessible to both employment and residential centers.			X
Policy 2: Encourage prompt and adequate ambulance and first-aid services in all areas of O'ahu.	X		
Policy 3: Coordinate City and County health codes and other regulations with State and Federal health codes to facilitate the enforcement of air-, water-, and noise-pollution controls.			X
OBJECTIVE B: To provide a wide range of educational opportunities for the people of O'ahu.			
Policy 1: Support education programs that encourage the development of employable skills.	X		
Policy 2: Encourage the provision of informal educational programs for people of all age groups.			X
Policy 3: Encourage the after-hours use of school buildings, grounds, and facilities.			X
Policy 4: Encourage the construction of school facilities that are designed for flexibility and high levels of use.			X
Policy 5: Facilitate the appropriate location of learning institutions from the preschool through the university levels.			X
OBJECTIVE C: To make Honolulu the center of higher education in the Pacific.			
Policy 1: Encourage continuing improvement in the quality of higher education in Hawai'i.	X		
Policy 2: Encourage the development of diverse opportunities in higher education.			X
Policy 3: Encourage research institutions to establish branches on O'ahu.			X
Discussion: *Outrigger supports the General Plan Policy regarding health and education. While this project is not directly applicable, Outrigger does provide on-site medical services by its trained staff.*			
PART X: CULTURE AND RECREATION			
OBJECTIVE A: To foster the multiethnic culture of Hawai'i.			
Policy 1: Encourage the preservation and enhancement of Hawai'i's diverse cultures.	X		
Policy 2: Encourage greater public awareness, understanding, and appreciation of cultural heritage and contributions to Hawai'i made by the City's various ethnic groups.	X		
Policy 3: Encourage opportunities for better interaction among people with different ethnic, social, and cultural backgrounds.	X		
Policy 4: Encourage the protection of the ethnic identities of the older communities of O'ahu.			X
OBJECTIVE B: To protect O'ahu's cultural, historic, architectural, and archaeological resources.			
Policy 1: Encourage the restoration and preservation of early Hawaiian structures, artifacts, and landmarks.	X		
Policy 2: Identify, and to the extent possible, preserve and restore buildings, sites, and areas of social, cultural, historic, architectural, and archaeological significance.	X		
Policy 3: Cooperate with the State and Federal governments in developing and implementing a comprehensive preservation program for social, cultural, historic, architectural, and archaeological resources.	X		
Policy 4: Promote the interpretive and educational use of cultural, historic, architectural, and archaeological sites, buildings, and artifacts.	X		
Policy 5: Seek public and private funds, and public participation and support, to protect social, cultural, historic, architectural, and archaeological resources.	X		
Policy 6: Provide incentives for the restoration, preservation, and maintenance of social, cultural, historic, architectural, and archaeological resources.			X
OBJECTIVE C: To foster the visual and performing arts.			
Policy 1: Encourage and support programs and activities for the visual and performing arts.	X		
Policy 2: Encourage creative expression and access to the arts by all segments of the population.	X		
Policy 3: Provide permanent art in appropriate City public buildings and places.			X
OBJECTIVE D: To provide a wide range of recreational facilities and services that are readily available to all residents of O'ahu.			
Policy 1: Develop and maintain community-based parks to meet the needs of the different communities on O'ahu.			X
Policy 2: Develop and maintain a system of regional parks and specialized recreation facilities.			X
Policy 3: Develop and maintain urban parks, squares, and beautification areas in high-density urban places.	X		

Table 5-6 CITY & COUNTY OF HONOLULU GENERAL PLAN - OBJECTIVES AND POLICIES S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
Policy 4: Encourage public and private botanic and zoological parks on O'ahu to foster an awareness and appreciation of the natural environment.	X		
Policy 5: Encourage the State to develop and maintain a system of natural resource-based parks, such as beach, shoreline, and mountain parks.	X		
Policy 6: Provide convenient access to all beaches and inland recreation areas.	X		
Policy 7: Provide for recreation programs which serve a broad spectrum of the population.			X
Policy 8: Encourage ocean and water-oriented recreation activities that do not adversely impact on the natural environment.	X		
Policy 9: Require all new developments to provide their residents with adequate recreation space.			X
Policy 10: Encourage the private provision of recreation and leisure-time facilities and services.	X		
Policy 11: Encourage the after-hours, weekend, and summertime use of public schools facilities for recreation.			X
Policy 12: Provide for safe and secure use of public parks, beaches, and recreation facilities.	X		
Policy 13: Encourage the safe use of O'ahu's ocean environments.	X		
Policy 14: Encourage the State and Federal governments to transfer excess and underutilized land to the City and County for public recreation use.	X		
Discussion: *Outrigger fosters the multiethnic culture of Hawai'i and supports the protection of Hawai'i's cultural, archeological and historic resources. Outrigger supports the visual and performing arts by featuring features live Hawaiian music every night at Kani Ka Pila Grille. Outrigger also offers guest educational opportunities, programs, and activities to share in Native Hawaiian cultural activities. 'Ukulele and hula lessons are offered as well as classes on Hawaiian crafts and Native Hawaiian plants and their uses. Further, Outrigger has incorporated the history and culture of Hawai'i into the architecture, landscaping, and artwork and will continue to perpetuate a Hawaiian sense of place into the revitalization project. Additionally, the redevelopment of the Outrigger Reef will provide and expand upon the Outrigger's recreational amenities.*			
PART XI: GOVERNMENT OPERATIONS AND FISCAL MANAGEMENT			
OBJECTIVE A: To promote increased efficiency, effectiveness, and responsiveness in the provision of government services by the City and County of Honolulu.			
Policy 1: Maintain City and County government services at the level necessary to be effective.			X
Policy 2: Promote consolidation of State and City and County functions whenever more efficient and effective delivery of government programs and services can be achieved.			X
Policy 3: Ensure that government attitudes, actions, and services are sensitive to community needs and concerns.			X
Policy 4: Prepare, maintain, and publicize policies and plans which are adequate to guide and coordinate City programs and regulatory responsibilities.			X
OBJECTIVE B: To ensure fiscal integrity, responsibility, and efficiency by the City and County government in carrying out its responsibilities.			
Policy 1: Provide for a balanced budget.			X
Policy 2: Allocate fiscal resources of the City and County to efficiently implement the policies of the General Plan and Development Plans.			X
Discussion: *Outrigger supports the City and County of Honolulu General Plan in regards to Government Operations and Fiscal Management; however, the policy is not directly applicable to the proposed actions associated with the project.*			

5.3.2 City and County of Honolulu Primary Urban Center Development Plan

The City and County of Honolulu PUC stretches from Kāhala to Pearl City. It is the capital of the State of Hawai'i, the state's commercial and financial center, and the home of its premier educational and cultural institutions. It is the heart of Hawai'i's economic, political and cultural life. The value created in the PUC nourishes the entire state. It is the intent of the PUC Development Plan to provide a guide for orderly and coordinated public and private sector

development that is consistent with applicable general plan provisions, including the designation of the PUC as the principal region for future growth in residential population and jobs. Below are the objectives and policies of the PUC Development Plan (*Table 5-7*).

Table 5-7 PRIMARY URBAN CENTER DEVELOPMENT PLAN - OBJECTIVES AND POLICIES - CITY AND COUNTY OF HONOLULU **S = Supportive, N/S = Not Supportive, N/A = Not Applicable**	**S**	**N/S**	**N/A**
*The **Key Elements** of the vision for the PUC reflect the size and importance of Honolulu and its lead role in the state's business:*			
Honolulu's natural, cultural and scenic resources are protected and enhanced.	X		
Livable neighborhoods have business districts, parks and plazas, and walk-able streets.	X		
The PUC offers in-town housing choices for people of all ages and incomes.			X
Honolulu is the Pacific's leading city and travel destination.	X		
A balanced transportation system provides excellent mobility for residents and visitors.			X
Discussion: *The Outrigger Reef revitalization aims to improve Waikīkī's appeal as a first-class visitor destination. The project will contribute to the continuity of Waikīkī Beach Walk's appeal as a pedestrian friendly, mixed-use gateway into Waikīkī. The project will feature an expanded retail landscape, an improved guest arrival experience, and numerous upgraded amenities to the existing Outrigger Reef hotel. The improvements will enhance the beauty of the Outrigger Reef and provide improved vehicle and pedestrian circulation.*			
PROTECTING AND ENHANCING NATURAL, CULTURAL AND SCENIC RESOURCES			
Policies			
Preserve historic and cultural sites: *Special emphasis should be placed on sites and associated settings that are unique, of special significance, or are in good condition.*	X		
Preserve and protect natural resource and constraint areas: *Establish an urban community boundary to define urban development and protect areas outside the boundary for their open space, scenic, and resource values.*	X		
Preserve panoramic views of natural landmarks and the urban skyline: *This includes important vistas and focused views of significant natural and urban features and skyline profiles that make up or frame the PUC from publicly accessible places.*	X		
Improve access to shoreline and mountain areas: *This includes continuous public access along O'ahu's southern shoreline as well as access to its mauka natural environments and features.*	X		
Develop stream greenbelts: *Keep or create mauka-makai connections and views up and down important streams and create public walkways where possible and appropriate.*			X
Provide parks and active recreation areas: *Create or strengthen parks, plazas and other conveniences throughout the PUC, especially in more populated areas as a balance to the built environment, for recreation, social interaction and leisure interludes.*	X		
Guidelines			
Historic and Cultural Sites • Preserve the architectural character, landscape setting and visual context of historic landmarks through appropriate zoning standards and development controls, as necessary, and public outreach programs such as design guidelines for the maintenance, renovation or expansion of older dwellings. • Preserve and enhance the significant historic and aesthetic features of institutional campuses and campus clusters through zoning permit reviews for campus expansions or modifications.	X		
Mauka Conservation Areas • Prevent development on properties with average slopes of 40 percent or more, and on lands with slopes of 20 percent or more where development of the site would have a significant adverse visual impact when viewed from parks, major public streets, and other public places. • Maintain public access points and hiking trails on the slopes of the Ko'olau Range in the areas beyond the Urban Community Boundary, and improve amenities for hiking, camping and nature study. • In Preservation areas, avoid disturbance to native species and prevent the visual intrusion of structures, including utility and telecommunications installations, when seen from below and from hiking trails. • Ensure access for traditional and customary practices and gathering rights, consistent with the provisions of the Constitution of the State of Hawai'i.	X		

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Urban Skyline and Mauka-Makai Views
• Maintain the visual prominence of important districts by allowing a greater height and massing of buildings, such as in the Downtown area.
• Apart from Downtown and other central Honolulu locations, promote mid-rise or low-rise scale for new buildings.
• Preserve the following panoramic views indicated schematically in *Figure 3.1* by establishing building height limits and setbacks that are based on viewplane analyses to determine the sight lines and desired view dimensions and characteristics:
  • From Ala Wai Canal Promenade toward the Koʻolau Range
  • From Ala Moana Beach Park toward the Koʻolau Range
  • From Kewalo Basin toward the Koʻolau Range and Punchbowl
  • From Kakaʻako Waterfront Park toward Punchbowl and the Koʻolau Range
  • From Punchbowl Lookout toward Diamond Head
• Preserve and enhance significant mauka or makai view corridors along major collector streets indicated in *Figure 3.1* through a combination of zoning controls and streetscape improvements.
• Increase line-of-sight opportunities towards Pearl Harbor – particularly the U.S.S. Missouri and the U.S.S. Arizona memorials.
	X		

Makai Access
• Provide continuous lateral shoreline access for pedestrians extending from Diamond Head to Nuʻuanu Stream, around Keʻehi Lagoon, and from Neal S. Blaisdell Park through ʻAiea Bay State Recreation Area.
  • Construct walkways along the Waikīkī and Kakaʻako-Honolulu waterfronts.
  • Along the Pearl Harbor shoreline in ʻAiea and Pearl City, acquire privately owned properties and the Navy-owned McGrew Point makai of the Pearl Harbor bikeway for recreational use, and/or encourage complementary redevelopment with incentives for higher zoning in return for view corridors, extra open space, public amenities, and public access to the shoreline.
	X		

Stream Greenways and Drainage
• Establish riparian zones for all streams to prevent the encroachment of buildings and structures – other than those for drainage, flood control or recreational purposes – and to establish and enforce policies for the protection and enhancement of stream habitats and water quality.
• Develop streamside pathways to improve access to recreation sites and natural areas and provide safe, convenient pedestrian routes between neighborhoods. Stream segments to be considered for priority action include, but are not limited to, the following:
  • ʻAiea Stream: segment through former ʻAiea Sugar Mill site
  • Ala Wai Canal: both banks, entire length
  • Hālawa Stream: segment near Aloha Stadium
  • Kalauao Stream: from Kamehameha Highway to Pearl Harbor's East Loch
  • Kalihi Stream: segment makai of H-1 Freeway
  • Kapālama Stream: segment makai of Kuakini Street
  • Makīkī Stream: segment makai of Nehoa Street
  • Mānoa/Pālolo Streams: from Mānoa Marketplace to Ala Wai Canal
  • Moanalua Stream: segment near Moanalua Gardens
  • Nuʻuanu Stream: from Kuakini Street to Honolulu Harbor
  • Nuʻuanu Stream: from Kuakini Street mauka to Kapena Falls
• In developing drainage and flood control, seek to limit storm water velocity and reduce the transport of sediment and pollutants to coastal waters.
			X

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Parks and Recreational Open Spaces
• Recognizing that it is difficult to acquire additional park land in the PUC, develop innovative approaches to make optimum use of existing parks and recreation resources, such as:
  • Building partnerships between City, State and private, nonprofit organizations for joint use of facilities and complementary recreation programs.
  • Optimizing private sector contributions to open space through park dedication as properties are redeveloped.
  • Reassessing and reassigning, as appropriate, the use of existing park land.
• Promote linear connections in the recreational open space network by using existing public lands and rights-of-way, where possible.
	X		

Other Urban Open Spaces • Maintain significant trees and landscaped open space within institutional campuses, cemeteries and other open-space uses that are visible from public right-of-ways. • Enhance the entries and street frontages of cemeteries and campuses with trees and landscaping. • Promote the development of plazas to fulfill park and open space requirements; provide floor area bonuses to encourage plazas in dense areas such as Downtown.	X		
Discussion: *Outrigger supports the preservation of historic and cultural sites and agrees that special emphasis should be placed on sites and associated settings that are unique, of special significance, or are in good condition, and ensures access for traditional and customary practices and gathering rights, consistent with the provisions of the Constitution of the State of Hawai'i. Educational materials of the history and cultural significance of the area are available to guests and employees. An AMP and cultural impact assessment were conducted during the preparation of the SEIS to assess the sensitivity and potential occurrence of historic resources, including subsurface resource such as burials. Prior to construction, Outrigger will complete an Archaeological Inventory Survey beneath the existing porte cochere. Archaeological monitoring will be conducted for all undertaking activities with a potential for adverse effect on significant historic properties.* *The project will demolish the 5-story Diamond Head Tower and create a large beachside open lawn area. On the mauka edge of the property, landscaping and pedestrian walkways fronting the Kālia Gateway will be opened up, invoking a more appealing welcoming pedestrian experience.*			
CULTIVATING LIVABLE NEIGHBORHOODS			
Develop a system for collaborative neighborhood planning: *Refine and further develop a stakeholder-based process for continuing community-based neighborhood planning for areas requiring this attention.*			X
Cultivate existing and new "neighborhood centers": *Develop neighborhood centers as the principal places for people in a neighborhood to gather, shop, dine or play, and to provide a source of community identity.*	X		
Promote mixed land uses: *Encourage compatible mixtures of land uses for in town PUC neighborhoods and districts to support a variety of urban lifestyle choices and to create vibrant and convenient neighborhoods.*	X		
Create parks that draw people and activity: *Develop parks that invite people and promote positive social interaction and activity.*			X
Make streets "pedestrian-friendly": *Create inviting and attractive streetside environments that support and enhance convenient and safe pedestrian use.*	X		
Resort: Intended as a mixed-use designation, Resort districts consist primarily of resort hotels, timeshares and other apartments used as transient visitor units (TVUs); and supporting commercial uses, such as shops, restaurants and entertainment. This designation only applies to the Waikīkī, Marina, Hobron and Fort DeRussy neighborhoods that are colored pink on the Land Use Maps (see *Figure 1-5*)	X		
Discussion: *Outrigger Reef is in a resort destination that hosts millions of guests, visitors, and residents each year. The goal of the revitalization is to cultivate and transform the built landscape to a more focused, unified, and cohesive pedestrian experience for resort guests, visitors, and the neighborhood of Waikīkī.*			

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IN-TOWN HOUSING CHOICES			
Promote people-scaled apartment and townhouse dwellings in low- or mid-rise buildings oriented to the street: *This policy encourages residential buildings that are modest in height and have ground-floor shopping and dining opportunities to create pedestrian-oriented neighborhoods that satisfy a range of lifestyle needs conveniently.*			X
Improve the feasibility of redeveloping small lots: *Encourage housing variety and affordability by removing barriers for small-scale townhouse and low-rise apartment development on smaller apartment-zoned lots.*			X
Reduce costs for apartment homes: *Promote affordable housing choices consistent with creating livable communities by reducing certain construction and development-related costs.*			X
Provide adequate schools and parks for in-town neighborhoods: *Conveniently located schools and parks that can be reached safely are needed to meet the needs of young, active families.*			X
Expand the capacity of infrastructure, including water supply, sewers, and storm drains: *This policy calls for government action and leadership in creating adequate infrastructure to meet present and future demands in order to support the strengthening or creation of livable in-town communities.*	X		
Preserve and expand the current inventory of affordable rental housing units: *The City should assure that the current inventory of affordable rental units, whether owned by the City or not, is preserved and retained as affordable, and that the inventory of affordable rental units is expanded as needed by the community.*			X
Support the retention, rehabilitation and improvement of older, low-rent apartment buildings: *Maintain, rehabilitate and improve older apartment buildings to retain existing housing stock as viable in-town housing choices.*			X
Provide for special needs housing: *Allow housing for people with special needs and promote their integration into the larger PUC community.*			X
Provide incentives and cost savings for affordable housing: *This policy promotes exemptions from regulations, on a case-by-case basis, to make "affordable" housing available to those needing it.*			X
Provide for high-density housing options in mixed-use developments around transit stations: *This type of "transit-oriented development" facilitates transit use and allows for increased densities without generating increased vehicular congestion.*			X
Discussion: *Outrigger supports the PUC Development Plan policy and view regarding town residential housing choices; however it is not applicable to the proposed resort improvement project.*			
THE PACIFIC'S LEADING CITY			
Create public open space along the Pearl Harbor waterfront and strengthen the physical and visual connections between the urban center and the water: This recognizes the waterfront as a principal element in the PUC's setting and as an organizing reference point for the city, and supports development of an economic and social asset for the surrounding community.			X
Improve mauka-makai pedestrian and bicycle circulation across Kamehameha Highway*: Developing physical access to the Pearl Harbor waterfront demands substantial improvements to pedestrian and bicycle access across Kamehameha Highway.*			X
Redevelop the Downtown/Iwilei waterfront: *This policy proposes to increase visual and physical access to the waterfront by re-routing traffic away from Nimitz Highway and introducing commercial activities such as restaurants, shops, offices, and entertainment, low to medium-rise residences, and areas capable of hosting recreational activities.*			X
Adopt and implement a plan for a vibrant and livable Waikīkī: *This plan needs to address the quality of the resident experience as well as the quality of the visitor experience. Based on development parameters set by the Waikīkī Special District, the plan should encompass mobility, the quality of the street environment for pedestrians, public spaces, the scale and design of new buildings, and Waikīkī's relationship to the Convention Center and neighboring districts.*	X		
Support attractions that are of interest to both residents and visitors in the Ala Moana/Kaka'ako/Downtown corridor: *Opportunities include State sponsored waterfront commercial and cultural attractions around the Kewalo Basin area; retail/entertainment facilities around Ala Moana Center, Victoria Ward Centers and Kamehameha Schools properties; and improvements to serve visitors in the Capitol District, Aloha Tower, and Chinatown.*			X

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Provide opportunities for the development of visitor units in the Ala Moana/Kakaʻako/Downtown corridor: *Hotels serving the Convention Center should be within a 5-minute walk (one-quarter mile) and located on commercially zoned parcels along major thoroughfares. Those in the Downtown area should be in the area zoned BMX-4 or the Aloha Tower complex.*			X
Provide a transit link along the Ala Moana/Kakaʻako/Downtown corridor: *The City should assure that there is convenient transit service between visitor accommodations and the visitor attractions along the corridor. Visitor oriented transit should utilize at-grade trolley types of vehicles and could be publicly or privately operated.*			X
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, Kaimukī, and the King/Beretania corridor, Kapālama, Pearlridge, and Pearl City. Development of such facilities should consider the community's preferences and be integrated with the surrounding neighborhood.			X
Allow Bed & Breakfast establishments (but not transient vacation units or TVU's) in residential neighborhoods: *With adequate parking, community involvement, and other regulatory controls, B&Bs provide a highly integrated, well-supervised, low-impact form of visitor accommodation. For residents, operating a B&B is a viable home occupation and a means to retain and reuse homes in older neighborhoods.*			X
Stimulate the development of high technology and knowledge-based industries: *Attract high-technology businesses to Hawaiʻi and provide in-town locations for them. Encourage investment in infrastructure within commercial buildings that will accommodate and attract high-technology and biotechnology businesses.*			X
Encourage street-front retail: *Office buildings should have retail stores, entrances, and windows fronting the principal street.*	X		
Provide usable open space: *Zoning requirements and bonus provisions for open space associated with larger office buildings should specify design guidelines for usable plazas, parks, and arcades. Key elements of usable open space are enclosure, shade, seating, and location at street level.*	X		
Support continuation of military uses: *National defense objectives and budget priorities determine the military bases and functions located in the Primary Urban Center and the state as a whole. The City should support long-range land use planning by the military services and coordinate with them to achieve common goals of employment, housing, and recreation.*			X
Integrate civilian and military residential communities: *The City should work with the military services to link adjacent residential communities through the use of connecting roadways, bikeways, walkways, landscape features, and/or architectural scale and character.*			X
Allow a mix of industrial and commercial uses: *Allow a broader mix of commercial uses in the Airport and Bougainville industrial districts. The Airport district should include office, hotel, and retail uses that are compatible with airport operations, as well as existing light industrial uses. The Bougainville district should include uses that support surrounding residential neighborhoods.*			X
Enhance Honolulu Harbor and harbor-related uses: *Reserve areas around Honolulu Harbor, particularly around Kapālama Basin and the Sand Island container yards, for harbor-related uses.*			X
Support industrial uses in Kalihi-Palama industrial districts: *Support existing mixed-usages in the industrial districts of Kalihi-Kai and Kapālama, as well as existing commercial uses along the Nimitz, Dillingham, King, Kalihi, and Waiakamilo corridors.*			X
Promote compatibility with the surrounding urban and natural environment: *Where industrial uses are mixed with or adjacent to residential communities or natural areas, mitigate visual, noise, and other environmental impacts by adopting performance standards.*	X		
Support development of adequate warehousing facilities to support increased economic activity: *Encourage development and maintenance of warehouse space of sufficient quality to prevent shortages and support growing businesses.*			X
Define the role of town centers: *Establish the "Pearlridge" area as the Pearl Harbor Regional Town Center, and strengthen the physical and visual connection between this urban activity center and the Pearl Harbor waterfront. Other town centers at Pearl City, Waimalu, ʻAiea, and Hālawa should serve as more localized or specialized activity and service areas.*			X

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Promote mixed land use: *Town centers should support some form of mixed land use to respond more flexibly to market needs and to reduce dependency on the private automobile for local travel. The Pearl Harbor Regional Town Center should be designated for a greater diversity of uses than the other town centers, emphasizing an integration of medium- or higher-density residential and commercial development. Land use designations and design standards should be oriented toward assuring compatibility of building forms and uses, creating street connections, and providing a smooth transition between town centers and adjacent residential neighborhoods.*			X
Facilitate pedestrian, transit, and bicycle improvements: *There should be major improvements to transportation facilities and services, with particular emphasis on pedestrian, bicycle, and public transit modes along Kamehameha Highway, and commuter travel on the H-1 Freeway and in the Aloha Stadium vicinity. Design standards for new development in the town centers – especially the Pearl Harbor Regional Town Center – should encourage pedestrian and transit travel.*	X		
Discussion: *Outrigger supports the PUC Development Plan policy regarding Honolulu being the Pacific's leading city. The project will provide a mix of compatible uses for the surrounding area including retail and resort facilities. Open areas will be maintained within the Outrigger Reef while improvements along the Kālia Road street front will enhance the quality of the street environment and facilitate an improved experience for pedestrians, bicyclists, and public transit users.*			
DEVELOP A BALANCED TRANSPORTATION SYSTEM			
Implement land use strategies to achieve a balanced transportation system: *To achieve community livability and enable transportation choices, land use strategies that support alternative travel modes such as walking, bicycling, and transit should be adopted and implemented.*			X
Improve the public transit system, including development of a rapid transit component: *A convenient and efficient public transit system aids in maintaining traffic flows at an acceptable level for an attractive and successful urban setting. An effective public transit system for the PUC could be created with an east-west rapid transit route supplemented by effective links to the PUC's valley communities.*			X
Implement Transportation Demand Management (TDM) strategies: *Employ management strategies that encourage alternative travel models.*			X
Review existing plans and establish priorities for roads and road improvements: *Conduct a comprehensive classification of roadways to identify prospective improvements (e.g., automobile, transit, bikeways, pedestrian routes), and prioritize the implementation of such improvements.*			X
Implement the Honolulu Bicycle Master Plan: *Institutionalize a policy that all streets designated for bicycle travel should be maintained to accommodate shared bicycle and automobile use.*			X
Enhance and improve pedestrian mobility: *Create pedestrian districts, routes and a regional pedestrian network, and address pedestrian safety concerns.*	X		
Encourage the full use of existing private and public parking garages: *Encourage private parking garage owners to rent underused parking stalls within commercial buildings and large-scale residential projects.*			X
Guidelines			
Identify and stimulate transit-oriented development on potential infill and redevelopment properties within the rapid transit corridor. Examples of development stimulators include tax incentives, development code amendments, and public infrastructure investments.			X
Undertake a comprehensive review of the City's street widening plans and reevaluate the use of Revised Ordinances for the City and County of Honolulu (ROH) Chapter 14, Article 21, on streets that the City does not intend to commit funds for street widening. Eliminate travel-way widenings that are not necessary, degrade neighborhood character, or are unlikely to be achieved. In older, built-out neighborhoods, consider alternatives for improving safety or pedestrian comfort, but do not involve substantial widening and acquisition of land.			x
Implement the Honolulu Bicycle Master Plan's three priority projects: (1) "Lei of Parks," a shared-use path connecting the City's major parks and open spaces; (2) Bike Friendly Route No. 1, a continuous, cross town bicycle lane, connecting to the Kalaniana'ole Highway Bikeway in the east and the Pearl Harbor Bike Path in the west; and (3) a series of bicycle access improvements around the various colleges and universities.			X

Table 5-7 PRIMARY URBAN CENTER DEVELOPMENT PLAN - OBJECTIVES AND POLICIES - CITY AND COUNTY OF HONOLULU S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
Establish pedestrian districts where walking is intended to be a primary mode of travel, such as within Downtown and Waikīkī. Develop specific facility standards for these districts; encourage midblock pathways or arcades; and implement sidewalk improvements, such as widening, paving, and landscaping.	X		
Work with residents and school organizations to improve pedestrian safety through planning and education efforts, including the development of traffic management plans, construction of traffic calming devices, and the improvement of neighborhood sidewalks and crosswalks.			X
Discussion: *Outrigger supports policies to develop a balanced transportation system. Improvements along Kālia will look to provide expanded and safer pedestrian walkways. The existing incentives for Outrigger employees to utilize alternative transportation options, including bus transportation will continue to be supported.*			
INFRASTRUCTURE AND PUBLIC FACILITIES			
WATER ALLOCATION AND SYSTEM DEVELOPMENT			
Policies • Integrate resource management of all potable and non-potable water sources, including groundwater, stream water, storm water, and wastewater effluent. • Adapt water conservation practices in the design of new developments and modification of existing uses, including landscaped areas. • Implement upgrades and capacity improvements to serve projected population increases. • Protect and maintain watersheds to ensure an adequate supply of high quality water with sufficient infiltration recharge into groundwater aquifers.	X		
Conserve the use of potable water by implementing the following measures, as feasible and appropriate: • Install low-flush toilets, flow restrictors rain catchment barrels, plumbing fixture meters, and other water conserving devices in commercial and residential developments. • Promote xeriscaping techniques to reduce water use in landscaping by using various ground cover, drought-tolerant plant material and efficient irrigation systems in landscaped areas. • Conduct extensive leak detection and repair for all public and private water infrastructure systems and residential, commercial and industrial plumbing. Conduct public education programs on awareness of water conservation. • Reuse tertiary treated wastewater effluent, brackish water sources, storm runoff and surface reservoirs for the irrigation of golf courses, parks, other open landscaped areas, and industrial use.	X		
Develop additional potable groundwater sources in the Pearl Harbor and Honolulu Basin, redirect existing groundwater sources from Central Oʻahu to the Primary Urban Center, and develop a desalination plant in Honolulu to meet future demands, maintain sustainability of aquifers, and provide relief from drought periods.			X
Create public watershed management partnerships to restore and manage watershed areas and conduct water conservation programs in conjunction with the BWS watershed management and water conservation programs.			X
Discussion: *Outrigger supports the policies to conserve water resources and has implemented sustainable initiatives throughout the hotel, including the use of low-flow plumbing devices in guest rooms and public restrooms. Where feasible, the project will utilize sustainable design practices to reduce the amount of potable water utilized on the project site.*			
WASTEWATER SYSTEM			
Policies • Implement wastewater collection system improvements to provide adequate service and sound facilities to existing neighborhoods and timely increases in system capacity to areas planned to undergo improvement or change in use. • Implement adequate and timely upgrades/expansion of wastewater treatment facilities to meet the growth demands of the PUC.	X		
Complete current projects needed to correct currently identified service or facility inadequacies for neighborhoods where change in service demand is not anticipated.			X
In consultation with adjacent communities, implement the recommendations of the East and West Māmala Bay Wastewater Facilities Plans to upgrade treatment and collection systems to serve projected increases in service demands on a timely basis, as such demand increases become identified.			X

Table 5-7 PRIMARY URBAN CENTER DEVELOPMENT PLAN - OBJECTIVES AND POLICIES - CITY AND COUNTY OF HONOLULU S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
Discussion: *The project sewer laterals are connected to an 18 inch sewer main in the Kālia Road sidewalk closest to the project site.* *The wastewater flows a short distance in the Diamond Head direction in Kālia Road then flows mauka in Lewers Street to Kūhiō Avenue where it connects into the Beachwalk Wastewater Pump Station a quarter mile away. The existing City system has limited capacity. The limiting factors of the offsite system are a 15-inch sewer line at 0.20% slope on Lewers Street (between sewer manholes City IDs 688595 and 688230) and the 21-inch sewer line at 0.12% slope on Kūhiō Avenue (sewer City ID: 68914).* *The Beachwalk Wastewater Pump Station was recently upgraded in 2008 with the construction of 7,000 ft of new pipelines to convey wastewater from the Waikīkī area to the gravity sewer at Ala Moana Park. The system consists of two 33-inch micro tunnels for the first 1,200 ft and one 72-inch micro tunnel for the remaining 5,800 ft. Currently this system is being used as a force main to provide redundancy to the existing force main, however in the future it will be converted to a deep gravity sewer.*			
ELECTRICAL POWER			
Policies • Support retention and upgrade of the Waiau and Honolulu Power Plants as part of a strategic plan to improve the reliability of the Primary Urban Center's electrical power system. • Promote and implement energy conservation measures and integrated resource planning. • Planning and building of new or relocated transmission lines should take into consideration system and cost concerns, and the impacts on the environment. Options to place utility lines underground should be considered, and priorities should be established.	X		
In planning new or relocated substations or transmission lines, the selection of the site or route of such facilities should avoid or mitigate adverse impacts on scenic and natural resources.			X
Discussion: *Outrigger supports the policy to promote and implement energy conservation measures, and already has in place energy efficient business practices. Some of the initiatives and improvements in place at Outrigger Reef include the use of 10.5 watt LED light fixtures in all hotel floor corridors, temperature controls in each guest room that allows for an energy-conserving mode while not in the room and motion lights in employee closets that automatically turn off when not in use. Energy efficient fixtures and conservation measures will be integrated into the design of the improvements and new development.*			
TELECOMMUNICATIONS FACILITIES			
Policies Minimize the visual impacts and potential health hazard of new facilities.	X		
In general, antennas and other facilities should be required to "blend in" with the surrounding environment. Visually obtrusive installations, such as locating in the middle of an open area or silhouetting antennas on top of ridges, should be avoided.			X
In granting land use permits for antennas, observe the following general principles: • Wherever possible, antennas should be sited on existing structures, such as tall buildings, athletic field light standards, water reservoirs, or existing towers. Antennas should be flush-mounted when possible. • Minimize the number of new towers (towers include lattice structures, as well as monopoles). New towers should be capable of accommodating more than one provider, with clear rules for sharing of costs. • Where more than one tower is required, they should be clustered rather than dispersed.			X
Discussion: *While Outrigger supports these policies regarding telecommunications facilities, they are not directly applicable to the project.*			
SOLID WASTE			
Policies • Reduce the solid waste stream by encouraging recycling and reuse. • Reduce dependence on landfills by encouraging alternative waste disposal technologies.	X		
Promote waste recycling by expanding collection facilities and services, and public outreach and education programs.	X		

Table 5-7 PRIMARY URBAN CENTER DEVELOPMENT PLAN - OBJECTIVES AND POLICIES - CITY AND COUNTY OF HONOLULU S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
Expand the use of automated refuse collection in residential areas.			X
Implement new technologies that more efficiently convert solid waste to green energy, thereby reducing the need for landfills.			X
In planning new public facilities, include neighborhood recycling convenience centers where feasible.			X
Discussion: *To divert a portion of the waste generated at the Outrigger Reef from being disposed of in the local landfill, the Outrigger has made a commitment to reducing solid waste throughout the property. The Outrigger Reef's commitment to sustainability includes solid waste reduction, through digitizing reports, printing double-sided, and purchasing eco-friendly copy machines. Recycling takes place on site through an ongoing partnership with PACT, a local nonprofit family services agency, with Reynolds Recycling. Bottles and cans are recycled and a portion of the proceeds go towards PACT. In 2014, Outrigger Waikīkī properties collected 20 tons of recyclables and donated more than $30,000 in Hi5 redemption reimbursements to PACT, a local non-profit organization. Irrigation water is recycled and re-used for water at ponds and waterfalls. Other solid and liquid waste water will connect to the existing City and County of Honolulu wastewater system.*			
STORM WATER SYSTEMS			
Policies • Require methods of retaining or detaining storm water for gradual release into the ground as the preferred strategy for the management of storm water. Where feasible, utilize open spaces including parking lots, landscaped areas, parks, and golf courses to detain or infiltrate storm water flows to reduce their volume and runoff rates. (*City Council Resolution No. 94-296*). • Manage storm water flows through best management practices to minimize storm water runoff and peak discharge rates. • Preserve stream and estuarine habitats.	X		
Revise flood control design criteria to recognize important aesthetic and ecological factors in the design process. Streams should not be channelized except when absolutely necessary to protect existing urban development from flooding.			X
Integrate planned improvements to the drainage system into the open space network by emphasizing the use of retention basins, the creation of passive recreational areas, and recreational access for pedestrians and bicycles without jeopardizing public safety. Support development of shared-use paths and parks along Mānoa and Pālolo Streams, Nuʻuanu Stream and Kapālama Canal.	X		
Establish best management practices to guide stormwater management within the Primary Urban Center.	X		
Encourage community-based watershed planning, recognizing the array of stakeholders in the Primary Urban Center's urban watersheds and the important role of education and community involvement in urban watershed management.	X		
Support the establishment of short- and long-term ecological monitoring programs, particularly those that measure pollutant loading and are directed at improving water quality and quantity in order to conserve, protect, and restore the natural resources of the Primary Urban Center.	X		
Maintain and increase permeable surfaces within public right-of-ways to facilitate bio-filtration and groundwater recharge.	X		
Design and construct stormwater infrastructure in areas that contribute to high inflow and infiltration into the wastewater collection system.	X		
Discussion: *In accordance with Storm Drainage Standards the proposed development will require implementation of stormwater quality best management practices.*			
SCHOOL AND LIBRARY FACILITIES			
Policies • Support the development of a high quality educational system of schools and post-secondary institutions that increase the attractiveness of the Primary Urban Center as a place to live and work. • Work with the Department of Education to develop innovative shared-use facilities, particularly on City-owned school properties.	X		
Identify ways for the City and the general community to improve conditions within and near school and college campuses. For example, the City could take a lead role in enhancing street appearance, security, and traffic and pedestrian safety near campuses.			X

Table 5-7 PRIMARY URBAN CENTER DEVELOPMENT PLAN - OBJECTIVES AND POLICIES - CITY AND COUNTY OF HONOLULU **S = Supportive, N/S = Not Supportive, N/A = Not Applicable**	**S**	**N/S**	**N/A**
The City Department of Parks and Recreation should coordinate with the DOE regarding the development and use of athletic facilities such as playgrounds, playfields and courts, swimming pools, and gymnasiums, where joint use of such facilities would maximize use and reduce duplication of function without compromising the schools' athletic programs.			X
Discussion: *Outrigger supports these policies associated with school and library facilities of the PUC; however, these policies are not directly applicable to the project.*			
CIVIC AND PUBLIC SAFETY FACILITIES			
Policies • Provide adequate staffing and facilities to ensure effective and efficient delivery of basic governmental service and protection of public safety.	X		
As population increases, provide support for civil defense building shelters and improved technology, equipment and training for fire fighting, police protection and paramedical services.			X
Establish new Satellite City Halls within neighborhood commercial complexes or community centers if there is an opportunity to do so with little or no capital expense or modest rent.			X
Discussion: *Outrigger supports policies associated with civic and public safety facilities within the PUC. Building codes and OSHA/HIOSH standards will be followed to ensure the security of public health and safety are protected; during construction and through day to day operations. The Outrigger Reef provides Safety & Security Officers who are uniformed and available 24 hours a day to help ensure the safety of visitors and guests. In the event of a natural disaster or emergency, Outrigger has programs in place and educational materials for guests which protect and promote public health, safety, and welfare of those at the Outrigger.*			
Development Priorities Projects to receive priority in the approval process are those that: • Involve land acquisition and improvements for public projects which are consistent with the Development Plan vision, policies and guidelines; and • Involve applications for zoning and other land use permits that are consistent with the Development Plan vision, policies, and guidelines.	X		
Discussion: *The Outrigger Reef revitalization project is consistent with the PUC's Development Plan vision, policies, and guidelines.*			

5.3.3 City and County of Honolulu Waikīkī Special District

The purpose of the LUO is to regulate land use in a manner that will encourage orderly development in accordance with adopted land use policies, including the City and County of Honolulu General Plan and the PUC Development Plans. The LUO also promotes and protects public health, safety, and welfare by:

- Minimizing adverse effects resulting from the inappropriate location, use or design of sites and structures;
- Conserving the city's natural, historic and scenic resources and encouraging design which enhances the physical form of the city; and
- Assisting the public in identifying and understanding regulations affecting the development and use of land.

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

As a recognized resort destination, Waikīkī continues to attract visitors from all parts of the world, serving as the foundation for the state's tourist industry, identified as a major and vital employment sector, and home for thousands of full-time residents. As such, in the City's commitment to maintain the socio-economic vitality of Waikīkī, the area is designated as a Special District, with specific design standards and guidelines established to direct its future growth (LUO, Sec. 21-9.80). The Outrigger Reef is located in the WSD, Resort Mixed Use Precinct (*Figure 1-6*).

The establishment of the WSD was largely a response to the rapid development of the 1960s and 1970s, and the physical and social changes attributed to that development. As a sophisticated urban resort, diversity and contrast characterize Waikīkī. The LUO's WSD Guidelines are a planning tool aimed at restoring the basic appeal of Waikīkī as a pedestrian-friendly environment. To complement the strong urban image that Waikīkī possesses, emphasis is placed on developing creative and functional uses of the ground-level open space. The focus of open space helps to define a "Hawaiian sense of place" as stated in the objectives of the WSD Guidelines that are enumerated in Section 7.80-1 of the LUO. The applicable objectives of the WSD addressed by the project are discussed below in *Table 5-8*.

Table 5-8 WAIKĪKĪ SPECIAL DISTRICT – OBJECTIVES AND POLICIES – CITY AND COUNTY OF HONOLULU **S = Supportive, N/S = Not Supportive, N/A = Not Applicable**	**S**	**N/S**	**N/A**
Sec. 21-9.80 Waikīkī Special District--Findings. (A) To the world, Waikīkī is a recognized symbol of Hawai'i; and the allure of Waikīkī continues, serving as the anchor for the state's tourist industry. In addition to its function as a major world tourist destination, Waikīkī serves as a vital employment center and as a home for thousands of full-time residents. (B) The creation of the Waikīkī Special District was largely a response to the rapid development of the 1960s and 1970s, and the changes produced by that development. Now, Waikīkī can be described as a mature resort plant and residential locale. Waikīkī needs to maintain its place as one of the world's premier resorts in an international market; yet, the sense of place that makes Waikīkī unique needs to be retained and enhanced. (C) Because of the city's commitment to the economic, social and physical well-being of Waikīkī, it is necessary to guide carefully Waikīkī's future and protect its unique Hawaiian identity. (Added by Ord. 99-12)			
The objectives of the Waikīkī Special District are to:			
Promote a Hawaiian sense of place at every opportunity.	X		
Guide development and redevelopment in Waikīkī with due consideration to optimum community benefits. These shall include the preservation, restoration, maintenance, enhancement and creation of natural, recreational, educational, historic, cultural, community and scenic resources.	X		
Support the retention of a residential sector in order to provide stability to the neighborhoods of Waikīkī.	X		
Provide for a variety of compatible land uses which promote the unique character of Waikīkī, emphasizing mixed uses.	X		
Support efficient use of multimodal transportation in Waikīkī, reflecting the needs of Waikīkī workers, businesses, residents, and tourists. Encourage the use of public transit rather than the private automobile, and assist in the efficient flow of traffic.	X		
Provide for the ability to renovate and redevelop existing structures which otherwise might experience deterioration. Waikīkī is a mature, concentrated urban area with a large number of nonconforming uses and structures. The zoning requirements of this special district should not, therefore, function as barriers to desirable restoration and redevelopment lest the physical decline of structures in Waikīkī jeopardize the desire to have a healthy, vibrant, attractive and well-designed visitor destination.	X		
Enable the city to address concerns that development maintain Waikīkī's capacity to support adequately, accommodate comfortably, and enhance the variety of worker, resident and visitor needs.	X		
Provide opportunities for creative development capable of substantially contributing to rejuvenation and revitalization in the special district, and able to facilitate the desired character of Waikīkī for areas susceptible to change.	X		

Table 5-8 WAIKĪKĪ SPECIAL DISTRICT – OBJECTIVES AND POLICIES – CITY AND COUNTY OF HONOLULU **S = Supportive, N/S = Not Supportive, N/A = Not Applicable**	**S**	**N/S**	**N/A**
Encourage architectural features in building design which complement Hawai'i's tropical climate and ambience, while respecting Waikīkī's urbanized setting. The provision of building elements such as open lobbies, lanais, and sunshade devices is encouraged.	X		
Maintain, and improve where possible: mauka views from public viewing areas in Waikīkī, especially from public streets; and a visual relationship with the ocean, as experienced from Kalākaua Avenue, Kālia Road and Ala Moana Boulevard. In addition, improve pedestrian access, both perpendicular and lateral, to the beach and the Ala Wai Canal.	X		
Maintain a substantial view of Diamond Head from the Punchbowl lookouts by controlling building heights in Waikīkī that would impinge on this view corridor	X		
Emphasize a pedestrian-orientation in Waikīkī. Acknowledge, enhance and promote the pedestrian experience to benefit both commercial establishments and the community as a whole. Walkway systems shall be complemented by adjacent landscaping, open spaces, entryways, inviting uses at the ground level, street furniture, and human-scaled architectural details. Where appropriate, open spaces should be actively utilized to promote the pedestrian experience.	X		
Provide people-oriented, interactive, landscaped open spaces to offset the high-density urban ambience. Open spaces are intended to serve a variety of objectives including visual relief, pedestrian orientation, social interaction, and fundamentally to promote a sense of "Hawaiianness" within the district. Open spaces, pedestrian pathways and other ground level features should be generously supplemented with landscaping and water features to enhance their value, contribute to a lush, tropical setting and promote a Hawaiian sense of place.	X		
Support a complementary relationship between Waikīkī and the convention center.	X		
Discussion: *The Outrigger Reef will guide the redevelopment project with due consideration given to the existing ambiance and character of the Waikīkī Beach Walk area. The revitalization includes a mix of compatible uses, and offers a balance to the overall Waikīkī Beach Walk composition of accommodations. The revitalization is an opportunity to recreate the area as an inviting and pedestrian-friendly experience that will enhance landscaped areas, as well as provide recreational opportunities.*			
Sec. 21-9.80-3 Prominent view corridors and historic properties. The following streets and locations identify significant public views of Waikīkī landmarks, the ocean, and the mountains from public vantage points:			
(1) Intermittent ocean views from Kālia Road across Fort DeRussy Park and from the Ala Wai Bridge on Ala Moana Boulevard; (2) Continuous ocean views along Kalākaua Avenue, from Kūhiō Beach to Kapahulu Avenue; (3) Ocean views from Ala Wai Yacht Harbor; (4) Ocean views from Kūhiō Beach Park; (5) Views of Ala Wai Yacht Harbor from Ala Moana Park (Magic Island Park); (6) Mauka views from the portions of the following streets mauka of Kūhiō Avenue: (a) Nohonani Street; (b) Nāhua Street; (c) Kānekapōlei Street; (d) Kai'olu Street; (e) Lewers Street; (f) Walina Street; and (g) Seaside Avenue (7) View of Diamond Head from Ala Wai Boulevard between McCully Street and Kapahulu Avenue.	X		
Development should preserve, maintain and enhance these views whenever possible. Additional yard area and spacing between buildings may be required by the director, in connection with the issuance of special district permits, and the council and/or the director, in connection with planned development-resort and planned development-commercial approvals pursuant to Section 21-2.110-2, to protect these significant views.	X		
Development should preserve, maintain and enhance historic properties whenever possible. Special district permit applications involving buildings over 50 years old shall be submitted to the State Department of Land and Natural Resources for review and comments. (Added by Ord. 99-12)	X		
Discussion: *The project will not impact significant public views listed above.*			

Table 5-8 WAIKĪKĪ SPECIAL DISTRICT – OBJECTIVES AND POLICIES – CITY AND COUNTY OF HONOLULU S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
Sec. 21-9.80-4 General requirements and design controls. The design of buildings and structures in the Waikīkī Special District should always reflect a Hawaiian sense of place, as outlined in the design controls of this section. These design controls shall be supplemented by a design guidebook prepared and made available to the public by the director. The design guidebook shall be used as a principal tool by the director to express those various planning and architectural design elements which demonstrate consistency with the intent, objectives, guidelines, and standards of the Waikīkī Special District. The director shall submit the design guidebook and any revisions thereof to the council for review and comment prior to making the guidebook and any revisions available to the public. The following requirements shall be applied in all precincts within the district. Where the following requirements are silent, the applicable provisions of this chapter shall apply.			
(A) Uses and Structures Allowed in Required Yards and Setbacks. The provisions of Section 21-4.30 shall apply except as provided by this subsection. No business activity of any kind, including advertising, promotion, solicitation, merchandising or distribution of commercial handbills, or structures or any other use or activity, except as provided by this subsection, shall be located or carried out within any required yard, street or building setback area, except those areas occupied by enclosed nonconforming buildings.	X		
(B) Curb Cuts. Curb cuts for driveway openings and sight distances at all intersections shall comply with the design standards of the department of transportation services unless modified by the city council. The number of curb cuts should be kept to a minimum in order to enhance pedestrian movement along sidewalks.	X		
(C) Design Guidelines.			
(1) General Guidelines. All structures, open spaces, landscape elements and other improvements within the district shall conform to the guidelines specified on the urban design controls marked Exhibit 21-9.15, set out at the end of this article, the design standards contained in this section and other design guidelines promulgated by the director to further define and implement these standards.	X		
(2) Yards. Yard requirements shall be as enumerated under development standards for the appropriate zoning precinct under Table 21-9.6(B).	X		
(3) Automobile Service Stations and Car Rental Establishments			X
(4) Utility Installations. Utility installations shall be designed and installed in an aesthetic manner so as to hide or screen wires and equipment completely from view, including views from above (except for antennas).	X		
(5) Building Materials. Selection and use of building materials should contribute to a Hawaiian sense of place through the use of subdued and natural materials, such as plaster finishes, textured concrete, stone, wood and limited use of color-coated metal. Freestanding walls and fences should be composed of moss rock, stucco-finished masonry or architectural concrete whenever possible. Colors and finishes shall be characterized as being absorptive rather than reflective. The use of shiny metal or reflective surfaces, including paints and smooth or plastic-like surfaces should be avoided.	X		
(6) Building Scale, Features and Articulation. Project designs should provide a human scale at ground level. Buildings composed of stepped forms are preferred. Articulated facades are encouraged to break up building bulk. Use of the following building features is encouraged: sunshades; canopies; eaves; lanais; hip-form roofs for low-rise, freestanding buildings; recessed windows; projecting eyebrows; and architectural elements that promote a Hawaiian sense of place.	X		
(7) Exterior Building Colors. Project colors should contribute to a tropical resort destination. They should complement or blend with surrounding colors, rather than call attention to the structure. Principal colors, particularly for high-rise towers, should be of neutral tones with more vibrant colors relegated to accent work. Highly reflective colors shall not be permitted.	X		
(8) Ground Level Features. (A) Within a development, attention should be given to pedestrian-oriented ground level features. A close indoor-outdoor relationship should be promoted. Design priority should include the visual links through a development connecting the sidewalk and other public areas with on-site open spaces, mountains and the ocean. (B) Building facades at the ground level along open spaces and major streets (including Kalākaua Avenue, Kūhiō Avenue, Kapahulu Avenue, Ala Wai Boulevard and Ala Moana Boulevard) shall be devoted to open lobbies, arcade entrances, and display windows, and to outdoor dining where it is permitted.	X		

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(C) Where commercial uses are located at ground level, other than as required by paragraph (B), at least one-half of the total length of the building facade along streets shall be devoted to open lobbies, arcade entrances, display windows and outdoor dining where permitted. (D) The street facades of ground level hotel lobbies should include wide, open entryways. Ventilation in these lobbies should primarily depend on natural air circulation. (E) Where buildings are situated between a street and the shoreline or between a street and open spaces, ground level lobbies, arcades and pedestrian ways should be provided to create visual links between the street and the shoreline or open space. (F) Where blank walls must front a street or open space, they shall be screened with heavy landscaping or appropriately articulated exterior surfaces. (G) Ground level parking facilities should not be located along any street, park, beachfront, public sidewalk or pedestrian way. Where the site plan precludes any other location, the garage may front these areas provided landscaping is provided for screening. Principal landscaping shall include trees, and secondary landscape elements may include tall hedges and earth berms. (H) For purposes of the Waikīkī Special District, an "open lobby" shall mean a ground-floor lobby which shall not be enclosed along the entire length of at least two of its sides or 50 percent of its perimeter, whichever is greater, and which shall provide adequate breezeways and views to interior and/or prominent open spaces, intersecting streets, gateways or significant pedestrian ways.			
(9) Outdoor Lighting. Outdoor lighting shall be subdued or shielded so as to prevent glare and light spillage onto surrounding properties and public rights-of-way. It shall not be used to attract attention to structures, uses or activities; provided, however, that indirect illumination which shall be integrated with the architectural design of a building may be allowed when it is utilized to highlight and accentuate exterior building facades, and architectural and/or ground level features. Rotating, revolving, moving, flashing and flickering lights shall not be visible to the public, except lighting installed by a public agency for traffic safety purposes or temporary lighting related to holiday displays.	X		
Discussion: *The project design will reflect a Hawaiian sense of place in building scale, materials and ground level features. The new hotel units that connect the existing Pacific and Ocean Towers will have subdued colors that blend in with the surrounding facilities. Facades are articulated to break up the building bulk and sunshades, canopies and lanai are incorporated into the design to promote a Hawaiian sense of place. Entrance improvements along Kālia Road will include new resort signage, landscaping, and a new pedestrian pathway lined with retail displays.*			
Landscaping. (1) Any tree six inches or greater in trunk diameter shall not be removed or destroyed except as follows: (A) The tree is not visible from any street, park or other public viewing area. (B) Appropriate development of the site cannot be achieved without removal of the tree. (C) The tree is a hazard to the public safety or welfare. (D) The tree is dead, diseased or otherwise irretrievably damaged. (E) The applicant can demonstrate the tree is unnecessary due to overcrowding of vegetation. (2) Any tree removed which is visible from any street, park or other public viewing area shall be replaced by an approved tree of a minimum two-inch caliper, except palms which shall have a minimum trunk height of 15 feet, or by alternative approved landscaping material, unless the replacement results in overcrowded vegetation. Larger replacement trees may be required depending on the size of the trees removed. (3) Where possible, trees proposed for removal shall be relocated to another area of the project site. (4) Parking structures shall be landscaped. Rooftop parking areas shall also be landscaped wherever they are visible to the public. (5) Landscaped screening shall be required to prevent undesirable vistas and sight lines, and to reduce the visual impact of blank walls and parked vehicles. Spacing and other design elements shall be determined by species, plant size and mix of plant material. (6) Whenever landscaping is required, the use of fragrant, lush, tropical vegetation and native plant species is encouraged. (7) All fences and walls exceeding 36 inches in height, except for moss rock walls, shall be landscaped with vine or hedge planting, or other approved vegetation on the street side. (8) All landscaped areas shall include an adequate irrigation system.	X		

Table 5-8 WAIKĪKĪ SPECIAL DISTRICT – OBJECTIVES AND POLICIES – CITY AND COUNTY OF HONOLULU S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
Discussion: *The project will integrate a variety of tropical vegetation throughout the site. The palette will include a small, medium, and large native, Polynesian-introduced, and tropical canopy trees, vegetation and groundcover that are consistent with the WSD guidelines. As appropriate, the selection and use of native plants will be encouraged with specificity to express identified culturally appropriate themes and experiences throughout the site. No existing trees will be removed from the site. Some of the existing coconut trees located on the mauka portion of the site may be relocated to other areas within the property.*			
Height Regulations.			
Rooftop Height Exemption: The director may exempt necessary mechanical appurtenances, and utilitarian and architectural features from the height regulations of the special district, provided they are erected only to such height as is necessary to accomplish the purpose they serve, but in no case exceeding 18 feet above the maximum height limit for roof forms and 12 feet above the maximum height limit for all other appurtenances and features. These building elements may be exempted only if the director finds they do not obstruct any significant views which are to be preserved, protected and enhanced and are consistent with the intent and objectives of the Waikīkī Special District. The design of roof treatment shall be attractive, contextual and an integral part of the building's design scheme. Except for flagpoles and smokestacks, all items listed in Section 21-4.60(c) shall also be exempt from the height provision of this subsection.	X		
Coastal Height Setbacks: In addition to the above limits, there is a need to step back tall buildings from the shoreline to maximize public safety and the sense of open space and public enjoyment associated with coastal resources. Accordingly, the following minimum setbacks shall apply to all zoning lots along the shoreline: There shall be a building height setback of 100 feet in which no structure shall be permitted. This setback shall be measured from the certified shoreline; and Beyond the 100-foot line there shall be a building height setback of 1:1 (45 degrees) measured from the certified shoreline.	X		
Discussion: *The proposed hotel units that will connect the existing Pacific and Ocean Towers and other improvements at the site will be located within the shoreline setback and coastal height setback areas; however redevelopment will result in less structure and non-conformity than currently exists. The project will obtain an SMA Minor Modification permit and Shoreline Setback Variance. The project will comply with the WSD height standard of 300 ft.*			
Parking.			
Off-street parking shall be provided in accordance with Article 6 and Table 21-6.3. Notwithstanding the foregoing, ground floor and basement uses, other than dwelling uses, in the Waikīkī Special District shall be exempt from off-street parking requirements.	X		
Discussion: *The Outrigger Reef currently contains 210 parking stalls and Waikīkī Beach Walk as a whole contains 851 off-street parking spaces, which exceeds City and County of Honolulu LUO requirements. Existing demand during normal operations is currently managed on-site. Valet service is the only option provided at the Outrigger Reef. When the Outrigger Reef project is complete, the Outrigger Reef will provide 222 parking stalls and Waikīkī Beach Walk will provide 863 parking spaces, compared to LUO requirement of 572 spaces.*			

5.3.4 City and County of Honolulu Waikīkī Livable Community Project

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

designed, with assistance from the Waikīkī community and stakeholders, to improve transportation, circulation and pedestrian activity to assist in the improvement and support of the revitalization of Waikīkī as a pedestrian first community. The applicable objectives of the WLCP addressed by the project are discussed below in *Table 5-9*.

Table 5-9 CITY AND COUNTY OF HONOLULU WAIKĪKĪ LIVABLE COMMUNITY PROJECT **S = Supportive, N/S = Not Supportive, N/A = Not Applicable**	**S**	**N/S**	**N/A**
WLCP Mission Statement: Waikīkī is a distinct, premier resort, residential and urban district. It must maintain its Hawaiian sense of place and economic vitality. Seeking solutions and compromises in physical planning, landscaping, and various modes of transportation, shall meet the needs of visitors, residents, and team members alike in the spirit of Aloha.			
"Pedestrian First" Policy			
In Waikīkī the pedestrian, visitor and resident alike, will come first. Waikīkī will be a pedestrian-oriented resort and a pedestrian-oriented residential area. Walking will be the primary mode of getting around within Waikīkī and it will be a pleasurable way to enjoy Waikīkī.	X		
The pedestrian walking experience on public sidewalks in Waikīkī needs to be improved and enhanced.	X		
Discussion: *The project design will add to Waikīkī's livability and pedestrian level streetscape. Through the project, improvements will be made to retail and streetscape experience along Kālia Road. In general, improvements will be made to the street side appearance and appeal of retail units through landscaping and reconfigured parking, loading, and service routes, further removing loading vehicles from Kālia Road.*			
Transportation in Waikīkī – Vision Statements			
Kūhiō Avenue Vision Statement: Celebrating Living in Waikīkī			X
Ala Wai Boulevard Vision Statement: A Stage for Recreation and Culture			X
Kalākaua Avenue Vision Statement: One of the World's Greatest Streets			X
Ala Moana Boulevard Vision Statement: A Green Gateway			X
Mauka - Makai Streets: Creating Neighborhoods with Unique Character	X		
Discussion: *The Outrigger Reef project supports the vision statements of Kūhiō Avenue, Ala Wai Boulevard, and Kalākaua Avenue; however, the most applicable vision statement to the Outrigger Reef is that of the Mauka – Makai Streets Vision Statement, as the Outrigger Reef fronts Kālia Road, near the junction of Kālia and Beach Walk. The Outrigger Reef project is the culmination of Waikīkī Beach Walk which has transformed the Lewers Street corridor and created a vibrant neighborhood with a welcoming pedestrian character.*			
Mauka – Makai Streets: "Creating Neighborhoods with Unique Character"			
The vision for mauka-makai streets is to encourage pedestrian traffic and to take advantage of opportunities for enhancing and defining the neighborhood character.	X		
For mauka-makai streets to have a "neighborhood" character, they will have a sense of "street security." Mauka-makai streets that are inadequately lit will have lighting fixtures with dual lamps, one for the street and the other for the sidewalk. Landowners will be encouraged to modify landscaping near sidewalks to eliminate brush that could be perceived by pedestrians as concealing lurking threats.	X		
More sidewalk space will be provided for mauka-makai streets, especially for those streets that experience significant pedestrian volume.	X		
Discussion: *The Outrigger Reef is located on Kālia Road near the Beach Walk intersection. The project will add ground level open space and a distinct Hawaiian character in the Lewers-Kālia corridor makai of Kalākaua Avenue. The design elements included in the Outrigger revitalization will support the vision of Mauka-Makai Streets as outlined in the WLCP by completing the transformation of Waikīkī Beach Walk as a safe and inviting pedestrian experience at the entrance to Waikīkī.*			
Secondary Pedestrian Routes			
Secondary pedestrian routes are sidewalk space along streets connecting primary pedestrian routes to recreational pedestrian routes and to pedestrian routes and attractions beyond Waikīkī. They are intended to accommodate lower volumes of pedestrian activity than the primary pedestrian routes. Roadways identified as secondary pedestrian routes include: Kūhiō Avenue (between Ka'iulani Avenue and Kapahulu Avenue), Ala Moana Boulevard (between Atkinson Boulevard and Kālia Road), Hobron Lane, Kālia Road, Saratoga Road, Kalaimoku Street (between Kalākaua Avenue and Kūhiō Avenue), Lewers Street (between Kalākaua Avenue and Kūhiō Avenue), McCully Street, and Ohua Avenue (between Kalākaua Avenue and Kūhiō Avenue).	X		

Table 5-9 CITY AND COUNTY OF HONOLULU WAIKĪKĪ LIVABLE COMMUNITY PROJECT S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
Through public-private partnering in conjunction with the Outrigger Beach Walk project, the sidewalk between Lewers Street and Saratoga Road on the mauka side of Kālia Road will be widened and textured sidewalk paving will be provided on both sides of the street. The streetscape along Kālia Road will also be improved by providing street trees and replacing street lights with historic-style lighting fixtures.	X		
Discussion: *Outrigger supports the WLCP goals for improvements to secondary pedestrian routes. The project site is along Kālia Road and improvements to the pedestrian experience are included in the project description. Landscaping and pedestrian access fronting the Outrigger along Kālia Road will be opened up, invoking a more appealing welcoming experience.*			
Traffic Circulation			
For fifty years or more since the modern grid street pattern system went into effect, addressing the diverse transportation needs of residents, businesses and visitors is an essential part of making Waikīkī livable. Ala Moana Boulevard will continue to be a primary entry and exit route for Waikīkī, accommodating all types of vehicles. It will also become the entry and exit route for the planned high capacity BRT line serving Waikīkī via Kālia Road.	X		
Discussion: *Outrigger supports the WLCP goals for improvements to traffic circulation. Ala Moana Boulevard and Kālia Road provide direct access to the Outrigger Reef. Currently, TheBus and The Trolley provide alternative transportation service along Kālia Road.*			

5.3.5 City and County of Honolulu Planned Development-Resort Permit

The provisions of the LUO specify that certain zoning standards and minimum requirements may be modified for planned development projects in the WSD, subject to their review and approval in concept by the City Council, and in detail by the Director of Planning and Permitting.

Review and approval of planned developments in the WSD is a two-step process, as spelled out in Sections 21-2.110-2 and 21-9.80-4(d)(4) of the LUO. First, a conceptual plan must be approved by the Honolulu City Council. Applications for conceptual plan approval are submitted to the DPP for review. The results of the review are forwarded along with a recommendation to the Honolulu City Council for action. The second step is approval of a detailed plan by the DPP. Application and processing requirements are the same as for obtaining a Major Permit in the WSD.

Discussion: *The Outrigger Reef is located within the WSD. The Outrigger Reef project has been conceived as a part of the Waikīkī Beach Walk PD-R project. PD-R projects are only permitted in the Resort Mixed Used Precinct. The proposed improvements are subject to the review and approval by the City Council and the DPP. An application for Minor Modification to the PD-R Permit (Resolution NO. 02-272, CD1, FD1, as amended) from the City and County of Honolulu will be processed. Section 3.0 describes the details of the compliance with the PD-R. The PD-R accommodates special allowances and development standards to the following areas: 1) Building density/floor area; 2) Ground level open space; 3) Front yards; 4) Building heights; 5) Transitional height setbacks; and 6) Parking and Loading, and 7) Landscaping.*

5.3.6 City and County of Honolulu Special Management Area

Within the City and County of Honolulu, the SMP application review is administered by the DPP, and the decision on its issuance is rendered by the City Council, pursuant to Ordinance No. 84-4. It is the policy of the City and County of Honolulu to preserve, protect, and to restore the natural resources of the coastal zone of Hawai'i. The SMA designation places special controls on

development within an area along the shoreline. These controls are necessary to avoid permanent loss of valuable resources and to insure that adequate public access is provided to public owned or used beaches, recreation areas, and natural reserves. The project is included in the SMA Boundary area for Waikīkī and will obtain a Minor Modification to the SMP (No. 2002/SMA-35) as approved under Resolution No. 02-271, CD1, as required by ROH, Sec. 25-1.2; HRS Chapter 205A-21.

Issuance of the SMP Minor Modification is based on the consistency of the proposed development project with the policies and review guidelines specified in the CZM Law. The applicable objectives, policies and guidelines to the project are discussed in *Table 5-10*.

Table 5-10 SPECIAL MANAGEMENT AREA – OBJECTIVES AND POLICIES – CITY AND COUNTY OF HONOLULU
(1) All development in the special management area are subject to reasonable terms and conditions set by the authority in order to ensure:
• Adequate access, by dedication or other means, to publicly owned or used beaches, recreation areas, and natural reserves is provided to the extent consistent with sound conservation principles;
Discussion: *Public access to Waikīkī Beach as well as the adjacent recreational facilities of Fort DeRussy Park will be maintained.*
• Adequate and properly located public recreation areas and wildlife preserves are reserved.
Discussion: *The Outrigger Reef will complement the adjacent public recreational areas of Fort DeRussy Park and Waikīkī Beach.*
• Provisions are made for solid and liquid waste treatment, disposition, and management that will minimize adverse effects upon special management area resources.
Discussion: *The Outrigger Reef's commitment to sustainability includes solid waste reduction, through digitizing reports, printing double-sided, and purchasing eco-friendly copy machines. Recycling takes place on site through an ongoing partnership with PACT, a local nonprofit family services agency, with Reynolds Recycling. Bottles and cans are recycled and a portion of the proceeds go towards PACT. Irrigation water is recycled and re-used for water at ponds and waterfalls. Other solid and liquid waste water will connect to the existing City and County of Honolulu wastewater system.*
• Alterations to existing land forms and vegetation; except crops, and construction of structures shall cause minimum adverse effect to water resources and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation or failure in the event of earthquake.
Discussion: *The project will redevelop an already urbanized segment of Waikīkī and therefore will not have an adverse effect on water, scenic, or recreational resources. The project will serve to enhance the overall quantity and quality of recreational amenities in the area. All design controls will be in compliance with maintaining safety standards to minimize the any potential danger of natural hazards.*
(2) No development shall be approved unless the authority has first found:
• That the development will not have any substantial adverse environmental or ecological effect, except as such adverse effect is minimized to the extent practicable and clearly outweighed by public health, safety, or compelling public interests. Such adverse effects shall include, but not be limited to, the potential cumulative impact of individual developments, each one of which taken in itself might not have a substantial adverse effect, and the elimination of planning options;
Discussion: *The Outrigger Reef will not create substantial adverse environmental or ecological effects. Identified potential long-term impacts and recommended mitigation measures are discussed in Section 4.0.*
• That the development is consistent with the objectives, policies, and special management area guidelines of this chapter and any guidelines enacted by the legislature;
Discussion: *The project remains consistent with the policies and objectives of the HRS Chapter 205A CZM and its review guidelines, as well as the ROH, Chapter 25 SMA guidelines. Consistency with CZM is discussed earlier in this chapter.*

Table 5-10 SPECIAL MANAGEMENT AREA – OBJECTIVES AND POLICIES – CITY AND COUNTY OF HONOLULU
• That the development is consistent with the county general plan and zoning. Such a finding of consistency does not preclude concurrent processing where a general plan or zoning amendment may also be required.
Discussion: *The project is consistent with the City and County of Honolulu's General Plan, PUC Development Plan, and Land Use Ordinance. Consistency is discussed earlier in this chapter.*
(3) The authority shall seek to minimize, where reasonable:
• Dredging, filling or otherwise altering any bay, estuary, salt marsh, river mouth, slough or lagoon;
Discussion: *The Outrigger Reef revitalization project does not involve dredging, filling, or the altering of any bay, estuary, salt marsh, river mouth, slough or lagoon.*
• Any development which would reduce the size of any beach or other area usable for public recreation;
Discussion: *The project will not reduce the size of the beach or any other public recreational area.*
• Any development which would reduce or impose restrictions upon public access to tidal and submerged lands, beaches, portions of rivers and streams within the special management areas and the mean high tide line where there is no beach;'
Discussion: *The project does not reduce or impose restrictions upon public access to tidal and submerged lands, beach areas, or to the mean high tide line.*
• Any development which would substantially interfere with or detract from the line of sight toward the sea from the state highway nearest the coast;
Discussion: *The proposed development does not interfere with or detract from the line of sight toward the sea from the H-1 freeway.*
• Any development which would adversely affect water quality, existing areas of open water free of visible structures, existing and potential fisheries and fishing grounds, wildlife habitats, or potential or existing agricultural uses of land.
Discussion: *The project will take all necessary environmental precautions will be in complete compliance with the rules and regulations relating to water quality, fisheries, and wildlife habitats in the project location.*

5.4 SHORELINE SETBACKS

A Shoreline Setback Variance is required when structures are planned within the shoreline area.

Shoreline area is defined by HRS Chapter 205A-41 as:

"Shoreline area' shall include all of the land area between the shoreline and the shoreline setback line and may include the area between mean sea level and the shoreline; provided that if the highest annual wash of the waves is fixed or significantly affected by a structure that has not received all permits and approvals required by law or if any part of any structure in violation of this part extends seaward of the shoreline, then the term 'shoreline area' shall include the entire structure."

5.4.1 Certified Shoreline Requirement

The Office of Conservation and Coastal Lands (OCCL), at the DLNR, is the regulatory agency responsible for managing land uses on the State's submerged lands, which extend to the highest wash of the highest wave, as identified by the certified shoreline defined in HRS 205A. Permits for any development on the property are contingent upon an approved certified shoreline from DLNR.

A certified shoreline for the Outrigger Reef was obtained and approved by the Department of Land and Natural resources (DLNR) (letter dated 19 December 2014) (*Figure 5-1*). To pursue some of the beachfront improvements at the Outrigger Reef, the applicant must obtain approvals from the City and County of Honolulu for a SMA Minor Modification and Shoreline Setback Variance.

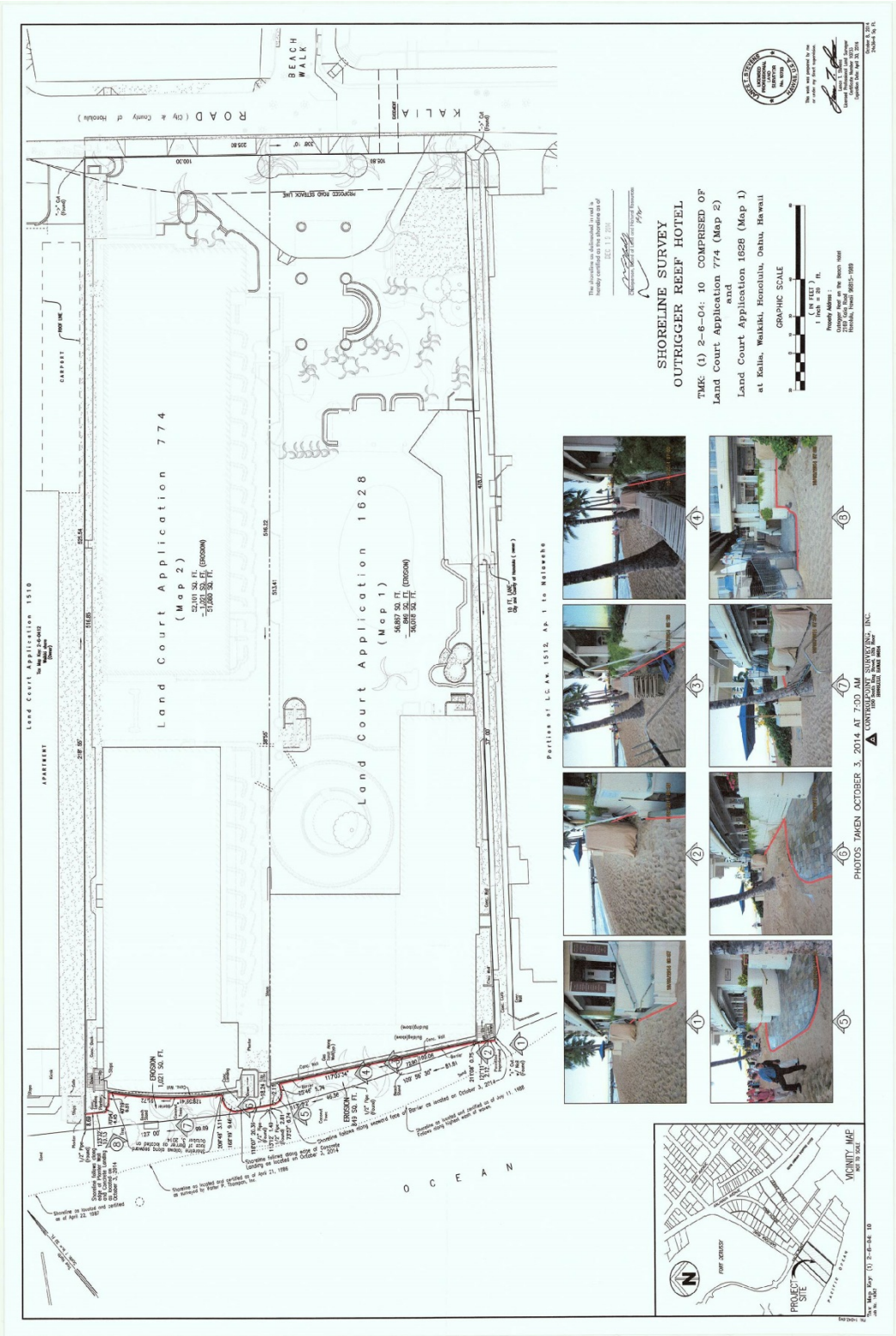

Figure 5-1 Certified Shoreline for the Outrigger Reef

5.4.2 Proposed Improvements in the Shoreline Setback Area

Demolition of Diamond Head Tower and New Beachside Lawn and Stage

The existing 5-story Diamond Head Tower located along the beachfront and within the 40 ft shoreline setback will be demolished. The basement area beneath Diamond Head Tower will be backfilled and replaced with a lawn area that will be used as a flexible outdoor recreation space for events, pool-related activities, open air dining, and prefunction space. A portion of the lawn will also contain a stage that will complement the open area and allow this space to be converted into a venue for live entertainment such as traditional local music played at the Kani Ka Pila Grille. The stage is located so that visitors and guests can enjoy the music, sun, and view of the beach and Diamond Head. The applicant will request a Shoreline Setback Variance (SSV) from the City and County of Honolulu, DPP for the development of the stage. The new lawn will also be included in the SSV request if extensive grading and grubbing activities are required during construction. Steps will be provided from the hotel property to the beach. The basement portion located below the lawn area will no longer be used as storage and parking. This area will be filled in with structural support.

New Pool Deck

A portion of the new pool deck will be located within the 40 ft shoreline setback. This area is currently used as the roof connecting the existing Diamond Head Tower and Ocean Tower. The function of this roof will be repurposed and used as the makai portion of the elevated pool deck. This portion of the pool deck will provide a smooth transition from the property to the beachfront for visitors and guests. The applicant will request a SSV from the City and County of Honolulu, DPP for the development of this portion of the pool deck and pedestrian path.

Drainage System Improvements and Interior Improvements

Based on the current design, there will be no new drainage structures proposed within the 40 foot shoreline setback. However, the existing 4-inch line for building drainage will be replaced with an 8-inch line, and some other maintenance on the exiting 18-inch drain may be required. The applicant will request a SSV from the City and County of Honolulu, DPP for the construction of drainage improvements.

Within the basement level of the Ocean Tower, the existing kitchen and fitness facilities will be repurposed from back of house spaces into new parking stalls. Existing parking on the site ranges from zero ft to 115 ft from the shoreline. If applicable, these interior improvements will be included in the project's SSV request from the City and County of Honolulu, DPP.

5.4.3 Criteria for Granting a Shoreline Setback Variance

Criteria for granting a Shoreline Setback Variance are provided in Part III of HRS Chapter 205A- 46 and Chapter 23-1.8, Revised Ordinances of Hawai'i. The project is anticipated to meet the criteria required for a Shoreline Setback Variance under both regulations.

HRS Chapter 205A-46 (a) (9) reads:

(a) A variance may be granted for a structure or activity otherwise prohibited in this part if the authority finds in writing based on the record presented that the proposed structure of activity is necessary or ancillary to:

8. Private facilities or improvements which will neither adversely affect beach processes nor artificially fix the shoreline; provided that the authority also finds that hardship will result to the applicant if the facilities or improvements are not allowed within the shoreline area.

Discussion: *The proposed improvements to the Outrigger Reef property will not adversely affect beach processes or further artificially fix the shoreline. The applicant will be faced with hardship if the proposed improvements are not allowed within the shoreline area. The existing Outrigger Reef was developed in the 1950s and is in need for revitalization. A portion of the existing hotel towers are currently located within the 40 ft shoreline setback. The space configurations and layout of the site is established with the location of the existing Pacific and Ocean Towers. Therefore, Outrigger must work with the spaces it has available to provide visitors with improved and expanded room accommodations and hotel amenities.*

Outrigger is proposing to reinvigorate the site as an iconic resort through purposeful series of redevelopment activities. The project will result in the demolition of the existing five-story Diamond Head Tower which is located in the shoreline setback to open up the site towards Waikīkī Beach. Other improvements in this area will include development of a new beachside lawn area and stage, a portion of the new pool deck and pedestrian path, and drainage improvements. The applicant will request a SSV from the City and County of Honolulu, DPP for the development of the stage, portion of the pool deck and pedestrian path, and drainage improvements. The new lawn will also be included in the SSV request if extensive grading and grubbing activities are required during construction. As a global leader in the hospitality industry, it is important that Outrigger continue to revitalize its Outrigger Reef property in Waikīkī. The Outrigger Reef is one of only seven true beachfront hotels in Waikīkī, and plays a vital role in the maintaining the magic of the world famous Waikīkī Beach.

The proposed action will also meet the required conditions listed in 205A-46(c). The proposed improvements will continue to provide safe lateral access to and along the shoreline and minimize adverse impacts on beach processes. Construction of the project will be built according to established building codes and standards to minimize risk of structures failing and becoming loose rocks or rubble on public property. In addition the proposed improvements will not have significant adverse impacts on public views to, from, and along the shoreline.

ROH Chapter 23-1.8 (3) (B) reads:

(3) Hardship Standard.

(A) A variance may be granted for an activity or structure that is necessary or ancillary to the following private facilities or improvements, if hardship will result to the applicant if the facilities or improvements are not allowed within the shoreline area:

(i) Private facilities or improvements which will neither adversely affect beach processes nor artificially fix the shoreline; and

(ii) Private facilities or improvements that may artificially fix the shoreline, but only if hardship is likely to be caused by shoreline erosion and conditions are imposed prohibiting any such structure seaward of the existing shoreline unless it is clearly in the public interest.

(B) For the purposes of this subsection, hardship may be found only if:

(i) The applicant would be deprived of reasonable use of the land if required to comply fully with the shoreline setback ordinance and the shoreline setback rules;

(ii) The applicant's proposal is due to unique circumstances and does not draw into question the reasonableness of this chapter and the shoreline setback rules; and

(iii) The proposal is the practicable alternative which best conforms to the purpose of this Chapter and the shoreline setback rules.

(C) Before granting a hardship variance, the director must determine that the applicant's proposal is a reasonable use of the land. Because of the dynamic nature of the shoreline environment, inappropriate development may easily pose a risk to individuals or to the public health and safety.

For this reason, the determination of the reasonableness of the use of land should properly consider factors such as shoreline conditions, erosion, surf and flood conditions and the geography of the lot.

(D) Hardship shall not be determined as a result of a zone change, plan review use approval, subdivision approval, cluster housing approval, planned development housing approval, conditional use permit, or any other discretionary land use permit granted after June 16, 1989.

Discussion: *The proposed action meets the ROH 23 Hardship standard for the following reasons:*

(A)(i): The project is a private facility and improvement that will not adversely affect beach processes or further artificially fix the shoreline. The existing Diamond Head Tower and Ocean Tower on the Outrigger Reef property are currently located in the 40 ft shoreline setback and do not adversely impact beach processes or artificially fix the shoreline. The proposed improvements will maintain the existing setbacks on the property and will reduce the existing presence of built structures within the 40 ft shoreline setback area.

(B)(i): The proposed action meets this hardship standard, as the applicant would be deprived of reasonable use of the land if required to comply fully with the shoreline setback ordinance and the shoreline setback rules. The Outrigger Reef is an existing hotel property that was built in the 1950s. The space configurations and layout of the site are established with the location of the existing Pacific and Ocean Towers. A portion of the existing hotel towers is located within the 40 ft shoreline setback. Therefore, Outrigger must work with the spaces it has available to provide visitors with improved and expanded room accommodations and hotel amenities as part of its plan

to reinvigorate the site as an iconic resort. The project will result in the demolition of the existing five-story Diamond Head Tower which is located in the shoreline setback to open up the site towards Waikīkī Beach. Other improvements in this area will include the new lawn and stage area, a portion of the pool deck and pedestrian path, and drainage improvements.

Outrigger is looking to revitalize the existing hotel property by replacing the aging Diamond Head Tower with a design that is more fitting with the overall layout of the hotel site. In addition, the proposed improvements will help to provide a transition from the property to the beach area and will reduce the existing presence of built structures in the shoreline setback providing a better fit with the natural coastal environment. The proposed project design will reduce the existing non-conformity on the property and is better aligned with State and County policies relating to shoreline and coastal zone management.

(B)(ii): The proposed improvements within the shoreline setback area are a result of unique circumstances to the Outrigger Reef property. The existing hotel site was developed in the 1950s and is currently located within the shoreline setback area. Outrigger will need to make improvements to the existing hotel facilities now and in the future in order to provide quality facilities and meet the expectations of the visitors and guest. The space configurations and layout of the site are established with the location of the existing Pacific and Ocean Towers. Therefore, Outrigger must work with the spaces it has available to provide visitors with improved and expanded room accommodations and hotel amenities.

(B)(iii): The proposed project is the practicable alternative which best conforms to the purpose of the shoreline setback rules and regulations. Another alternative explored in this SEIS did evaluate the redevelopment of the site outside of the 40 ft shoreline setback. This alternative would result in Outrigger losing use of a large portion of their existing property, and it would not be financially feasible, as the overall project less the improvements planned for the shoreline setback area would not provide the overall visitor experience required to generate adequate revenues to finance the project. In addition, the increasingly negative consequences over time of failing to revitalize and refresh key beachside improvements and recreational facilities. Therefore the proposed action was determined to be the best practicable alternative that best met the purpose of the shoreline setback rules with the approval of a Shoreline Setback Variance from the City and County of Honolulu, DPP. Overall, the proposed project improvements located within the shoreline setback area will open up the hotel property towards Waikīkī Beach and will reduce the presence of built structures in the 40 ft setback.

5.5 EIS SIGNIFICANCE CRITERIA

Overall, the project will have a beneficial impact on the environment. The following is a conclusion assessment based on criteria established in 11-200-12 HAR.

1. Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;

Discussion: *The project does not involve a significant loss of natural or cultural resources. As needed, identified mitigative measures that are in accordance with State Historic Preservation laws will be administered, should such resources be discovered.*

2. Curtails the range of beneficial uses of the environment;

Discussion: *The Outrigger Reef revitalization improves and expands on an existing developed area. The range of beneficial uses of the environment is not significantly curtailed by proposed improvements. The Outrigger Reef is located in the Resort Mixed Use Precinct of the WSD and is consistent with existing zoning and current land uses. The project will include improvements to the hotel property and improvements to the street side appearance that will enhance the pedestrian walkways fronting the Kālia Gateway. This will substantially improve the character and setting of the hotel property and this section of Waikīkī in general.*

3. Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders;

Discussion: *The project is consistent and supportive of Chapter 344 policies, goals, and guidelines. The purpose of Chapter 344, HRS, is "to establish a State policy which encourages productive and enjoyable harmony between man and his environment, promote efforts which will prevent or eliminate damage to the environment and biosphere, stimulate the health and welfare of man, and enrich the understanding of the economical systems and natural resources important to the people of Hawai'i." The Outrigger Reef is currently a developed resort destination with existing landscaping and tropical blends of vegetation. Design practices and best management practices will help minimize potential impacts of the project improvements on the surrounding environment and residents.*

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

Discussion: *The proposed improvements will positively affect the State's economic welfare by providing new hotel options and improving the existing hotel property to enhance the visitor experience of one of Waikīkī's top resort destinations. Economic and social benefits will result from increased employment and tax revenues. The improvements will continue to provide access to ocean recreational opportunities along with access to retail, lodging and conference meeting facilities. This project reflects Outrigger's dedication to maintaining Waikīkī as one of the world's leading travel destinations.*

5. Substantially affects public health;

Discussion: *The project is consistent with existing land uses and will not substantially affect public health. Outrigger supports the health and well-being of its team members and guests. Solid waste and wastewater collection and disposal services will meet regulatory requirements to maintain public health standards. Adverse air, noise, and runoff pollutions are not anticipated as a result of the Outrigger Reef improvements.*

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

Discussion: *The project improvements will not have substantial secondary impacts, such as population changes or effects on public facilities. The hotel units attract visitor population rather than residential population. The net addition of approximately 39 hotel units will primarily affect*

the daily visitor population in Waikīkī. The impact of the increase in population is expected to be very minor. Existing water, power, and wastewater systems are available to accommodate the project with necessary improvements to be made to further support capacity and future demand.

7. Involves a substantial degradation of environmental quality;

Discussion: *The Outrigger Reef will not degrade the environmental quality within this urban setting. Rather, the proposed improvements incorporate the latest technology in building design. The project will utilize design practices and best management practices that improve the inter-relationship between the natural and built environment, including air quality, storm water runoff/quality, and the terrestrial environment.*

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

Discussion: *The proposed improvements are intended to offer positive benefits to the economic tourism market in Waikīkī. Improvements to the front of Kālia Road will add benefit to the surrounding and neighborhood community, creating a new pedestrian corridor to compliment the adjacent park atmosphere and respond to the State and the County's pedestrian-oriented, transit-ready, and regional bike plans. The proposed project improvements are intended to reinvigorate the visitor experience and local economy, and are located within the existing developed area which is connected to existing infrastructure.*

This SEIS is a full disclosure of anticipated implementing actions that require approvals and permits to improve the Outrigger Reef have been identified.

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

Discussion: *The project is not expected to affect rare, threatened, or endangered species or habitats. There are no existing rare, threatened, or endangered species or habitats located on the project site. There will be limited short term impacts to the existing animals and birds that reside within the vicinity of the hotel property. Potential impacts will be minor and will not require mitigation measures. Common birds are located throughout urban areas of Honolulu can temporarily relocate during the construction period.*

The project is a balanced development proposal that is compatible to existing uses and relationships between the urban and nearby shoreline environment. The required SMA Minor Modification and Shoreline Setback Variance are listed as next steps in the approval process, which will ensure that marine and nearshore habitats fronting the Outrigger will be properly protected during project construction and operations.

10. Detrimentally affects air or water quality or ambient noise levels;

Discussion: *Air quality, noise, ground water quality, and ocean water quality studies were conducted for this SEIS. There will be short-term air and noise impacts during construction of the proposed improvements. Best management practices will be employed during construction to minimize and mitigate air and noise impacts. Although some of the project improvements will be developed near the shoreline, construction will meet applicable standards and regulations and is*

not anticipated to have any effect to coastal resources. Long-term impacts to air, noise, and water quality are not expected to be significant. Details of the long-term mitigation strategies are described in Section 4.0.

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

Discussion: *Most of Waikīkī, including the project site, is located within the State Civil Defense tsunami evacuation zone. The project area is primarily contained within the Federal Emergency Management Agency AE flood zone (8 ft elevation). Coordination with State and City and County of Honolulu Civil Defense is ongoing to ensure the project is designed in accordance to standards for tsunami preparedness and flood proofing of permitted uses. Outrigger security and staff are trained to address a range of situations that require immediate response to emergencies on site. Response plans are also in place in the event of natural disasters.*

12. Substantially affects scenic vistas and viewplanes identified in county or state plans;

Discussion: *As addressed in the sections above, the Outrigger Reef project does not substantially affect scenic vistas and viewplanes identified in County or State plans.*

13. Requires substantial energy consumption;

Discussion: *Existing energy conservation efforts at the Outrigger Reef include increasing energy efficiency by converting to 10.5 watt LED fixtures in all hotel floor corridors and installing temperature and humidity controls in each quest room with an energy-conserving mode option; and increasing energy savings and efficiency through the installation of a new OTIS compass system for all elevators that improves flow of traffic.*

5.5.1 Reason for SEIS Preparation

In 2002, a Final EIS was completed for the Waikīkī Beach Walk project including the Outrigger Reef. This project was a master-planned redevelopment of Outrigger's properties in the Lewers Street area. Since the EIS in 2002, all of the components of the Waikīkī Beach Walk project except Outrigger Reef have been completed. Today, Waikīkī Beach Walk is a vibrant gathering place, a showcase for Hawaiian music, and a destination of choice for visitors and Hawai'i residents.

To carry on this success, Outrigger plans to improve the existing Outrigger Reef. Outrigger envisions the redevelopment of this property to provide visitors with improved and expanded hotel room accommodations, conferencing options, a new resort pool and recreation area, and a beachside lawn area. These specific proposed improvements to the Outrigger Reef property were not included in the 2002 Final EIS for the Waikīkī Beach Walk project. Therefore, an SEIS is required for the proposed action.

In addition, the proposed project site is located within the WSD and SMA, and portion of the project within the Shoreline Setback Area. As such, the project must be evaluated through the State environmental review process. The magnitude of demolition and construction proposed in this revitalization project warrants the preparation of an SEIS in accordance with Chapter 343, HAR.

Section 6.0

ALTERNATIVES TO THE PROPOSED PROJECT

6.0 ALTERNATIVES TO THE PROPOSED PROJECT

The proposed Outrigger Reef improvements reflect Outrigger's current vision and intent to transform the property through a well-defined and coordinated planning process. Over the decades, Outrigger has continuously reinvested in its commitment to providing a world-class visitor experience in Waikīkī through these types of redevelopment and improvement projects. The purpose of this last phase of the Waikīkī Beach Walk project at the Outrigger Reef is to complete improvement projects for existing guest amenities and retail spaces to provide increased meeting spaces, and to meet market demand for new hotel rooms at the Outrigger Reef by developing new hotel units that will connect the existing Pacific and Ocean Towers on the property. The description of the Outrigger Reef revitalization is presented in *Section 3.0*. The following provides discussion of alternatives to the proposed project.

6.1 NO-ACTION ALTERNATIVE

The No-Action Alternative is the baseline against which all other alternatives are measured. Under this scenario, none of the planned improvements in the Outrigger Reef would be realized. The No-Action Alternative examines the scenario whereby the existing Outrigger Reef facilities and infrastructure would largely remain in the same scale and condition as today. It is only under this alternative that the project would not require a Shoreline Setback Variance from the City and County of Honolulu.

The No-Action Alternative would only support activities to maintain the Outrigger Reef property in its existing as-is condition. Ongoing operations coupled with regularly scheduled maintenance and repair activities are assumed to continue. Interior and exterior renovation improvements that are exempt from environmental review and entitlements could possibly be implemented over time, pending the economic support and justification for such improvements, but none of the actions contemplated by the proposed project would be carried out. There are several areas within the resort that are underutilized, older in programmed use, and in obvious need of revitalization. Without comprehensive improvements, these specific areas within the property can be expected to deteriorate further, requiring major repair, replacement, or renovation work. The lack of expanded product sales and refreshed retail and amenities at the Outrigger Reef would limit the range of improvements Outrigger Reef could afford to make. Without continuous refreshing and reinvesting in this property, the Outrigger Reef would likely provide a more aged resort experience over time, thereby limiting its success and viability moving forward.

There are multiple disadvantages that would result from the No-Action Alternative. None of the positive net benefits associated with the proposed project would be realized, including a more open layout of the overall property and improved transition to the beachfront; upgraded hotel rooms and amenities; retail and restaurant areas that will contribute to the local economy; and improved parking and loading areas to improve efficiencies and further remove service vehicles from Kālia Road. The 5-story beachfront Diamond Head Tower and pool deck would continue to dominate the makai edge of the property within the shoreline setback area. The removal of the Diamond Head Tower from the shoreline setback area would not occur and the existing non-

conformity would not be reduced. The opportunity to better align with State and County policies relating to shoreline and coastal zone management would be missed.

Overall, the planned street front improvements along Kālia Road would not be implemented and the enhanced pedestrian experience and increased connectivity with the neighboring properties and public areas along Waikīkī Beach Walk would not occur. There would be no positive benefit of new employment opportunities for the construction industry, or for the long-term operational employment in support of the new hotel units. Further, the new employment and business associated with ancillary resort operations of retail, dining, and entertainment would not occur. The failure to update and improve the Outrigger Reef would ultimately have a negative impact on the Waikīkī economy and community.

The No-Action Alternative option fails to produce the substantial improvements needed to maintain the Outrigger Reef as one of the best resort properties in Waikīkī. Failure to revitalize the Outrigger Reef would result in an overall negative effect on the efforts to improve the visitor experience along the entire Waikīkī Beach Walk area. Although potential environmental impacts may be less in the No-Action Alternative, a deteriorating resort property will likely produce negative impacts in the long-run. In addition, the No-action Alternative would produce none of the environmental, social, cultural or economic benefits anticipated by the Outrigger Reef revitalization. Therefore, the No-Action Alternative is not considered a reasonable solution for the Outrigger Reef.

6.2 ALTERNATIVE DEVELOPMENT SITE

It is Outrigger's desire to revitalize and reinvest in its assets within the Outrigger Reef property in order to maintain it as one of the premier resort properties in the Kālia Gateway to Waikīkī. The primary purposes of the revitalization are the upgrade and renewal of the existing Outrigger Reef, and the addition of new improvements to the hotel property to meet the demand of its guests for new services, to create new jobs, and to enhance the broader Waikīkī economy. Expansion of guest amenities, meeting spaces, retail offerings and new hotel units are intended to strengthen both the Outrigger Reef and Waikīkī Beach Walk as an all-in-one destination for visitors and residents alike. The option to develop an alternative site to include the elements of the Outrigger Reef revitalization is not considered to be a reasonable or practical alternative.

There are multiple drawbacks that would result from the alternate location alternative. This alternative would not meet the present market demand for additional hotel availability at the Outrigger Reef and for the enhancement of other on-site amenities. Locating the proposed additional hotel units elsewhere does not satisfy the need for reinvestment at the Outrigger Reef property. The need to acquire a new building site, instead of building on land that Outrigger already owns, would substantially increase the cost of constructing the project, leaving far less capital available to make the improvements needed on the Outrigger Reef property. There are no available large oceanfront properties in Waikīkī, so this scenario would require acquisition of a smaller developed oceanfront property that could be redeveloped for the new hotel units and supporting amenities and infrastructure. Development of two separate parcels is likely to have greater negative impacts on the community than the proposed project. The enhancement of social, cultural and environmental resources at the Outrigger Reef is unlikely to be replaced at an alternative location that is not part of a mixed-use resort community of the Waikīkī Beach Walk area. Demolition, infrastructure improvements and other steps necessary to develop an alternative

site could also have significantly greater environmental impacts than the proposed project. For these reasons, this Alternative has been dismissed from further consideration.

6.3 ALTERNATIVE DESIGN

6.3.1 Demolition of Pacific and Ocean Towers and Development of One Tower to Maximum Allowable Floor Area

One alternative design for the Outrigger Reef improvements was evaluated for the project utilizing existing authorized density provided under the Waikīkī Beach Walk PD-R. This alternative would demolish the existing Pacific and Ocean hotel towers and build one tower that would maximize the allowable floor area under the existing PD-R for Waikīkī Beach Walk. The 350 ft tower would be designed to maximize the number of hotel rooms on the site to cover the loss of the Pacific and Ocean towers (635 hotel rooms) and account for the additional rooms that would be provided with the development of the proposed action. The building footprint and mass of the hotel under this alternative would be quite substantial on this 2.5-acre lot.

Under this alternative design, the floor area allowed under the existing PD-R for Waikīkī Beach Walk would be maximized to provide the highest density possible. This would create more building footprint on the site and less room for the Outrigger Reef to provide open spaces and recreational amenities. In addition, the site layout would need to be fully reconfigured which would result in a substantial amount of new construction occurring on the existing site. The Outrigger Reef would be unable to remain open during the construction period as a result of room availability, thereby significantly affecting property revenues. This alternative design scenario of demolition of the Pacific and Ocean Towers and development of one tower is not the optimum property utilization for the Outrigger Reef, and would be a prohibitively expensive alternative for Outrigger to pursue. For these reasons, this alternative has been dismissed from further consideration.

6.3.2 Redevelopment within the Shoreline Setback Area

In evaluating redevelopment options, consideration was given to demolishing the Diamond Head Tower and redeveloping the two story pool deck to the makai edge of the property to provide beach side dining, lounging, and pool and recreation amenities. This would achieve lessening of structure within the shoreline setback area (Diamond Head Tower demolition), but would not fully achieve the project goal of stepping the hotel property down to the beach to provide a smooth transition between ocean, beach and property and to amplify the open space aspects of the design arising from the beachside lawn and related elements. In short, under this redevelopment option the property-beach boundary would still be improved by a multi-story structure and the opportunity to better integrate the property with the beach and ocean beyond would be missed.

6.3.3 Development Outside the Shoreline Setback Area

Another alternative design for the Outrigger Reef project is the removal of most structures, with the exception of the Ocean Tower, within the shoreline setback area. This alternative would create an empty gap between the hotel property and the beach area and would not allow for a smooth transition between ocean, beach and property. The hotel would seem disconnected from the surrounding area as the proposed project components that would support the goal of stepping the hotel property down to the beach would not occur. In addition, the open space aspects proposed

with the project to include the beachside lawn and landscaping throughout would not be provided.

In addition, if most structures were removed out of the shoreline setback area, there would still need to be some improvements to remedy the removal of these structures. With the removal of the structure, there would need to be in fill, grading work and preparation to allow for transition toward the beach areas. Under this alternative, improvements would still need to be completed within the shoreline setback.

This alternative is not financially feasible, as the overall project less the improvements planned for the shoreline setback area would not provide the overall visitor experience required to generate adequate revenues to finance the project. The increasingly negative consequences over time of failing to revitalize and refresh key beachside improvements including restaurant and recreational facilities would occur.

The Outrigger Reef is an existing hotel property that was built in the 1950s. The space configurations and layout of the site are established with the location of the existing Pacific and Ocean Towers. A portion of the existing hotel towers is located within the 40 ft shoreline setback. Therefore, Outrigger must work with the spaces it has available to provide visitors with improved and expanded room accommodations and hotel amenities as part of its plan to reinvigorate the site as an iconic resort. The proposed project will not adversely affect beach processes or further artificially fix the shoreline.

In contrast to the alternatives described above, the selected project design significantly reduces current structures in the shoreline setback area from existing conditions, replacing them with revitalized and refreshed world-class improvements which substantially improve current open space, ocean-beach property transition, entertainment and cultural amenities and other property elements, and, as essential components of and overall integrated project, allow for financial feasibility as measured against a no-action and other scenarios.

Section 7.0

AGENCIES AND PARTIES CONSULTED

7.0 AGENCIES AND PARTIES CONSULTED

Table 7-1 lists the agencies, organizations, and individuals who were: 1) either formally consulted, provided a presentation, or notified early in the process of project design or are part of an ongoing consultation effort throughout the environmental review process; 2) officially received a copy of the SEISPN; 3) responded to the SEISPN with a comment letter; and 4) will receive a copy of the DSEIS upon publication.

Copies of formal comment letters received during the SEISPN comment period and the applicant's responses are included at the end of this section. Space is reserved for future comments to be received during the 45-day DSEIS review period that commences upon formal notice issued in the OEQC's The Environmental Notice.

Table 7-1 CONSULTED PARTIES

Respondents and Distribution	Received SEISPN	Comments Received SEISPN	Received DSEIS	Comments Received DSEIS
A. Federal Agencies or Affiliates				
U.S. Department of the Interior, Fish and Wildlife Service	X	X	X	--
U.S. Department of the Interior, Geological Survey			X	--
Department of Commerce, National Marine Fisheries Services			X	--
Department of the Interior, National Parks Service			X	--
Department of Agriculture, National Resources Conservation Service			X	--
Department of Transportation, Federal Aviation Administration			X	--
Department of Transportation, Federal Transit Administration			X	--
Department of Homeland Security, Coast Guard			X	--
B. State Agencies				
Department of Accounting and General Services	X	X	X	--
Department of Agriculture	X		X	--
Department of Business, Economic Development & Tourism (DBEDT)	X		X	--
DBEDT, Energy Division	X		X	
DBEDT, Research and Economic Analysis Division			X	
DBEDT, Strategic Industries Division			X	
DBEDT, Office of Planning	X	X	X	--

Table 7-1 CONSULTED PARTIES

Respondents and Distribution	Received SEISPN	Comments Received SEISPN	Received DSEIS	Comments Received DSEIS
Department of Defense	X		X	--
Department of Education	X		X	--
Department of Hawaiian Home Lands	X		X	
Department of Health	X		X	
Department of Health, Environmental Health Administrator			X	--
Department of Health, Environmental Planning Office		X	X	
Department of Human Services	X	X	X	--
Department of Labor and Industrial Relations	X	X	X	--
Department of Land and Natural Resources (DLNR)	X	X	X	--
DLNR, Commission on Water Resource Management		X	X	
DLNR, Division of Aquatic Resources		X	X	
DLNR, Division of Boating and Ocean Recreation		X	X	
DLNR, Engineering Division		X	X	
DLNR, Historic Preservation Division	X		X	--
DLNR, Land Division Oʻahu District		X	X	
DLNR, Office of Conservation and Coastal Lands		X	X	
Department of Transportation	X	X	X	--
Hawaiʻi Housing Finance and Development Corporation	X		X	--
Hawaiʻi Tourism Authority	X		X	--
Office of Environmental Quality Control	X		X	--
Office of Hawaiian Affairs	X	X	X	--
University of Hawaiʻi, Environmental Center	X		X	--
University of Hawaiʻi, Water Resources Research Center			X	
C. City and County of Honolulu				
Board of Water Supply	X	X	X	--
Department of Community Services	X		X	--
Department of Design and Construction	X	X	X	--
Department of Environmental Services	X		X	--
Department of Facility Maintenance	X		X	--
Department of Parks and Recreation	X	X		--

Table 7-1 CONSULTED PARTIES

Respondents and Distribution	Received SEISPN	Comments Received SEISPN	Received DSEIS	Comments Received DSEIS
Department of Planning and Permitting	X	X	X	--
Department of Transportation Services	X	X	X	--
Honolulu Fire Department	X	X	X	--
Honolulu Police Department	X	X	X	--
D. Elected Officials				
State Senator Brickwood Galuteria, District 12	X		X	--
State House Representative Tom Brower, District 22	X		X	--
Council District Representative Trevor Ozawa, District 4	X		X	--
E. Libraries				
Waikīkī Public Library	X		X	--
State Main Library	X		X	--
Legislative Reference Bureau	X		X	--
Hawai'i State Library, Hawai'i Kai Regional Library			X	--
Hawai'i State Library, Hilo Regional Library			X	--
Hawai'i State Library, Lihu'e Regional Library			X	--
Hawai'i State Library, Kahului Regional Library			X	--
Hawai'i State Library, Kaimuki Regional Library			X	--
Hawai'i State Library, Kane'ohe Regional Library			X	--
Hawai'i State Library, Pearl City Regional Library			X	--
University of Hawai'i, Thomas H. Hamilton Library			X	--
University of Hawai'i at Hilo, Edwin H. Mo'okini Library			X	--
University of Hawai'i, Maui College Library			X	--
University of Hawai'i, Kaua'i Community College Library			X	--
City and County of Honolulu, Department of Customer Services, Municipal Library			X	--
F. Community Interest Groups and Individuals				
Hawai'i Chamber of Commerce	X	X	X	--
Hawai'i Lodging and Tourism Association	X		X	--
Honolulu Star Advertiser	X		X	
Local 5 Hawaii		X	X	
Satellite City Hall			X	

Table 7-1 CONSULTED PARTIES

Respondents and Distribution	Received SEISPN	Comments Received SEISPN	Received DSEIS	Comments Received DSEIS
Waikīkī Business Improvement District Association	X		X	--
Waikīkī Improvement Association	X		X	--
Waikīkī Neighborhood Board, District 9	X	X	X	--
Waikīkī Residents Association	X		X	--

Section 8.0

REFERENCES

8.0 REFERENCES

Documents

City and County of Honolulu. (1999). *Land Use Ordinance*. Department of Planning & Permitting.

_____. (1997). *Waikīkī Special District Design Guidelines*. Department of Land Utilization.

_____. (1992). *Primary Development Urban Plan*. Department of Planning & Permitting.

_____. (1992). *General Plan*. Department of General Planning.

_____. *Revised Ordinances of the City and County of Honolulu, Chapter 25, Special Management Area*.

_____. *Waikīkī Livable Community Project.*

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

HVS. (2014). *Surf's Up for Waikiki Hotels*.

Kanahele, George S. (1994). *Restoring Hawaiianness to Waikīkī*. Prepared for the Queen Emma Foundation.

State of Hawaiʻi. (1996). *Hawaiʻi Revised Statutes, Chapter 226, Hawaiʻi State Plan*. Department of Business, Economic Development & Tourism, Office of State Planning.

_____. Hawaiʻi Revised Statutes, Chapter 205-A, Coastal Zone Management Act.

_____. (1991). State Functional Plan-Tourism. Department of Business, Economic Development & Tourism.

_____. Hawaiʻi 2050 Sustainability Plan.

_____. Hawaiʻi Tourism Authority. (2012) *Annual Visitor Research Report*.

_____. Hawaiʻi Tourism Strategic Plan: 2005-2015.

United States Department of Agriculture, Soil Conservation Service, Soil Survey for the Islands of Kauaʻi, Oʻahu, Maui, Molokaʻi, and Lānaʻi, State of Hawaiʻi, August 1972.

Websites

American Hotel & Lodging Association. Hawaii Lodging Economic Overview 2013. Retrieved from: http://www.ahla.com/uploadedFiles/2014%20AHLA%20State%20Fact%20Sheet_Hawaii.pdf

City and County of Honolulu, *TheBus*. Oʻahu transit services, routes and schedules. Retrieved from http://www.thebus.org/

City and County of Honolulu, Honolulu Police Department. Police District Data. Retrieved from: http://www.honolulupd.org/

Hawaii Digital Newspaper Project. The Development of Hotels in Waikiki. Retrieved from: https://sites.google.com/a/hawaii.edu/ndnp-hawaii/Home/historical-feature-articles/development-of-hotels

Pacific Islands Ocean Observing System. Signatories of the PacIOOS Memorandum of Agreement. Retrieved from: http://oos.soest.hawaii.edu/pacioos/about/partners.php

Royal Geographical Society. Tourism and Climate Change Tuesday 22nd September 2009. Retrieved from: http://www.rgs.org/NR/rdonlyres/8E0CF060-14F5-4B55-BE9C-E2A9D31B81F2/8672/Presentations3.pdf

State of Hawaiʻi, Department of Business, Economic Development & Tourism. Hawaiʻi Green Business Awardees. Retrieved from: http://energy.hawaii.gov/wp-content/uploads/2012/04/Outrigger-Reef-on-The-Beach-Press-Package-20141.pdf

State of Hawaiʻi, Department of Education. School District data. Retrieved from: http://doe.k12.hi.us/index.php

State of Hawaiʻi, Hawaiʻi Tourism Authority. 2013 Annual Report. [Data file]. Retrieved from: http://www.hawaiitourismauthority.org/default/assets/File/HTA%20AnnuRepFINAL%20WebPosting.pdf

State of Hawaiʻi, Hawaiʻi Tourism Authority. 2013 Visitor Plant Inventory. Retrieved from: http://www.hawaiitourismauthority.org/default/assets/File/reports/accommodations/2013%20VISITOR%20PLANT%20INVENTORY%20REPORT%20Rev%20%205-28-2014.pdf

Toy, J.M. 2014 State of Hawaiʻi Visitor Industry Outlook. Retrieved from: http://www.ccimhawaii.org/documents/forecasts/CCIM%20J.%20Toy%201-24-2014%20Final.pdf

Waikīkī Beach Walk. 2005. Responsible Environmental Stewardship – Waikīkī Beach Walk. Retrieved from: http://www.waikikibeachwalk.com/press_release_detail.aspx?prid=17

World Travel & Tourism Council. WTTC Executive Committee. Retrieved from: http://www.wttc.org/about/members/

Section 9.0

PREPARERS OF THE SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

9.0 PREPARERS OF THE SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

Below is a list of individuals that contributed to the preparation and completion of this SEIS. The list includes the name of the individual and their role, or the name of the company and the subfield of professional expertise utilized to conduct and complete the SEIS.

Outrigger Enterprises Inc.	**Role**
Edward Case	Senior Vice President & Chief Legal Officer
Mel Kaneshige	Consultant
Eric Masutomi	Consultant
Dean Nakasone	General Manager, Outrigger Reef Waikīkī Resort

Group 70 International, Inc.	**Role**
Christine Mendes Ruotola	Principal, Planning
Stephen Yuen	Principal, Architecture
Katie McNeil	Principal, Architecture
Tracy Camuso	Senior Planner
Lauren Esaki	Planner
Lance Hirai	Architect
Stephanie Saephan	GIS Specialist
Silas Haglund	Graphics
Kathryn Nam	Graphics
Joy Kepa	Graphics
Reyna DePonte	Administrative Support

Technical Consultants/Support	**Area of Specialty**
ARCADIS U.S., Inc.	Air Quality Assessment
Fehr & Peers Transportation Consultants	Traffic
Group 70 International, Inc.	Civil Engineering Report
John M. Knox, Associates	Economic and Fiscal Impact Analysis
Keala Pono Archaeological Consulting	Cultural Impact Assessment
Marine Research Consultants, Inc.	Water Quality and Marine Communities
Rowan Williams Davies & Irwin Inc.	Pedestrian Wind Assessment
Tom Nance Water Resource Engineering	Surface and Groundwater Resources
T.S. Dye & Colleagues	Archaeological Monitoring Plan
Y. Ebisu & Associates	Acoustic Assessment

APPENDICES

APPENDIX A

SEISPN Comment Letters and Responses

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawaii 96850

In Reply Refer To:
2015-TA-0012

NOV 0 3 2014

Ms. Christine Mendes Ruotola
AICP, LEED AP, Principle
Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4307

Subject: Technical Assistance for the Proposed Outrigger Reef Waikiki Beach Resort Renovation Project in Honolulu, Oahu.

Dear Ms. Ruotola:

The U.S. Fish and Wildlife Service (Service) received your letter, dated October 6, 2014, in which you requested our comments on the proposed Outrigger Reef Waikiki Beach Resort Renovation Project as a pre-consultation for the associated supplemental environmental impact statement which addresses changes to your original 2002 project description. The proposed project involves the demolition of an existing five-story hotel structure, the construction of a 350 foot hotel structure, complete renovation and expansion of the pool and deck area, and multiple interior and exterior improvements ranging from landscaping to on-site parking. This response is in accordance with sect 7 of the Endangered Species Act (ESA) of 1973, as amended [16 U.S.C. 1531 *et seq.*]; the Fish and Wildlife Coordination Act of 1934 (16 U.S.C. 661 *et seq.*; 48 Stat. 401); and the Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712), as amended (MBTA).

We have reviewed the information you provided and pertinent information in our files, including data compiled by the Hawaii Biodiversity Mapping Program. There is no designated or proposed critical habitat under the ESA, or National Wildlife Refuges, wilderness areas, or wildlife preserves in the vicinity of the proposed project. However, our records indicate that the federally endangered Hawaiian hoary bat (*Lasirus cinereus semotus*), and the federally endangered Hawksbill sea turtle (*Eretmochelys imbricate*) and threatened green sea turtle (*Chelonia mydas*) (collectively referred to as "sea turtles"), may be present in the vicinity of the proposed project. In addition, Hawaiian seabirds (*e.g.*, white Fairy Terns (*Gygis alba*) and wedge-tailed shearwaters (*Puffinus auricularis newelli*)), protected by MBTA, may also transit through the area.

TAKE PRIDE® IN AMERICA

We offer you the following recommendations to assist you with your project:

The Hawaiian hoary bat roosts in both exotic and native woody vegetation and, while foraging, will leave young unattended in "nursery" trees and shrubs when they forage. If trees or shrubs suitable for bat roosting are cleared during the breeding season, there is a risk that young bats could inadvertently be harmed or killed. To minimize impacts to the endangered Hawaiian hoary bat, woody plants greater than 15 feet tall should not be disturbed, removed, or trimmed during the bat birthing and pup rearing season (June 1 through September 15). Site clearing should be timed to avoid disturbance to Hawaiian hoary bats in the project area.

To minimize and avoid artificial lighting impacts to sea turtles and seabirds, a comprehensive lighting plan should be developed and incorporated into the project description. If lights cannot be eliminated due to safety or security concerns then they should be positioned low to the ground, be motion-triggered and be shielded and/or full cut-off. Effective light shields should be completely opaque, sufficiently large, and positioned so that the bulb is only visible from below and so that light from the shielded source cannot be seen from the beach. Construction activities should occur during daylight hours only.

Additionally, white fairy terns often nest in urban parks and residential areas from Hawaii Kai to Hickam Air Force Base. White fairy terns do not build nests, instead they lay a single egg directly on a ledge, tree branch, or other suitable location. The egg will hatch after approximately 35 days, after which it takes 45 days for the chick to be mature enough to leave the nest on its own. If tree trimming becomes part of your project, please examine all trees slated to be cut to determine if there are white fairy terns nesting in them. Similarly, we recommend examining any structures slated for demolition. Signs that white fairy terns are present include accumulation of white feathers or white droppings underneath the tree or structure.

Further, because Hawaii's native ecosystems are heavily impacted by exotic invasive plants, whenever possible, we recommend using native plants for landscaping purposes. If native plants do not meet the landscaping objectives, we recommend choosing species that are thought to have a low risk of becoming invasive. The following websites are good resources to use when choosing landscaping plants: Pacific Island Ecosystems at Risk (*http://www.hear.org/Pier/*), Hawaii-Pacific Weed Risk Assessment (*http://www.botany.hawaii.edu/faculty/daehler/wra/full_table.asp*) and Global Compendium of Weeds (*www.hear.org/gcw*).

Because the proposed activities may cause soil erosion and sedimentation into the marine environment in project areas directly adjacent the ocean, we are attaching the Service's recommended Best Management Practices regarding sedimentation and erosion in aquatic environments. We encourage you to incorporate the relevant practices into your project design.

We appreciate your efforts to conserve endangered species. If you have any questions concerning these recommendations please contact Carrie Harrington, Fish and Wildlife Biologist (phone: 808-792-9400; fax: 808-792-9581).

Sincerely,

Aaron Nadig
Island Team Manager
Oahu, Kauai, NWHI, and American Samoa

Enclosure: Service BMPs for erosion and sediment control

U.S. Fish and Wildlife Service
Recommended Standard Best Management Practices

The U.S. Fish and Wildlife Service (USFWS) recommends the following measures to be incorporated into project planning to avoid or minimize impacts to fish and wildlife resources. Best Management Practices (BMPs) include the incorporation of procedures or materials that may be used to reduce either direct or indirect negative impacts to aquatic habitats that result from project construction-related activities. These BMPs are recommended in addition to, and do not over-ride any terms, conditions, or other recommendations prepared by the USFWS, other federal, state or local agencies. If you have questions concerning these BMPs, please contact the USFWS Aquatic Ecosystems Conservation Program at 808-792-9400.

1. Authorized dredging and filling-related activities that may result in the temporary or permanent loss of aquatic habitats should be designed to avoid indirect, negative impacts to aquatic habitats beyond the planned project area.

2. Dredging/filling in the marine environment should be scheduled to avoid coral spawning and recruitment periods, and sea turtle nesting and hatching periods. Because these periods are variable throughout the Pacific islands, we recommend contacting the relevant local, state, or federal fish and wildlife resource agency for site specific guidance.

3. Turbidity and siltation from project-related work should be minimized and contained within the project area by silt containment devices and curtailing work during flooding or adverse tidal and weather conditions. BMPs should be maintained for the life of the construction period until turbidity and siltation within the project area is stabilized. All project construction-related debris and sediment containment devices should be removed and disposed of at an approved site.

4. All project construction-related materials and equipment (dredges, vessels, backhoes, silt curtains, etc.) to be placed in an aquatic environment should be inspected for pollutants including, but not limited to; marine fouling organisms, grease, oil, etc., and cleaned to remove pollutants prior to use. Project related activities should not result in any debris disposal, non-native species introductions, or attraction of non-native pests to the affected or adjacent aquatic or terrestrial habitats. Implementing both a litter-control plan and a Hazard Analysis and Critical Control Point plan (HACCP – see *http://www.haccp-nrm.org/Wizard/default.asp*) can help to prevent attraction and introduction of non-native species.

5. Project construction-related materials (fill, revetment rock, pipe, etc.) should not be stockpiled in, or in close proximity to aquatic habitats and should be protected from erosion (*e.g.*, with filter fabric, etc.), to prevent materials from being carried into waters by wind, rain, or high surf.

6. Fueling of project-related vehicles and equipment should take place away from the aquatic environment and a contingency plan to control petroleum products accidentally spilled during the project should be developed. The plan should be retained on site with the person responsible for compliance with the plan. Absorbent pads and containment booms should be stored on-site to facilitate the clean-up of accidental petroleum releases.

7. All deliberately exposed soil or under-layer materials used in the project near water should be protected from erosion and stabilized as soon as possible with geotextile, filter fabric or native or non-invasive vegetation matting, hydro-seeding, etc.

TAKE PRIDE® IN AMERICA

GROUP 70
INTERNATIONAL

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OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

Aaron Nadig
Assistant Field Supervisor
U.S. Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, HI 96850

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Nadig:

Thank you for your comment letter dated November 3, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

The following responses are offered to your comments on the SEISPN:

1. We acknowledge that there are no federally designated or proposed critical habitats or National Wildlife Refuges, wilderness areas, or wildlife preserves in the vicinity of the proposed project.
2. To minimize impacts to the endangered Hawaiian hoary bat, woody plants greater than 15 feet tall will not be disturbed, removed, or trimmed during the bat birthing and pup rearing season, from June 1-September 15
3. A discussion of lighting will be incorporated into the SEIS to the extent possible. Lighting for the project will be positioned low to the ground, motion-triggered, and shielded. Construction activities will be limited to daylight hours.
4. If tree trimming is necessary for the Outrigger Reef project, Outrigger will first examine all trees to determine if there are any nesting white fairy terns present.
5. We appreciate the website resources you have provided for choosing landscaping plants. The project will look for opportunities to integrate a mix of native plants throughout the resort's landscape.

6. We appreciate the Best Management Practices (BMP) you have provided pertaining to soil erosion and sedimentation in aquatic environments. The project will follow the USFWS recommended BMPs regarding soil erosion and sedimentation into the marine environment as regulated by the Hawai'i State Department of Health Clean Water Branch. Please note that no dredging/filling activities are planned in the marine environment.

We will provide your office with a copy of the Draft SEIS for your review. Thank you for your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

NEIL ABERCROMBIE
GOVERNOR

Dean H. Seki
Comptroller

Maria E. Zielinski
Deputy Comptroller

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

OCT 10 2014

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(P)1318.4

OCT 14 2014

GROUP 70 INTL

Ms. Christine Mendes Ruotola, AICP, LEED AP
Group 70 International, Inc.
925 Bethel Street 5th Floor
Honolulu, Hawaii 96813-4307

Dear Ms. Ruotola:

Subject: Supplemental Environmental Impact Statement
Waikiki Beach Walk
Outrigger Reef Waikiki Beach Resort
Island of Oahu, Waikiki
TMK: 2-6-2:014, 027; 2-6-3:001, 030, 056, 060, 061
TMK: 2-6-4:010

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

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

Sincerely,

JAMES K. KURATA
Public Works Administrator

c: Ms. Elizabeth Krueger, C&C of Hon., Dept. of Planning and Permitting

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OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

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

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Kurata:

Thank you for your comment letter dated October 10, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

We acknowledge that the Department of Accounting and General Services has no comments to offer on the project at this time.

We will provide your office with a copy of the Draft SEIS for your review. We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

OFFICE OF PLANNING
STATE OF HAWAII

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

NEIL ABERCROMBIE
GOVERNOR

LEO R. ASUNCION
ACTING DIRECTOR
OFFICE OF PLANNING

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

Ref. No. P-14550

RECEIVED

OCT 30 2014

GROUP 70 INTL

October 29, 2014

Ms. Christine Mendes Ruotola, AICP, LEED AP
Principal
Group 70 International, Inc.
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4307

Dear Ms. Ruotola:

Subject: Supplemental Environmental Impact Statement Preparation Notice – Waikiki Beach Walk Outrigger Reef Resort, TMK: (1) 2-6-004: 010

Thank you for the opportunity to provide comments on the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the proposed improvements to the resort which include beachfront improvements, new hotel rooms, improved lobby area, pool deck and recreation area, new meeting spaces, the Kalia Gateway to the Waikiki Beach Walk, and improved on-site parking.

Based on our review of the SEISPN provided to our office, we have the following comments to offer:

1. In Section 3.5, page 19, of the SEISPN identifies Land Use Plans, Policies and Controls that include the Hawaii State Plan. The Office of Planning (OP) provides technical assistance to state and county agencies in administering the statewide planning system in Hawaii Revised Statutes (HRS) Chapter 226, the Hawaii State Plan. The Hawaii State Plan provides goals, objectives, priorities, and priority guidelines for growth, development, and the allocation of resources throughout the State. The Hawaii State Plan includes diverse policies and objectives of state interest including but not limited to the economy, agriculture, the visitor industry, federal expenditure, the physical environment, facility systems, socio-cultural advancement, climate change adaptation, and sustainability.

   Given the ocean-front location of the proposed improvements project, the Draft Supplemental Environmental Impact Statement (Draft SEIS) should also consider the climate change adaptation priority guidelines set forth in HRS § 226-109, which would assist in determining whether the proposed project affects or is likely to suffer damage by being located in an environmentally sensitive area. The Draft SEIS should include an analysis of the project's consistency with the Hawaii State Plan, HRS Chapter 226, in a section addressing state and county plans, policies, and controls.

2. OP is the lead agency for the Hawaii CZM Program. The coastal zone management area is defined as "all lands of the State and the area extending seaward from the shoreline to the

limit of the State's police power and management authority, including the U.S. territorial sea" see HRS § 205A-1 (definition of "coastal zone management area").

   In a section that addresses the project's conformance with state and county plans, policies, and controls, the Draft SEIS should include a discussion of the project's ability to meet the objectives and policies set forth in HRS § 205A-2. These objectives and policies include: recreational resources, historic resources, scenic and open space resources, coastal ecosystems, economic uses, coastal hazards, managing development, public participation, beach protection, and marine resources.

3. In accordance with the information provided by the subject SEISPN, the proposed project lies within the Special Management Area (SMA), with structures located within the 40-foot shoreline setback area. The Draft SEIS shall discuss various alternatives and their potential adverse environmental impacts, including effects on the shoreline and beach public access. Particular attention shall be given to the alternatives that might avoid, reduce or minimize adverse environmental impacts. Please consult with the Department of Planning and Permitting, City and County of Honolulu, for the requirements of SMA use, shoreline setback variance, and zoning variance for the encroachment into the coastal height setback.

4. In Section 4.3, page 22 of the SEISPN cites stormwater discharge and runoff as an environmental quality that will be addressed in the Draft SEIS. Please consider utilizing OP's *Stormwater Impact Assessment* to identify and evaluate information on hydrology, stressors, sensitivity of aquatic and riparian resources, and management measures to control runoff occurrences. In particular, please examine the section on Low-Impact Development Concepts, which include decentralized micro-scale controls that infiltrate, filter, store, re-use, evaporate, and detain runoff close to its source.

   This guidance document will assist in integrating stormwater impact assessment within your review process. The purpose of this document is to provide guidance on assessing stormwater impacts in the planning phase of project development. The goal is to provide a suggested framework and various tools for integrating stormwater impacts assessment. These concepts are listed on pages 14-16 of the *Stormwater Impact Assessment* guidance. This can be found at http://files.hawaii.gov/dbedt/op/czm/initiative/stomwater_imapct/final_stormwater_impact_assessments_guidance.pdf.

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

Sincerely,

Leo R. Asuncion
Acting Director

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INTERNATIONAL

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OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

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

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Asuncion:

Thank you for your comment letter dated October 30, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

The following responses are offered to your comments on the SEISPN:

1. Section 5 of the Draft SEIS will provide a discussion of how the project supports specific objectives and policies of the State Plan. The section will also provide a discussion of how the project abides by climate change adaptation priority guidelines set forth in Chapter 226-109, HRS.

2. Section 5 of the Draft SEIS will provide a discussion of how the project meets the objectives and policies set forth in Chapter 205A-2, HRS.

3. The proposed project lies within the Special Management Area (SMA) delineated by the City and County of Honolulu. A SMA Minor Modification and Shoreline Setback Variance for structures located within the 40-foot shoreline setback will be submitted to the City and County of Honolulu, Department of Planning and Permitting (DPP) at the appropriate time. We have consulted with DPP as the accepting agency of this SEIS, and will continue to do so throughout the remainder of the entitlements process.

4. We appreciate you providing the Office of Planning's Stormwater Impact Assessment reference to provide guidance on assessing stormwater impacts. A stormwater impact assessment will be utilized in preparation of the SEIS.

We will provide your office with a copy of the Draft SEIS for your review. We appreciate your participation in the environmental review process. Please contact us if you have any questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

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

In reply, please refer to:
File:
EPO 14-220

October 13, 2014

Christine Ruotola, AICP, LEED AP
Group 70 International, Inc.
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813
Email: cruotola@group70int.com

Dear Christine Ruotola:

SUBJECT: Supplemental Environmental Impact Statement Preparation Notice Waikiki Beach Walk, Outrigger Reef Waikiki Beach Resort,

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your letter dated October 6, 2014. Thank you for allowing us to review and comment on the subject document. The document was routed to the relevant Environmental Health divisions, branches, and offices. They will provide specific comments to you if necessary. EPO recommends that you review the standard comments at: http://health.hawaii.gov/epo/home/landuse-planning-review-program/. You are required to adhere to all applicable standard comments. You are also required to adhere to all permitting requirements. The EPO is concerned that in Section 2.3 (on page 17) of the document the list of permits and approvals does not specifically itemize the permits that will be required from the Department of Health. The EPO strongly recommends that in the Supplemental EIS the permits that will be required for the project from DOH are clearly listed. The EPO suggests you contact the Clean Water Branch and Indoor & Radiological Health Branch regarding this issue.

We encourage you to examine and utilize the Hawaii Environmental Health Portal. The portal provides links to our e-Permitting Portal, Environmental Health Warehouse, Groundwater Contamination Viewer, Hawaii Emergency Response Exchange, Hawaii State and Local Emission Inventory System, Water Pollution Control Viewer, Water Quality Data, Warnings, Advisories and Postings. The Portal is continually updated. Please visit it regularly at: https://eha-cloud.doh.hawaii.gov You may also wish to review the recently revised Water Quality Standards Maps that have been updated for all islands. The new Water Quality Standards Maps can be found at:
http://health.hawaii.gov/cwb/site-map/clean-water-branch-home-page/water-quality-standards/.

The EPO suggests that you examine the many sources available on strategies to support sustainability:
2014 National Climate Change Report – Highlights for Hawaii:
http://ipcc-wg2.gov/AR5/images/uploads/WGIIAR5-Chap29_FGDall.pdf;
U.S. Health and Human Services: www.hhs.gov/about/sustainability;
U.S. Environmental Protection Agency's sustainability programs: www.epa.gov/sustainability;
International Well Building Standard: http://delosliving.com; and
Intergovernmental Panel on Climate Change (IPCC):
http://ipcc-wg2.gov/AR5/images/uploads/WGIIAR5-Chap29_FGDall.pdf
We request you share all of this information with others to increase community awareness on sustainable, innovative, inspirational, and healthy community design.

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

c. CWB, IRHB (via email)

GROUP 70 INTERNATIONAL

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OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

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

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Ms. McIntyre:

Thank you for your comment letter dated October 13, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

The following responses are offered to your comments on the SEISPN:

1. The Department of Health (DOH) permits required for the project will be clearly itemized in the Draft SEIS. We will coordinate this information with the DOH Clean Water Branch and Indoor and Radiological Health Branch.
2. We appreciate the resources you have provided relating to Standard Comments, the Environmental Health Portal, Water Quality Standards Maps, and various sources on strategies to support the sustainable and healthy design of communities and buildings. The project will apply sustainability strategies and principles to the extent possible.

We will provide your office with a copy of the Draft SEIS for your review. Thank you for your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

NEIL ABERCROMBIE
GOVERNOR

PATRICIA McMANAMAN
DIRECTOR

BARBARA A. YAMASHITA
DEPUTY DIRECTOR

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

October 29, 2014

Refer to 14-0663

RECEIVED
OCT 30 2014
GROUP 70 INTL

Group 70 International, Inc.
Christine Medes Ruotola
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813

Subject: Waikiki Beach Walk
Outrigger Reef Waikiki Beach Resort
Island of Oahu, Waikiki
Supplemental Environmental Impact Statement Preparation Notice
TMK 2-6-2:014, 027; 2-6-3:001, 030, 056, 060, 061; TMK 2-6-4:010

Dear Ms. Ruotola:

Thank you for your letter dated October 6, that requests the Department of Human Services (DHS) comment on the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for your review.

The DHS has reviewed the SEISPN CD on the proposed project and has no comment at this time.

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

Sincerely,

Scott Nakasone
Assistant Division Administrator

c: Patricia McManaman, Director

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Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

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

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Nakasone:

Thank you for your comment letter dated October 29, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

We acknowledge that the Department of Human Services has no comments to offer at this time.

We will provide your office with a copy of the Draft SEIS for your review. Thank you for your participation in the environmental review process. Please contact us if you have any questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

NEIL ABERCROMBIE
GOVERNOR

DWIGHT TAKAMINE
DIRECTOR

JADE T. BUTAY
DEPUTY DIRECTOR

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

October 21, 2014

RECEIVED
OCT 30 2014
GROUP 70 INTL

ATTN: Ms. Christine Medes Ruotola
Group 70 International, Inc.
925 Bethel Street, 5th Floor,
Honolulu, HI 96813

Dear Ms. Christine Medes Ruotola:

This is in response to your request for comments dated October 6, 2014 on the Environmental Assessment report for Waikiki Beach Walk at the Outrigger Reef Waikiki Beach Resort on the island of Oahu.

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

Sincerely,

DWIGHT TAKAMINE
Director

GROUP 70
INTERNATIONAL

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OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

Mr. Dwight Takamine
Director
State of Hawai'i
Department of Labor and Industrial Relations
830 Punchbowl Street, Room 321
Honolulu, HI 96813

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Takamine:

Thank you for your comment letter dated October 21, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

We acknowledge that the Department of Labor and Industrial Relations has no comments to offer at this time.

We will provide your office with a copy of the Draft SEIS for your review. Thank you for your participation in the environmental review process. Please contact us if you have any questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

Group 70 International • 925 Bethel Street, 5th Floor • Honolulu, HI 96813-4307 • tel. 808.523.5866 • fax. 808.523.5874 • www.group70int.com

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

November 7, 2014

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

via email: cruotola@group70int.com

Dear Ms. Ruotola,

SUBJECT: Waikiki Beach Walk, Outrigger Reef Waikiki Beach Resort, Supplemental Environmental Impact Statement Preparation Notice

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

At this time, enclosed are comments from (1) Land Division – Oahu District; (2) Division of Boating & Ocean Recreation; (3) Commission on Water Resource Management; and (4) Division of Aquatic Resources. No other comments were received as of our suspense date. Should you have any questions, please feel free to call Supervising Land Agent Steve Molmen at 587-0439. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure(s)

c: City and County of Honolulu
Dept. of Planning and Permitting
Attn: Elizabeth Krueger via email: ekrueger@honolulu.gov

GROUP 70
INTERNATIONAL

PRINCIPALS

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Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

Mr. Russell Y. Tsuji
Land Administrator
State of Hawai'i
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, HI 96809

Subject: Supplemental Environmental Impact Statement Preparation Notice for
Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Tsuji:

Thank you for your comment letter dated November 7, 2014 and November 13, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

The following responses are offered to your comments on the SEISPN:

Thank you for distributing the SEISPN and providing comments from the O'ahu District, Division of Boating and Ocean Recreation, Engineering Division, Division of Aquatic Resources , Commission on Water Resource Management, and Office of Conservation and Coastal Lands. We have individually responded to the comments offered by each division. Responses will be sent directly to each division.

We will provide your office with a copy of the Draft SEIS for your review. We appreciate your participation in the environmental review process. Please contact us if you have any questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

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NEIL ABERCROMBIE
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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

November 13, 2014

City and County of Honolulu
Department of Planning and Permitting
Attention: Ms. Elizabeth Kreuger
650 South King Street, 7thFloor
Honolulu, Hawaii 96813
via email: ekrueger@honolulu.gov

Group 70 International, Inc.
Attention: Ms. Christine Mendes Ruotola
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813
via email: cruotola@group70int.com

Dear Ms.

SUBJECT: Waikiki Beach Walk, Outrigger Reef Waikiki Beach Resort

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

At this time, the DLNR has no comments to offer on the subject matter. If you have any questions, please feel free to call Supervising Land Agent, Steve Molmen at (808) 587-0439. Thank you.

Sincerely,

Kevin E. Moore
Acting Land Administrator

cc: Central Files

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INTERNATIONAL

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Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

Mr. Kevin E. Moore
Acting Land Administrator
State of Hawai'i
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, HI 96809

Subject: Supplemental Environmental Impact Statement Preparation Notice for
Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Moore:

Thank you for your comment letter dated November 13, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

The following responses are offered to your comments on the SEISPN:

We acknowledge that the Department of Land and Natural Resources (DLNR) previously had no comments to offer. However, we did receive comments from DLNR's Land Division, Land Division (O'ahu District), Engineering Division, and Office of Conservation and Coastal Lands since receiving your letter. We have individually responded to the comments offered by each division. Responses will be sent directly to each division.

We will provide your office with a copy of the Draft SEIS for your review. Thank you for your participation in the environmental review process. Please contact us if you have any questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

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COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 14, 2014

MEMORANDUM

2014 OCT 15 AM 10: 51

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

FROM: Kevin E. Moore, Acting Land Administrator
SUBJECT: Waikiki Beach Walk, Outrigger Reef Waikiki Beach Resort
LOCATION: Waikiki, Island of O'ahu; TMK: (1) 2-6-002:014, 027; 2-6-003:001, 030, 056, 060, 061; and 2-6-004:010
APPLICANT: Outrigger Enterprises, Inc.

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by November 12, 2014.

Only one (1) copy of the CD is available for your review in Land Division office, Room 220.

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

Attachments

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

Signed:
Print Name: WILLIAM M. TAM, Deputy Director
Date: October 29, 2014

cc: Central Files

FILE ID: RFD. 40733
DOC ID: 11828

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON

KAMANA BEAMER
MICHAEL G. BUCK
MILTON D. PAVAO
LINDA ROSEN, M.D., M.P.H.
JONATHAN STARR

WILLIAM M. TAM
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

October 29, 2014

REF: RFD.4073.3

TO: Russell Tsuji, Administrator
Land Division

FROM: William M. Tam, Deputy Director
Commission on Water Resource Management

SUBJECT: Waikiki Beach Walk, Outrigger Reef Waikiki Beach Resort

FILE NO.:
TMK NO.: (1) 2-6-002:014, 027; 2-6-003:001, 030, 056, 060, 061; and 2-6-004:010

Thank you for the opportunity to review the subject document. The Commission on Water Resource Management (CWRM) is the agency responsible for administering the State Water Code (Code). Under the Code, all waters of the State are held in trust for the benefit of the citizens of the State, therefore, all water use is subject to legally protected water rights. CWRM strongly promotes the efficient use of Hawaii's water resources through conservation measures and appropriate resource management. For more information, please refer to the State Water Code, Chapter 174C, Hawaii Revised Statutes, and Hawaii Administrative Rules, Chapters 13-167 to 13-171. These documents are available via the Internet at http://www.hawaii.gov/dlnr/cwrm.

Our comments related to water resources are checked off below.

☐ 1. We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.

☐ 2. We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.

☐ 3. We recommend coordination with the Hawaii Department of Agriculture (HDOA) to incorporate the reclassification of agricultural zoned land and the redistribution of agricultural resources into the State's Agricultural Water Use and Development Plan (AWUDP). Please contact the HDOA for more information.

☒ 4. We recommend that water efficient fixtures be installed and water efficient practices implemented throughout the development to reduce the increased demand on the area's freshwater resources. Reducing the water usage of a home or building may earn credit towards Leadership in Energy and Environmental Design (LEED) certification. More information on LEED certification is available at http://www.usgbc.org/leed. A listing of fixtures certified by the EPA as having high water efficiency can be found at http://www.epa.gov/watersense/.

☒ 5. We recommend the use of best management practices (BMP) for stormwater management to minimize the impact of the project to the existing area's hydrology while maintaining on-site infiltration and preventing polluted runoff from storm events. Stormwater management BMPs may earn credit toward LEED certification. More information on stormwater BMPs can be found at http://hawaii.gov/dbedt/czm/initiative/lid.php.

☒ 6. We recommend the use of alternative water sources, wherever practicable.

☒ 7. We recommend participating in the Hawaii Green Business Program, that assists and recognizes businesses that strive to operate in an environmentally and socially responsible manner. The program description can be found online at http://energy.hawaii.gov/green-business-program

☒ 8. We recommend adopting landscape irrigation conservation best management practices endorsed by the Landscape Industry Council of Hawaii. These practices can be found online at http://www.hawaiiscape.com/wp-content/uploads/2013/04/LICH_Irrigation_Conservation_BMPs.pdf

☐ 9. There may be the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.

Permits required by CWRM:
Additional information and forms are available at http://hawaii.gov/dlnr/cwrm/info_permits.htm.

☐ 10. The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit is required prior to use of water. The Water Use Permit may be conditioned on the requirement to use dual line water supply systems for new industrial and commercial developments.

☐ 11. A Well Construction Permit(s) is (are) required before any well construction work begins.

☐ 12. A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.

☐ 13. There is (are) well(s) located on or adjacent to this project. If wells are not planned to be used and will be affected by any new construction, they must be properly abandoned and sealed. A permit for well abandonment must be obtained.

☐ 14. Ground water withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.

☐ 15. A Stream Channel Alteration Permit(s) is (are) required before any alteration(s) can be made to the bed and/or banks of a stream channel.

☐ 16. A Stream Diversion Works Permit(s) is (are) required before any stream diversion works is (are) constructed or altered.

☐ 17. A Petition to Amend the Interim Instream Flow Standard is required for any new or expanded diversion(s) of surface water.

☐ 18. The planned source of water for this project has not been identified in this report. Therefore, we cannot determine what permits or petitions are required from our office, or whether there are potential impacts to water resources.

☒ OTHER:
The DEA should include a discussion of the water requirements for the project, both potable and non-potable, and the calculations used to derive the projected water needs; water conservation and efficiency measures that will be implemented; any alternative sources of water that may be available to meet nonpotable needs; and BMPs for stormwater management.

If there are any questions, please contact Lenore Ohye at 587-0216.

GROUP 70
INTERNATIONAL

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Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

Mr. William M. Tam
Deputy Director
State of Hawai'i
Department of Land and Natural Resources
Commission on Water Resource Management
P.O. Box 621
Honolulu, HI 96809

Subject: Supplemental Environmental Impact Statement Preparation Notice for
Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Tam:

Thank you for your comment letter dated October 29, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

The following responses are offered to your comments on the SEISPN:

1. We appreciate the resources and recommendations you have provided relating to LEED certification. The project will incorporate water efficient fixtures as appropriate. Presently low-flow plumbing fixtures are currently utilized in existing hotel units, retail, dining, and banquet areas, as well as back of house services and maintenance facilities.
2. We appreciate the resources you have provided relating to alternative water sourcing and Best Management Practices (BMP) for stormwater management and landscape irrigation conservation. The project will follow the CWRM recommended BMPs for stormwater management as regulated by the State Department of Health Clean Water Branch.
3. The project will use alternative water resources will be used wherever practicable.
4. The project will apply sustainability strategies and principles to the extent possible. The Outrigger Reef is a regular participant in the Hawai'i Green Business Program and is dedicated to implementing sustainable business practices. In 2014, Outrigger was the recipient of the State of Hawai'i's Green Business Award.

5. The project will utilize alternative water sources to the maximum extent practical for landscape irrigation. Irrigation water is presently recycled and re-used for water at ponds and waterfalls throughout the Outrigger. Continued conservation measures and best management practices for water use will be implemented for future improvements.
6. The Draft SEIS will include a discussion of water requirements for the project. In addition, water conservation and efficiency measures that will be implemented, as well as Best Management Practices for stormwater management will be discussed. A Preliminary Engineering Report was prepared for the project and will be included in the SEIS.

We will provide your office with a copy of the Draft SEIS for your review. We appreciate your participation in the environmental review process. Please contact us if you have any questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

RECEIVED
OCT 15 2014
AQUATIC RESOURCES

DAR #5025

October 14, 2014

MEMORANDUM

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

DEPT. OF LAND & NATURAL RESOURCES STATE OF HAWAII
2014 NOV -6 AM 10: 12
RECEIVED LAND DIVISION

FROM: Kevin E. Moore, Acting Land Administrator
SUBJECT: Waikiki Beach Walk, Outrigger Reef Waikiki Beach Resort
LOCATION: Waikiki, Island of O'ahu; TMK: (1) 2-6-002:014, 027; 2-6-003:001, 030, 056, 060, 061; and 2-6-004:010
APPLICANT: Outrigger Enterprises, Inc.

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by November 12, 2014.

Only one (1) copy of the CD is available for your review in Land Division office, Room 220.

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

Attachments

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

Signed:
Print Name: William J. Aila Jr
Date: 10/20/14

cc: Central Files

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

JESSE K. SOUKI
FIRST DEPUTY

WILLIAM M. TAM
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 AQUATIC RESOURCES
1151 PUNCHBOWL STREET, ROOM 330
HONOLULU, HAWAII 96813
Telephone: 587-0100

Date: Oct. 28, 2014
DAR # 5025

MEMORANDUM
TO: ~~Frazer McGilvray~~, Administrator
DATE: October 28, 2014
FROM: Annette Tagawa, Aquatic Biologist AT
SUBJECT: Pre-Assessment Consultation for an Environmental Assessment

Comment	Date Request	Receipt	Referral	Due Date
	Oct. 14, 2014	Oct. 15, 2014	Oct. 15, 2014	Nov. 12, 2014

Requested by: Kevin E. Moore, Acting Land Administrator

Summary of Proposed Project

Title: Waikiki Beach Walk, Outrigger Reef Waikiki Beach Resort, Supplemental Environmental Impact Statement (SEIS), Notice of Preparation

Project by: Outrigger Enterprises, Inc.

Location: Waikiki, Island of Oahu; TMK: (1) 2-6-002:014, 027; 2-6-003:001, 030, 056, 060, 061; and 2-6-004:010

Brief Description: The preparation of a Supplemental Environmental Impact Statement is intended to address the proposed improvements for the project which are framed in seven components, each of which is described below:

1) Beach front improvements – The Diamond Head Tower, a five-story structure running along the beachfront, will be demolished to provide an opening of the project site towards Waikīkī Beach.

2) New hotel rooms - The project proposes to develop a new 350 foot (ft) hotel tower on the Kālia Road edge of the hotel property.

3) Improve arrival and lobby area - The porte cochere entry will be expanded, allowing for more cars to queue for drop off/pick-up and valet service. An arrival lobby will be accessed via a new escalator that leads from the porte cochere on the ground floor. The lobby area will be reconfigured and undergo interior renovations to enhance and improve the visual relationships between the lobby, pool deck and beach area.

4) Improve pool deck and recreation area - The project will transform the existing pool deck with significantly expanded and enhanced pools.

5) New meeting space - New meeting facilities will be constructed below the pool deck.

6) Kalia Gateway to Waikiki Beach Walk - The project will create a gateway at the Kālia Road entry to Waikīkī Beach Walk and to Waikīkī from Fort DeRussy. The main entry to the hotel site from Kālia Road will be renovated as part of the project improvements.

7) Improved on-site parking, service and circulation - New and reconfigured parking, loading, and service routes will be provided to improve efficiencies and further remove service vehicles from Kālia Road.

Comments: The Division agrees with the applicant's intentions to address short term impacts (i.e. soil disturbance; hazardous materials removal/disposal; dust and erosion due to demolition; and potential drainage and runoff), as well as long term impacts (i.e. effects on soil, water quality, drainage and runoff, natural hazard areas including flooding and tsunami inundation, vegetation and wildlife) related to construction activities and propose mitigative measures as appropriate.

In addition, as part of the SEIS, the Division would like see Best Management Practices addressed toward mitigation measures that include preventing any contaminants such as sediments, pollutants, petroleum products and other debris from possibly entering the aquatic environment during project activities.

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.

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
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Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

Ms. Annette Tagawa
Aquatic Biologist
State of Hawai'i
Department of Land and Natural Resources
Division of Aquatic Resources
1151 Punchbowl Street, Room 330
Honolulu, HI 96813

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Ms. Tagawa:

Thank you for your comment letter dated October 28, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

The following responses are offered to your comments on the SEISPN:

In addition to sections addressing the short and long term impacts from project construction activities, the SEIS will discuss Best Management Practices (BMP) relating to stormwater management, as regulated by Hawai'i State Department of Health, Clean Water Branch. These BMPs protect aquatic resources from contaminants such as sediments, pollutants, petroleum products, and other debris.

We will provide your office with a copy of the Draft SEIS for your review. We appreciate your participation in the environmental review process. Please contact us if you have any questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

Group 70 International • 925 Bethel Street, 5th Floor • Honolulu, HI 96813-4307 • tel. 808.523.5866 • fax. 808.523.5874 • www.group70int.com

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 14, 2014

MEMORANDUM

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

RECEIVED
LAND DIVISION
2014 OCT 20 AM 9:54
DEPT. OF LAND & NATURAL RESOURCES STATE OF HAWAII

FROM: Kevin E. Moore, Acting Land Administrator
SUBJECT: Waikiki Beach Walk, Outrigger Reef Waikiki Beach Resort
LOCATION: Waikiki, Island of O'ahu; TMK: (1) 2-6-002:014, 027; 2-6-003:001, 030, 056, 060, 061; and 2-6-004:010
APPLICANT: Outrigger Enterprises, Inc.

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by November 12, 2014.

Only one (1) copy of the CD is available for your review in Land Division office, Room 220.

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

Attachments

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

Signed: Meghan Statts
Print Name: Meghan Statts
Date: 10/17/14

cc: Central Files

GROUP 70 INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Hitoshi Hida AIA
Roy H. Nihei AIA, CSI, LEED AP
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Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

Ms. Meghan Statts
District Manager
State of Hawai'i
Department of Land and Natural Resources
Division of Boating and Ocean Recreation
333 Queen Street, Suite 300
Honolulu, HI 96813

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Ms. Statts:

Thank you for your comment letter dated October 14, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

We acknowledge that the Division of Boating and Ocean Recreation has no comments to offer at this time.

We will provide your office with a copy of the Draft SEIS for your review Thank you for your participation in the environmental review process. Please contact us if you have any questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola
Christine Mendes Ruotola, AICP, LEED AP
Principal

Group 70 International • 925 Bethel Street, 5th Floor • Honolulu, HI 96813-4307 • tel. 808.523.5866 • fax. 808.523.5874 • www.group70int.com

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

November 13, 2014

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

via email: cruotola@group70int.com

Dear Ms. Ruotola,

SUBJECT: Waikiki Beach Walk, Outrigger Reef Waikiki Beach Resort, Supplemental Environmental Impact Statement Preparation Notice

Thank you for the opportunity to review and comment on the subject matter. In addition to the comments sent to you dated November 7, 2014, enclosed are additional comments from the Engineering Division on the subject matter. Should you have any questions, please feel free to call Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure(s)

c: City and County of Honolulu
Dept. of Planning and Permitting
Attn: Elizabeth Krueger via email: ekrueger@honolulu.gov

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 14, 2014

MEMORANDUM

TO: FR:

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

FROM: TO: Kevin E. Moore, Acting Land Administrator
SUBJECT: Waikiki Beach Walk, Outrigger Reef Waikiki Beach Resort
LOCATION: Waikiki, Island of O'ahu; TMK: (1) 2-6-002:014, 027; 2-6-003:001, 030, 056, 060, 061; and 2-6-004:010
APPLICANT: Outrigger Enterprises, Inc.

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by November 12, 2014.

Only one (1) copy of the CD is available for your review in Land Division office, Room 220.

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

Attachments

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

Signed:
Print Name: Carty S. Chang, Chief Engineer
Date: 11/7/14

cc: Central Files

'14 OCT 14 PM 2:26 ENGINEERING RECEIVED
LAND DIVISION
2014 NOV 10 PM 1:02
DEPT. OF LAND & NATURAL RESOURCES STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/ Kevin E. Moore
REF: Supplemental EIS Preparation Notice for Waikiki Beach Walk, Outrigger Reef Waikiki Beach Resort
Oahu.069

COMMENTS

(X) **We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone AE. The National Flood Insurance Program regulates developments within Zone AE as indicated in bold letters below.**

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

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

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

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

(X) **Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.**

( ) Mr. Frank DeMarco at (808) 961-8042 of the County of Hawaii, Department of Public Works.

( ) Mr. Carolyn Cortez at (808) 270-7253 of the County of Maui, Department of Planning.

( ) Mr. Stanford Iwamoto at (808) 241-4896 of the County of Kauai, Department of Public Works.

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

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

( ) Additional Comments: _____

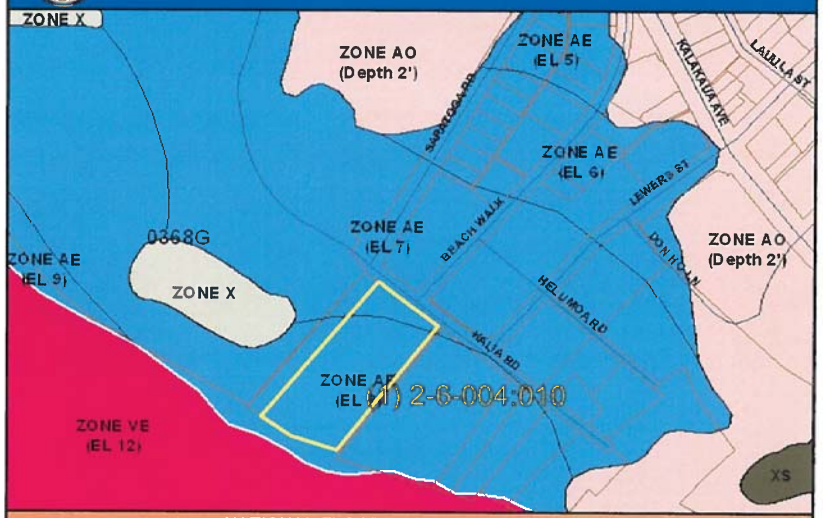
( ) Other: _____

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

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: 11/7/14

State of Hawaii
FLOOD HAZARD ASSESSMENT REPORT



NATIONAL FLOOD INSURANCE PROGRAM

FLOOD ZONE DEFINITIONS

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

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

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

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

OTHER FLOOD AREAS

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

PROPERTY INFORMATION

COUNTY:	HONOLULU
TMK NO:	(1) 2-6-004-010
PARCEL ADDRESS:	2181 KALIA RD HONOLULU, HI 96815
FIRM INDEX DATE:	NOVEMBER 05, 2014
LETTER OF MAP CHANGE(S):	NONE
FEMA FIRM PANEL(S):	15003C0368G
PANEL EFFECTIVE DATE:	JANUARY 19, 2011

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

IMPORTANT PHONE NUMBERS

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

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

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

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Hitoshi Hida AIA
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
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Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

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

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Chang:

Thank you for your comment letter dated October 14, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

The following responses are offered to your comments on the SEISPN:

As you have noted, the project is located in the Flood Zone AE according to the Flood Insurance Rate Map (FIRM). Development of the project will comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations.

We will provide your office with a copy of the Draft SEIS for your review. We appreciate your participation in the environmental review process. Please contact us if you have any questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

Group 70 International • 925 Bethel Street, 5th Floor • Honolulu, HI 96813-4307 • tel. 808.523.5866 • fax. 808.523.5874 • www.group70int.com

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 14, 2014

MEMORANDUM

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

FROM: Kevin E. Moore, Acting Land Administrator
SUBJECT: Waikiki Beach Walk, Outrigger Reef Waikiki Beach Resort
LOCATION: Waikiki, Island of O'ahu; TMK: (1) 2-6-002:014, 027; 2-6-003:001, 030, 056, 060, 061; and 2-6-004:010
APPLICANT: Outrigger Enterprises, Inc.

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by November 12, 2014.

Only one (1) copy of the CD is available for your review in Land Division office, Room 220.

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

Attachments

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

Signed:
Print Name:
Date: 10/15/14

cc: Central Files

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
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Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

Mr. Timothy Chee
Land Agent
State of Hawai'i
Department of Land and Natural Resources
Land Division – O'ahu District
1151 Punchbowl Street, Room 220
Honolulu, HI 96813

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Chee:

Thank you for your comment letter dated October 14, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

We acknowledge that the O'ahu District of the Land Division has no comments to offer at this time.

We will provide your office with a copy of the Draft SEIS for your review. Thank you for your participation in the environmental review process. Please contact us if you have any questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

Group 70 International • 925 Bethel Street, 5th Floor • Honolulu, HI 96813-4307 • tel. 808.523.5866 • fax. 808.523.5874 • www.group70int.com

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

November 13, 2014

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

via email: cruotola@group70int.com

Dear Ms. Ruotola,

SUBJECT: Waikiki Beach Walk, Outrigger Reef Waikiki Beach Resort, Supplemental Environmental Impact Statement Preparation Notice

Thank you for the opportunity to review and comment on the subject matter. In addition to the comments sent to you dated November 7 and November 13, 2014, enclosed are additional comments from the Office of Conservation and Coastal Lands on the subject matter. Should you have any questions, please feel free to call Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure(s)

c: City and County of Honolulu
Dept. of Planning and Permitting
Attn: Elizabeth Krueger via email: ekrueger@honolulu.gov

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

JESSE K. SOUKI
FIRST DEPUTY

WILLIAM M. TAM
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

RECEIVED
LAND DIVISION
2014 NOV 12 PM 3:08
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

REF: OCCL: AJR

COR: OA-15-56

NOV 1 2 2014

MEMORANDUM

TO: Kevin E. Moore, Acting Land Administrator
DLNR – Land Division

FROM: for Sam Lemmo, Administrator
DLNR – Office of Conservation and Coastal Lands

SUBJECT: **OUTRIGGER REEF WAIKIKI BEACH RESORT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE (SEISPN)**
Honolulu District, Island of Oahu
TMK: (1) 2-6-004:010

The Department of Land and Natural Resources, Office of Conservation and Coastal Lands (OCCL) is in receipt of your memo dated *October 14, 2014* regarding the Outrigger Reef Waikiki Beach Resort - *Supplemental Environmental Impact Statement Preparation Notice* (SEISPN). The OCCL is interested in reviewing the *Draft Environmental Impact Statement* (DEIS) and all accompanying documents.

Alternative design plans, or alternatives analysis of the proposed project, that do not require a Shoreline Setback Variance (SSV) from the City and County of Honolulu (i.e., all structures sited *landward* of the Shoreline Setback) should be provided in the DEIS.

Should you have any questions concerning this correspondence, please feel free to contact Alex J. Roy, M.Sc. of our Office of Conservation and Coastal Lands staff at 808-587-0316.

Thank you.

C: *ODLO*
CCH - DPP
CCH – ENV

GROUP 70 INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
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Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

Mr. Sam Lemmo
Administrator
State of Hawai'i
Department of Land and Natural Resources
Office of Conservation and Coastal Lands
P.O. Box 621
Honolulu, HI 96809

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Lemmo:

Thank you for your comment letter dated November 12, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site.. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

The following responses are offered to your comments on the SEISPN:

This responds to the above-referenced communication of November 12, 2014, in which the Administrator of the Office of Conservation and Coastal Lands commented that: "Alternative design plans, or alternative analysis of the proposed project, that do not require a Shoreline Setback Variance (SSV) from the City and County of Honolulu (i.e., all structures sited landward of the Shoreline Setback) should be provided in the DEIS."

There are two such scenarios. The first is the No Action Scenario, under which the proposed project would not proceed and the existing structures and related property operations would remain in place. This scenario is described more fully in the Draft Supplemental Environmental Impact Statement.

The second is a scenario under which the existing structures located seaward of the Shoreline Setback would be removed but not replaced with any structures requiring an SSV. This scenario was considered but not described more fully in the Supplemental Environmental Impact Statement because it is impractical from a

financial and operational perspective. More specific reasons include: (1) a loss of major operational attributes including Diamond Head Tower rooms, oceanfront restaurant facilities, and engineering, housekeeping and storage space which cannot be accommodated, together with other project facilities, in the remainder of the project sited landward of the Shoreline Setback; and (2) an associated loss of property revenues from both existing facilities and proposed future facilities sited seaward of the Shoreline Setback that renders the proposed project on the remainder of the site financially unfeasible.

The Draft Supplemental Environmental Impact Statement describes a proposed project which, through the entirety of the site, both landward and seaward of the Shoreline Setback, represents a substantial improvement over the current property improvements and operations, especially seaward of the Shoreline Setback.
Thank you for your participation in the environmental review process. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

NEIL ABERCROMBIE
GOVERNOR

RECEIVED
'14 OCT 30 P3:4
DEPT OF PLANNING AND PERMITTING CITY & COUNTY OF HONOLULU

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

FORD N. FUCHIGAMI
INTERIM DIRECTOR

Deputy Directors
RANDY GRUNE
AUDREY HIDANO
ROSS M. HIGASHI
JADINE URASAKI

IN REPLY REFER TO:

STP 8.1692

October 23, 2014

Ms. Elizabeth Krueger
City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, Hawaii 96813

Dear Ms. Krueger:

Subject: Waikiki Beach Walk
Outrigger Reef Waikiki Beach Resort
Supplemental Environmental Impact Statement Preparation Notice (SEISPN)
TMK: (1) 2-6-002:014, 027; 2-6-003:001, 030, 056, 060, 061; 2-6-004:010

Our Department of Transportation's (DOT) comments on the subject project are as follows:

The SEISPN should discuss and evaluate the project's contribution to the cumulative traffic impacts on State highways facilities in the area.

If there are any questions, please contact Mr. Norren Kato of the DOT Statewide Transportation Planning Office at telephone number (808) 831-7976.

Very truly yours,

FORD N. FUCHIGAMI
Interim Director of Transportation

GROUP 70
INTERNATIONAL

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Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

Mr. Ford N. Fuchigami
Director
State of Hawai'i
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Fuchigami:

Thank you for your comment letter dated October 23, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

The following responses are provided to your comments on the SEISPN:

The SEIS will include a Transportation Assessment that discusses the project's contribution to the cumulative traffic impacts in the area. The nearest State facility to the project study area is Ala Moana Boulevard. Upon review of the project trip distribution and assignment for the condition with the hotel expansion only, it was concluded that there would be fewer than two (2) peak hour project trips on any turning movement traversing Ala Moana Boulevard intersections. Therefore, under typical conditions the project would have negligible impacts to State highway facilities in the area.

Upon review of the project trip distribution and assignment for the condition with the hotel expansion and the use of all board rooms/meeting space (not including ballroom), it was concluded that there would be fewer than 15 peak hour trips on any turning movement traversing Ala Moana Boulevard intersections. Per the Hilton Hawaiian Village TIAR, Ala Moana Boulevard and Ena Road is forecasted to operate at an overall intersection LOS D in both the AM and PM peak hours and Ala Moana Boulevard & Kalakaua Avenue is forecasted to operate at an overall intersection LOS B in both the AM and PM peak hours in the Year 2022 with

Hilton Hawaiian Village project. Therefore, the project trips generated by the proposed hotel expansion and use of all the meeting space is also not expected to exacerbate conditions at the Ala Moana Boulevard intersections. It should also be noted that full occupancy of the hotel expansion and use of all board rooms/meeting space would be an infrequent occurrence.

We will provide your office with a copy of the Draft SEIS for your review. We appreciate your participation in the environmental review process. Please contact us if you have any questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

PHONE (808) 594-1888

FAX (808) 594-1865

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
560 N. NIMITZ HWY., SUITE 200
HONOLULU, HAWAI'I 96817

RECEIVED
DEC - 2 2014
GROUP 70 INTL

HRD14/0364F

November 21, 2014

Christine Medes Ruotola
Group 70 International, Inc.
925 Bethel St.
Honolulu, HI 96813

Re: Supplemental Environmental Impact Statement Preparation Notice for Waikīkī Beach Walk, Outrigger Reef Waikīkī Beach Resort
Waikīkī Ahupua'a, Kona Moku
TMK (1) 2-6-2:014, 027; (1) 2-6-3:001, 030, 056, 060, 061; (1) 2-6-4:010

Aloha Ms. Ruotola:

The Office of Hawaiian Affairs (OHA) is in receipt of your October 6, 2014 letter requesting comments for the Supplemental Environmental Impact Statement Preparation Notice (SEISPN), on the development of the Outrigger Reef Waikīkī Beach Resort, as part of the final step of the Waikīkī Beach Walk improvements.

The Waikīkī Beach Walk Environmental Impact Statement, published in 2002, provided a full examination of the short-term and long-term impacts on the project area. The SEISPN is an assessment for the proposed improvements to the Outrigger Reef Waikīkī Beach Resort.

The Waikīkī Beach Walk improvements were a master-planned redevelopment of Outrigger's properties in the Lewers Street area, which concludes with the renovation of the Outrigger Reef. The improvements within the project will include demolishing the makai tower, the construction of a new hotel tower, recreational resort area, to include swimming pools, and an improved transition to the beach front.

As with all ground disturbances, OHA does request assurances that should iwi kūpuna or Native Hawaiian cultural deposits be identified during any other ground altering activities, all

work will immediately cease and the appropriate agencies, including OHA, will be contacted pursuant to applicable law.

Thank you for the opportunity to submit comments. Should you have any questions, please contact Jeannin Jeremiah at 594-1790 or by email at jeanninj@oha.org.

'O wau iho nō me ka 'oia 'i'o,

Kamana'opono M. Crabbe, Ph.D.
Ka Pouhana, Chief Executive Officer

KC:jj

C: Elizabeth Krueger, City and County of Honolulu Department of Planning and Permitting

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OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

Mr. Kamana'opono M. Crabbe, Ph.D.
Chief Executive Officer
State of Hawai'i
Office of Hawaiian Affairs
560 N. Nimitz Highway, Suite 200
Honolulu, HI 96817

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Dr. Crabbe:

Thank you for your comment letter dated November 21, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

The following responses are offered to your comments on the SEISPN:

T.S. Dye & Colleagues, Archaeologist, Inc. prepared an Archaeological Monitoring Plan for the proposed project. This plan was submitted to the State Historic Preservation Division. During the project's construction, if any iwi kūpuna or Native Hawaiian cultural deposits are identified during ground altering activities, all work will immediately cease and the appropriate agencies, including OHA, will be contacted pursuant to applicable law.

Thank you for your participation in the environmental review process. We will provide your office with a copy of the Draft SEIS for your review. Please contact us if you have any questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

Group 70 International • 925 Bethel Street, 5th Floor • Honolulu, HI 96813-4307 • tel. 808.523.5866 • fax. 808.523.5874 • www.group70int.com

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

KIRK CALDWELL, MAYOR

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ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

ELLEN E. KITAMURA, P.E.
Deputy Manager and Chief Engineer

November 13, 2014

RECEIVED
NOV 1 - '14
GROUP 70 INT'L

Ms. Christine Mendes Ruotola, AICP, LEED AP
Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4307

Dear Ms. Ruotola:

Subject: Your Letter Dated October 6, 2014 on the Supplemental Environmental Impact Statement Preparation Notice for Waikiki Beach Walk, Outrigger Reef Waikiki Beach Resort – Tax Map Key: 2-6-002: 014, 027; 2-6-003: 001, 030, 056, 060, 061; 2-6-004: 010

Thank you for the opportunity to comment on the proposed renovations and hotel at the Outrigger Reef Waikiki Beach Resort.

The existing water system is adequate to accommodate the proposed development. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply reserves the right to change any position or information stated herein up until the final approval of 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 low flow plumbing fixtures, utilization of nonpotable water for irrigation using rain catchment and chiller/air handler condensate, cooling tower conductivity meters and water softening recycling systems, drought tolerant plants, xeriscape landscaping, efficient irrigation systems 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 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,

for ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

cc: Elizabeth Krueger, DPP

GROUP 70
INTERNATIONAL

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Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

Mr. Ernest Y.W. Lau, P.E.
Manager and Chief Engineer
City and County of Honolulu
Board of Water Supply
630 South Beretania Street
Honolulu, HI 96813

Subject: Supplemental Environmental Impact Statement Preparation Notice for
Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Lau:

Thank you for your comment letter dated October 17, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

The following responses are offered to your comments on the SEISPN:

1. We acknowledge that the existing water system is adequate to accommodate the proposed project. We understand that the final decision on the availability of water will be confirmed when the project's building permit application is submitted for approval.

2. Outrigger Enterprises will pay the Water System Facilities Charges for resource development, transmission and daily storage when water is made available for the project.

3. Water conservation measures for the project will be incorporated throughout the project design to the extent possible. Some of those measures may include low flow plumbing fixtures, alternative water sources for landscape irrigation, drought tolerant plants and efficient irrigation systems.

4. The project will install water hammer arrestors or expansion tanks to reduce pressure spikes and potential main breaks in the BWS water system.

5. On-site fire requirements will be coordinated directly with the Honolulu Fire Department's Fire Prevention Bureau.

We will provide your office with a copy of the Draft SEIS for your review. We appreciate your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8480 • Fax: (808) 768-4567
Web site: www.honolulu.gov

KIRK CALDWELL
MAYOR

ROBERT J. KRONING, P.E.
DIRECTOR DESIGNATE

MARK YONAMINE, P.E.
DEPUTY DIRECTOR

October 29, 2014

Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813

RECEIVED
OCT 31 2014
GROUP 70 INTL

Attn: Christine Mendes Ruotola

Dear Ms. Ruotola:

Subject: Waikiki Beach Walk
Outrigger Reef Waikiki Beach Resort
Supplemental Environmental Impact State Preparation Notice

The Department of Design and Construction does not have comments to offer on the supplemental environmental impact statement preparation notice.

Thank you for the opportunity to review and comment. Should there be any questions, please contact me at 768-8480.

Sincerely,

Robert J. Kroning, P.E.
Director Designate

RJK: cf (583364)

GROUP 70 INTERNATIONAL

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OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

Mr. Robert J. Kroning, P.E.
Director Designate
City and County of Honolulu
Department of Design and Construction
650 South King Street, 11th Floor
Honolulu, HI 96813

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Kroning:

Thank you for your comment letter dated October 29, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

We acknowledge that the Department of Design and Construction has no comments to offer at this time.

We will provide your office with a copy of the Draft SEIS for your review. Thank you for your participation in the environmental review process. Please contact us if you have any questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

DEPARTMENT OF PARKS & RECREATION

CITY AND COUNTY OF HONOLULU

1000 Uluohia Street, Suite 309, Kapolei, Hawaii 96707
Phone: (808) 768-3003 • Fax: (808) 768-3053
Website: www.honolulu.gov

KIRK CALDWELL
MAYOR

MICHELE K. NEKOTA
DIRECTOR

JEANNE C. ISHIKAWA
DEPUTY DIRECTOR

October 23, 2014

RECEIVED
OCT 27 2014
GROUP 70 INTL

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

Dear Ms. Ruotola:

SUBJECT: Waikiki Beach Walk
Outrigger Reef Waikiki Beach Resort
Supplemental Environmental Impact Statement Preparation Notice

Thank you for the opportunity to review and comment on the Outrigger Reef Waikiki Beach Resort Supplemental Environmental Impact Statement Preparation Notice.

The Department of Parks and Recreation has no comment. As the proposed project will have no impact on any program or facility of the department, you may remove us as a consulted party to the balance of the EIS process.

Should you have any questions, please contact Mr. John Reid, Planner, at 768-3017.

Sincerely,

Michele K. Nekota
Director

MKN:jr
(583436)

GROUP 70 INTERNATIONAL

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Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

Ms. Michele K. Nekota
Director
City and County of Honolulu
Department of Parks and Recreation
1000 Uluohia Street, Suite 309
Kapolei, HI 96707

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Ms. Nekota:

Thank you for your comment letter dated October 23, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

We acknowledge that the Department of Parks and Recreation has no comments to offer, as the project will have no impact on any program or facility of the department.

We will remove you as a consulted party for the remainder of the EIS process.

We appreciate your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

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

KIRK CALDWELL
MAYOR

GEORGE I. ATTA, FAICP
DIRECTOR

ARTHUR D. CHALLACOMBE
DEPUTY DIRECTOR

RECEIVED
NOV 10 2014
GROUP 70 INTL

2014/ELOG-1588 (EK)
2014/ELOG-1921

November 6, 2014

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

Dear Ms. Ruotola:

SUBJECT: Supplemental Environmental Impact Statement Preparation Notice (SEISPN)
Waikiki Beach Walk Outrigger Reef Waikiki Beach Resort
2181 Kalia Road – Waikiki
Tax Map Keys 2-6-4: 10

This responds to the request for comments on the SEISPN for the subject project.

A. Planning Division:

1. The Draft Supplemental Environmental Impact Statement (SEIS) should address how the proposed project is consistent with the Oahu General Plan and the Primary Urban Center Development Plan.

2. The Draft SEIS should address how the impacts of climate change will be incorporated in the project design and operation to reduce risks and increase resiliency to these impacts. Impacts that should be addressed include the risk of flooding due to projected sea level rise, likely beach erosion due to sea level rise, and the increased likelihood of severe weather conditions, including intense storms, drought, and extreme heat.

   The Army Corps of Engineers (COE) has issued an Engineering Circular (EC 1165-2-212) which provides guidance on likely ranges of sea level rise through 2100 which they require to be used in evaluating projects in shoreline areas subject to COE review. More recently, they have provided online tools which can be used to adapt the circular's guidance to reflect the historic sea level rise conditions measured at the nearest local tidal gauge.

   For further details on how the Engineering Circular and local tidal gauge information could be used to assess sea level risk for the project, contact

   Mr. Michael Wong, Chief, Engineering and Construction Technical Branch, COE, Honolulu District (808-835-4138).

B. Civil Engineering Branch:

1. If the project site drains into City drainage facilities or natural drainage ways under the ownership or responsibility of the City, the Draft SEIS should include a narrative explanation of the project's water quality management strategy, pursuant to the Rules Relating to Storm Drainage Standards.

2. The Draft SEIS should state that the project area is within the AE Flood Hazard Zone (primarily storm surge) with an elevation of 8.0 feet above mean sea level (MSL). Page 23 of the report cites an elevation of 5.0 feet above MSL, but current information indicates the elevation is closer to 8.0 feet above MSL. The Applicant should verify this elevation for planning and compliance purposes.

3. The "Kalia Road" annotation appears to be upside down on Figures 3 and 4. Flood elevations should also be shown on both figures.

C. Wastewater Branch: Downstream sewers along Kuhio Avenue are currently at capacity. Only a one-for-one replacement will be allowed. A Sewer Connection Application will be required for any new construction or renovations. Any hotel units with the addition of kitchens will be charged at the residential rate for the Wastewater System Facility Charge.

D. Land Use Permits Division:

1. The Draft SEIS should include a current shoreline survey. The shoreline survey should then be certified by the State Department of Land and Natural Resources Office of Conservation and Coastal Lands prior to the submittal of the Final SEIS.

2. On page 15, the Applicant should address the Special Management Area (SMA) Use Permit requirement separately from the shoreline setback variance and the zoning variance, since it is required for development anywhere in the SMA, not just the 40-foot shoreline setback area or 100-foot coastal height setback area.

3. Provide the total existing hotel room counts and the anticipated hotel room counts with project completion.

4. The Draft SEIS should include a discussion of cost estimates and funding strategies for the project.

5. A site section through the proposed hotel tower should be provided to show the impact the structure will have on Kalia Road. The section should show the height and outline of the hotel tower, the transitional height setback from Kalia Road and the 100-foot coastal height setback from the anticipated regulatory shoreline.

6. A site section through the proposed low-rise buildings near the shore should be provided to show the property lines, anticipated regulatory shoreline, anticipated 40-foot shoreline setback encroachments, and anticipated 100-foot coastal height setback encroachments.

Thank you for the opportunity to review and comment on the subject SEISPN. Please contact Elizabeth Krueger of our Land Use Approval Branch at 768-8017 if you have any questions.

Very truly yours,

for George I. Atta, FAICP
Director

GROUP 70 INTERNATIONAL

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Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
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Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

Mr. George Atta, AICP, LEED AP
Director
City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, HI 96813

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Atta:

Thank you for your comment letter dated November 6, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

The following responses are offered to your comments on the SEISPN:

A. Planning Division
1. Section 5.0 of the Draft SEIS will address how the proposed project is consistent with State and City plans and policies, including the O'ahu General Plan and the Primary Urban Center Development Plan.
2. Section 4.2 of the Draft SEIS provides a discussion on climate change and how the project will work to reduce risks and increase resiliency in the event of sea level rise, beach erosion, and severe weather events.

B. Civil Engineering Branch
1. Section 4.3.2 of the Draft SEIS addresses the projects water quality management strategy.
2. Section 4.4.3 of the Draft SEIS states that the project is within the AE Flood Hazard Zone with an elevation of 8.0 ft above mean sea level. We have confirmed this elevation.
3. Figures 3 and 4 of the SEIS Preparation Notice have been edited in the Draft SEIS.

C. Wastewater Branch

A Sewer Connection Application (SCA) for the original project, including a new 210 room hotel tower, was submitted to the City's Department Planning and Permitting Waste (WWB) was denied stating that two off-site sewer mains were over capacity. The first is a 340 linear-foot LF 15" sewer in Lewers close to the project. The second is a 28 LF 21" sewer at the intersection of Lewers and Kuhio. A formal appeal was submitted to and approved by City's Department of Environmental Services (ENV). The connection is approved without requiring costly offsite improvements. We note that the approved SCA will expire on March 27, 2017, before construction of the project scheduled and a new SCA will be required. It is not known at this time whether off-site improvements will be required to support the project. Both the SCA and the appeal are included in the Draft SEIS.

We acknowledge that any hotel units with the addition of kitchens will be charged at the residential rate for the Wastewater System Facility Charge.

D. Land Use Permits Division

1. Figure 5-1 of the Draft SEIS provides a current shoreline survey which is certified by the State Department of Land and Natural Resources Office of Conservation and Coastal Lands.
2. The Special Management Area Use Permit requirement is discussed separately from the Shoreline Setback Variance. Please refer to Section 5.0 of the Draft SEIS.
3. Total existing room count is 635 and the proposed hotel room count is 674. Please refer to Section 3.0 of the Draft SEIS for additional details.
4. A discussion of cost estimates and funding strategies is included in Section 3.5 of the Draft SEIS.
5. Site sections to show the impact the project will have on Kālia Road are provided as Figures 3-14 and 3-24 of the Draft SEIS.
6. A site section through the proposed low-rise buildings near the shore to show the property lines, anticipated regulatory shoreline, anticipated 40-foot shoreline setback encroachments, and anticipated 100-foot coastal height setback encroachments is included as Figure 3-14 in the Draft SEIS.

We will provide your office with a copy of the Draft SEIS for your review. Thank you for your participation in the environmental review process. Please contact us if you have any questions of require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

KIRK CALDWELL
MAYOR

MICHAEL D. FORMBY
DIRECTOR

MARK N. GARRITY, AICP
DEPUTY DIRECTOR

TP10/14-583753R

November 18, 2014

RECEIVED
DEC - 9 2014
GROUP 70 INTL

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

Dear Ms. Mendes Ruotola:

SUBJECT: Supplemental Environmental Impact Statement (SEIS) Preparation Notice, Waikiki Beach Walk, Outrigger Reef Waikiki Beach Resort

In response to your letter dated October 6, 2014, we have the following comments:

1. The SEIS should include an updated multi-modal Traffic Impact Assessment Report. Proposed transportation mitigation measures should be based on the City's Complete Streets ordinance and principles.

2. We recommend keeping the Waikiki Neighborhood Board No. 9 (as well as the area residents, businesses, emergency personnel, bus personnel, etc.) updated about the details of the proposed project and its impacts on the surrounding local area street network.

3. A street usage permit from the City's Department of Transportation Services shall be obtained for any construction-related work that may require the temporary closure of any traffic lane on a City street.

4. The SEIS should include a description of Public Transit and the impact of your project on Public Transit bus and paratransit operations during construction. Basic information is available on our websites: www.thebus.org and www.honolulu.gov/dts. If your project affects bus routes and services, you can contact our staff at 768-8370 to coordinate your planned activities.

5. Any construction materials and equipment should be transferred to and from the project site during off-peak traffic hours (8:30 a.m. to 3:30 p.m.) to minimize any possible disruption to traffic on the local streets.

We reserve further comment pending submission of the SEIS.

Thank you for the opportunity to review this matter. Should you have any further questions, please contact Michael Murphy of my staff at 768-8359.

Very truly yours,

Michael D. Formby
Director

cc: Ms. Elizabeth Krueger, DPP

GROUP 70 INTERNATIONAL

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Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

Mr. Michael D. Formby
Director
City and County of Honolulu
Department of Transportation Services
650 South King Street, 3rd Floor
Honolulu, HI 96813

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Formby:

Thank you for your comment letter dated October 18, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

The following responses are offered to your comments on the SEISPN:

1. The SEIS will include a Traffic Assessment which addresses multi-modal considerations.
2. The Applicant has provided a presentation of the project to the Waikīkī Neighborhood Board No. 9. They are also a consulted party to the EIS process. We will continue to keep them, as well as the area residents, businesses, emergency personnel, bus personnel, etc., updated about details of the project and any potential impacts on the surrounding local area street network.
3. If necessary, a street usage permit will be obtained from the City Department of Transportation Services for construction-related work that may require temporary closure of traffic lands on a City street.
4. Section 4.0 of the SEIS provides a description of Public Transit and the potential impacts of the project on Public Transit and paratransit operations.
5. Construction materials and equipment will be transferred to and from the project site during off-peak traffic hours to minimize disruption to traffic on local streets.

We will provide your office with a copy of the Draft SEIS for your review. Thank you for your participation in the environmental review process. Please contact us if you have questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

HONOLULU FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd

KIRK CALDWELL
MAYOR

MANUEL P. NEVES
FIRE CHIEF

LIONEL CAMARA JR.
DEPUTY FIRE CHIEF

October 27, 2014

RECEIVED
OCT 30 2014
GROUP 70 INTL

Ms. Christine Mendes Ruotola, AICP, LEED AP
Principal
Group 70 International, Inc
925 Bethel Street, 5th floor
Honolulu, Hawaii 96813-4307

Subject: Supplemental Environmental Impact Statement Preparation Notice
Waikiki Beach Walk
Outrigger Reef Waikiki Beach Resort
Tax Map Keys: 2-6-002: 014 and 027
2-6-003: 001, 030, 056, 060, and 061
2-6-004: 010

In response to your letter dated October 6, 2014, regarding the above-mentioned subject, the Honolulu Fire Department (HFD) requires that the following be complied with:

1. Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 feet (46 m) from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1, Uniform Fire Code [UFC]™, 2006 Edition, Section 18.2.3.2.2.)

   A fire department access road shall extend to within 50 ft (15 m) of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. (NFPA 1, UFC™, 2006 Edition, Section 18.2.3.2.1.)

2. A water supply approved by the county, capable of supplying the required fire flow for fire protection, shall be provided to all premises upon which facilities or buildings, or portions thereof, are hereafter

constructed, or moved into or within the county. When any portion of the facility or building is in excess of 150 feet (45 720 mm) from a water supply on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the AHJ [Authority Having Jurisdiction]. (NFPA 1, UFC™, 2006 Edition, Section 18.3.1, as amended.)

3. Submit civil drawings to the HFD for review and approval.

Should you have questions, please contact Battalion Chief Terry Seelig of our Fire Prevention Bureau at 723-7151 or tseelig@honolulu.gov.

Sincerely,

SOCRATES D. BRATAKOS
Assistant Chief

SDB/CN:bh

GROUP 70 INTERNATIONAL

PRINCIPALS

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Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

Mr. Socrates D. Bratakos
Assistant Chief
City and County of Honolulu
Honolulu Fire Department
636 South Street
Honolulu, HI 96813-5007

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Chief Bratakos:

Thank you for your comment letter dated October 27, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

The following responses are offered to your comments on the SEISPN:

1. The project will not impact existing fire department access roads. The proposed project will comply with the applicable National Fire Protection (NFPA) 1 Uniform Fire Code (UFC), 2006 Edition.
2. The project will not impact the existing water supply, capable of supplying required fire flow for fire protection. Appropriate water supply for new construction will be coordinated with the County.
3. Civil drawings will be submitted to the Honolulu Fire Department for review and approval during the building permitting period.

We will provide your office with a copy of the Draft SEIS for your review. We appreciate your participation in the environmental review process. Please contact us if you have any questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET · HONOLULU, HAWAII 96813
TELEPHONE: (808) 529-3111 · INTERNET: www.honolulupd.org

KIRK CALDWELL
MAYOR

LOUIS M. KEALOHA
CHIEF

DAVE M. KAJIHIRO
MARIE A. McCAULEY
DEPUTY CHIEFS

OUR REFERENCE MT-DK

October 22, 2014

RECEIVED

OCT 27 2014

GROUP 70 INTL

Ms. Christine Mendes Ruotola, AICP, LEED AP
Principal
Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4307

Dear Ms. Ruotola:

This is in response to your letter dated October 6, 2014, requesting comments or concerns on a Supplemental Environment Impact Statement Preparation Notice for the Waikiki Beach Walk project at the Outrigger Reef Waikiki Beach Resort.

The Honolulu Police Department has some concerns regarding the project. The traffic flow on Lewers Street and Kalia Road will be affected when one lane is closed. Also, the loading zone on Lewers Street will create challenges within the adjacent areas when one and/or two lanes are closed.

If there are any questions, please contact Acting Major Lisa A. Mann of District 6 (Waikiki) at 723-3345 or via e-mail at lmann@honolulu.gov.

Thank you for the opportunity to review this project.

Sincerely,

LOUIS M. KEALOHA
Chief of Police

By
MARK TSUYEMURA
Management Analyst VI
Office of the Chief

cc: Department of Planning and Permitting

Serving and Protecting With Aloha

GROUP 70
INTERNATIONAL

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OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

Mr. Louis M. Kealoha
Chief of Police
City and County of Honolulu
Police Department
801 South Beretania Street
Honolulu, HI 96813

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Chief Kealoha:

Thank you for your comment letter dated October 22, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

The following responses are offered to your comments on the SEISPN:

The project is not anticipated to close lanes at the Lewers Street and Kalia Road intersection, and will not affect the loading zones located on Lewers Street. A Construction Management Plan (CMP) and corresponding traffic control plan will be developed for the project and implemented during the construction period. The CMP would discuss street closures or temporary curb use modifications. In the event that Lewers Street and Kālia Road are affected by project-related activity, alternative routes and loading areas would be defined, and maps and signage would be provided to drivers to direct them to their destinations.

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

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

Chamber of Commerce HAWAII
The Voice of Business

RECEIVED

November 5, 2014

City & County of Honolulu
Department of Planning & Permitting
Attn: Elizabeth Krueger
Frank F. Fasi Municipal Building
650 South King Street, 7th Floor
Honolulu, HI 96813

Group 70 International, Inc.
Attn: Christine Medes Ruotola
925 Bethel Street, 5th Floor
Honolulu, HI 96813

RE: Comments for the Supplemental Environmental Impact Statement Preparation Notice for Waikiki Beach Walk and the Outrigger Reef Waikiki Beach Resort

The Chamber of Commerce of Hawaii ("The Chamber") would like to express comments in support of the Waikiki Beach Walk/Outrigger Reef Waikiki Beach Resort project.

The Chamber is the largest business organization in Hawaii, representing over 1,000 businesses. Approximately 80% of our members are small businesses with less than 20 employees. As the "Voice of Business" in Hawaii, the organization works on behalf of members and the entire business community to improve the state's economic climate and to foster positive action on issues of common concern.

The Outrigger Reef Waikiki Beach Resort project would increase the resort recreation area and meeting space by 34,000 square feet and 15,000 square feet, respectively. The project would add 204 new hotel rooms and help revitalize the locally owned property to meet increasing guest expectations and strengthen Hawaii's position in the expanding global destination market.

Thank you for the opportunity to provide comments for this project.

1132 Bishop Street, Suite 402 • Honolulu, Hawaii 96813 • Phone: (808) 545-4300 • Facsimile: (808) 545-4369

GROUP 70 INTERNATIONAL

PRINCIPALS

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Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB

OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

Ms. Sherry Menor-McNamara
President & CEO
Chamber of Commerce Hawai'i
1132 Bishop Street, Suite 2105
Honolulu, HI 96813

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Ms. Menor-McNamara:

Thank you for your comment letter dated November 5, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

The following responses are provided to your comments on the SEISPN:

We acknowledge that the Outrigger Reef would increase the resort recreation area and meeting space, as well as add new hotel rooms, helping to revitalize the locally owned property and strengthen Hawai'i's position in the expanding global destination market.

We will provide your office with a copy of the Draft SEIS for your review. Thank you for your participation in the environmental review process. Please contact us if you have any questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola

Christine Mendes Ruotola, AICP, LEED AP
Principal

Group 70 International • 925 Bethel Street, 5th Floor • Honolulu, HI 96813-4307 • tel. 808.523.5866 • fax. 808.523.5874 • www.group70int.com

UNITE HERE!
LOCAL 5 HAWAII

Eric Gill, Financial Secretary-Treasurer Hernando Ramos Tan, President Godfrey Maeshiro, Senior Vice-President

November 3, 2014

Edward E. Case, Senior VP & CLO
Outrigger Enterprises Inc.
2735 Kuhio Ave.
Honolulu HI 96815

Subject: Response to Supplemental Environmental Impact Statement Notice of Preparation – Waikiki Beach Walk, Outrigger Reef Waikiki Beach Resort

To Whom It May Concern:

UNITE HERE Local 5 is the bargaining representative for over eight thousand hotel workers in Waikiki and across the state. Local 5 members will be impacted by the proposed construction project. We firmly believe it is important for Outrigger's proposed plans to serve the long-term interests of the local community. We therefore **request to become a consulted party** in the development of the Supplemental Environmental Impact Statement ("SEIS").

After reviewing the company's September 2014 Supplemental Environmental Impact Statement Notice of Preparation ("SEISNP"), we have several questions:

1. Director George Atta of the Department of Planning and Permitting (DPP) was a principal, partner and manager of Group 70 International for 25 years before being appointed as Director in 2013. Group 70 was involved in the 2002 EIS and development process for the original Outrigger Beach Walk development.
    a. Please explain the scope of responsibilities Mr. Atta had in the 2002 Outrigger Beach Walk development as an employee of Group 70, if any.
    b. What restrictions, if any, exist on Group 70 from re-hiring Mr. Atta if he should return to the private sector?
    c. Will Outrigger and Group 70 request that Director Atta recuse himself from any oversight and decision-making role for this Outrigger Reef project? Will Director Atta voluntarily recuse himself from any oversight and decision-making on this project?
    d. Please identify other staff or employees of the DPP that may have conflicts of interest because of past or potential future relationships with Outrigger or Group 70.

2. Corporation Counsel Donna Y. L. Leong of the City and County of Honolulu, prior to her appointment in 2013, was employed by Outrigger Enterprises as Chief Legal Officer and Senior Vice President in 2006. Prior to being hired by Outrigger in 2006, she worked on behalf of Outrigger for 15 years as an attorney at the law firm Cades Schutte LLP.
    a. Please explain the scope of responsibilities Ms. Leong had in the 2002 Outrigger Beach Walk development, if any.
    b. What restrictions, if any, exist on Outrigger from re-hiring Ms. Leong if she should return to the private sector?
    c. Will Corporate Counsel Leong have any oversight, research or decision making responsibilities over this project?
    d. Will Outrigger and Group 70 request that Corporate Counsel Leong recuse herself from any oversight and decision-making role for this Outrigger Reef project? Will Corporate Counsel Leong voluntarily recuse herself from any oversight and decision-making on this project?
    e. Please identify other staff or employees of the City and County of Honolulu Department of Corporation Counsel that may have conflicts of interest because of past or potential future relationships with Outrigger or Group 70.

3. Outrigger states that the proposed project was not included in the 2002 EIS. Please explain why Outrigger does not consider this a separate project requiring a full and separate EIS instead of a Supplementary EIS.
    a. If Outrigger intends to reference components of the original 2002 EIS, please indicate which components of the 2002 EIS will be referenced in this SEIS and the justification for not completing new studies and surveys in those areas.
    b. What evidence does Outrigger have that each of those referenced 2002 EIS components is still accurate and valid after more than twelve years?

4. Outrigger has admirably emphasized the importance of full-service hotel development to Hawaii's tourism industry (in contrast to condominium and time-share projects) and appears to be intending to build a full-service hotel building in this project. In exchange for the city and state granting permits to allow a 350 feet, east-west oriented, shoreline setback variance hotel tower, will Outrigger consent to preserve hotel use in perpetuity by assigning a deed covenant that would prevent any conversion of the proposed new hotel tower into timeshare or condominium or condo-hotel units?
    a. If not, is it possible that the tower or some portion thereof could be used as a condo-hotel or timeshare by Outrigger or any successor owner (regardless of Outrigger's current intent)?

5. How will the development of new meeting and convention space at this project site compete with the Hawaii Convention Center's ability to attract and serve clients in the meetings, incentive, conventions and exhibition market? To what extent will it compete with other Waikiki hotels?

6. View planes:
    a. Explain the impact upon the views from other buildings within the 2002 EIS that may be affected by the proposed hotel tower (such as Trump Tower or Embassy Suites)?
    b. What would be impact upon public or private spaces due to shadowing by the 350 feet hotel tower?
    c. Would the proposed hotel tower comply with Waikiki Special District guidelines and any other City or State guidelines regarding public views?

7. Please provide dimensions of the proposed "puka" design feature for the new hotel lobby:
    a. How far off the ground will the bottom of this "puka" design be?
    b. How wide, tall and deep will it be?
    c. Will features in the hotel lobby or grounds affect the view through the "puka"?
    d. Please quantify the amount of open sky views and ocean views that will be lost by building the proposed hotel tower.

1516 South King Street • Honolulu, Hawaii • 96826-1912 • Phone (808) 941-2141 • Fax (808) 941-2166 • www.unitehere5.org

e. Please quantify the amount of open sky and view planes that the "puka" will provide to visitors considering the limited sidewalk space, the one way road fronting the hotel entrance, the heavily developed urban neighborhood and the raised off street level location of the "puka".

8. Nearly all other towers in the existing Beach Walk area have a north-south orientation.
    a. Explain Outrigger's financial analysis that proves that a north-south oriented tower is not economically feasible?
    b. What was the timeline of the return on investment requirement used to calculate financial feasibility of a north-south oriented tower?
    c. Was a slanted orientation considered as an alternative for the hotel tower?
    d. Why does Outrigger feel this new tower should be permitted for an east-west orientation?
    e. What feedback has Outrigger sought and/or received from neighboring homes and businesses regarding the proposed east-west hotel tower?

9. In light of rapid global sea-level rise and unpredictable weather events, please answer the following questions regarding shoreline issues:
    a. The SEISNP referenced a 2007 shoreline study. Will a new shoreline study be conducted for the SEIS? If not, why?
    b. Adhering to the 40 feet shoreline setback would expand the area of beach space available to visitors, account for beach erosion, conform to land use rules and require a minimal loss of commercial floor area as proposed in this SEISPN. Please justify why Outrigger should receive new exemptions to *re-build* inside of the existing 40 feet shoreline setback despite the fact that this project would provide a rare opportunity to correct a non-conforming structure on SMA land that will be demolished anyway?
    c. What economic value does Outrigger place on the continued presence of a sandy beach front area at the hotel site, both for itself and for the visitor industry as a whole?
        i. Will Outrigger provide funds and commit to working with the appropriate government agencies to fund and perform beach sand replenishment and/or groin sea wall construction/improvement to protect the long-term sustainability of the public beach area fronting the project?
    d. If Outrigger seeks and is granted shoreline variances for this new project, what guarantees and agreements with the state will Outrigger make right now to address and mitigate possible future rising sea levels and beach erosion?
    e. What is Outrigger's position on the threat of sea level rise, beach erosion and global warming? How have these concerns factored into Outrigger's long term plans for this proposed project?
    f. What are the financial risks of sea level rise, beach erosion and global warming upon this project?
    g. Have investors, lenders, or insurers involved with this projected examined the issue of sea level rise, or natural disasters upon the financial and long term sustainability of the proposed project?
    h. Over half of Oahu beaches has 3cm of annual beach erosion due to sea level rise; that amounts to over a foot of beach erosion (14 inches) in a mere ten years. Outrigger wishes to rebuild within the 40 feet shoreline setback. If conflicts with beach erosion, rising sea levels and an encroaching high tide line create a situation where the existing beach area is reduced or completely destroyed and threatens damage to Outrigger property, what mitigation actions will Outrigger make to address this?

Will Outrigger agree to indemnify the State and City and County for any mitigation costs created by Outrigger's new proposed buildings?
    i. Please explain how granting shoreline exemptions to build a pool and restaurant will "*reduce existing non-conformities at the project site*" as stated by the Outrigger in its SEISNP (Section 2.1, page 16)? Once Outrigger demolishes the existing non-conforming structures, won't any new structures built within the shoreline setback area constitute entirely new non-conforming structures? Will the new structures require a new variance?
    j. Does Outrigger believe that a single fee holder of the land and building would be better suited to address Acts of Nature that may threaten life and property rather and changing topographical situations than a condominium Association of Owners or a Timeshare entity?

10. Parking
    a. Does the Outrigger Reef currently comply with hotel land use requirement of providing one parking stall for every four hotel rooms plus parking for commercial uses?
    b. How many parking stalls does Outrigger currently provide on-site for its 635 hotel rooms?
    c. How does Outrigger plan to satisfy additional parking stall requirements if a new 100-160 room hotel tower is added to the site?
    d. How will Outrigger address the traffic and noise impact of 100-160 more daily visitors with cars?
        i. What will be the traffic impact to the neighboring hotels and businesses with 100-160 more visitors with cars?
        ii. Does Outrigger intend to mitigate any such impacts?
    e. Will the proposed underground parking lot be up to date and compliant with flood management rules and regulations? What is the risk of damage to cars in the lot from flood events, hurricanes and tsunamis?

11. Improved pool deck and recreation area
    a. Outrigger states "water features and landscaping elements will be integrated throughout this space to fit with the surrounding character of the hotel site and beach area" (SEISNP, section 2.1, page 16):
        i. Will the new pool, restaurant and landscaping area be open to the public?
        ii. How will these interior design features touted in the SEISNP benefit the public or contribute to the Hawaiian sense of place if not viewable or accessible from the ground floor beach or public sidewalk?
        iii. Will the proposed beachfront space be private restaurant dining space or open landscaping? If beachgoers were to look mauka towards the site, will they see diners in a restaurant dining area, or open landscaping?

12. Please provide details on other alternatives plans for the site that are not described in the September 2014 SEISPN, including but not limited to an alternative which demolishes non-conforming structures and does not replace them with new non-conforming structures; and an alternative that involves a shorter tower with fewer units.

13. Socio-economic Conditions:
    a. What will be the net gain in full time or full time equivalent employees from this proposed project?

b. Will the project cause a net loss of employees in any one or more department?
c. Will employees at the new hotel tower and restaurant be paid comparably to other Outrigger employees? If so, what are anticipated wages and benefits these new employees would receive?

14. How will Outrigger address the issue of civil defense response to natural and man made disaster in light of the increase in cars and visitors in the space-constrained Kalia Road area?

Thank you very much for your response to these matters.

Sincerely,

Ivan Hou
UNITE HERE Local 5
1516 South King Street
Honolulu, HI 96826
Phone: 808-941-2141 x238
Email: ihou@unitehere5.org

CC:
Christine Ruotola, Consultant, Group 70 International, Inc.
Jessica Wooley, Director, State of Hawaii, Office of Environmental Quality Control
Elizabeth Krueger, City and County of Honolulu, Department of Planning and Permitting

CC via email:
Christine Ruotola, Consultant, Group 70 International, Inc.
Jessica Wooley, Director, State of Hawaii, Office of Environmental Quality Control
Elizabeth Krueger, City and County of Honolulu, Department of Planning and Permitting

OUTRIGGER
ENTERPRISES GROUP

Edward E. Case, Esq.
Senior Vice President &
Chief Legal Officer

June 7, 2016

Mr. Ivan Hou
UNITE HERE Local 5
1516 South King Street
Honolulu, HI 96826

Subject: September 2014 Supplemental Environmental Impact Statement Notice of Preparation; Waikiki Beach Walk, Outrigger Reef Waikiki Beach Resort

Dear Mr. Hou:

Thank you for your November 3, 2014 letter on behalf of UNITE HERE Local 5 and your members ("Local 5") providing questions on the September 2014 Supplemental Environmental Impact Statement Notice of Preparation ("SEISPN") submitted by Group 70 for Outrigger Enterprises, Inc. ("Outrigger") on Outrigger's continuation of its Waikiki Beach Walk project at the Outrigger Reef Waikiki Beach Resort ("Project").

Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement ("DSEIS") will provide an assessment of this updated project program.

On some initial questions and comments:

(1) Outrigger does not understand the authority or specifics of your "request to become a consulted party" in development of the SEIS. Outrigger will incorporate your questions and these responses in the draft and final SEIS and will welcome further questions and comments on the draft SEIS. If you are seeking any further action on Outrigger's part, please let us know.

(2) Outrigger regards a number of your questions as requesting information which is (a) confidential and proprietary to Outrigger and/or (b) beyond the scope of information appropriate for request or response under Hawaii Rev. Stat. ch. 343 as part of a full and complete consultation process on the environmental impacts of the Project. We have declined to respond to some of your questions in the first category. In the interests of facilitating your understanding of the Project beyond its environmental impacts, we have responded to your questions in the second category but reserve our right to decline to respond to further such questions on the draft SEIS.

(3) Some of your questions are directed to Group 70 and the answers here to those questions are provided by Group 70.

(4) The Project as described in the draft SEIS to which this reply is appended has been substantially scaled back from the Project as described in the September 2014 Notice of Preparation, to include primarily deletion of the proposed 350' new tower. Where your questions relate to that tower, we have responded "N/A" to reflect that your questions are not applicable.

Subject to the above, please see attached your specific questions and our responses below in capital letters.

Thank you again. We look forward to working with you on the Project and hope to earn the full support of you and your members.

Sincerely,

OUTRIGGER ENTERPRISES, INC.
A Hawaii corporation

By _____
Edward E. Case
Senior Vice President and Chief Legal Officer

Attachment

ATTACHMENT A
Outrigger Enterprises, Inc.'s Responses to ILWU Questions

1. Director George Atta of the Department of Planning and Permitting (DPP) was a principal, partner and manager of Group 70 International for 25 years before being appointed as Director in 2013. Group 70 was involved in the 2002 EIS and development process for the original Outrigger Beach Walk development.

   a. Please explain the scope of responsibilities Mr. Atta had in the 2002 Outrigger Beach Walk development as an employee of Group 70, if any.

      MR. ATTA WAS AN ASSOCIATE AT GROUP 70 IN 2002 AND SUBSEQUENTLY. HE DID NOT HAVE ANY PRIMARY OR ONGOING ROLE IN THE WAIKIKI BEACH WALK PROJECT.

   b. What restrictions, if any, exist on Group 70 from re-hiring Mr. Atta if he should return to the private sector?

      NONE TO GROUP 70'S KNOWLEDGE.

   c. Will Outrigger and Group 70 request that Director Atta recuse himself from any oversight and decision-making role for this Outrigger Reef project?

      NO.

   d. Please identify other staff or employees of the DPP that may have conflicts of interest because of past or potential future relationships with Outrigger or Group 70.

      NEITHER OUTRIGGER NOR GROUP 70 IS AWARE OF ANY.

2. Corporation Counsel Donna Y. L. Leong of the City and County of Honolulu, prior to her appointment in 2013, was employed by Outrigger Enterprises as Chief Legal Officer and Senior Vice President in 2006. Prior to being hired by Outrigger in 2006, she worked on behalf of Outrigger for 15 years as an attorney at the law firm Cades Schutte LLP.

   a. Please explain the scope of responsibilities Ms. Leong had in the 2002 Outrigger Beach Walk development, if any.

      MS. LEONG WAS AN ATTORNEY WITH THE CADES SCHUTTE LLP LAW FIRM FROM PRIOR TO 2002 TO MAY 2006, IN WHICH CAPACITY SHE WAS ONE OF THAT FIRM'S ATTORNEYS WHO REPRESENTED OUTRIGGER ON VARIOUS MATTERS. SHE WAS OUTRIGGER'S CHIEF LEGAL OFFICER FROM MAY 2006 TO MARCH 2013. SHE ASSISTED OUTRIGGER WITH RESPECT TO LEGAL ADVICE ON THE WAIKIKI BEACH WALK PROJECT IN BOTH CAPACITIES.

b. What restrictions, if any, exist on Outrigger from re-hiring Ms. Leong if she should return to the private sector?

NONE TO OUTRIGGER'S KNOWLEDGE.

c. Will Corporate Counsel Leong have any oversight, research or decision making responsibilities over this project?

OUTRIGGER IS NOT AWARE OF MS. LEONG'S SPECIFIC RESPONSIBILITIES WITH RESPECT TO THIS PROJECT.

d. Will Outrigger and Group 70 request that Corporate Counsel Leong recuse herself from any oversight and decision-making role for this Outrigger Reef project?

NO.

Will Corporate Counsel Leong voluntarily recuse herself from any oversight and decision-making on this project?

OUTRIGGER DOES NOT KNOW WHETHER MS. LEONG WILL RECUSE HERSELF.

e. Please identify other staff or employees of the City and County of Honolulu Department of Corporation Counsel that may have conflicts of interest because of past or potential future relationships with Outrigger or Group 70.

NEITHER OUTRIGGER NOR GROUP 70 IS AWARE OF ANY.

3. Outrigger states that the proposed project was not included in the 2002 EIS. Please explain why Outrigger does not consider this a separate project requiring a full and separate EIS instead of a Supplementary EIS.

THE PROJECT IS A COMPONENT OF THE OVERALL WAIKIKI BEACH WALK PROJECT. AS SUCH, BOTH THE CITY DEPARTMENT OF PLANNING AND PERMITTING AND THE STATE OFFICE OF ENVIRONMENTAL QUALITY CONTROL HAVE ADVISED THAT AN SEIS IS THE APPROPRIATE ENVIRONMENTAL IMPACT DOCUMENT FOR THE PROJECT.

a. If Outrigger intends to reference components of the original 2002 EIS, please indicate which components of the 2002 EIS will be referenced in this SEIS and the justification for not completing new studies and surveys in those areas.

THE DRAFT SEIS INCORPORATES SUCH REFERENCES AND EXPLANATIONS THROUGHOUT.

b. What evidence does Outrigger have that each of those referenced 2002 EIS components is still accurate and valid after more than twelve years?

ALL RELEVANT SECTIONS OF THE 2002 EIS WERE REVIEWED BY OUTRIGGER, GROUP 70 AND THEIR CONSULTANTS AND UPDATED OR REDONE AS APPROPRIATE.

4. Outrigger has admirably emphasized the importance of full-service hotel development to Hawaii's tourism industry (in contrast to condominium and time-share projects) and appears to be intending to build a full-service hotel building in this project. In exchange for the city and state granting permits to allow a 350 feet, east-west oriented, shoreline setback variance hotel tower, will Outrigger consent to preserve hotel use in perpetuity by assigning a deed covenant that would prevent any conversion of the proposed new hotel tower into timeshare or condominium or condo-hotel units?

N/A AS TO THE TOWER; OTHERWISE NO.

a. If not, is it possible that the tower or some portion thereof could be used as a condo-hotel or timeshare by Outrigger or any successor owner (regardless of Outrigger's current intent)?

N/A AS TO THE TOWER; OTHERWISE, AS NOTED IN THE DRAFT SEIS, OUTRIGGER HAS NO SUCH CURRENT INTENT, ALTHOUGH IT IS POSSIBLE IF AND AS PERMITTED BY APPLICABLE GOVERNMENT PROVISIONS.

5. How will the development of new meeting and convention space at this project site compete with the Hawaii Convention Center's ability to attract and serve clients in the meetings, incentive, conventions and exhibition market?

OUTRIGGER DOES NOT BELIEVE THAT THE PROJECT'S NEW MEETING AND CONVENTION SPACE WILL COMPETE MATERIALLY WITH THE HAWAII CONVENTION CENTER AS THE RELATIVELY SMALL SIZE OF THE PROJECT'S NEW SPACE WILL RESULT IN A DIFFERENT MARKET MIX FOR THAT BUSINESS THAN FOR THE CONVENTION CENTER.

To what extent will it compete with other Waikiki hotels?

FROM A SUPPLY PERSPECTIVE, OUTRIGGER EXPECTS TO COMPETE WITH OTHER WAIKIKI HOTELS WITH COMPARABLE SPACE AND RELATED FACILITIES, BUT, AS WITH THE CONVENTION CENTER, NOT WITH OTHER WAIKIKI HOTELS WITH MATERIALLY DIFFERENT SPACE AND RELATED FACILITIES. FROM A DEMAND PERSPECTIVE, OUTRIGGER'S ASSESSMENT IS THAT, WITH RESPECT TO BOTH WAIKIKI HOTELS AND THE CONVENTION CENTER, THERE WILL BE INCREASED DEMAND FOR SUCH FACILITIES OF ALL SIZES AND ATTRIBUTES.

6. View planes:

   a. Explain the impact upon the views from other buildings within the 2002 EIS that may be affected by the proposed hotel tower (such as Trump Tower or Embassy Suites)?

      N/A.

   b. What would be impact upon public or private spaces due to shadowing by the 350 feet hotel tower?

      N/A.

   c. Would the proposed hotel tower comply with Waikiki Special District guidelines and any other City or State guidelines regarding public views?

      N/A.

7. Please provide dimensions of the proposed "puka" design feature for the new hotel lobby:

   a. How far off the ground will the bottom of this "puka" design be?

      N/A.

   b. How wide, tall and deep will it be?

      N/A.

   c. Will features in the hotel lobby or grounds affect the view through the "puka"?

      N/A.

   d. Please quantify the amount of open sky views and ocean views that will be lost by building the proposed hotel tower.

      N/A.

   e. Please quantify the amount of open sky and view planes that the "puka" will provide to visitors considering the limited sidewalk space, the one way road fronting the hotel entrance, the heavily developed urban neighborhood and the raised off street level location of the "puka".

      N/A.

8. Nearly all other towers in the existing Beach Walk area have a north-south orientation.

   N/A.

   a. Explain Outrigger's financial analysis that proves that a north-south oriented tower is not economically feasible?

      N/A.

   b. What was the timeline of the return on investment requirement used to calculate financial feasibility of a north-south oriented tower?

      N/A.

   c. Was a slanted orientation considered as an alternative for the hotel tower?

      N/A.

   d. Why does Outrigger feel this new tower should be permitted for an east-west orientation?

      N/A.

   e. What feedback has Outrigger sought and/or received from neighboring homes and businesses regarding the proposed east-west hotel tower?

      N/A.

9. In light of rapid global sea-level rise and unpredictable weather events, please answer the following questions regarding shoreline issues:

   a. The SEISNP referenced a 2007 shoreline study. Will a new shoreline study be conducted for the SEIS? If not, why?

      OUTRIGGER RECEIVED AN UPDATED SHORELINE CERTIFICATION IN DECEMBER 2014.

   b. Adhering to the 40 feet shoreline setback would expand the area of beach space available to visitors, account for beach erosion, conform to land use rules and require a minimal loss of commercial floor area as proposed in this SEISPN. Please justify why Outrigger should receive new exemptions to *re-build* inside of the existing 40 feet shoreline setback despite the fact that this project would provide a rare opportunity to correct a non-conforming structure on SMA land that will be demolished anyway?

      FIRST, THE PROPOSED PROJECT IS NOT FINANCIALLY FEASIBLE IF OUTRIGGER IS NOT ABLE TO OBTAIN A SHORELINE SETBACK VARIANCE TO REBUILD IMPROVEMENTS WITHIN THE SHORELINE SETBACK FROM WHICH REVENUES WILL BE GENERATED TO MEET OUTRIGGER'S INVESTMENT CRITERIA. SECOND, THE PROPOSED PROJECT REPRESENTS A SUBSTANTIAL IMPROVEMENT OVER EXISTING IMPROVEMENTS,

ESPECIALLY WITHIN THE SHORELINE SETBACK AREA. THIRD, THE PROPOSED PROJECT OVERALL WILL CONTRIBUTE MATERIALLY TO MAINTENANCE OF WAIKIKI'S COMPETITIVE ADVANTAGE AS FURTHER DESCRIBED IN THE ANSWER TO QUESTION 8.D ABOVE.

c. What economic value does Outrigger place on the continued presence of a sandy beach front area at the hotel site, both for itself and for the visitor industry as a whole?

SUBSTANTIAL ECONOMIC VALUE.

i. Will Outrigger provide funds and commit to working with the appropriate government agencies to fund and perform beach sand replenishment and/or groin sea wall construction/improvement to protect the long-term sustainability of the public beach area fronting the project?

YES, ESPECIALLY THROUGH THE NEWLY-CREATED WAIKIKI BEACH SPECIAL IMPROVEMENT DISTRICT, FOR WHICH OUTRIGGER ADVOCATED AND UNDER WHICH THE SPECIFIC PROJECT PROPERTY WILL BE SPECIALLY ASSESSED FOR WAIKIKI BEACH PRESERVATION AND IMPROVEMENT IN THE RANGE OF OVER $15,000 PER YEAR BASED ON CURRENT PROPERTY TAX ASSESSED VALUE.

d. If Outrigger seeks and is granted shoreline variances for this new project, what guarantees and agreements with the state will Outrigger make right now to address and mitigate possible future rising sea levels and beach erosion?

OUTRIGGER IS NOT WILLING TO COMMIT TO ANY SUCH GUARANTEES OR AGREEMENTS WITH THE STATE AT PRESENT.

e. What is Outrigger's position on the threat of sea level rise, beach erosion and global warming?

OUTRIGGER RECOGNIZES THAT THERE ARE VARIATIONS IN THE WIDTH AND VOLUME OF THE BEACH FRONTING THE PROJECT ALTHOUGH OUTRIGGER DOES NOT TAKE ANY POSITION AS TO THE SPECIFIC CAUSES OF SUCH VARIATIONS.

How have these concerns factored into Outrigger's long term plans for this proposed project?

OUTRIGGER HAS FACTORED BEACH VARIATION INTO ITS PROJECT PLANS IN VARIOUS WAYS, INCLUDING ITS DECISION TO ACCEPT AN UPDATED CERTIFIED SHORELINE LYING LANDWARD OF ITS PROPERTY'S SEAWARD BOUNDARY.

f. What are the financial risks of sea level rise, beach erosion and global warming upon this project?

OUTRIGGER RECOGNIZES SUCH A FINANCIAL RISK IF ANY OF ITS PROPERTY IS NOT USABLE AS A RESULT OF SUCH FACTORS, BUT IS NOT ABLE TO ANSWER THIS QUESTION WITH ANY SPECIFICITY AT PRESENT.

g. Have investors, lenders, or insurers involved with this projected examined the issue of sea level rise, or natural disasters upon the financial and long term sustainability of the proposed project?

NOT TO OUTRIGGER'S KNOWLEDGE.

h. Over half of Oahu beaches has 3cm of annual beach erosion due to sea level rise; that amounts to over a foot of beach erosion (14 inches) in a mere ten years. Outrigger wishes to rebuild within the 40 feet shoreline setback. If conflicts with beach erosion, rising sea levels and an encroaching high tide line create a situation where the existing beach area is reduced or completely destroyed and threatens damage to Outrigger property, what mitigation actions will Outrigger make to address this?

IN ANY SUCH EVENT OUTRIGGER WILL TAKE WHATEVER ACTIONS ARE APPROPRIATE AND PERMISSIBLE TO PROTECT ITS PROPERTY AND OCCUPANTS, BUT IS NOT ABLE TO ANSWER THIS QUESTION WITH ANY SPECIFICITY AT PRESENT.

Will Outrigger agree to indemnify the State and City and County for any mitigation costs created by Outrigger's new proposed buildings?

OUTRIGGER IS NOT WILLING TO MAKE ANY SUCH COMMITMENT AT PRESENT.

i. Please explain how granting shoreline exemptions to build a pool and restaurant will "*reduce existing non-conformities at the project site*" as stated by the Outrigger in its SEISNP (Section 2.1, page 16)?

THE PROJECT IMPROVEMENTS IN THE SHORELINE SETBACK ARE SUBSTANTIALLY MORE LIMITED IN SCOPE THAN THE EXISTING IMPROVEMENTS.

Once Outrigger demolishes the existing non-conforming structures, won't any new structures built within the shoreline setback area constitute entirely new non-conforming structures?

OUTRIGGER DOES NOT INTEND TO DEMOLISH ALL EXISTING NONCONFORMING STRUCTURES.

Will the new structures require a new variance?

OUTRIGGER DOES NOT YET KNOW WHAT SPECIFIC NEW STRUCTURES WILL BE SUBJECT TO WHAT SPECIFIC REQUIREMENTS INCLUDING VARIANCES.

Does Outrigger believe that a single fee holder of the land and building would be better suited to address Acts of Nature that may threaten life and property rather and changing topographical situations than a condominium Association of Owners or a Timeshare entity?

OUTRIGGER CANNOT ADDRESS THIS HYPOTHETICAL QUESTION WITH ANY SPECIFICITY AS IT DEPENDS ON VARIOUS FACTORS, BUT DOES BELIEVE THAT WITH RESPECT TO THIS PROPERTY AND PROJECT OUTRIGGER AS THE SINGLE FEE OWNER IS WELL SUITED TO ADDRESS SUCH CIRCUMSTANCES.

10. Parking

a. Does the Outrigger Reef currently comply with hotel land use requirement of providing one parking stall for every four hotel rooms plus parking for commercial uses?

YES.

b. How many parking stalls does Outrigger currently provide on-site for its 635 hotel rooms?

152 OF STRIPED STALLS WITH SUBSTANTIALLY LARGER CAPACITY UTILIZING VALET SERVICES.

c. How does Outrigger plan to satisfy additional parking stall requirements if a new 100-160 room hotel tower is added to the site?

N/A AS TO THE TOWER; ALL PROJECT PARKING REQUIREMENTS WILL BE MET WITHIN THE FRAMEWORK OF THE PREVIOUSLY APPROVED WAIKIKI BEACH WALK PLANNED DEVELOPMENT-RESORT PERMIT

d. How will Outrigger address the traffic and noise impact of 100-160 more daily visitors with cars?

PROJECT TRAFFIC AND NOISE STUDIES ARE SUMMARIZED IN THE DRAFT SEIS AND PROVIDED IN FULL IN THE APPENDICES TO THE DRAFT SEIS.

i. What will be the traffic impact to the neighboring hotels and businesses with 100-160 more visitors with cars?

SAME.

ii. Does Outrigger intend to mitigate any such impacts?

SAME.

e. Will the proposed underground parking lot be up to date and compliant with flood management rules and regulations?

YES

What is the risk of damage to cars in the lot from flood events, hurricanes and tsunamis?

LESS THAN AT PRESENT AS SUBSTANTIAL SEAWARD PARKING STALLS ARE BEING REMOVED AND THE SUBGRADE AND ABOVEGRADE STRUCTURE ARE BEING SUBSTANTIALLY IMPROVED.

11. Improved pool deck and recreation area

a. Outrigger states “water features and landscaping elements will be integrated throughout this space to fit with the surrounding character of the hotel site and beach area” (SEISNP, section 2.1, page 16):

i. Will the new pool, restaurant and landscaping area be open to the public?

THESE AREAS WILL BE SUBJECT TO THE SAME CONDITIONS ON PUBLIC USE AS APPLY TO OTHER COMPARABLE AREAS OF THE PROPERTY.

ii. How will these interior design features touted in the SEISNP benefit the public or contribute to the Hawaiian sense of place if not viewable or accessible from the ground floor beach or public sidewalk?

MOST OF THE CITED FEATURES WILL BE VIEWABLE OR, SUBJECT TO THE CONDITIONS DESCRIBED ABOVE, ACCESSIBLE FROM THE GROUND FLOOR BEACH OR PUBLIC SIDEWALK. THOSE FEATURES WHICH ARE NOT SO VIEWABLE OR ACCESSIBLE WILL ALSO BENEFIT THE PUBLIC AND CONTRIBUTE TO THE HAWAIIAN SENSE OF PLACE GIVEN THE LARGE INCREASE IN CENTRAL PROPERTY OPEN SPACE ACHIEVED BY DEMOLITION OF THE CURRENT BEACHFRONT DIAMOND HEAD TOWER AND OTHER PROJECT DESIGN ELEMENTS.

iii. Will the proposed beachfront space be private restaurant dining space or open landscaping?

BOTH.

iv. If beachgoers were to look mauka towards the site, will they see diners in a restaurant dining area, or open landscaping?

BOTH.

12. Please provide details on other alternatives plans for the site that are not described in the September 2014 SEISPN, including but not limited to an alternative which demolishes non-conforming structures and does not replace them with new non-conforming structures; and an alternative that involves a shorter tower with fewer units.

NO SUCH DETAILS ARE AVAILABLE AS SUCH ALTERNATIVE PLANS ARE NOT FINANCIALLY FEASIBLE AND WERE NOT PURSUED.

13. Socio-economic Conditions:

a. What will be the net gain in full time or full time equivalent employees from this proposed project?

OUTRIGGER'S PRESENT ESTIMATE IS A NET GAIN OF 83 SUCH EMPLOYEES.

b. Will the project cause a net loss of employees in any one or more department?

UNDER OUTRIGGER'S PRESENT ESTIMATE, NO.

c. Will employees at the new hotel tower and restaurant be paid comparably to other Outrigger employees?

YES.

If so, what are anticipated wages and benefits these new employees would receive?

OUTRIGGER CONSIDERS THAT CURRENT AND PROJECTED WAGES AND BENEFITS FOR ITS CURRENT AND FUTURE EMPLOYEES ARE CONFIDENTIAL AND PROPRIETARY.

14. How will Outrigger address the issue of civil defense response to natural and man made disaster in light of the increase in cars and visitors in the space-constrained Kalia Road area?

OUTRIGGER MAINTAINS EMERGENCY PLANS IN SUCH CIRCUMSTANCES FOR THE OUTRIGGER REEF WAIKIKI BEACH RESORT SPECIFICALLY AND FOR OUTRIGGER WAIKIKI PROPERTIES GENERALLY, BOTH AS OUTRIGGER PROPERTIES AND IN CONJUNCTION WITH OTHER WAIKIKI PROPERTIES AND OTHER GOVERNMENT AND COMMUNITY MEMBERS AS PART OF A WAIKIKI-WIDE RESPONSE, ALONG WITH A REGULAR TRAINING PROGRAM FOR ITS EMPLOYEES. OUTRIGGER WILL ADJUST THESE PLANS AND ITS EMPLOYEE

TRAINING AND OTHER PREPARATION EFFORTS IF AND AS ADVISED GIVEN CAR AND VISITOR INCREASES ATTRIBUTABLE TO THE PROJECT.

November 10, 2014

Department of Planning and Permitting
City and County of Honolulu
650 South King Street, 7th Floor
Honolulu, HI 96813
Attn: Elizabeth Krueger

Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, HI 96813

Group 70 International, Inc.
Attn: Christine Ruotola, AICP
925 Bethel Street, 5th Floor
Honolulu, HI 96813

Re: Supplemental Environmental Impact Statement Preparation Notice – Waikiki Beach Walk Outrigger Reef Waikiki Beach Resort

Thank you for including the Waikiki Neighborhood Board in the review process for the above-referenced project. Following are comments on the SEISPN. We hope our concerns will be addressed in the Draft SEIS.

The Waikiki Neighborhood Board supports developments that are comprehensively sustainable, functionally efficient, culturally appropriate, contextually sensitive and add to the increasingly rich pedestrian experience in our neighborhood. Please analyze the project's environmental impacts through the lens of these community values, and within the context of HRS Chapter 343.

A Shoreline Setback Variance, a Zoning Variance and a PD-R Major Modification are being pursued. As with any request for dispensation or relief from standard development criteria, please provide a robust justification for the need to vary from these standards and/or the benefit the public gains by granting you relief from these standards.

Based on the notional design, the proposed new tower, unlike all of its immediately surrounding neighbors, has a 'Ewa-Diamond Head orientation. This orientation does not comply with Waikiki Special District design criteria to have buildings constructed in a mauka-makai orientation. Compliance with Waikiki design guidelines has increasingly become a sensitive issue in Waikiki. Please ensure the SEIS fully addresses compliance with all applicable Waikiki design criteria.

Again, thank you for engaging with the Waikiki Neighborhood Board in this process. We look forward to publication of the Draft SEIS in the coming months.

Sincerely,

Jeff Merz AICP, LEED AP
Waikiki Neighborhood Board
Development Review

GROUP 70 INTERNATIONAL

PRINCIPALS

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OF COUNSEL

Ralph E. Portmore FAICP

June 7, 2016

Mr. Jeffrey Merz, AICP, LEED AP
Development Review
Waikīkī Neighborhood Board
jeffmerz@rocketmail.com

Subject: Supplemental Environmental Impact Statement Preparation Notice for Chapter 343, HRS Environmental Assessment
Outrigger Reef Waikīkī Beach Resort
TMK: (1) 2-6-002: 027
(1) 2-6-003: 001, 060, 061
(1) 2-6-004: 010
(Waikīkī, O'ahu, Hawai'i)

Dear Mr. Merz:

Thank you for your comment letter dated October 22, 2014 concerning the Supplemental Environmental Impact Statement Preparation Notice (SEISPN) for the Outrigger Reef Waikīkī Beach Resort (Outrigger Reef) project. Since the publication of the SEISPN, Outrigger has updated the project design to better fit its current overall planning for the site. The proposed project will no longer include the new hotel tower and will instead provide 60 new hotel units connecting the existing Pacific and Ocean Towers. Other improvements noted in the SEISPN will continue to be provided. The Draft Supplemental Environmental Impact Statement (DSEIS) will provide an assessment of this updated project program.

The following responses are provided to your comments on the SEISPN:

The proposed Outrigger Reef project is the final phase of the Waikīkī Beach Walk project. Today, Waikīkī Beach Walk is a vibrant gathering place, a showcase for Hawaiian music, and a destination of choice for visitors and Hawai'i residents. To carry on this success, Outrigger plans to improve the existing Outrigger Reef to provide visitors with improved and expanded hotel room accommodations, conferencing options, and a new resort pool and recreation area and lawn. The project will have a design that is comprehensively sustainable, functionally efficient, culturally appropriate, contextually sensitive and will add to the existing rich pedestrian experience provided by the Waikīkī Beach Walk development.

The Draft SEIS provides a detailed examination of potential environmental impacts relating to the project and meets the requirements of Hawaii Revised Statutes, Chapter 343.

The project will require approval of a Shoreline Setback Variance, Special Management Area Minor Modification, and PD-R Minor Modification. An analysis of the project design, need and compliance with criteria established is provided in Chapter 2 and 5 of the Draft SEIS.

As noted above, the proposed project no longer includes a new 350 foot tower located on the Kālia edge of the property. Instead, the project will provide 60 new hotel units that will connect the existing Pacific and Ocean Towers. The new tower connection will be oriented in the ʻEwa-Diamond Head direction similar to the Pacific and Ocean Tower. The new tower connection will not impact any *Significant Public Views* as defined in the WSD Guidelines. Section 4.11 of the Draft SEIS will provide a visual examination of the project from public viewpoints near the site.

We will provide you with a copy of the Draft SEIS for your review. We appreciate your participation in the environmental review process. Please contact us if you have any questions or require additional information.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

APPENDIX B

Outrigger Reef on the Beach Hotel Revitalization: Economic Impacts

John M. Knox & Associates

March 2016

JOHN M. KNOX & ASSOCIATES, INC.

OUTRIGGER REEF ON THE BEACH HOTEL REVITALIZATION:

ECONOMIC IMPACTS

March 8, 2016

Prepared for:
Outrigger Enterprises Group
and
Group 70 International, Inc.

Prepared by:
John M. Knox & Associates, Inc.

1001 Bishop St., Suite 1542 ▪ Honolulu, HI 96813 USA ▪ Phone (808) 523-1352 ▪ Fax (808) 523-1353
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SUMMARY

Nature of Project and Purpose of Study

This study estimates economic (and population) impacts of the proposed revitalization of the Outrigger Reef Waikīkī Beach Resort. It is intended to be summarized in the Supplemental Environmental Impact Statement for the project.

For economic impact purposes, key features of the Proposed Action include:

- Development of additional meeting facilities, increasing the hotel's ability to attract higher-spending conference and corporate-meeting business visitors.
- A net additional 39 rooms, following (a) demolition of the Diamond Head Tower; (b) repurposing space taken by some existing visitor units elsewhere (for uses such as a wedding chapel, spa, fitness room, and more open-air lobby area); and (c) construction of a 60-unit additional hotel structure connecting the existing Ocean and Pacific Towers).

Approach to Analysis

As with any economic impact analysis, an "economic impact" represents the difference between results for estimated future outcomes under a "*With-Project Scenario*" (i.e., approval of the proposed project) and for future outcomes under an "*Alternative-Action Scenario*" – in this case, continuation of the hotel under its current configuration, which Outrigger Enterprises projects would gradually reduce the property's competitiveness and result in somewhat lowered occupancies and overall visitor spending.

Impacts are separately estimated for (a) Construction, and (b) Operational phases, with government fiscal cost-revenue outcomes affected by both phases. Dollar results are given in terms of constant dollar values for 2016.

Most results are calculated using the State of Hawaii's official Input-Output (I-O) Model (2007 version). The I-O Model keys off (a) construction expenditures in the Hawai'i economy, and (b) direct visitor spending (overall, not just at the hotel). It generates both "Direct" results from initial expenditures and also "Total" results, including multiplier effects as money ripples through the economy. This summary focuses on Total results.

Results: Construction Phase

Summary Table A below shows study "impact" results. As the Alternative-Action Scenario for construction involves zero expenditure, all impacts come entirely from project construction. The "Job-Years" figures sum total estimated jobs over the 25-

month construction period (including demolition of the existing Diamond Head Tower), projected to extend from June 1, 2018 through June 30, 2020.

Summary Table A: Construction Phase Total Economic Impacts

Cumulative Construction Impacts	Impacts
Total Economic Activity (2016 $Millions)[1]	$196.3
Total Household Earnings (2016 $Millions)	$61.5
Total Jobs (Job-Years) Supported[2]	1,486
Associated Resident Pop. Supported[2,3]	2,338

[1] "Totals" in this table include direct + indirect/induced "ripple effects" statewide (with vast majority on O'ahu)
[2] "Supported" jobs (full- and part-time) and associated resident population could be either new or existing but maintained by project
[3] "Person-years" of population supported over 25-month period

Results: Operational Phase

Some operational phase impacts are briefly negative during the construction period, when lower occupancies are expected, but turn strongly positive after the project is complete and has achieved stabilized operations. The following numbers reflect not only increased benefits under the "With-Project Scenario," but also eroding benefits under the "Alternative-Action Scenario." Impacts will vary by year due to anticipated ongoing declines in occupancy and visitor spending under the "Alternative-Action Scenario." The table below shows two sample years (2022, when occupancy is assumed to stabilize after completion of the construction phase, and 2029, representing the end of a 12-year study period for this analysis) – and, for dollar measures, cumulative results.

Summary Table B: Operational Phase Total Economic Impacts

Average Annual Operational Effects	Impacts 2022	Impacts 2029	Cumulative Impacts, 2018 - 29
Total Economic Activity (2016 $Millions)[1]	$59.1	$97.9	$437.0
Total Household Earnings (2016 $Millions)	$17.9	$29.1	$133.6
Total Jobs (Full-/Part-Time) Supported[2]	568	1,045	
Associated Resident Pop. Supported[2]	948	1,745	
Avg. Daily Visitor Population Increase	127	216	

[1] "Totals" in this table include direct + indirect/induced "ripple effects" statewide (with vast majority on O'ahu)
[2] "Supported" jobs (full- and part-time) and associated resident population could be either new or existing but maintained by project

These figures are based only on visitor spending during actual stays of Outrigger guests on O'ahu. A certain proportion of these guests will also visit Neighbor Islands before or after their O'ahu stays, and these potential additional benefits are also measured and reported in the study. The figures above are thus conservative. Even expenditures

made on O'ahu generate some "ripple effects" to Neighbor Islands, but about 95% of all figures in Summary Table B (except visitor population) are captured on O'ahu.

Government Fiscal Cost-Revenue Analysis

Similar to the operational-phase economic impacts, results are briefly negative during the Construction period but turn strongly positive thereafter. Fiscal "impacts" are due both to improved outcomes under the "With-Project Scenario" and avoidance of declining benefits under the "Alternative-Action Scenario."

As shown in Summary Table C, both levels of government would enjoy overall net balances of revenues over costs. The table again shows results for sample years and a 12-year cumulative period, and is conservatively based only on O'ahu visitor spending.

Summary Table C: Government Fiscal Cost-Revenue Net Impacts

Average Annual Net Revenues	Impacts 2022	Impacts 2029	Cumulative Impacts, 2018 - 29
City and County of Honolulu (2016 $Millions)[1]	$1.32	$1.51	$12.92
State of Hawaii (2016 $Millions)	$3.75	$6.18	$39.90

[1] A small portion of City/County revenue is assumed to come from State government return to previous policies on return of Transient Accommodation Taxes to counties, as the current cap will logically have to be re-evaluated as time passes and more TAT funds are generated in future.

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1. INTRODUCTION

This introductory chapter explains or describes (a) study purpose and contents; (b) the proposed action at the Outrigger Reef Waikīkī Beach Resort; and (c) existing site and uses.

1.1 Purpose and Contents

The study examined the economic impacts of the proposed action (below), intended as an appendix for a Supplemental Environmental Impact Study (SEIS) being prepared by Group 70, International, and to be summarized in that SEIS.

Following this chapter, remaining chapters reflect the scope of the engagement:

- Chapter 2 is about methodology and overall analytic logic.
- Chapter 3 specifies impacts from the Construction phase.
- Chapter 4 describes impacts of the Operational phase.
- Chapter 5 sets forth Population impacts.
- Chapter 6 analyzes fiscal cost-revenue impacts for local governments.

1.2 Proposed Action

Outrigger Enterprises Group proposes to redevelop and improve its existing Outrigger Reef Waikīkī Beach Resort property. The plans include demolition of the existing five-story Diamond Head Tower on the beach – currently comprised of meeting facilities and various retail, office, commercial uses, but no visitor units – along with improvements to the property's existing arrival areas (*porte-cochère*), lobby, pool deck, and recreation areas, as well as circulation and parking. An expansive lawn to the beach area will replace much of the Diamond Head Tower footprint. These various amenities will maintain and enhance the property's appeal to its upscale market.

The revitalized property will add approximately 7,500 square feet of new meeting facilities below the pool deck, attracting new business visitors. Sixty (60) additional hotel units will also be provided connecting the existing Pacific and Ocean Towers, although the net additional visitor unit count will be just 39 as the plans also call for repurposing space taken by some existing visitor units elsewhere (for uses such as a wedding chapel, spa, fitness room, and more open-air lobby area).

(An assumed alternative scenario without the proposed project will be described in Chapter 2, Section 2.2.)

1.3 Existing Site Uses and Conditions

The existing Outrigger Reef Waikīkī Beach Resort Property (TMK 2-6-004:010) consists of three towers, including two hotel towers offering 635 rooms (Pacific and Ocean Towers), as well as a five-story tower (Diamond Head) housing a restaurant, limited meeting space, a spa, some administrative and sales offices, and no current visitor units. A swimming pool, a fitness center, demonstration areas for cultural and recreational activities, some retail, including boutiques and gift/specialty shops and four dining areas, are also located on the 2.5 acre property.

The Outrigger Reef Waikīkī Beach Resort is located directly on the beach in Waikīkī, and bordered by the Pacific Ocean on the southern end of the property, Fort DeRussy Beach Park to the west, the Halekūlani Hotel to the east, and Kalia Road on the northern boundary. Outrigger Enterprises Group completed major upgrades and renovations to the property in 2009 when more than $110 million went into revamping all existing rooms, as well as improvements to existing facilities, lobby, and meeting spaces as part of the approved improvements for the multi-property Waikīkī Beach Walk revitalization project. These new proposed additional improvements are envisioned to be the next substantial addition to the full revitalization of Waikīkī Beach Walk.

2. FRAMEWORK AND METHODS FOR ANALYSIS

This chapter provides critical conceptual information about:

- Key principles of economic impact analysis and the logic/methods used in this study;
- Overview of assumptions about what would happen if the project is not approved;
- The Hawai'i Input-Output Model, the basis for most estimated impacts in the study.

2.1 Principles and Approach

Several key principles underlie the approach used in, and/or proper interpretation of, this study:

- **Economic Impact Analyses Are Approximations:** Because inputs and outputs of the analysis appear precise, it is always useful to recall that economic impact results for specific projects are in fact approximate estimates. These estimates are a product of assumptions that are intended to reflect best available knowledge at the time of writing – but local and global economic conditions are constantly changing; government tax policies shift over time; other economic activities may affect whether sales projections and multiplier effects operate as assumed; etc.

- **"Impacts" Are Differences Between Two Probable Future Scenarios:** The "With-Project" Scenario first asks: What are the likely economic conditions if the proposed project is developed? What is usually called the "Alternative-Action Scenario" (though sometimes called the "No-Action Scenario") then asks: What are the likely economic conditions if the proposed project is not developed? Economic impacts are the differences between these two scenarios.

- **Economic Impact Analysis Normally Attempts to Be Conservative:** It is better to err on the side of understating economic benefits than overstating them. However, because impacts are the differences between the With-Project and the Alternative-Action Scenarios, that means it is better to be optimistic (albeit still realistic) about the Alternative-Action Scenario, as those conditions get subtracted in order to calculate final impacts.

- **Economic Impacts Occur in Two Different Phases – Construction and Operations:** "Construction" in this case primarily means revitalizing the central core of the property, including the proposed new structure and additional meeting facilities (as well as some limited demolition of existing structures), at least for the With-Project Scenario. "Operations" refers to expanded 674-unit hotel operations following construction (for the With-Project Scenario), or to ongoing operations of the current 635-unit hotel (for the Alternative-Action Scenario).

2.2 Alternative-Action Scenario

For physical environmental impacts, it usually makes sense to assume that conditions for the Alternative-Action (or "No-Action") Scenario simply involve a continuation of current conditions. But for socio-economic assessment, the Alternative-Action future requires consideration of potential changes from (1) external economic factors; and (2) internal factors such as alternative economic activities or repairs on the site by the landowner.

Figure 2.1: Conceptual Graph, Alternative-Action Scenario and "Impact"

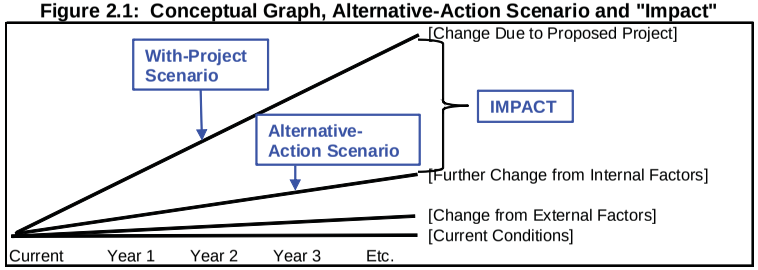

Figure 2.1 shows that defining the Alternative-Action Scenario to include these two types of change results in a more conservative (smaller) estimation of "impact" than if the Alternative-Action Scenario were equated with continuation of current conditions. The figure also helps to understand why more optimistic assumptions about the Alternative-Action Scenario are in fact "conservative" in terms of impact – the more the line for the Alternative-Action Scenario is raised, the closer it is to the With-Project Scenario line and the smaller the Impact difference.

2.2.1 Change from External Factors

Totally independent of whatever happens on the property, economic conditions in the future will likely generate somewhat different economic outcomes from operations at the Outrigger Reef Waikīkī Beach Resort. Economic cycles are typically the largest factor – though it is difficult to predict their timing much in advance and so average occupancies and expenditures are held roughly constant over future time in this study.

It is also prudent and analytically conservative to note that factors such as exchange rates, competition from other destinations, and of course economic downturns may slightly dampen average future occupancy for any O'ahu hotel.

2.2.2 Internal Changes and Definition of the Alternative-Action Scenario

In some cases, a property may be planning changes in economic activities – e.g., new on-site restaurants or other amenities – that would make the future different from the present under either the With-Project or the Alternative-Action Scenario. That is not the case in this situation, but it is still appropriate at this point to define and specify what the Alternative-Action Scenario means for this study.

The presumed Alternative-Action Scenario for this analysis is continuation of present operations with the present number of hotel units and same configuration of amenities (e.g., same amount of meeting space), but with certain long-term implications from continuation of an aging and un-revitalized commercial property:

- **Increased need for renovation/repairs** – Given recent investments, Outrigger Enterprises would not assume any additional expenditure above and beyond normal maintenance and repair during the timeframe for this analysis, which extends to 2029. In a longer timeframe, though, without the proposed revitalization the hotel would eventually need significant renovations sooner than with the proposed action.

- **Reduced room rates and overall spending by guests** – The Outrigger Reef Waikīkī Beach Resort is a premium hotel property now attracting higher-spending visitors. Lack of revitalization – even with some renovations and repairs – would gradually affect its competitive position.

  One implication of this would be lower rates and reduced ability to attract visitors who spend as much overall (off-site as well as on-site). For the immediate future, such a trend would not be sharp or devastating, but it is a logical consequence and would be real. (Note: Room rates per se are not a variable in this analysis, but are indirectly represented through presumed effects on overall spending.)

- **Reduced occupancies** – Again, a reduced competitive status through inaction can eventually result in lower occupancy, though it is both realistic and conservative to assume only modest occupancy drops for the foreseeable future. Under the With-Project Scenario, Outrigger Enterprises projects the average annual stable occupancy for the expanded hotel to be 88%; under the Alternative-Action Scenario, the assumption is a gradual decline to 75% by 2029.

Specific numbers for all Alternative-Action Scenario key inputs to the analysis, as well as those for the With-Project Scenario, are subsequently provided in Chapter 4, Section 4.1.

2.3 The State of Hawai‘i Input-Output Model

The basis for the great majority[1] of this analysis is the State of Hawai‘i's official Input-Output (I-O) Model, created and regularly updated by the Research and Economic Analysis Division (READ) of the Hawai‘i State Dept. of Business, Economic Development, & Tourism (DBEDT). It largely reflects information from the U.S. Economic Census conducted twice a decade (in years ending in "2" and "7"). However, it takes several years after the Economic Census is completed for the U.S. government to publish the data and then more time for DBEDT to use it to update the I-O model.

The most recent version of the I-O Model was largely completed in July 2011, using the 2007 Economic Census numbers. (A new I-O Model, based on 2012 Economic Census data, is targeted for release later this year – results with new multipliers would obviously differ, but we would not expect that difference to be dramatic.) JMK Associates has consulted with READ economists about proper application of I-O multipliers and procedures, including a variation on the Model's job multiplier approach to be described shortly.

Any input-output model tracks differential effects of expenditures according to the economic sector or industry in which the spending takes place. The Hawai‘i I-O Model actually has several variants, depending on *where* in the state that initial sector-specific spending takes place and at what geographical level (statewide or county) the effects are to be measured. This study employed two I-O Model variants:

1. The "Detailed Inter-County Model,"[2] which generates *statewide* results from expenditures in particular counties (in this case, primarily from expenditures on O‘ahu – i.e., the City and County of Honolulu – though some ancillary visitor spending in the other three major counties will also be included).

2. The "Honolulu County Model," which generates *O‘ahu-specific* results from expenditures made on O‘ahu.

The primary emphasis in this report will be on statewide results, with O‘ahu-specific results mostly reported just as percentages of the statewide totals. However, some O‘ahu-specific results are used to estimate tax revenues generated for the City and County of Honolulu.

2.3.1 Types of Economic Results from the Hawai‘i I-O Model

The I-O Model generates multipliers for various industries that can be used to estimate ***(1) output*** (sales, in dollars); ***(2) earnings*** (household income, in dollars); ***(3) jobs*** (total

[1] Aspects of the analysis independent of the I-O Model are (1) on-site employment (information from Outrigger); (2) City tax revenues (the I-O Model has State tax multipliers but not county ones); and (3) government cost considerations, which are not part of the Model. All other parts of this study are based on the I-O Model and its implicit or explicit multipliers, with modifications as described in this section.
[2] Available online at http://dbedt.hawaii.gov/economic/reports_studies/2007-inter-county-io/. The Honolulu County Model was separately transmitted by DBEDT to JMK Associates in June 2014.

jobcount, full- and part-time); and ***(4) State taxes*** (all types combined) – all four of these at two separate levels:

(a) Direct – stemming from initial round of expenditures, which in this case would mean construction expenditures and/or spending by new visitors; and

(b) Total – statewide impacts including the multiplier or "ripple" effects of spending (which economists call "indirect and induced effects"). These occur as dollars circulate or "ripple" through the economy in two different ways – from businesses buying from other businesses ("indirect") and from employees spending their wages/salaries ("induced") in the local economy.

2.3.2 Cautions and Caveats

Certain aspects of the I-O Model and its multipliers are critical for an understanding of this study or any other that relies on the Hawai'i I-O Model:

- The Model is based on historical data (in this case, year 2007) about the overall average interactions of output/earnings/jobs among various industrial sectors in the Hawai'i economy. Individual situations and projects can always deviate from these average conditions, but averages provide the best possible basis for estimating impacts in the absence of complete and perfect knowledge about how dollars flow through the economy for a specific project. However, it should be noted that "Visitor Expenditure" multipliers in the Model do reflect *average* visitors and may well under-estimate effects for higher-spending visitors at this Outrigger property.

- Because the I-O Model was primarily created to reflect the workings of the *overall economy*, its application to *specific projects* calls for certain cautions. The most important of these for the current study is discussed in the bullet point immediately below. But it may also be noted that I-O Model results for specific projects may not be perfectly valid under conditions when available labor is highly limited (i.e., very low unemployment rates and worker disinterest in multiple job-holding) and when barriers to in-migration such as lack of affordable housing restrict growth in the labor force. Those "economic-boom" conditions do not currently exist in Hawai'i, but when they do the immediate results of new economic activity may be as much or more about bidding up of wages as the outcomes predicted by the I-O Model.

- Whenever a new economic activity is introduced, a critical question is *whether totally new dollars are attracted to the economy or whether the new activity is simply taking market share from (or otherwise substituting for) existing activities.* By convention in Hawai'i EISs, Construction phase expenditures are almost always assumed to be "new dollars" injected into the economy – i.e., these particular construction expenditures are presumed <u>not</u> to take place without this particular project.

  The situation can be less clear for the Operational phase. Does a new hotel always lead to an increased visitor count, or (if overall market demand is not expanding)

  does it mean fewer visitors at some other hotel(s) with no net gain in the economy? And should availability of new lodging units alone receive the credit for an expanding visitor market, or are they just part of Hawai'i's overall "package" of attractions and transportation (airline seats, natural resources, retail and restaurant outlets, entertainment, activities, etc.)?

  These questions have never been, and possibly cannot be, definitively answered. Again by convention, and by convention alone, new hotel units have been assumed to attract (or accommodate demand for) entirely new visitors who would not have come to Hawai'i anyway – whereas new retail, visitor activities, etc. are typically interpreted as support activities for visitors coming anyway. This study will follow the established Hawai'i EIS practice by assuming additional hotel units at the Outrigger Reef Waikīkī Beach Resort will be filled by visitors who would not come to Hawai'i otherwise, and that the new meeting facilities will have the further effect of attracting some higher-spending "Corporate Meeting" attendees who would not be in Hawai'i otherwise.

- However, it must still be remembered I-O multiplier results do not always mean "growth." A general principle is that I-O results, particularly at the Total but sometimes also at the Direct level, should always be interpreted as "*new or maintained*" economic benefits.

  As an example: A proposed new hotel or similar visitor attraction catering to a new market, perhaps China, is intended to attract new visitors above and beyond those already coming to Hawai'i. At the time of the proposal, the Hawai'i economy appears to be stable or growing, and so the hotel jobs and output are assumed to be a net increase, hence "new." However, when the hotel is actually built, visitor counts from some existing market – or perhaps economic activity in some other sector, such as defense or agriculture – turn out to be dropping. In that case, the "new" project is actually *maintaining* existing economic benefits, on a net basis.

  Thus, because of the difficulties in predicting what else will be occurring in the economy in the future, it is generally best to say a new project will result in "new or maintained benefits."

2.3.3 Estimating Jobcounts

I-O multipliers for output, earnings, and State taxes are constant over time, but job multipliers vary by year because of assumed changes in labor productivity – that is, employers learn to use technology or other efficiencies to get the same work done with fewer employees. In that case, a constant $1 million in expenditures would produce *fewer* jobs per year over time. Or in certain sectors the trend reflected by the I-O multipliers may be the opposite – for various reasons, a constant $1 million in expenditures would produce *more* jobs per year over time. The rate of change for job multipliers in the Hawai'i I-O table is a constant percentage that may be called the "productivity factor" or "deflator."[3]

[3] Technically, the "productivity factor" is 100% minus the labor "deflator" for that industry. If the deflator is 5%, the productivity factor is 95% – e.g., an estimated jobcount of 100 in 2020 would drop to 95 in 2021.

In order to apply job multipliers correctly, direct output figures must be in inflated "current" dollars, which requires an assumed future inflation rate. (Most often, the average historical rate of change for the Honolulu Consumer Price Index, or CPI, is used, but this is not necessarily the only approach.)

The mathematics of the I-O labor productivity calculations boil down to this: If assumed inflation rate over time is *more than* the labor deflator, estimated jobcounts will *increase* over time for a constant level of direct output. If assumed inflation rate is *less than* the labor deflator, jobs will *decrease* over time for a constant level of direct output – e.g., fewer jobs per year over time for the same level of visitor expenditures in the economy.

The latter case is more typical for Hawai'i I-O job multipliers when the assumed inflation rate is equivalent to historic averages. For example, the average annual change in the Honolulu CPI from 1998 to 2013 is 2.683%, whereas the labor deflator for Construction (of buildings on O'ahu) in the current I-O model is a much larger 5.623% and the deflator for Visitor Expenditures is a somewhat larger 2.898%. Thus, the standard I-O multipliers critical for this study normally produce shrinking job estimates over time.

In theory, such job shrinkage is totally consistent with the basic idea of "increasing labor productivity" and is also consistent with historical data showing that hotel jobs per unit or per visitor dollar have been declining over time. However, the *extent* of the decline in the I-O Model is sometimes problematic. For example, use of published I-O job multipliers (projected into the future using the 5.623% deflator) for Construction jobcount would generate a job estimate for the late 2030s of just half the number that would be estimated for 2013. This rate of reduction seems intuitively to be too rapid.

JMK Associates has had several discussions about this topic with DBEDT/READ economists and for this project received the following advice/instructions from the developers of the Hawai'i I-O Model, at least until a new Model comes out next year:

1. The 2007 I-O Model actually contains published job multipliers only through the year 2017, and DBEDT normally prefers the multipliers be applied only till that date. However, economists there believe the I-O Model is overall the best approach for estimating economic impacts in Hawai'i and recognize it is often appropriate to make forecasts beyond 2017, in which case a different approach may be needed.

2. The DBEDT-recommended approach has two components:

   - Instead of using a general future inflation assumption based on the overall Honolulu CPI, calculate a *sector-specific* inflation rate. This can be done by using data from the U.S. Bureau of Economic Analysis (BEA)[4] to divide Nominal Gross Domestic Product (current-dollar GDP) output for a particular industry by Real (constant-dollar) GDP output for a given economic sector each year for a period of time, and then calculate the average annual change.

[4] See http://www.bea.gov/regional/index.htm.

JMK Associates followed this procedure using published BEA data for the years 1998 to 2013 (or 2014 where possible in this updated 2015 report), generally calculating the average annual change from the 1998 Nominal/Real figure to the 2013 or 2014 figure. Upon DBEDT advice, though, the Construction-specific inflation figure was calculated based on the average annual change from *2006* to 2014. That is because Construction is an industry that is atypically sensitive to business cycles, and so it is good to start the calculation at the bottom point of the most recent cycle. For Construction in Hawai'i, this was 2006 (as measured by Real GDP per job, the statistic ultimately most important for jobcount multipliers).

Additionally, for the "Visitor Expenditure" (VE) sector, purchases are made throughout the economy and so the appropriate inflation rate remains the historical average of the Honolulu CPI for those particular variables.

- Similarly, instead of using the published I-O Model job multipliers for all years, begin with the published 2007 base point and apply a deflator/productivity factor calculated from BEA-derived data on *sector-specific* Real GDP per job.[5] Again, the recommended approach was to estimate the average annual change from 1998 to 2013 (2014 when possible), but from 2006 to 2014 for Construction only.

  JMK Associates has followed DBEDT's advice and guidance in this regard as well – though we will note in passing that this procedure generates a low construction-specific inflation rate (at variance with recent industry cost reports) and a consequent conservative influence on jobs estimates for the 2020s. Overall, though, using the available recent BEA data, the calculated sector-specific inflation rates for all industries used in this study were generally *greater* than the calculated sector-specific deflators, which is the opposite of the situation that would normally prevail with published deflators.

2.3.4 Specific I-O Multipliers and Related Standard Inputs Used in This Analysis

In the following pages, Table 2.1 through Table 2.4 show I-O multipliers used to derive both statewide results from the Inter-County Model and also O'ahu-specific results from the County Model for the Construction phase analysis. Table 2.5 through Table 2.8 provide similar information on multipliers for the Operational phase analysis.

Table 2.6 also includes standard inputs for calculating the portions of General Excise Tax (GET) and Transient Accommodations Tax (TAT) on lodging bills returned to the City and County of Honolulu. The TAT figures deviate somewhat from the rule of "conservative assumptions," because they reflect TAT procedures prior to a change made by the 2013 Legislature that capped overall TAT payments to all counties combined at $93 million – meaning new visitors do not *necessarily* mean more TAT dollars for counties. Any cap with a specific dollar figure must eventually be re-examined as inflation shrinks the value of that figure. Without knowledge of possible future cap values, we assume restoration of the previous system.

[5] *Ibid.*

Table 2.1: Inter-County and County Construction Ratios – Direct Output, Earnings, State Taxes

	Direct Output		Direct Earnings		Direct State Tax Revenues	
	State	O'ahu	State	O'ahu	State	O'ahu
Sectors for Construction Analysis						
Construction of "other" (non-resid'l) buildings (OS-14)	1.000	1.000	0.297	0.297	0.069	0.069
Heavy and civil engineering construction (OS-15)	1.000	1.000	0.297	0.297	0.016	0.016
Other finance and insurance (OS-41)	1.000	1.000	0.424	0.424	0.035	0.035
Architectural and engineering services (OS-46)	1.000	1.000	0.595	0.595	0.082	0.082
State and local government (OS-68)	1.000	1.000	0.604	0.604	0.037	0.037

Note: "State" figures come from the Inter-County I-O Model, "O'ahu" figures from the County Model.

Table 2.2: Inter-County and County Construction Multipliers – Total Output, Earnings, State Taxes

	Total Output		Total Earnings		Total State Tax Revenues	
	State	O'ahu	State	O'ahu	State	O'ahu
Sectors for Construction Analysis						
Construction of "other" (non-resid'l) buildings (OS-14)	2.132	2.043	0.628	0.602	0.136	0.132
Heavy and civil engineering construction (OS-15)	2.146	2.054	0.643	0.617	0.083	0.078
Other finance and insurance (OS-41)	2.226	2.134	0.781	0.754	0.103	0.098
Architectural and engineering services (OS-46)	2.033	1.948	0.884	0.859	0.139	0.135
State and local government (OS-68)	2.005	1.917	0.887	0.862	0.091	0.087

Note: "State" figures come from the Inter-County I-O Model, "O'ahu" figures from the County Model.

Table 2.3: Inter-County and County Construction Ratios – Direct Jobcounts

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
State-Level Direct Job Ratios														
Construction of other buildings (OS-14)	*Inflation (BEA, 2006-2014):*				2.4708%		*Productivity Factor:*			100.6611%				
– Job ratios:	4.196	4.224	4.252	4.280	4.308	4.337	4.366	4.394	4.424	4.453	4.482	4.512	4.542	4.572
Heavy and civil engineering construction (OS-15)	*Inflation (BEA, 2006-2014):*				2.4708%		*Productivity Factor:*			100.6611%				
– Job ratios:	9.401	9.463	9.525	9.588	9.652	9.716	9.780	9.845	9.910	9.975	10.041	10.107	10.174	10.242
Other finance and insurance (OS-41)	*Inflation (BEA, 1998-2013):*				1.6117%		*Productivity Factor:*			96.6618%				
– Job ratios:	18.628	18.006	17.405	16.824	16.263	15.720	15.195	14.688	14.197	13.724	13.265	12.823	12.395	11.981
Architectural and engineering services (OS-46)	*Inflation (BEA, 1998-2014):*				2.4867%		*Productivity Factor:*			99.9603%				
– Job ratios:	6.383	6.380	6.377	6.375	6.372	6.370	6.367	6.365	6.362	6.360	6.357	6.355	6.352	6.350
State and local government (OS-68)	*Inflation (BEA, 1998-2013):*				3.5300%		*Productivity Factor:*			98.5084%				
– Job ratios:	14.001	13.792	13.587	13.384	13.184	12.988	12.794	12.603	12.415	12.230	12.048	11.868	11.691	11.517
O'ahu-Level Direct Job Ratios														
Construction of other buildings (OS-14)	4.196	4.224	4.252	4.280	4.308	4.337	4.366	4.394	4.424	4.453	4.482	4.512	4.542	4.572
Heavy and civil engineering construction (OS-15)	9.401	9.463	9.525	9.588	9.652	9.716	9.780	9.845	9.910	9.975	10.041	10.107	10.174	10.242
Other finance and insurance (OS-41)	18.628	18.006	17.405	16.824	16.263	15.720	15.195	14.688	14.197	13.724	13.265	12.823	12.395	11.981
Architectural and engineering services (OS-46)	6.383	6.380	6.377	6.375	6.372	6.370	6.367	6.365	6.362	6.360	6.357	6.355	6.352	6.350
State and local government (OS-68)	14.001	13.792	13.587	13.384	13.184	12.988	12.794	12.603	12.415	12.230	12.048	11.868	11.691	11.517

Note: Inflation and Productivity Factors for O'ahu-Level same as those for State-Level. (The "Productivity Factor" is also known as the "labor deflator.")

Table 2.4: Inter-County and County Construction Multipliers – Total Jobcounts

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
State-Level Total Job Multipliers														
Construction of other buildings (OS-14)	*Inflation (BEA, 2006-2014):*				2.4708%		*Productivity Factor:*			100.6611%				
– Job multipliers:	12.866	12.951	13.037	13.123	13.210	13.297	13.385	13.473	13.562	13.652	13.742	13.833	13.925	14.017
Heavy and civil engineering construction (OS-15)	*Inflation (BEA, 2006-2014):*				2.4708%		*Productivity Factor:*			100.6611%				
– Job multipliers:	18.322	18.443	18.565	18.688	18.812	18.936	19.061	19.187	19.314	19.442	19.570	19.700	19.830	19.961
Other finance and insurance (OS-41)	*Inflation (BEA, 1998-2013):*				1.6117%		*Productivity Factor:*			96.6618%				
– Job multipliers:	28.547	27.594	26.673	25.783	24.922	24.090	23.286	22.509	21.757	21.031	20.329	19.650	18.994	18.360
Architectural and engineering services (OS-46)	*Inflation (BEA, 2006-2014):*				2.4867%		*Productivity Factor:*			99.9603%				
– Job multipliers:	14.463	14.458	14.452	14.446	14.440	14.435	14.429	14.423	14.418	14.412	14.406	14.400	14.395	14.389
State and local government (OS-68)	*Inflation (BEA, 1998-2013):*				3.5300%		*Productivity Factor:*			98.5084%				
– Job multipliers:	21.843	21.518	21.197	20.881	20.569	20.262	19.960	19.662	19.369	19.080	18.796	18.515	18.239	17.967
O'ahu-Level Total Job Multipliers														
Construction of other buildings (OS-14)	12.083	12.163	12.243	12.324	12.405	12.487	12.570	12.653	12.737	12.821	12.906	12.991	13.077	13.163
Heavy and civil engineering construction (OS-15)	17.525	17.641	17.758	17.875	17.993	18.112	18.232	18.352	18.474	18.596	18.719	18.843	18.967	19.093
Other finance and insurance (OS-41)	27.737	26.812	25.917	25.051	24.215	23.407	22.625	21.870	21.140	20.434	19.752	19.093	18.455	17.839
Architectural and engineering services (OS-46)	13.723	13.717	13.712	13.706	13.701	13.696	13.690	13.685	13.679	13.674	13.668	13.663	13.658	13.652
State and local government (OS-68)	21.079	20.765	20.455	20.150	19.849	19.553	19.261	18.974	18.691	18.412	18.138	17.867	17.601	17.338

Note: Inflation and Productivity Factors for O'ahu-Level same as those for State-Level. (The "Productivity Factor" is also known as the "labor deflator.")

Table 2.5: Inter-County and County Operations Ratios – Direct Output, Earnings, State Taxes

	Direct Output		Direct Earnings		Direct State Tax Revenues	
	State	O'ahu	State	O'ahu	State	O'ahu
Sectors for Operations Analysis						
Administrative and support services (O-S52)	1.000	1.000	0.654	0.654	0.088	0.088
O'ahu Visitor Expenditures (O-VE)	1.000	1.000	0.273	0.273	0.073	0.073
Kaua'i Visitor Expenditures (K-VE)	1.000	1.000	0.297	0.297	0.049	0.049
Maui Cty. Visitor Expenditures (M-VE)	1.000	1.000	0.283	0.283	0.052	0.052
Hawai'i Cty. Visitor Expenditures (H-VE)	1.000	1.000	0.293	0.293	0.054	0.054

Note: "State" figures come from the Inter-County I-O Model, "O'ahu" figures from the County Model.

Table 2.6: Inter-County and County Operations Multipliers – Total Output, Earnings, State Taxes

	Total Output		Total Earnings		Total State Tax Revenues	
	State	O'ahu	State	O'ahu	State	O'ahu
Sectors for Operations Analysis						
Administrative and support services (O-S52)	2.198	2.098	0.999	0.970	0.154	0.149
O'ahu Visitor Expenditures (O-VE)	1.836	1.748	0.531	0.506	0.122	0.118
Kaua'i Visitor Expenditures (K-VE)	1.874	1.214	0.535	0.369	0.090	0.062
Maui Cty. Visitor Expenditures (M-VE)	1.881	1.358	0.536	0.403	0.094	0.071
Hawai'i Cty. Visitor Expenditures (H-VE)	1.845	1.311	0.538	0.406	0.094	0.073

Note: "State" figures come from the Inter-County I-O Model, "O'ahu" figures from the County Model.

Additional Assumptions Used to Calculate TAT and GET Returned to City and County of Honolulu:

Pct. Direct Visitor Expenditures for Lodging	42.0%	*2013 Annual Visitor Report*
Effective TAT Rate on Lodging Bill, with GET	8.117%	*9.25% rate, adjusted*
Effective O'ahu TAT Rate (above rate times 44.1% returned to counties, 44.8% of that to O'ahu)	1.604%	*Percentage applied to total lodging to calculate TAT returned to O'ahu)*
Effective O'ahu Share of GET on Lodging	0.459%	*0.5% rate, adjusted*

(TAT and GET rates must be adjusted because both are applied to lodging. The 9.25% TAT rate and 0.5% O'ahu portion of GET both apply to the pre-tax bill. Adjusted rates shown here apply to the total bill, after application of both taxes.)

Note: Various proposals to adjust the GET and/or the TAT are under discussion in the 2016 Legislature, but it is currently unknown which if any of these will be adopted and so the analysis reflects existing laws, assumed to extend through 2029.

Table 2.7: Inter-County and County Operations Ratios – Direct Jobcounts

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
State-Level Direct Job Ratios											
Administrative and support services (O-S52)	*Inflation (BEA, 1998-2014):*				1.6583%		*Productivity Factor:*			97.9493%	
-- Job ratios:	25.368	24.847	24.338	23.839	23.350	22.871	22.402	21.943	21.493	21.052	20.620
O'ahu Visitor Expenditures (O-VE)	*Infl. (Honolulu CPI, 1990-2015):*				2.5657%		*Productivity Factor:*			99.3379%	
-- Job ratios:	8.180	8.126	8.072	8.019	7.966	7.913	7.860	7.808	7.757	7.705	7.654
Kaua'i Visitor Expenditures (K-VE)	*Infl. (Honolulu CPI, 1990-2015):*				2.5657%		*Productivity Factor:*			99.3379%	
-- Job ratios:	9.144	9.084	9.023	8.964	8.904	8.845	8.787	8.729	8.671	8.613	8.556
Maui Cty. Visitor Expenditures (M-VE)	*Infl. (Honolulu CPI, 1990-2015):*				2.5657%		*Productivity Factor:*			99.3379%	
-- Job ratios:	8.150	8.096	8.042	7.989	7.936	7.884	7.831	7.780	7.728	7.677	7.626
Hawai'i Cty. Visitor Expenditures (H-VE)	*Infl. (Honolulu CPI, 1990-2015):*				2.5657%		*Productivity Factor:*			99.3379%	
-- Job ratios:	9.705	9.641	9.577	9.514	9.451	9.388	9.326	9.264	9.203	9.142	9.082
O'ahu-Level Direct Job Ratios											
Administrative and support services (O-S52)	25.368	24.847	24.338	23.839	23.350	22.871	22.402	21.943	21.493	21.052	20.620
O'ahu Visitor Expenditures (O-VE)	8.180	8.126	8.072	8.019	7.966	7.913	7.860	7.808	7.757	7.705	7.654

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
State-Level Direct Job Ratios												
Administrative and support services (O-S52)	20.197	19.783	19.377	18.980	18.591	18.210	17.836	17.470	17.112	16.761	16.417	16.081
O'ahu Visitor Expenditures (O-VE)	7.604	7.553	7.503	7.454	7.404	7.355	7.307	7.258	7.210	7.162	7.115	7.068
Kaua'i Visitor Expenditures (K-VE)	8.500	8.443	8.388	8.332	8.277	8.222	8.168	8.114	8.060	8.006	7.953	7.901
Maui Cty. Visitor Expenditures (M-VE)	7.576	7.525	7.476	7.426	7.377	7.328	7.280	7.231	7.184	7.136	7.089	7.042
Hawai'i Cty. Visitor Expenditures (H-VE)	9.021	8.962	8.902	8.843	8.785	8.727	8.669	8.612	8.555	8.498	8.442	8.386
O'ahu-Level Direct Job Ratios												
Administrative and support services (O-S52)	20.197	19.783	19.377	18.980	18.591	18.210	17.836	17.470	17.112	16.761	16.417	16.081
O'ahu Visitor Expenditures (O-VE)	7.604	7.553	7.503	7.454	7.404	7.355	7.307	7.258	7.210	7.162	7.115	7.068

Note: Inflation and Productivity Factors for O'ahu-Level same as those for State-Level. (The "Productivity Factor" is also known as the "labor deflator.")

Table 2.8: Inter-County and County Operations Multipliers – Total Jobcounts

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
State-Level Total Job Multipliers											
Administrative and support services (O-S52)	*Inflation (BEA, 1998-2014):*				1.6583%		*Productivity Factor:*			97.9493%	
– Job multipliers:	35.322	34.598	33.889	33.194	32.513	31.846	31.193	30.553	29.927	29.313	28.712
O'ahu Visitor Expenditures (O-VE)	*Infl. (Honolulu CPI, 1990-2015):*				2.6834%		*Productivity Factor:*			99.3379%	
– Job multipliers:	15.334	15.233	15.132	15.032	14.932	14.833	14.735	14.638	14.541	14.444	14.349
Kaua'i Visitor Expenditures (K-VE)	*Infl. (Honolulu CPI, 1990-2015):*				2.6834%		*Productivity Factor:*			99.3379%	
– Job multipliers:	16.494	16.385	16.277	16.169	16.062	15.956	15.850	15.745	15.641	15.537	15.434
Maui Cty. Visitor Expenditures (M-VE)	*Infl. (Honolulu CPI, 1990-2015):*				2.6834%		*Productivity Factor:*			99.3379%	
– Job multipliers:	15.785	15.681	15.577	15.474	15.371	15.269	15.168	15.068	14.968	14.869	14.771
Hawai'i Cty. Visitor Expenditures (H-VE)	*Infl. (Honolulu CPI, 1990-2015):*				2.6834%		*Productivity Factor:*			99.3379%	
– Job multipliers:	17.249	17.134	17.021	16.908	16.796	16.685	16.575	16.465	16.356	16.248	16.140
O'ahu-Level Total Job Multipliers											
Administrative and support services (O-S52)	34.442	33.736	33.044	32.366	31.703	31.052	30.416	29.792	29.181	28.582	27.996
O'ahu Visitor Expenditures (O-VE)	14.541	14.445	14.350	14.255	14.160	14.066	13.973	13.881	13.789	13.698	13.607
Kaua'i Visitor Expenditures (K-VE)	11.898	11.819	11.741	11.663	11.586	11.509	11.433	11.357	11.282	11.207	11.133
Maui Cty. Visitor Expenditures (M-VE)	12.107	12.027	11.947	11.868	11.790	11.712	11.634	11.557	11.481	11.405	11.329
Hawai'i Cty. Visitor Expenditures (H-VE)	13.617	13.526	13.437	13.348	13.260	13.172	13.085	12.998	12.912	12.826	12.741

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
State-Level Total Job Multipliers												
Administrative and support services (O-S52)	28.123	27.546	26.982	26.428	25.886	25.355	24.835	24.326	23.827	23.339	22.860	22.391
O'ahu Visitor Expenditures (O-VE)	14.254	14.159	14.066	13.972	13.880	13.788	13.697	13.606	13.516	13.427	13.338	13.249
Kaua'i Visitor Expenditures (K-VE)	15.332	15.231	15.130	15.030	14.930	14.831	14.733	14.635	14.539	14.442	14.347	14.252
Maui Cty. Visitor Expenditures (M-VE)	14.673	14.576	14.479	14.383	14.288	14.193	14.099	14.006	13.913	13.821	13.730	13.639
Hawai'i Cty. Visitor Expenditures (H-VE)	16.033	15.927	15.822	15.717	15.613	15.509	15.407	15.305	15.203	15.103	15.003	14.903
O'ahu-Level Total Job Multipliers												
Administrative and support services (O-S52)	27.422	26.860	26.309	25.770	25.241	24.723	24.216	23.720	23.233	22.757	22.290	21.833
O'ahu Visitor Expenditures (O-VE)	13.517	13.427	13.338	13.250	13.162	13.075	12.989	12.903	12.817	12.732	12.648	12.564
Kaua'i Visitor Expenditures (K-VE)	11.060	10.986	10.914	10.841	10.770	10.698	10.627	10.557	10.487	10.418	10.349	10.280
Maui Cty. Visitor Expenditures (M-VE)	11.254	11.180	11.106	11.032	10.959	10.886	10.814	10.743	10.672	10.601	10.531	10.461
Hawai'i Cty. Visitor Expenditures (H-VE)	12.657	12.573	12.490	12.407	12.325	12.244	12.163	12.082	12.002	11.923	11.844	11.765

Note: Inflation and Productivity Factors for O'ahu-Level same as those for State-Level. (The "Productivity Factor" is also known as the "labor deflator.")

3. CONSTRUCTION PHASE ECONOMIC IMPACTS

This chapter focuses on Construction phase impacts. It presents:

- Specific assumptions/inputs for analysis of Construction phase impacts; and
- Results for Construction phase analysis – output, earnings, jobs, and State taxes.

3.1 Assumptions for Analysis of Construction Impacts

In addition to the Input-Output (I-O) Model multipliers covered in Chapter 2, Section 2.3, analysis of construction impacts requires several other assumptions, as listed in Table 3.1 and Table 3.2. Note that all of these are for the "With-Project Scenario" only, as there is no "Alternative-Action Scenario" for the Construction phase.

Critical Assumptions: The most critical assumptions for an I-O Model-based assessment involve –

Total Construction expenditure ("direct output") in Hawai'i economy by year and basic type (hard costs for demolition, for actual construction, and for soft costs)

As of this writing, Outrigger's construction estimates are preliminary and no detailed pro forma exists. However, Outrigger assumes a $90.7 million total budget (in 2015 dollars, equating to about $92.5 million in 2016 dollars),[6] inclusive of all hard and soft costs and a 10% contingency amount.

JMK Associates has used recent professional experience (and input from Outrigger) to make further assumptions about distribution of this total to various hard and soft cost categories, both over time and within years, as set forth in Table 3.1 and Table 3.2.

Other Assumptions: The only other assumptions of note for the present involve the assignment of I-O economic sectors to the various expenditure cost categories. These were already implicitly reflected in multiplier tables in the foregoing chapter – e.g., Table 2.1 and Table 2.2:

- Demolition hard costs – O'ahu sector (O-S) 15, Heavy/Civil Engineering
- All other hard costs – O-S 14, Construction of Other Buildings (i.e., "other" than single-family residential)
- Architect/engineering soft costs – O-S 46, Architect/Engineer
- Liability insurance soft costs – O-S 41, Insurance
- Government permit soft costs – O-S 68, Government.

[6] For consistency, all results in this document are in 2016 dollars. The Consumer Price Index increase from 2015 to 2016 is assumed to be 2.0%, reflecting current DBEDT projections (http://dbedt.hawaii.gov/economic/qser/outlook-economy/, accessed Feb. 20, 2016).

Table 3.1: Specific and/or Constant Assumptions for Construction Impacts

Input	Value	Source
General Parameters		
Direct Output in Hawai'i Economy (2016 $s)	$92,514,000	Outrigger Enterprises
Assumed Inflation from 2015 to 2016	2.00%	DBEDT Forecasts
Inflation 2016-2017	2.20%	http://dbedt.hawaii.gov/economic/qser/
Inflation 2017-2018	2.30%	outlook-economy/
Inflation 2018-2019	2.40%	accessed 2/26/16
Assumed Average Annual Inflation Thereafter	2.57%	Avg. Honolulu CPI Increase, 1990-2015
Distribution of Overall Costs		
Architect/Engineer Soft Cost % of Overall Output	12.00%	JMK Associates, based on other recent
Liability Insurance Soft Cost % of Overall Output	1.00%	proposed construction projects for
Govt. Permit Cost Soft Cost % of Overall Output	1.00%	approximately the same time period.
Total Hard Cost Percentage of Overall Output	86.0%	Outrigger Enterprises
Proportion of Hard Costs for Demolition	2.69%	Outrigger Enterprises

Table 3.2: Construction Input Assumptions About Allocations of Expenditures Over Time

	Phase 1			
Input	2018	2019	2020	Source
Allocation of Hard Costs by Year				
Allocation of Total Hard Costs by Year	23.72%	55.13%	21.15%	Outrigger Enterprises
Allocation of Total Soft Costs by Year	95.24%	2.38%	2.38%	Outrigger Enterprises
Allocation of Costs Within Years[1]				
Demolition Hard Costs	100.00%			Outrigger Enterprises
Architect/Engineering Soft Costs	90.00%			
Liability Insurance Soft Costs	2.50%	100.00%	100.00%	Outrigger Enterprises
Govt. Permit Costs Soft Costs	7.50%			

[1] Simplified for purposes of analysis. For example, some A&E expenditures already being made in 2015-16.

3.2 Results – Direct and Total Impacts (Construction)

The I-O Model generates results for output (economic activity), household earnings, jobs, and State taxes. These are primarily driven by economic activity at the site itself, but also include a relatively small amount of "soft costs" (including expenditures for planning and entitlement studies such as this report) and some off-site direct employment such as management and administration from contractors' headquarters.

Again, "impacts" are normally the difference between two future scenarios, but for the Construction phase there is no second or "Alternative-Action" scenario as Outrigger does not assume it would need to invest in substantial additional renovations and repairs (above the normal level) during the timeframe of this analysis. Therefore, results for the "With-Project" scenario are identical to "impacts." Following tables of "impacts" will retain references to possible "renovations" simply to retain the standard structure and maintain a conceptual consistency with tables of results in the following Chapter 4 on Operational Phase impacts, where the "Alternative-Action" scenario *is* relevant.

3.2.1 Output (Direct and Total, Construction)

Table 3.3 simply shows the dollar allocation values (in constant 2016 dollars) of assumed percentages of total construction budget, by year and economic sector. This is "direct output," totaling $92.5 million in 2016 dollars ($90.7 million in 2015 dollars).

"Total output" refers to cumulative economic activity, including multiplier effects, as initial expenditures ripple through the statewide economy. Table 3.4 indicates this would amount to $196.3 million in 2016 dollars over the cumulative 25 months of construction, with 96% of that activity occurring on O'ahu.

It is to be remembered that the additional total output amount, above and beyond direct expenditures, should best be interpreted as economic benefits "created or maintained" by the project. Construction is a sporadic economic activity, so the indirect and induced effects of some previous project, now complete, could well be simply "maintained" by this new project coming online.

Table 3.3: Direct Output Impact, Construction

(All dollar figures are millions of constant 2016 dollars, and show output related to direct on-site economic activity)	Const. Year (start 6/30) or Renov. throughout 2018	Const. or Renovation Year 2019	Const. Year (ends 6/30) or Renov. throughout 2020	TOTALS for Combined Construction Periods
Direct Output (Expenditures in Hawai'i)				
-- Construction (Hard Costs, Structure Work)	$12.5	$38.6	$14.8	**$65.9**
-- Construction (Hard Costs, Demolition)	$6.4	$5.3	$2.0	**$13.7**
-- Insurance (Soft Cost)	$0.3	$0.3	$0.3	**$0.9**
-- Architect / Engineer (Soft Cost)	$11.1	$0.0	$0.0	**$11.1**
-- Permits / Local Government (Soft Cost)	$0.9	$0.0	$0.0	**$0.9**
Combined Results (Direct Effects)	**$31.2**	**$44.2**	**$17.1**	**$92.5**

Note: For all results tables in report, Totals may not exactly equal sums from parts/years due to rounding error

Table 3.4: Total Output Impact, Construction

(All dollar figures are millions of constant 2016 dollars, and show output related to total statewide economic activity including "ripple effects.")	Const. Year (start 6/30) or Renov. throughout 2018	Const. or Renovation Year 2019	Const. Year (ends 6/30) or Renov. throughout 2020	TOTALS for Combined Construction Periods
Total Output (Expenditures in Hawai'i)				
-- Construction (Hard Costs, Structure Work)	$26.6	$82.3	$31.6	**$140.4**
-- Construction (Hard Costs, Demolition)	$13.8	$11.3	$4.3	**$29.4**
-- Insurance (Soft Cost)	$0.7	$0.7	$0.7	**$2.1**
-- Architect / Engineer (Soft Cost)	$22.6	$0.0	$0.0	**$22.6**
-- Permits / Local Government (Soft Cost)	$1.9	$0.0	$0.0	**$1.9**
Combined Results (Total Effects)	**$65.4**	**$94.3**	**$36.6**	**$196.3**
% on O'ahu (Honolulu City/County)	**95.8%**	**95.8%**	**95.8%**	**95.8%**

Note: As discussed in text, a typical Construction phase impact assessment might assume an "Alternative-Action" scenario involving significant additional Renovation expenses. For this particular assessment, no such Renovation expenses are actually assumed, and so the results for the "With-Project" scenario are equivalent to "Impacts." However, all tables in this chapter retain the reference to Renovations simply as reminders that – as will be the case in the following chapter on Operational phase impacts – an "impact" is still ultimately the difference between two possible futures, not just one future.

3.2.2 Household Earnings (Direct and Total, Construction)

Table 3.5 indicates $31.2 million of the direct output would be captured as household earnings over time. With multiplier effects, Table 3.6 shows that household earnings created or maintained by the project would reach $61.5 million over the combined 25-month construction period – again, with 96% of these benefits accruing to O'ahu households.

Table 3.5: Direct Earnings Impact, Construction

(All dollar figures are millions of constant 2016 dollars, and show earnings related to direct on-site economic activity)	Const. Year (start 6/30) or Renov. throughout 2018	Const. or Renovation Year 2019	Const. Year (ends 6/30) or Renov. throughout 2020	TOTALS for Combined Construction Periods
Direct Earnings (Household Income)				
-- Construction (Hard Costs, Structure Work)	$3.7	$11.5	$4.4	**$19.6**
-- Construction (Hard Costs, Demolition)	$1.9	$1.6	$0.6	**$4.1**
-- Insurance (Soft Cost)	$0.1	$0.1	$0.1	**$0.4**
-- Architect / Engineer (Soft Cost)	$6.6	$0.0	$0.0	**$6.6**
-- Permits / Local Government (Soft Cost)	$0.6	$0.0	$0.0	**$0.6**
Combined Results (Direct Effects)	**$12.9**	**$13.2**	**$5.1**	**$31.2**

Table 3.6: Total Earnings Impact, Construction

(All dollar figures are millions of constant 2016 dollars, and show earnings related to total statewide economic activity including "ripple effects.")	Const. Year (start 6/30) or Renov. throughout 2018	Const. or Renovation Year 2019	Const. Year (ends 6/30) or Renov. throughout 2020	TOTALS for Combined Construction Periods
Total Earnings (Household Income)				
-- Construction (Hard Costs, Structure Work)	$7.8	$24.2	$9.3	**$41.3**
-- Construction (Hard Costs, Demolition)	$4.1	$3.4	$1.3	**$8.8**
-- Insurance (Soft Cost)	$0.2	$0.2	$0.2	**$0.7**
-- Architect / Engineer (Soft Cost)	$9.8	$0.0	$0.0	**$9.8**
-- Permits / Local Government (Soft Cost)	$0.8	$0.0	$0.0	**$0.8**
Combined Results (Total Effects)	**$22.8**	**$27.8**	**$10.8**	**$61.5**
% on O'ahu (Honolulu City/County)	**96.5%**	**95.9%**	**95.9%**	**96.2%**

3.2.3 Jobs (Direct and Total, Construction)

Based on the I-O Model, the proposed expansion would generate about 570 direct job-years over 25 construction months (Table 3.7) – primarily related to hard costs (i.e., actual construction on site or in company headquarters), but also to some extent in the soft-cost sectors of insurance, government, and architect/ engineering (the latter used as a proxy for a wide variety of supporting activities, including environmental experts and cultural assessment).

Construction activities tend to generate high employment multiplier effects. Table 3.8 shows that, according to the I-O Model, total employment created or maintained during this construction period would reach about 1,485 full- or part-time jobs, again with the vast majority on O'ahu.

Table 3.7: Direct Job Impacts, Construction

(Total job count, both full- and part-time, related to direct on-site economic activity)	Const. Year (start 6/30) or Renov. throughout 2018	Const. or Renovation Year 2019	Const. Year (ends 6/30) or Renov. throughout 2020	TOTALS for Combined Construction Periods
Direct Jobs (Full- and Part-Time)				
-- Construction (Hard Costs, Structure Work)	59	189	75	**322**
-- Construction (Hard Costs, Demolition)	68	58	23	**149**
-- Insurance (Soft Cost)	4	4	4	**12**
-- Architect / Engineer (Soft Cost)	74	0	0	**74**
-- Permits / Local Government (Soft Cost)	14	0	0	**14**
Combined Results (Direct Effects)	**219**	**250**	**101**	**571**

Table 3.8: Total Job Impacts, Construction

(Total jobcount, both full- and part-time, related to total statewide economic activity including "ripple effects.")	Const. Year (start 6/30) or Renov. throughout 2018	Const. or Renovation Year 2019	Const. Year (ends 6/30) or Renov. throughout 2020	TOTALS for Combined Construction Periods
Total Jobs (Full- and Part-Time)				
-- Construction (Hard Costs, Structure Work)	181	578	229	**988**
-- Construction (Hard Costs, Demolition)	133	112	44	**289**
-- Insurance (Soft Cost)	6	6	6	**18**
-- Architect / Engineer (Soft Cost)	168	0	0	**168**
-- Permits / Local Government (Soft Cost)	22	0	0	**22**
Combined Results (Total Effects)	**509.57**	**696.74**	**279.37**	**1,486**
% on O'ahu (Honolulu City/County)	**94.8%**	**94.2%**	**94.3%**	**94.4%**

3.2.4 State Taxes (Direct and Total, Construction)

The I-O Model generates estimated total State tax revenues – from all sources, though General Excise Taxes would account for a large portion – but it does not produce estimates of local governmental tax revenues. Thus, the results given here are later supplemented by estimated City and County tax revenues as part of the later Chapter 6 analysis of fiscal impacts.

Table 3.9 indicates direct construction expenditures will generate some $5.7 million in State tax revenues (in constant 2016 dollars), while total economic activity including "ripple" effects will create or maintain $11.8 million in State tax revenues, of which nearly 97% would be generated from economic activity taking place on O'ahu (see Table 3.10).

Table 3.9: State Taxes Generated from Direct Construction Output

(All dollar figures are millions of constant 2016 dollars, and show State taxes related to direct on-site economic activity)	Const. Year (start 6/30) or Renov. throughout 2018	Const. or Renovation Year 2019	Const. Year (ends 6/30) or Renov. throughout 2020	TOTALS for Combined Construction Periods
Direct State Taxes				
-- Construction (Hard Costs, Structure Work)	$0.9	$2.7	$1.0	**$4.5**
-- Construction (Hard Costs, Demolition)	$0.1	$0.1	$0.0	**$0.2**
-- Insurance (Soft Cost)	$0.0	$0.0	$0.0	**$0.0**
-- Architect / Engineer (Soft Cost)	$0.9	$0.0	$0.0	**$0.9**
-- Permits / Local Government (Soft Cost)	$0.0	$0.0	$0.0	**$0.0**
Combined Results (Direct Effects)	**$1.9**	**$2.8**	**$1.1**	**$5.7**

Table 3.10: State Taxes Generated from Total Construction Output

(All dollar figures are millions of constant 2016 dollars, and show State taxes related to total statewide economic activity including "ripple effects.")	Const. Year (start 6/30) or Renov. throughout 2018	Const. or Renovation Year 2019	Const. Year (ends 6/30) or Renov. throughout 2020	TOTALS for Combined Construction Periods
Total State Taxes				
-- Construction (Hard Costs, Structure Work)	$1.7	$5.3	$2.0	**$9.0**
-- Construction (Hard Costs, Demolition)	$0.5	$0.4	$0.2	**$1.1**
-- Insurance (Soft Cost)	$0.0	$0.0	$0.0	**$0.1**
-- Architect / Engineer (Soft Cost)	$1.5	$0.0	$0.0	**$1.5**
-- Permits / Local Government (Soft Cost)	$0.1	$0.0	$0.0	**$0.1**
Combined Results (Total Effects)	**$3.9**	**$5.7**	**$2.2**	**$11.8**
% from O'ahu (Honolulu City/County)	**96.5%**	**96.6%**	**96.6%**	**96.6%**

4. OPERATIONAL PHASE ECONOMIC IMPACTS

This chapter focuses on impacts from activities at an expanded hotel, as well as additional off-site spending by more upscale guests. It presents:

- Specific assumptions/inputs for the analysis; and
- Results for Operational phase analysis – output, earnings, jobs, and State taxes.

4.1 Assumptions for Analysis

In addition to the Input-Output (I-O) Model multipliers covered in Chapter 2, Section 2.3, the analysis requires assumptions about various project-specific elements such as occupancy rates, visitor types, etc. Some assumptions remain constant over time, and others vary. All are provided in the immediately following Table 4.1 through Table 4.4.

Critical Assumptions: As with Construction, the Operations analysis keys off *direct output* (economic activity), which in this case equates to total visitor expenditures (in all Hawai'i, not just at the property). Broadly –

Total Visitor Spending = Avg. Daily Spending x Total Visitor-Days

Total Visitor-Days on O'ahu for Outrigger guests are a straightforward function of total units, occupancy rate, and persons per unit (all times number of days in year). These vary by scenario – growing larger over time for an expanded and revitalized hotel, but somewhat declining for the Alternative-Action Scenario of a less competitive property.

Average Daily Spending is a particularly key assumption. The Hawai'i Tourism Authority (HTA) measures current spending and DBEDT forecasts future spending for the *typical* O'ahu visitor, but guests at the Outrigger Reef Waikīkī Beach Resort are atypical because they are more upscale and higher-spending. Therefore, it is important to estimate the ratio of spending by Outrigger guests to the projected spending level by typical visitors.

Based on confidential internal data, Outrigger estimates current guests spend about 20% more (ratio of 1.20) than typical O'ahu visitors, and that the refurbished property will attract an even higher-spending guest (ratio of 1.30). Based on our own experience, JMK Associates found these estimates reasonable, but also discussed Outrigger methodological approaches with company executives and even reviewed some confidential business data. We also jointly developed what seemed to be reasonable assumptions about declining ratios for the Alternative-Action Scenario. While nobody can be totally certain of their accuracy, we are comfortable with the spending estimates.

Other Notes on Assumptions: Less critical but still of interest are these two factors –

- Business guests spend even more money and also attract "supplemental spending" by sponsors of conferences/conventions or corporate meetings. These two types of business visitors together represent a negligible 1% of current occupied units at the property, but are estimated by Outrigger to increase to 15% after construction is complete, due to the provision of more meeting space.

- Though multi-island itineraries have become less common for Hawai'i visitors, HTA data show that some O'ahu visitors still spend time and money on other islands as well. The analysis includes this potential "spill-over spending" to other islands, but tracks it separately so that O'ahu-only economic effects can be identified.

Table 4.1: Assumptions Constant Over Time (With-Project Scenario)

Input	Source	Value
Leisure Visitors		
Avg. Party Size, Leisure Visitors	Outrigger Enterprises	2.00
Business Visitors (Conference/Convention)		
% Business-Occupied Rooms This Type of Visitor	Outrigger Enterprises	60%
Avg. Party Size, Conference Visitors	Avg. 2012-14 AVRR Results	1.83
Ratio, Supplemental-to-Personal $s[1]	Avg. 2012-14 AVRR Results	0.25
Business Visitors (Corporate Meetings)		
% Business-Occupied Rooms This Type of Visitor	Outrigger Enterprises	40%
Avg. Party Size, Corporate Visitors	Avg. 2012-14 AVRR Results	1.72
Ratio, Supplemental-to-Personal $s	Avg. 2012-14 AVRR Results	0.05
Associated Neighbor Island Effects		
Ratio Kaua'i-to-O'ahu Visitor Days[2]	2014 AVRR, Table 56	0.05
Ratio Maui-to-O'ahu Visitor Days	2014 AVRR, Table 56	0.12
Ratio Hawai'i-to-O'ahu Visitor Days	2014 AVRR, Table 56	0.09

[1] This ratio refers to amount of supplemental dollars spent by conference or corporate meeting sponsors, compared to personal spending by business visitors themselves.

[2] Ratio of total visitors on respective Neighbor Islands to total O'ahu visitor-days by O'ahu visitors.

Additional Note: "AVRR" refers to Hawai'i Tourism Authority *Annual Visitor Research Reports*.
http://www.hawaiitourismauthority.org/research/reports/annual-visitor-research/

Table 4.2: Assumptions Constant Over Time (Alternative-Action Scenario)

Input	Source	Value
General Parameters		
Total Number of Units in Hotel	Outrigger Enterprises	635
% Occupied Rooms Business Visitors	Outrigger Enterprises	1.0%
Leisure Visitors		
Avg. Party Size, Leisure Visitors	Outrigger Enterprises	2.00
Business Visitors (Conference/Convention)		
% Business-Occupied Rooms This Type of Visitor	Outrigger Enterprises	60%
Avg. Party Size, Conference Visitors	Avg. 2012-14 AVRR Results	1.83
Ratio, Supplemental-to-Personal $s[1]	Avg. 2012-14 AVRR Results	0.25
Business Visitors (Corporate Meetings)		
% Business-Occupied Rooms This Type of Visitor	Outrigger Enterprises	40%
Avg. Party Size, Corporate Visitors	Avg. 2012-14 AVRR Results	1.72
Ratio, Supplemental-to-Personal $s	Avg. 2012-14 AVRR Results	0.05
Associated Neighbor Island Effects		
Ratio Kaua'i-to-O'ahu Visitor Days[2]	2014 AVRR, Table 56	0.05
Ratio Maui-to-O'ahu Visitor Days	2014 AVRR, Table 56	0.12
Ratio Hawai'i-to-O'ahu Visitor Days	2014 AVRR, Table 56	0.09

[1] This ratio refers to amount of supplemental dollars spent by conference or corporate meeting sponsors, compared to personal spending by business visitors themselves.

[2] Ratio of total visitors on respective Neighbor Islands to total O'ahu visitor-days by O'ahu visitors.

Additional Note: "AVRR" refers to Hawai'i Tourism Authority *Annual Visitor Research Reports*.
http://www.hawaiitourismauthority.org/research/reports/annual-visitor-research/

Table 4.3: Assumptions That Vary by Time (With-Project Scenario)

Input	Source	2014	2015	2016	2017	2018	2019	2020	2021
General Parameters									
Total Number of Units in Hotel (avg/yr.)	Outrigger Enterprises	635	635	635	635	624	614	644	674
Total Occupancy Factor	Outrigger Enterprises	88.3%	84.1%	86.9%	87.0%	75.0%	50.0%	75.0%	81.5%
% Occupied Rooms Business Visitors	Outrigger Enterprises	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	15.0%
Property-Wide Spending Ratio[1]	Outrigger Enterprises, JMK Assoc.	1.20	1.20	1.20	1.20	0.60	0.60	0.90	1.30
Leisure Visitors									
Avg. Daily Spending, O'ahu, 2016 $s	2014-15 Historic, then DBEDT Forecast	215.88	204.25	181.55	181.86	182.17	182.48	182.79	182.84
Spending Ratio, Outrigger Visitors	Outrigger Enterprises, JMK Assoc.	1.20	1.20	1.20	1.20	0.59	0.59	0.90	1.30
Business Visitors (Conference/Convention)									
Spending Ratio, Conference Visitors	2012-14 Average, Future Proportionate[2]	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.26
Business Visitors (Corporate Meetings)									
Spending Ratio, Corporate Visitors	2012-14 Average, Future Proportionate[2]	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.31
Associated Neighbor Island Effects									
Avg. Daily Spending, Kaua'i, 2016 $s	2014-15 Historic, then DBEDT Forecast	$168.69	$183.78	$162.44	$163.16	$163.88	$164.61	$165.33	$165.28
Avg. Daily Spending, Maui, 2016 $s	2014-15 Historic, then DBEDT Forecast	$210.02	$211.02	$176.28	$176.58	$176.88	$177.18	$177.48	$177.51
Avg. Daily Spending, Hawai'i, 2016 $s	2014-15 Historic, then DBEDT Forecast	$175.70	$169.36	$156.34	$157.12	$157.90	$158.69	$159.48	$159.42

Input	Source	2022	2023	2024	2025	2026	2027	2028	2029
General Parameters									
Total Number of Units in Hotel (avg/yr.)	Outrigger Enterprises	674	674	674	674	674	674	674	674
Total Occupancy Factor	Outrigger Enterprises	88.0%	88.0%	88.0%	88.0%	88.0%	88.0%	88.0%	88.0%
% Occupied Rooms Business Visitors	Outrigger Enterprises	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
Property-Wide Spending Ratio[1]	Outrigger Enterprises, JMK Assoc.	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
Leisure Visitors									
Avg. Daily Spending, O'ahu, 2016 $s	2014-15 Historic, then DBEDT Forecast	182.89	182.93	182.98	183.02	183.07	183.12	183.17	183.22
Spending Ratio, Outrigger Visitors	Outrigger Enterprises, JMK Assoc.	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
Business Visitors (Conference/Convention)									
Spending Ratio, Conference Visitors	2012-14 Average, Future Proportionate[2]	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26
Business Visitors (Corporate Meetings)									
Spending Ratio, Conference Visitors	2012-14 Average, Future Proportionate[2]	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31
Associated Neighbor Island Effects									
Avg. Daily Spending, Kaua'i, 2016 $s	2014-15 Historic, then DBEDT Forecast	$165.23	$165.18	$165.13	$165.08	$165.00	$164.91	$164.83	$164.74
Avg. Daily Spending, Maui, 2016 $s	2014-15 Historic, then DBEDT Forecast	$177.54	$177.57	$177.61	$177.64	$177.67	$177.71	$177.75	$177.78
Avg. Daily Spending, Hawai'i, 2016 $s	2014-15 Historic, then DBEDT Forecast	$159.36	$159.30	$159.25	$159.19	$159.16	$159.13	$159.11	$159.08

[1] "Spending Ratio" is to O'ahu Avg. Daily Spending, 2016 $s [2] "Future Proportionate" keeps future ratios proportionate to ratios as of 2012-14 average.
Additional Notes: "Historic" based on Hawai'i Tourism Authority *Annual Visitor Research Reports* (for 2015, preliminary results in HTA Monthly Online *Statistics*. "DBEDT Forecast" refers to *Population and Economic Projections for the State of Hawaii to 2040: DBEDT 2040 Series*.
http://dbedt.hawaii.gov/economic/economic-forecast/2040-long-range-forecast/

Table 4.4: Assumptions That Vary by Time (Alternative-Action Scenario)

Input	Source	2014	2015	2016	2017	2018	2019	2020	2021
General Parameters									
Total Occupancy Factor	Outrigger Enterprises	88.3%	84.1%	86.9%	87.0%	86.0%	85.0%	84.0%	83.0%
Property-Wide Spending Ratio[1]	Outrigger Enterprises, JMK Assoc.	1.20	1.20	1.20	1.20	1.18	1.17	1.15	1.13
Leisure Visitors									
Avg. Daily Spending, O'ahu, 2016 $s	2014-15 Historic, then DBEDT Forecast	215.88	204.25	181.55	181.86	182.17	182.48	182.79	182.84
Spending Ratio, Outrigger Visitors	Outrigger Enterprises, JMK Assoc.	1.20	1.20	1.20	1.20	1.18	1.17	1.15	1.13
Business Visitors (Conference/Convention)									
Spending Ratio, Conference Visitors	2012-14 Average, Future Proportionate[2]	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.09
Business Visitors (Corporate Meetings)									
Spending Ratio, Corporate Visitors	2012-14 Average, Future Proportionate[2]	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.14
Associated Neighbor Island Effects									
Avg. Daily Spending, Kaua'i, 2016 $s	2014-15 Historic, then DBEDT Forecast	$168.69	$183.78	$162.44	$163.16	$163.88	$164.61	$165.33	2012-14
Avg. Daily Spending, Maui, 2016 $s	2014-15 Historic, then DBEDT Forecast	$210.02	$211.02	$176.28	$176.58	$176.88	$177.18	$177.48	$177.51
Avg. Daily Spending, Hawai'i, 2016 $s	2014-15 Historic, then DBEDT Forecast	$175.70	$169.36	$156.34	$157.12	$157.90	$158.69	$159.48	$159.42

Input	Source	2022	2023	2024	2025	2026	2027	2028	2029
General Parameters									
Total Occupancy Factor	Outrigger Enterprises	82.0%	81.0%	80.0%	79.0%	78.0%	77.0%	76.0%	75.0%
Property-Wide Spending Ratio[1]	Outrigger Enterprises, JMK Assoc.	1.12	1.10	1.08	1.07	1.05	1.03	1.02	1.00
Leisure Visitors									
Avg. Daily Spending, O'ahu, 2016 $s	2014-15 Historic, then DBEDT Forecast	182.89	182.93	182.98	183.02	183.07	183.12	183.17	183.22
Spending Ratio, Outrigger Visitors	Outrigger Enterprises, JMK Assoc.	1.12	1.10	1.08	1.07	1.05	1.03	1.02	1.00
Business Visitors (Conference/Convention)									
Spending Ratio, Conference Visitors	2012-14 Average, Future Proportionate[2]	1.08	1.06	1.05	1.03	1.01	1.00	0.98	0.96
Business Visitors (Corporate Meetings)									
Spending Ratio, Conference Visitors	2012-14 Average, Future Proportionate[2]	1.12	1.11	1.09	1.07	1.06	1.04	1.02	1.00
Associated Neighbor Island Effects									
Avg. Daily Spending, Kaua'i, 2016 $s	2014-15 Historic, then DBEDT Forecast	$165.23	$165.18	$165.13	$165.08	$165.00	$164.91	$164.83	$164.74
Avg. Daily Spending, Maui, 2016 $s	2014-15 Historic, then DBEDT Forecast	$177.54	$177.57	$177.61	$177.64	$177.67	$177.71	$177.75	$177.78
Avg. Daily Spending, Hawai'i, 2016 $s	2014-15 Historic, then DBEDT Forecast	$159.36	$159.30	$159.25	$159.19	$159.16	$159.13	$159.11	$159.08

[1] "Spending Ratio" is to O'ahu Avg. Daily Spending, 2016 $s [2] "Future Proportionate" keeps future ratios proportionate to ratios as of 2012-14 average.
Additional Notes: "Historic" based on Hawai'i Tourism Authority *Annual Visitor Research Reports* (for 2015, preliminary results in HTA Monthly Online *Statistics*. "DBEDT Forecast" refers to *Population and Economic Projections for the State of Hawaii to 2040: DBEDT 2040 Series*.
http://dbedt.hawaii.gov/economic/economic-forecast/2040-long-range-forecast/

4.2 Results – Direct and Total Impacts (Operations)

4.2.1 Output (Direct and Total, Operations)

Table 4.5 shows results for direct effects, and Table 4.6 contains results for total impacts including multiplier or "ripple effects." The analysis begins with the first year in which there would be differences between the two Scenarios, 2018, and extends to include a total 12 years, to 2029.

During construction years 2018 to 2020, the operational benefits for the With-Project Scenario are depressed, due to lowered occupancy – although in the larger picture are of course offset by construction benefits discussed in the previous chapter. Without this construction, in the Alternative-Action Scenario, the hotel would be generating roughly the same benefits as at present – taking 2019 as the most significant *example*:

- **Direct Visitor Spending, 2019, Alternative-Action:** About $84 million just from actual O'ahu hotel operations, going up to a somewhat more speculative $103.7 million inclusive of Outrigger guests pre- or post-visit Neighbor Island trips.
- **Total Visitor Spending, 2019, Alternative-Action:** With multiplier or "ripple effects," these numbers become $154.2 million and $191.1 million, respectively.

By comparison, for the With-Project Scenario:

- **Direct Visitor Spending, 2019, With-Project:** About $24.6 million just from actual O'ahu hotel operations, going up to $30.3 million inclusive of Neighbor Island stays – a "loss" of $59.4 million for O'ahu operations and $73.4 million with Neighbor Island stays.
- **Total Visitor Spending, 2019, With-Project:** With multiplier or "ripple effects," these numbers go to $45.2 million and $55.9 million, respectively – "losses" (impacts) of $109.1 million and $135.2 million.

While these brief point-in-time apparent negative impacts should be acknowledged and explained, they are ***more than offset by the very large positive effects over time once the expanded hotel is in operation.*** By 2029, the point-in-time difference between the future with the proposed project vs. the future without it involves a $74.4 million impact in total output from visitor spending from O'ahu activities only, and a $91.2 million positive impact inclusive of Neighbor Island stays. The overall 12-year net positive impact in total output is $281.4 million just while Outrigger guests are on O'ahu, going up to $339.1 million inclusive of Neighbor Island stays. (See lower part of Table 4.6.)

This initial discussion of results has focused disproportionately on the "losses" during construction simply to deal with and explain this issue. Remaining discussions will focus at more length on the truly important results of the analysis – the significant positive economic effects over time from the expanded hotel as compared to continuation of a less competitive property.

Table 4.5: Direct Output (Visitor Spending), Operations – Two Scenarios and Impact (Difference)

With-Project Scenario -- Operation of Expanded Hotel

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	$37.3	$24.5	$58.0	$93.8	$101.3	$101.4	$101.4	$101.4	$101.4	$101.5	$101.5	$101.5	**$1,025.1**
Supplementary Business Spending	$0.1	$0.1	$0.1	$2.2	$2.3	$2.3	$2.3	$2.3	$2.3	$2.3	$2.3	$2.3	**$21.1**
Statewide Benefits Stemming from O'ahu Only	**$37.4**	**$24.6**	**$58.1**	**$96.0**	**$103.7**	**$103.7**	**$103.7**	**$103.8**	**$103.8**	**$103.8**	**$103.8**	**$103.9**	**$1,046.3**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	$1.8	$1.2	$2.8	$4.5	$4.9	$4.9	$4.9	$4.9	$4.9	$4.9	$4.9	$4.8	**$49.1**
Additional Visitor Expenditures in Maui County	$4.2	$2.8	$6.6	$10.7	$11.5	$11.5	$11.5	$11.5	$11.5	$11.5	$11.5	$11.5	**$116.3**
Additional Visitor Expenditures in Hawai'i County	$2.7	$1.8	$4.3	$7.0	$7.6	$7.5	$7.5	$7.5	$7.5	$7.5	$7.5	$7.5	**$76.2**
Statewide Benefits Including Neighbor Islands	**$46.1**	**$30.3**	**$71.7**	**$118.2**	**$127.6**	**$127.6**	**$127.6**	**$127.7**	**$127.7**	**$127.7**	**$127.7**	**$127.8**	**$1,287.8**

Alternative-Action Scenario – Continuation of Currently Configured Property

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	$85.9	$83.9	$81.8	$79.7	$77.6	$75.5	$73.5	$71.5	$69.5	$67.5	$65.6	$63.7	**$895.6**
Supplementary Business Spending	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	**$1.4**
Statewide Benefits Stemming from O'ahu Only	**$86.0**	**$84.0**	**$81.9**	**$79.8**	**$77.7**	**$75.6**	**$73.6**	**$71.6**	**$69.6**	**$67.6**	**$65.7**	**$63.8**	**$896.9**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	$4.1	$4.0	$3.9	$3.8	$3.7	$3.6	$3.5	$3.4	$3.3	$3.2	$3.1	$3.0	**$42.8**
Additional Visitor Expenditures in Maui County	$9.7	$9.5	$9.3	$9.0	$8.8	$8.6	$8.3	$8.1	$7.9	$7.6	$7.4	$7.2	**$101.4**
Additional Visitor Expenditures in Hawai'i County	$6.3	$6.2	$6.1	$5.9	$5.8	$5.6	$5.5	$5.3	$5.2	$5.0	$4.9	$4.7	**$66.4**
Statewide Benefits Including Neighbor Islands	**$106.2**	**$103.7**	**$101.2**	**$98.6**	**$96.0**	**$93.4**	**$90.9**	**$88.4**	**$85.9**	**$83.5**	**$81.1**	**$78.7**	**$1,107.6**

Project Impact (Difference Between the Two Scenarios) -- Operations

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	-$48.6	-$59.3	-$23.8	$14.1	$23.7	$25.8	$27.9	$30.0	$32.0	$34.0	$35.9	$37.9	**$129.6**
Supplementary Business Spending	$0.0	-$0.1	$0.0	$2.0	$2.2	$2.2	$2.2	$2.2	$2.2	$2.2	$2.2	$2.2	**$19.8**
Statewide Impacts Stemming from O'ahu Only	**-$48.6**	**-$59.4**	**-$23.8**	**$16.2**	**$26.0**	**$28.1**	**$30.1**	**$32.2**	**$34.2**	**$36.2**	**$38.2**	**$40.1**	**$149.3**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	-$2.3	-$2.8	-$1.1	$0.7	$1.1	$1.2	$1.3	$1.4	$1.5	$1.6	$1.7	$1.8	**$6.3**
Additional Visitor Expenditures in Maui County	-$5.5	-$6.7	-$2.7	$1.6	$2.7	$3.0	$3.2	$3.4	$3.7	$3.9	$4.1	$4.3	**$14.9**
Additional Visitor Expenditures in Hawai'i County	-$3.6	-$4.4	-$1.8	$1.1	$1.8	$1.9	$2.1	$2.2	$2.4	$2.5	$2.7	$2.8	**$9.7**
Statewide Impacts Including Neighbor Islands	**-$60.1**	**-$73.4**	**-$29.5**	**$19.6**	**$31.6**	**$34.2**	**$36.8**	**$39.3**	**$41.8**	**$44.2**	**$46.7**	**$49.0**	**$180.2**

Note: All figures in Millions of 2016 $s. Direct effect results are technically statewide, but for all practical purposes are specific to indicated islands/counties.

Table 4.6: Total Output (Visitor Spending), Operations – Two Scenarios and Impact (Difference)

With-Project Scenario -- Operation of Expanded Hotel

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	$68.5	$45.0	$106.5	$172.3	$186.1	$186.1	$186.2	$186.2	$186.3	$186.3	$186.4	$186.4	**$1,882.5**
Supplementary Business Spending	$0.2	$0.2	$0.3	$4.7	$5.1	$5.1	$5.1	$5.1	$5.1	$5.1	$5.1	$5.1	**$46.5**
Statewide Benefits Stemming from O'ahu Only	**$68.8**	**$45.2**	**$106.7**	**$177.1**	**$191.2**	**$191.3**	**$191.3**	**$191.4**	**$191.4**	**$191.5**	**$191.5**	**$191.6**	**$1,928.9**
% of Benefits Accruing to O'ahu	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	$3.3	$2.2	$5.2	$8.4	$9.1	$9.1	$9.1	$9.1	$9.1	$9.1	$9.1	$9.1	**$91.9**
Additional Visitor Expenditures in Maui County	$7.9	$5.2	$12.3	$20.0	$21.7	$21.7	$21.7	$21.7	$21.7	$21.7	$21.7	$21.7	**$218.8**
Additional Visitor Expenditures in Hawai'i County	$5.0	$3.3	$7.9	$12.9	$13.9	$13.9	$13.9	$13.9	$13.9	$13.9	$13.9	$13.9	**$140.6**
Statewide Benefits Including Neighbor Islands	**$85.0**	**$55.9**	**$132.2**	**$218.5**	**$235.9**	**$236.0**	**$236.0**	**$236.1**	**$236.1**	**$236.1**	**$236.2**	**$236.2**	**$2,380.2**

Alternative-Action Scenario -- Continuation of Currently Configured Property

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	$157.7	$154.0	$150.2	$146.3	$142.5	$138.7	$134.9	$131.2	$127.6	$124.0	$120.4	$116.9	**$1,644.6**
Supplementary Business Spending	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	**$3.0**
Statewide Benefits Stemming from O'ahu Only	**$158.0**	**$154.3**	**$150.5**	**$146.6**	**$142.7**	**$138.9**	**$135.2**	**$131.5**	**$127.8**	**$124.2**	**$120.6**	**$117.1**	**$1,647.6**
% of Benefits Accruing to O'ahu	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	$7.7	$7.5	$7.3	$7.2	$7.0	$6.8	$6.6	$6.4	$6.2	$6.0	$5.9	$5.7	**$80.2**
Additional Visitor Expenditures in Maui County	$18.3	$17.9	$17.4	$17.0	$16.5	$16.1	$15.7	$15.2	$14.8	$14.4	$14.0	$13.6	**$190.8**
Additional Visitor Expenditures in Hawai'i County	$11.7	$11.5	$11.2	$10.9	$10.6	$10.3	$10.1	$9.8	$9.5	$9.2	$9.0	$8.7	**$122.6**
Statewide Benefits Including Neighbor Islands	**$195.7**	**$191.1**	**$186.5**	**$181.7**	**$176.9**	**$172.2**	**$167.5**	**$162.9**	**$158.3**	**$153.8**	**$149.4**	**$145.1**	**$2,041.1**

Project Impact (Difference Between the Two Scenarios) -- Operations

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	-$89.2	-$108.8	-$43.8	$26.0	$43.6	$47.5	$51.3	$55.0	$58.7	$62.4	$66.0	$69.5	**$237.9**
Supplementary Business Spending	$0.0	-$0.1	$0.0	$4.5	$4.9	$4.9	$4.9	$4.9	$4.9	$4.9	$4.9	$4.9	**$43.5**
Statewide Impacts Stemming from O'ahu Only	**-$89.2**	**-$109.1**	**-$43.8**	**$30.4**	**$48.5**	**$52.3**	**$56.1**	**$59.9**	**$63.6**	**$67.3**	**$70.9**	**$74.4**	**$281.4**
% of Impacts Occuring on O'ahu	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**	**95.2%**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	-$4.4	-$5.3	-$2.2	$1.3	$2.2	$2.3	$2.5	$2.7	$2.9	$3.1	$3.2	$3.4	**$11.7**
Additional Visitor Expenditures in Maui County	-$10.4	-$12.7	-$5.1	$3.1	$5.1	$5.6	$6.0	$6.4	$6.9	$7.3	$7.7	$8.1	**$27.9**
Additional Visitor Expenditures in Hawai'i County	-$6.7	-$8.1	-$3.3	$2.0	$3.3	$3.6	$3.9	$4.1	$4.4	$4.7	$4.9	$5.2	**$18.0**
Statewide Impacts Including Neighbor Islands	**-$110.7**	**-$135.2**	**-$54.4**	**$36.8**	**$59.0**	**$63.8**	**$68.5**	**$73.2**	**$77.8**	**$82.3**	**$86.8**	**$91.2**	**$339.1**

Note: All figures in Millions of 2016 $s and are statewide effects. Small proportions of amounts generated on any one island "ripple out" to others as well.

4.2.2 Household Earnings (Direct and Total, Operations)

This section looks at the amount of total economic activity captured as household earnings. Table 4.7 shows results for direct effects, and Table 4.8 contains results for total impacts including multiplier or "ripple effects."

To simplify the interpretation, this and remaining discussions in this chapter will focus primarily on the "impact" portion for Total effects (bottom part of Table 4.8, in this case).

The difference between total statewide earnings for the With-Project Scenario and the Alternative-Action (no hotel change but decreasing occupancies, etc.) will reach $22.3 million a year by 2029 – $27.1 million inclusive of pre-/post-O'ahu stays on Neighbor Islands.

The 12-year cumulative total impact is $88.6 million from economic activity generated just during actual stays at the Outrigger Reef Waikīkī Beach Resort Hotel (with nearly 96% of this total captured on O'ahu itself), reaching $105.1 million impact inclusive of Neighbor Island visits.

All impact figures are "created or maintained," depending on what else is occurring in the economy.

Table 4.7: Direct Earnings, Operations – Two Scenarios and Impact (Difference)

With-Project Scenario -- Operation of Expanded Hotel

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	$10.2	$6.7	$15.8	$25.6	$27.7	$27.7	$27.7	$27.7	$27.7	$27.7	$27.7	$27.7	**$280.1**
Supplementary Business Spending	$0.1	$0.0	$0.1	$1.4	$1.5	$1.5	$1.5	$1.5	$1.5	$1.5	$1.5	$1.5	**$13.8**
Statewide Benefits Stemming from O'ahu Only	**$10.3**	**$6.7**	**$15.9**	**$27.0**	**$29.2**	**$29.2**	**$29.2**	**$29.2**	**$29.2**	**$29.2**	**$29.3**	**$29.3**	**$293.9**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	$0.5	$0.3	$0.8	$1.3	$1.4	$1.4	$1.4	$1.4	$1.4	$1.4	$1.4	$1.4	**$14.6**
Additional Visitor Expenditures in Maui County	$1.2	$0.8	$1.9	$3.0	$3.3	$3.3	$3.3	$3.3	$3.3	$3.3	$3.3	$3.3	**$32.9**
Additional Visitor Expenditures in Hawai'i County	$0.8	$0.5	$1.3	$2.0	$2.2	$2.2	$2.2	$2.2	$2.2	$2.2	$2.2	$2.2	**$22.3**
Statewide Benefits Including Neighbor Islands	**$12.8**	**$8.4**	**$19.9**	**$33.5**	**$36.1**	**$36.1**	**$36.1**	**$36.1**	**$36.2**	**$36.2**	**$36.2**	**$36.2**	**$363.7**

Note: All figures in Millions of 2016 $s. Direct effect results are technically statewide, but for all practical purposes are specific to indicated islands/counties.

Alternative-Action Scenario -- Continuation of Currently Configured Property

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	$23.5	$22.9	$22.4	$21.8	$21.2	$20.6	$20.1	$19.5	$19.0	$18.4	$17.9	$17.4	**$244.7**
Supplementary Business Spending	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	**$0.9**
Statewide Benefits Stemming from O'ahu Only	**$23.6**	**$23.0**	**$22.4**	**$21.9**	**$21.3**	**$20.7**	**$20.1**	**$19.6**	**$19.0**	**$18.5**	**$18.0**	**$17.5**	**$245.6**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	$1.2	$1.2	$1.2	$1.1	$1.1	$1.1	$1.0	$1.0	$1.0	$1.0	$0.9	$0.9	**$12.7**
Additional Visitor Expenditures in Maui County	$2.8	$2.7	$2.6	$2.6	$2.5	$2.4	$2.4	$2.3	$2.2	$2.2	$2.1	$2.0	**$28.7**
Additional Visitor Expenditures in Hawai'i County	$1.9	$1.8	$1.8	$1.7	$1.7	$1.6	$1.6	$1.6	$1.5	$1.5	$1.4	$1.4	**$19.4**
Statewide Benefits Including Neighbor Islands	**$29.4**	**$28.7**	**$28.0**	**$27.3**	**$26.6**	**$25.8**	**$25.1**	**$24.5**	**$23.8**	**$23.1**	**$22.4**	**$21.8**	**$306.5**

Note: All figures in Millions of 2016 $s. Direct effect results are technically statewide, but for all practical purposes are specific to indicated islands/counties.

Project Impact (Difference Between the Two Scenarios) -- Operations

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	-$13.3	-$16.2	-$6.5	$3.9	$6.5	$7.1	$7.6	$8.2	$8.7	$9.3	$9.8	$10.3	**$35.4**
Supplementary Business Spending	$0.0	$0.0	$0.0	$1.3	$1.4	$1.5	$1.5	$1.5	$1.5	$1.5	$1.5	$1.5	**$12.9**
Statewide Impacts Stemming from O'ahu Only	**-$13.3**	**-$16.2**	**-$6.5**	**$5.2**	**$7.9**	**$8.5**	**$9.1**	**$9.6**	**$10.2**	**$10.7**	**$11.3**	**$11.8**	**$48.3**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	-$0.7	-$0.8	-$0.3	$0.2	$0.3	$0.4	$0.4	$0.4	$0.5	$0.5	$0.5	$0.5	**$1.9**
Additional Visitor Expenditures in Maui County	-$1.6	-$1.9	-$0.8	$0.5	$0.8	$0.8	$0.9	$1.0	$1.0	$1.1	$1.2	$1.2	**$4.2**
Additional Visitor Expenditures in Hawai'i County	-$1.1	-$1.3	-$0.5	$0.3	$0.5	$0.6	$0.6	$0.7	$0.7	$0.7	$0.8	$0.8	**$2.9**
Statewide Impacts Including Neighbor Islands	**-$16.6**	**-$20.3**	**-$8.2**	**$6.2**	**$9.6**	**$10.3**	**$11.0**	**$11.7**	**$12.4**	**$13.1**	**$13.7**	**$14.4**	**$57.2**

Note: All figures in Millions of 2016 $s. Direct effect results are technically statewide, but for all practical purposes are specific to indicated islands/counties.

Table 4.8: Total Earnings, Operations – Two Scenarios and Impact (Difference)

With-Project Scenario -- Operation of Expanded Hotel

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	$19.8	$13.0	$30.8	$49.8	$53.8	$53.8	$53.9	$53.9	$53.9	$53.9	$53.9	$53.9	**$544.5**
Supplementary Business Spending	$0.1	$0.1	$0.1	$2.2	$2.3	$2.3	$2.3	$2.3	$2.3	$2.3	$2.3	$2.3	**$21.1**
Statewide Benefits Stemming from O'ahu Only	**$19.9**	**$13.1**	**$30.9**	**$52.0**	**$56.2**	**$56.2**	**$56.2**	**$56.2**	**$56.2**	**$56.2**	**$56.2**	**$56.3**	**$565.6**
% of Benefits Accruing to O'ahu	**95.3%**	**95.3%**	**95.3%**	**95.4%**	**95.4%**	**95.4%**	**95.4%**	**95.4%**	**95.4%**	**95.4%**	**95.4%**	**95.4%**	**95.4%**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	$0.9	$0.6	$1.5	$2.4	$2.6	$2.6	$2.6	$2.6	$2.6	$2.6	$2.6	$2.6	**$26.2**
Additional Visitor Expenditures in Maui County	$2.2	$1.5	$3.5	$5.7	$6.2	$6.2	$6.2	$6.2	$6.2	$6.2	$6.2	$6.2	**$62.3**
Additional Visitor Expenditures in Hawai'i County	$1.5	$1.0	$2.3	$3.8	$4.1	$4.1	$4.1	$4.1	$4.1	$4.1	$4.1	$4.1	**$41.0**
Statewide Benefits Including Neighbor Islands	**$24.6**	**$16.2**	**$38.2**	**$63.9**	**$69.0**	**$69.0**	**$69.0**	**$69.0**	**$69.0**	**$69.1**	**$69.1**	**$69.1**	**$695.1**

Note: All figures in Millions of 2016 $s and are statewide effects. Small proportions of amounts generated on any one island "ripple out" to others as well.

Alternative-Action Scenario -- Continuation of Currently Configured Property

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	$45.6	$44.5	$43.5	$42.3	$41.2	$40.1	$39.0	$38.0	$36.9	$35.9	$34.8	$33.8	**$475.7**
Supplementary Business Spending	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	**$1.4**
Statewide Benefits Stemming from O'ahu Only	**$45.8**	**$44.7**	**$43.6**	**$42.4**	**$41.3**	**$40.2**	**$39.1**	**$38.1**	**$37.0**	**$36.0**	**$34.9**	**$33.9**	**$477.0**
% of Benefits Accruing to O'ahu	**95.3%**	**95.3%**	**95.3%**	**95.3%**	**95.3%**	**95.3%**	**95.3%**	**95.3%**	**95.3%**	**95.3%**	**95.3%**	**95.3%**	**95.3%**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	$2.2	$2.1	$2.1	$2.0	$2.0	$1.9	$1.9	$1.8	$1.8	$1.7	$1.7	$1.6	**$22.9**
Additional Visitor Expenditures in Maui County	$5.2	$5.1	$5.0	$4.8	$4.7	$4.6	$4.5	$4.3	$4.2	$4.1	$4.0	$3.9	**$54.3**
Additional Visitor Expenditures in Hawai'i County	$3.4	$3.3	$3.3	$3.2	$3.1	$3.0	$2.9	$2.9	$2.8	$2.7	$2.6	$2.5	**$35.8**
Statewide Benefits Including Neighbor Islands	**$56.6**	**$55.2**	**$53.9**	**$52.5**	**$51.1**	**$49.8**	**$48.4**	**$47.1**	**$45.8**	**$44.5**	**$43.2**	**$41.9**	**$590.0**

Note: All figures in Millions of 2016 $s and are statewide effects. Small proportions of amounts generated on any one island "ripple out" to others as well.

Project Impact (Difference Between the Two Scenarios) -- Operations

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	-$25.8	-$31.5	-$12.7	$7.5	$12.6	$13.7	$14.8	$15.9	$17.0	$18.0	$19.1	$20.1	**$68.8**
Supplementary Business Spending	$0.0	-$0.1	$0.0	$2.0	$2.2	$2.2	$2.2	$2.2	$2.2	$2.2	$2.2	$2.2	**$19.8**
Statewide Impacts Stemming from O'ahu Only	**-$25.8**	**-$31.6**	**-$12.7**	**$9.5**	**$14.8**	**$15.9**	**$17.0**	**$18.1**	**$19.2**	**$20.3**	**$21.3**	**$22.3**	**$88.6**
% of Impacts Occuring on O'ahu	**95.3%**	**95.3%**	**95.3%**	**95.7%**	**95.6%**	**95.5%**	**95.5%**	**95.5%**	**95.5%**	**95.5%**	**95.5%**	**95.5%**	**95.7%**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	-$1.2	-$1.5	-$0.6	$0.4	$0.6	$0.7	$0.7	$0.8	$0.8	$0.9	$0.9	$1.0	**$3.4**
Additional Visitor Expenditures in Maui County	-$3.0	-$3.6	-$1.5	$0.9	$1.5	$1.6	$1.7	$1.8	$2.0	$2.1	$2.2	$2.3	**$8.0**
Additional Visitor Expenditures in Hawai'i County	-$1.9	-$2.4	-$1.0	$0.6	$1.0	$1.0	$1.1	$1.2	$1.3	$1.4	$1.4	$1.5	**$5.2**
Statewide Impacts Including Neighbor Islands	**-$32.0**	**-$39.1**	**-$15.7**	**$11.4**	**$17.9**	**$19.2**	**$20.6**	**$21.9**	**$23.3**	**$24.6**	**$25.9**	**$27.1**	**$105.1**

Note: All figures in Millions of 2016 $s and are statewide effects. Small proportions of amounts generated on any one island "ripple out" to others as well.

4.2.3 Jobs (Direct and Total, Operations)

The I-O Model generates estimates for *all* jobs from visitor spending – whether at the hotel, at off-site restaurants and shops, at activities on the North Shore or attractions in Windward O'ahu, etc. Before presenting those results, we will also share Outrigger's numbers and future estimates for the Outrigger Reef Waikīkī Beach Resort Hotel itself.

On-Site Jobs: According to Outrigger Enterprises, the company does not currently anticipate any material reductions in staff during construction, as most existing rooms would remain available. The company currently intends to keep workers on-site at season-appropriate levels and/or temporarily absorb them at other properties. Lacking the sorts of multipliers available from the I-O Model, it is difficult to provide the same sort of year-specific information for on-site employment through 2029 for on-site jobs as for estimated total statewide jobs. However, according to Outrigger:

Table 4.9: On-Site Direct Outrigger Current and Projected Future Jobcounts

	2016	Post-Project (Ca. 2024)
With-Project Scenario	237 Full-Time	273 Full-Time, 47 Part-Time
Alternative-Action Scenario		237 Full-Time
Impact (Difference)		36 Full-Time, 47 Part-Time

Source: Outrigger Enterprises, LLC. New part-time employment reflects substantially increased banquet, catering, food and beverage, etc.

Hotel industry employment overall has been declining in Hawai'i, due both to fewer units and also to improved productivity. Thus, it is possible that over time the jobcount could decrease. However, in response to inquiries for this study, Outrigger stated it does not anticipate substantial employee count decreases over time and pointed to a fairly constant level of 190-200 from 1995 to 2010 (except for a dip in 2007-09 during renovations), increasing thereafter to 225-235 when a restaurant was added.

All Jobs: Table 4.10 shows I-O Model results for direct effects (including non-Outrigger payroll jobs – some on tenant payrolls and others entirely off-site), and Table 4.11 contains results for total impacts including multiplier or "ripple effects." Again focusing primarily on the impact figures for total effects (bottom of Table 4.11), the gap between total full- and part-time jobs throughout the state's economy for the With-Project vs. Alternative-Action Scenario widens each year, as the property becomes less competitive under the Alternative-Action Scenario. By 2029, it is 798 obs (95% on O'ahu) from spending of hotel guests while on O'ahu, and would reach 983 inclusive of additional time and money spent on Neighbor Islands.

The 12-year total impact in terms of "job-years" (i.e., one job maintained for 12 years = 12 job-years) is about 3,220 from spending on O'ahu, reaching about 3.890 inclusive of additional pre- or post-O'ahu visits to Neighbor Islands. Again, these impacts involve jobs "created or maintained," depending on what else is happening in the economy. The differences partly reflect lower future overall spending under the Alternative-Action scenario of continuing present operations, but are mostly due to jobs from the increased spending of more upscale guests staying in a larger number of units under the With-Project Scenario.

Table 4.10: All Direct Jobs, Operations – Two Scenarios and Impact (Difference)

With-Project Scenario -- Operation of Expanded Hotel

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	314	210	506	835	919	937	954	973	991	1,010	1,030	1,049	**9,729**
Supplementary Business Spending	2	2	2	46	49	49	49	49	49	48	48	48	**443**
Statewide Benefits Stemming from O'ahu Only	**317**	**212**	**509**	**881**	**968**	**986**	**1,003**	**1,022**	**1,040**	**1,059**	**1,078**	**1,097**	**10,172**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	17	11	27	45	49	50	51	52	53	54	55	56	521
Additional Visitor Expenditures in Maui County	35	24	57	95	104	106	108	110	112	114	116	119	1,100
Additional Visitor Expenditures in Hawai'i County	27	18	45	74	81	83	84	86	87	89	91	92	858
Statewide Benefits Including Neighbor Islands	**396**	**265**	**638**	**1,094**	**1,203**	**1,225**	**1,247**	**1,270**	**1,293**	**1,316**	**1,340**	**1,365**	**12,650**

Note: Direct effect results are technically statewide, but for all practical purposes are specific to indicated islands/counties.

Alternative-Action Scenario -- Continuation of Currently Configured Property

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	723	719	715	709	704	698	692	685	679	672	665	658	**8,318**
Supplementary Business Spending	3	3	3	3	2	2	2	2	2	2	2	2	**29**
Statewide Benefits Stemming from O'ahu Only	**726**	**722**	**717**	**712**	**706**	**700**	**694**	**688**	**681**	**674**	**667**	**660**	**8,347**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	39	38	38	38	38	37	37	37	36	36	35	35	444
Additional Visitor Expenditures in Maui County	82	81	81	80	79	79	78	77	77	76	75	74	939
Additional Visitor Expenditures in Hawai'i County	63	63	63	63	62	61	61	60	60	59	58	58	732
Statewide Benefits Including Neighbor Islands	**909**	**904**	**899**	**892**	**885**	**878**	**870**	**862**	**854**	**845**	**836**	**827**	**10,462**

Note: Direct effect results are technically statewide, but for all practical purposes are specific to indicated islands/counties.

Project Impact (Difference Between the Two Scenarios) -- Operations

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	-409	-509	-208	126	215	239	263	287	312	338	364	391	**1,411**
Supplementary Business Spending	0	-1	0	43	47	47	47	47	46	46	46	46	**414**
Statewide Impacts Stemming from O'ahu Only	**-409**	**-510**	**-208**	**169**	**262**	**286**	**309**	**334**	**359**	**384**	**411**	**437**	**1,824**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	-22	-27	-11	7	12	13	14	15	17	18	20	21	**76**
Additional Visitor Expenditures in Maui County	-46	-58	-24	14	25	27	30	33	36	38	41	44	**161**
Additional Visitor Expenditures in Hawai'i County	-36	-45	-18	11	19	21	23	26	28	30	32	35	**126**
Statewide Impacts Including Neighbor Islands	**-514**	**-640**	**-262**	**202**	**318**	**347**	**377**	**408**	**439**	**471**	**504**	**537**	**2,187**

Note: Direct effect results are technically statewide, but for all practical purposes are specific to indicated islands/counties.

Table 4.11: Total Jobs, Operations – Two Scenarios and Impact (Difference)

With-Project Scenario – Operation of Expanded Hotel

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	589	394	949	1,565	1,729	1,756	1,789	1,823	1,858	1,894	1,930	1,967	**18,238**
Supplementary Business Spending	3	2	3	64	69	69	68	68	68	68	67	67	**616**
Statewide Benefits Stemming from O'ahu Only	**592**	**396**	**953**	**1,630**	**1,792**	**1,824**	**1,857**	**1,891**	**1,926**	**1,961**	**1,997**	**2,034**	**18,854**
% of Benefits Accruing to O'ahu	**94.8%**	**94.8%**	**94.8%**	**94.9%**	**94.9%**	**94.9%**	**94.9%**	**94.9%**	**94.9%**	**94.9%**	**94.9%**	**94.9%**	**94.9%**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	30	20	49	81	89	91	92	94	96	97	99	101	**939**
Additional Visitor Expenditures in Maui County	68	46	110	183	201	205	209	213	217	221	226	230	**2,130**
Additional Visitor Expenditures in Hawai'i County	49	33	79	131	144	147	150	153	155	158	161	164	**1,524**
Statewide Benefits Including Neighbor Islands	**739**	**495**	**1,191**	**2,025**	**2,226**	**2,267**	**2,309**	**2,351**	**2,394**	**2,438**	**2,483**	**2,529**	**23,448**

Note: Includes full- and part-time jobs, and are statewide effects. Small proportions of amounts generated on any one island "ripple out" to others as well.

Alternative-Action Scenario – Continuation of Currently Configured Property

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	1,355	1,348	1,340	1,330	1,319	1,308	1,297	1,285	1,273	1,260	1,247	1,234	**15,594**
Supplementary Business Spending	4	4	4	4	3	3	3	3	3	3	3	3	**40**
Statewide Benefits Stemming from O'ahu Only	**1,359**	**1,352**	**1,344**	**1,333**	**1,322**	**1,311**	**1,300**	**1,288**	**1,276**	**1,263**	**1,250**	**1,236**	**15,634**
% of Benefits Accruing to O'ahu	**94.8%**	**94.8%**	**94.8%**	**94.8%**	**94.8%**	**94.8%**	**94.8%**	**94.8%**	**94.8%**	**94.8%**	**94.8%**	**94.8%**	**94.8%**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	69	69	69	69	68	67	67	66	65	65	64	63	**801**
Additional Visitor Expenditures in Maui County	158	157	156	155	154	153	151	150	148	147	145	144	**1,818**
Additional Visitor Expenditures in Hawai'i County	113	112	112	111	110	109	108	107	106	105	104	103	**1,301**
Statewide Benefits Including Neighbor Islands	**1,699**	**1,690**	**1,681**	**1,668**	**1,654**	**1,640**	**1,626**	**1,611**	**1,596**	**1,580**	**1,563**	**1,546**	**19,555**

Note: Includes full- and part-time jobs, and are statewide effects. Small proportions of amounts generated on any one island "ripple out" to others as well.

Project Impact (Difference Between the Two Scenarios) – Operations

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	-766	-953	-390	236	404	448	493	539	586	634	683	733	**2,644**
Supplementary Business Spending	-1	-2	0	60	65	65	65	65	65	65	64	64	**576**
Statewide Impacts Stemming from O'ahu Only	**-767**	**-955**	**-391**	**296**	**469**	**513**	**558**	**603**	**650**	**698**	**747**	**798**	**3,221**
% of Impacts Occuring on O'ahu	**94.8%**	**94.8%**	**94.8%**	**95.4%**	**95.2%**	**95.2%**	**95.1%**	**95.1%**	**95.1%**	**95.1%**	**95.1%**	**95.0%**	**95.3%**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	-40	-49	-20	12	21	23	26	28	30	33	35	38	**137**
Additional Visitor Expenditures in Maui County	-90	-112	-46	28	48	53	58	63	69	74	80	86	**312**
Additional Visitor Expenditures in Hawai'i County	-64	-80	-33	20	34	38	42	45	49	53	57	62	**223**
Statewide Impacts Including Neighbor Islands	**-960**	**-1,196**	**-490**	**357**	**572**	**627**	**683**	**740**	**799**	**859**	**920**	**983**	**3,893**

Note: Includes full- and part-time jobs, and are statewide effects. Small proportions of amounts generated on any one island "ripple out" to others as well.

4.2.4 State Taxes (Direct and Total, Operations)

Results for State Taxes are actually most relevant to the following Chapter 6, on fiscal impacts for local government. Tax revenues for the City and County of Honolulu are estimated there. However, those County-level estimates are independent of the I-O Model and methodology. The I-O Model does generate estimated State Tax revenues – on an aggregated basis, combining General Excise Tax, Transient Accommodations Tax, and many other revenue sources.

Because of the similarity of I-O-based State Tax results to foregoing I-O-based output, earnings, and jobs results, the State Tax information will be presented here in similar form. Table 4.12 shows State Taxes generated by direct economic activity, and Table 4.13 shows total State Taxes from all economic activity (including "ripple effects").

It is primarily the information from Table 4.13 that feeds into the subsequent Chapter 6 on fiscal impacts, and so the "impact" figures at the bottom of that table will again be the focus of this brief text summary. The difference between the two Scenarios means the State will receive additional tax revenues (or maintain current revenues otherwise lost) of increasing amounts each year. By 2029, additional tax revenues will reach $5.0 million associated with effects of Outrigger guest spending while on O'ahu, and will reach $5.8 million inclusive of time for some guests on Neighbor Islands.

Altogether, over 12 years, the State will collect $18.9 million more under the With-Project Scenario than under the Alternative-Action Scenario from economic activity during guests' time at the Outrigger Reef Waikīkī Beach Resort, going up to $21.8 million inclusive of additional time on Neighbor Islands.

Table 4.12: State Taxes from Direct Operational Activity – Two Scenarios and Impact (Difference)

With-Project Scenario -- Operation of Expanded Hotel

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	$2.7	$1.8	$4.2	$6.8	$7.4	$7.4	$7.4	$7.4	$7.4	$7.4	$7.4	$7.4	**$74.4**
Supplementary Business Spending	$0.0	$0.0	$0.0	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	**$1.9**
Statewide Benefits Stemming from O'ahu Only	**$2.7**	**$1.8**	**$4.2**	**$7.0**	**$7.6**	**$7.6**	**$7.6**	**$7.6**	**$7.6**	**$7.6**	**$7.6**	**$7.6**	**$76.3**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	$0.1	$0.1	$0.1	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	**$2.4**
Additional Visitor Expenditures in Maui County	$0.2	$0.1	$0.3	$0.6	$0.6	$0.6	$0.6	$0.6	$0.6	$0.6	$0.6	$0.6	**$6.1**
Additional Visitor Expenditures in Hawai'i County	$0.1	$0.1	$0.2	$0.4	$0.4	$0.4	$0.4	$0.4	$0.4	$0.4	$0.4	$0.4	**$4.1**
Statewide Benefits Including Neighbor Islands	**$3.2**	**$2.1**	**$4.9**	**$8.2**	**$8.8**	**$8.8**	**$8.8**	**$8.8**	**$8.8**	**$8.8**	**$8.8**	**$8.8**	**$88.8**

Note: All figures in Millions of 2016 $s.

Alternative-Action Scenario -- Continuation of Currently Configured Property

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	$6.2	$6.1	$5.9	$5.8	$5.6	$5.5	$5.3	$5.2	$5.0	$4.9	$4.8	$4.6	**$65.0**
Supplementary Business Spending	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.1**
Statewide Benefits Stemming from O'ahu Only	**$6.2**	**$6.1**	**$5.9**	**$5.8**	**$5.6**	**$5.5**	**$5.3**	**$5.2**	**$5.1**	**$4.9**	**$4.8**	**$4.6**	**$65.1**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.1	**$2.1**
Additional Visitor Expenditures in Maui County	$0.5	$0.5	$0.5	$0.5	$0.5	$0.4	$0.4	$0.4	$0.4	$0.4	$0.4	$0.4	**$5.3**
Additional Visitor Expenditures in Hawai'i County	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3	**$3.6**
Statewide Benefits Including Neighbor Islands	**$7.3**	**$7.1**	**$7.0**	**$6.8**	**$6.6**	**$6.4**	**$6.2**	**$6.1**	**$5.9**	**$5.7**	**$5.6**	**$5.4**	**$76.1**

Note: All figures in Millions of 2016 $s.

Project Impact (Difference Between the Two Scenarios) -- Operations

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	-$3.5	-$4.3	-$1.7	$1.0	$1.7	$1.9	$2.0	$2.2	$2.3	$2.5	$2.6	$2.7	**$9.4**
Supplementary Business Spending	$0.0	$0.0	$0.0	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	**$1.7**
Statewide Impacts Stemming from O'ahu Only	**-$3.5**	**-$4.3**	**-$1.7**	**$1.2**	**$1.9**	**$2.1**	**$2.2**	**$2.4**	**$2.5**	**$2.7**	**$2.8**	**$2.9**	**$11.1**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	-$0.1	-$0.1	-$0.1	$0.0	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	**$0.3**
Additional Visitor Expenditures in Maui County	-$0.3	-$0.4	-$0.1	$0.1	$0.1	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	**$0.8**
Additional Visitor Expenditures in Hawai'i County	-$0.2	-$0.2	-$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.2	**$0.5**
Statewide Impacts Including Neighbor Islands	**-$4.1**	**-$5.0**	**-$2.0**	**$1.4**	**$2.2**	**$2.4**	**$2.6**	**$2.7**	**$2.9**	**$3.1**	**$3.2**	**$3.4**	**$12.7**

Note: All figures in Millions of 2016 $s.

Table 4.13: State Taxes from Total Operational Activity – Two Scenarios and Impact (Difference)

With-Project Scenario -- Operation of Expanded Hotel

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	$4.6	$3.0	$7.1	$11.5	$12.4	$12.4	$12.4	$12.4	$12.4	$12.4	$12.4	$12.4	**$125.2**
Supplementary Business Spending	$0.0	$0.0	$0.0	$0.3	$0.4	$0.4	$0.4	$0.4	$0.4	$0.4	$0.4	$0.4	**$3.3**
Statewide Benefits Stemming from O'ahu Only	**$4.6**	**$3.0**	**$7.1**	**$11.8**	**$12.7**	**$12.7**	**$12.7**	**$12.7**	**$12.8**	**$12.8**	**$12.8**	**$12.8**	**$128.5**
% of State Taxes Generated on O'ahu	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	$0.2	$0.1	$0.3	$0.4	$0.4	$0.4	$0.4	$0.4	$0.4	$0.4	$0.4	$0.4	**$4.4**
Additional Visitor Expenditures in Maui County	$0.4	$0.3	$0.6	$1.0	$1.1	$1.1	$1.1	$1.1	$1.1	$1.1	$1.1	$1.1	**$10.9**
Additional Visitor Expenditures in Hawai'i County	$0.3	$0.2	$0.4	$0.7	$0.7	$0.7	$0.7	$0.7	$0.7	$0.7	$0.7	$0.7	**$7.2**
Statewide Benefits Including Neighbor Islands	**$5.4**	**$3.5**	**$8.4**	**$13.9**	**$15.0**	**$15.0**	**$15.0**	**$15.0**	**$15.0**	**$15.0**	**$15.0**	**$15.0**	**$151.0**

Note: All figures in Millions of 2016 $s.

Alternative-Action Scenario -- Continuation of Currently Configured Property

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	$10.5	$10.2	$10.0	$9.7	$9.5	$9.2	$9.0	$8.7	$8.5	$8.2	$8.0	$7.8	**$109.4**
Supplementary Business Spending	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.2**
Statewide Benefits Stemming from O'ahu Only	**$10.5**	**$10.3**	**$10.0**	**$9.8**	**$9.5**	**$9.2**	**$9.0**	**$8.7**	**$8.5**	**$8.3**	**$8.0**	**$7.8**	**$109.6**
% of State Taxes Generated on O'ahu	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	$0.4	$0.4	$0.4	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3	**$3.9**
Additional Visitor Expenditures in Maui County	$0.9	$0.9	$0.9	$0.8	$0.8	$0.8	$0.8	$0.8	$0.7	$0.7	$0.7	$0.7	**$9.5**
Additional Visitor Expenditures in Hawai'i County	$0.6	$0.6	$0.6	$0.6	$0.5	$0.5	$0.5	$0.5	$0.5	$0.5	$0.5	$0.4	**$6.3**
Statewide Benefits Including Neighbor Islands	**$12.4**	**$12.1**	**$11.8**	**$11.5**	**$11.2**	**$10.9**	**$10.6**	**$10.3**	**$10.0**	**$9.7**	**$9.5**	**$9.2**	**$129.3**

Note: All figures in Millions of 2016 $s.

Project Impact (Difference Between the Two Scenarios) -- Operations

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	12-Year Total
Stemming from Expenditures of Outrigger Reef Guests on O'ahu Only													
Additional Visitor Expenditures on O'ahu	-$5.9	-$7.2	-$2.9	$1.7	$2.9	$3.2	$3.4	$3.7	$3.9	$4.1	$4.4	$4.6	**$15.8**
Supplementary Business Spending	$0.0	$0.0	$0.0	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3	**$3.0**
Statewide Impacts Stemming from O'ahu Only	**-$5.9**	**-$7.3**	**-$2.9**	**$2.0**	**$3.2**	**$3.5**	**$3.8**	**$4.0**	**$4.2**	**$4.5**	**$4.7**	**$5.0**	**$18.9**
% of Impacts Occuring on O'ahu	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**	**96.7%**
Stemming from Expenditures of Some Outrigger Reef Guests on Neighbor Islands													
Additional Visitor Expenditures in Kaua'i County	-$0.2	-$0.3	-$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.2	$0.2	**$0.6**
Additional Visitor Expenditures in Maui County	-$0.5	-$0.6	-$0.3	$0.2	$0.3	$0.3	$0.3	$0.3	$0.3	$0.4	$0.4	$0.4	**$1.4**
Additional Visitor Expenditures in Hawai'i County	-$0.3	-$0.4	-$0.2	$0.1	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.3	$0.3	**$0.9**
Statewide Impacts Including Neighbor Islands	**-$7.0**	**-$8.6**	**-$3.4**	**$2.4**	**$3.8**	**$4.1**	**$4.4**	**$4.7**	**$5.0**	**$5.2**	**$5.5**	**$5.8**	**$21.8**

Note: All figures in Millions of 2016 $s.

5. POPULATION

Population effects from the hotel – on-site visitor population, residential population supported by construction, and residential population supported by operations – are relatively small, and this chapter will be accordingly brief. This and the following Chapter 6 will focus on ***effects of O'ahu-based economic activities only***, as Neighbor Island "spill-over" visitor populations are marginal and somewhat more speculative. Of course, O'ahu activities still create small "ripple effects" on Neighbor Islands – what is being excluded here are assumed Outrigger guest pre-/post-visit Neighbor Islands stays.

5.1 Assumptions for Analysis

All assumptions needed to estimate on-site visitor population were already provided in Table 4.1 to Table 4.4. For residential population supported by construction or operational economic activity, the only additional needed assumptions are:

1. Total number of residents per worker. Based on U.S. Census data,[7] the assumed value is 1.67 for O'ahu impacts, 1.68 for statewide impacts.

2. Percentage of direct construction workers likely to be imported from out of state. Based on discussions with Outrigger's construction contractor, we conservatively assume a high percentage – 15%. The actual future percentage in any particular year will depend not only on how much construction occurs in Hawai'i, but also on the Mainland. A simultaneous Hawai'i-Mainland boom would result in limited ability to import workers and thus a simple Hawai'i labor shortage, with upward pressure on wages.

5.2 Results

5.2.1 On-Site Visitor Population

Assumptions listed in the foregoing Section 4.1 regarding unit counts, occupancy, and persons per unit generate the results in the following Table 5.1. As a result of the net additional 39 units (and with stated occupancy assumptions), the average daily number of guests will grow from 1,103 now to 1,167 after project completion and stabilized operations are achieved. As the Alternative-Action Scenario involves likely significant decreases in occupancies, the "impact," or difference, is expected to reach about 215 by the late 2020s.

[7] 2011-13 American Community Survey (three-year averaged results): Total O'ahu (or State) population minus population in households with zero workers, divided by number of O'ahu (or State) workers. ("Workers" include civilian employed and unemployed, plus military.) The 2011-13 ACS is the most recent available three-year averaged results available from the U.S. Census Bureau at the time this study was prepared.

Table 5.1: On-Site Visitor Population Impacts

	2016	2017	2018	2019	2020	2021	2022
Existing Activities	1,103	1,104					
With-Project Scenario			933	609	933	1,081	1,167
Alternative-Action Scenario			1,091	1,078	1,066	1,053	1,040
Impact (Difference)			**-158**	**-469**	**-133**	**28**	**127**

	2023	2024	2025	2026	2027	2028	2029
With-Project Scenario	1,167	1,167	1,167	1,167	1,167	1,167	1,167
Alternative-Action Scenario	1,028	1,015	1,002	990	977	964	951
Impact (Difference)	**139**	**152**	**165**	**177**	**190**	**203**	**216**

Note: In partial construction/renovation years 2018 and 2020, these are year-round averages. Numbers likely to be higher during parts of these years with full operations.

5.2.2 Resident Population Supported by Construction Activities

Table 5.2 below shows the statewide resident population (the vast majority of it on O'ahu) supported by construction activities each year. As imported workers are excluded and it is unlikely the project will induce in-migration, the numbers in this case are properly considered population "maintained" (and not "created") by construction.

Table 5.2: Statewide Resident Population Supported by Construction Activities

	2018	2019	2020
With-Project Scenario			
Total Direct Construction Workers	219	250	101
Imported from Outside Hawai'i	33	38	15
Total Workers from Construction	510	697	279
Total Workers (excl. Imported Direct)	477	659	264
Population Assoc. w/ These Workers	796	1,101	441
Alternative-Action Scenario			
Total Workers from Renovation	0	0	0
Population Assoc. w/ These Workers	0	0	0
Impact (Difference)			
Population Assoc. with Workers	**796**	**1,101**	**441**
% Impact on O'ahu	**94.5%**	**93.9%**	**93.9%**

5.2.3 Resident Population Supported by Operational Activities

Table 5.3 shows statewide population (again, overwhelmingly on O'ahu) associated with both scenarios, and the difference between them. This is population "created or maintained" by total employment. The negative numbers in construction years are an artifact of the calculation process, as in fact Outrigger Enterprises will likely keep all or most direct employees during construction, and any demand for hotel rooms shifted away from this property by construction would be absorbed by other Waikīkī hotels.

Table 5.3: Statewide Resident Population Supported by Operational Activities

	2016	2017	2018	2019	2020	2021	2022
Existing Activities	2,232	993					
With-Project Scenario			986	658	1,538	2,721	2,991
Alternative-Action Scenario			2,237	2,192	2,146	2,095	2,043
Impact (Difference)			**-1,251**	**-1,535**	**-608**	**626**	**948**
% Impact on O'ahu			**94.8%**	**94.8%**	**94.8%**	**95.3%**	**95.1%**

	2023	2024	2025	2026	2027	2028	2029
With-Project Scenario	3,046	3,102	3,158	3,216	3,275	3,335	3,396
Alternative-Action Scenario	1,991	1,937	1,882	1,825	1,769	1,711	1,652
Impact (Difference)	**1,055**	**1,165**	**1,276**	**1,391**	**1,506**	**1,624**	**1,745**
% Impact on O'ahu	**95.1%**	**95.1%**	**95.1%**	**95.0%**	**95.0%**	**95.0%**	**95.0%**

Note: In partial construction/renovation years 2018 and 2020, these are year-round averages. Numbers likely to be higher during parts of these years with full operations.

6. FISCAL IMPACTS

This chapter focuses on government tax revenues and costs. It includes:

- Discussion of types of analysis, including cost issues;
- Review of input assumptions; and
- Results flowing from analyses in preceding chapters.

6.1 Types of Analysis

Analysis of government fiscal impacts in theory involves both revenues and costs from proposed developments. The cost analysis is normally conducted in one of two different possible approaches:

- **Marginal-Cost Approach** – This approach involves identifying the new or "marginal" costs to government unique to the project. An example might be a large new community on previously undeveloped land, as this could require government expenses for new roads, schools, etc. However, this project is located in a well-developed area and, according to EIS overall contractor Group 70, is unlikely to require significant new State or City expenditures.

- **Average-Cost Approach** – This frequently-used approach is most useful when a project is not expected to generate unique capital costs for government but would generate additional visitors to the state. That is clearly the case with this project, and so average service costs are assumed for appropriate populations.

  These appropriate populations are *transient* ones – primarily visitors, secondarily imported construction workers. For residential populations, revenues collected from the overall population tend all to be expended on that population. Additionally, the resident population impacts are not necessarily *new* people on-island – as frequently noted in this study, they may be "maintained" rather than "created" – but additional visitors and imported construction workers are assumed always to be present only as a result of project approval and implementation.

6.2 Assumptions for Analysis

The analysis flows from previously-calculated results – both Construction and Operations – and from assumed I-O multipliers (as well as TAT and GET rates) already provided in Table 2.5 to Table 2.8 at the end of the general methodological discussion of Chapter 2.

Additionally, for property tax calculations, the current Hotel and Resort rate of $12.90 per $1,000 assessed value (Table 6.1) is assumed to apply separately to land and building values. Assessments are generally made of market value on Oct. 1 for the year before taxes are due. The 2015 assessed value for this property (for taxes to be paid in 2016) was $134,030,600 for land and $97,283,400 for building. This would remain the basis for assumed future assessments and payments under the Alternative-Action Scenario (continuation of the existing hotel configuration), as well as the land portion of the With-Project Scenario.

It should be noted that, due to a spate of recent Waikīkī hotel sales, assessed values of lodging properties there have shot up in the past several years. The assessed values noted above are 49.1% higher for land and 29.4% higher for building than they were two years previously. According to several industry sources interviewed by JMK Associates for this report, sales and increased market assessments are likely to continue, albeit at a more modest rate, for another year or two. Thus, assumed continued land assessment at the 2015 level (in constant dollars) is a conservative assumption for this analysis.

Table 6.1: City/County of Honolulu Property Tax Rates by Category, 2007 - 2016

Older Categories	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	More Recent Categories
Commercial	$11.97	$12.40	$12.40	$12.40	$12.40	$12.40	$12.40	$12.40	$12.40	$12.40	Commercial
Hotel and resort	$11.97	$12.40	$12.40	$12.40	$12.40	$12.40	$12.40	$12.40	$12.90	$12.90	Hotel and Resort
Industrial	$11.97	$12.40	$12.40	$12.40	$12.40	$12.40	$12.40	$12.40	$12.40	$12.40	Industrial
Public service	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	Public Service
	$8.57	$8.50	$8.50	$8.50	$8.50	$8.50	$8.50	$8.50	$8.50	$8.50	Vacant Agricultural
Agricultural	$8.57	$5.70	$5.70	$5.70	$5.70	$5.70	$5.70	$5.70	$5.70	$5.70	Agricultural
Preservation	$9.57	$5.70	$5.70	$5.70	$5.70	$5.70	$5.70	$5.70	$5.70	$5.70	Preservation
Apartment	$3.59	$3.29									
Unimproved residential	$5.72	$5.70									
Improved residential	$3.59	$3.29	$3.29	$3.42	$3.42						Homeowner
					$3.58						Non-homeowner
						$3.50	$3.50	$3.50	$3.50	$3.50	Residential
									$6.00	$6.00	Residential A[1]

For the building portion under the With-Project Scenario, actual future property tax assessments will depend on a variety of factors that cannot be known until the assessment is conducted. However, as the best currently available estimate for the With-Project Scenario following completion of the expansion, we assume the new building value will be equal to the current assessed building value plus cumulative value of construction expenditures.

During construction years, building values are assumed to equal value of construction in place by Oct. 1 of that year, estimated as the percentage of that year's total projected construction expenditures. While revenue streams for the owners may be affected by the construction activities, assessed value of the site is assumed to remain stable during construction years.

6.3 Results

As with the Population impacts for Chapter 5, this analysis conservatively excludes effects of possible Neighbor Island economic activity from State revenues. And City and County GET tax revenues are assumed only for the roughly 95% of total statewide output actually occurring on O'ahu. Table 6.2 shows results for the "With-Project Scenario;" Table 6.3, for the "Alternative-Impact Scenario;" and the critical Table 6.4 shows the project impact – the difference between the first two.

As shown in Table 6.4, for the With-Project Scenario as compared to the Alternative-Action Scenario, ***the project is expected to generate $12.9 million more for the City and County (and $39.9 million more for the State, over the 12-year period*** from 2018 to 2029. As with most economic benefits, there is a period of reduced positive benefits or even net loss during construction, but this is quickly offset by large net gains in following years – though we issue a final reminder that some of the gains could turn out to be preservation of existing benefits if there are downturns in other (non-tourism) sectors of the economy.

The City and County net benefits come primarily from property tax revenues (with GET revenues earmarked for rapid transit), and the largest component of State tax revenues would be GET.

Table 6.2: County and State Revenues and Costs – With-Project Scenario

With-Project Scenario

(All dollar figures are millions of projected constant 2016 dollars)	existing activities 2017	const. starts 6/1 2018	construc-tion year 2019	full ops as of 7/1 2020	full oper-ations 2021	full oper-ations 2022	full oper-ations 2023
County Revenues From Project (by Source)	**$4.44**	**$3.93**	**$3.97**	**$4.74**	**$5.24**	**$5.60**	**$5.59**
Property Tax (from Site) *	$3.04	$3.04	$3.14	$3.71	$3.80	$4.04	$4.04
GET 0.5% surcharge - Construction, Total O'ahu Output	$0.00	$0.31	$0.45	$0.18	$0.00	$0.00	$0.00
GET 0.46% surcharge - Operations, Lodging	$0.19	$0.08	$0.05	$0.12	$0.20	$0.22	$0.22
GET 0.5% surcharge - Operations, Rest of Total O'ahu Output	$0.55	$0.22	$0.14	$0.31	$0.53	$0.56	$0.54
TAT returned to County - Operations, Direct	$0.66	$0.27	$0.18	$0.42	$0.71	$0.77	$0.78
Costs Of County Services From Project	**$0.00**	**$1.16**	**$0.77**	**$1.13**	**$1.29**	**$1.40**	**$1.40**
County Service Costs -- Off-Island Direct Construction Workers	$0.00	$0.04	$0.04	$0.02	$0.00	$0.00	$0.00
County Service Costs -- Direct Visitor Population	$0.00	$1.12	$0.73	$1.12	$1.29	$1.40	$1.40
Net County Revenues	**$4.44**	**$2.77**	**$3.19**	**$3.60**	**$3.95**	**$4.20**	**$4.19**
State Revenues From Project (All, from I-O Model)	**$11.04**	**$8.46**	**$8.72**	**$9.08**	**$11.79**	**$12.74**	**$12.74**
All State Taxes (from I-O multiplier) - Construction, Total	$0.00	$3.89	$5.74	$2.22	$0.00	$0.00	$0.00
All State Taxes (from I-O multiplier) - Total, O'ahu Operations	$11.04	$4.57	$2.99	$6.86	$11.79	$12.74	$12.74
Costs Of State Services From Project	**$0.00**	**$1.56**	**$1.05**	**$1.53**	**$1.75**	**$1.89**	**$1.89**
State Service Costs – Off-Island Direct Construction Workers	$0.00	$0.05	$0.06	$0.02	$0.00	$0.00	$0.00
State Service Costs – Direct Visitor Population	$0.00	$1.51	$0.98	$1.51	$1.75	$1.89	$1.89
Net State Revenues	**$11.04**	**$6.90**	**$7.68**	**$7.55**	**$10.05**	**$10.85**	**$10.86**

	full oper-ations 2024	full oper-ations 2025	full oper-ations 2026	full oper-ations 2027	full oper-ations 2028	full oper-ations 2029	Total (2018-2029)
County Revenues From Project (by Source)	**$5.58**	**$5.58**	**$5.57**	**$5.57**	**$5.56**	**$5.56**	**$62.49**
Property Tax (from Site) *	$4.04	$4.04	$4.04	$4.04	$4.04	$4.04	**$46.05**
GET 0.5% surcharge - Construction, Total O'ahu Output	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$0.94**
GET 0.46% surcharge - Operations, Lodging	$0.23	$0.23	$0.23	$0.23	$0.23	$0.24	**$2.28**
GET 0.5% surcharge - Operations, Rest of Total O'ahu Output	$0.53	$0.51	$0.50	$0.48	$0.47	$0.46	**$5.25**
TAT returned to County - Operations, Direct	$0.79	$0.79	$0.80	$0.81	$0.82	$0.82	**$7.97**
Costs Of County Services From Project	**$1.40**	**$1.40**	**$1.40**	**$1.40**	**$1.40**	**$1.40**	**$15.53**
County Service Costs -- Off-Island Direct Construction Workers	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$0.10**
County Service Costs -- Direct Visitor Population	$1.40	$1.40	$1.40	$1.40	$1.40	$1.40	**$15.43**
Net County Revenues	**$4.19**	**$4.18**	**$4.18**	**$4.17**	**$4.17**	**$4.16**	**$46.96**
State Revenues From Project (All, from I-O Model)	**$12.74**	**$12.75**	**$12.75**	**$12.75**	**$12.76**	**$12.76**	**$140.05**
All State Taxes (from I-O multiplier) - Construction, Total	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$11.85**
All State Taxes (from I-O multiplier) - Total, O'ahu Operations	$12.74	$12.75	$12.75	$12.75	$12.76	$12.76	**$128.21**
Costs Of State Services From Project	**$1.89**	**$1.89**	**$1.89**	**$1.89**	**$1.89**	**$1.89**	**$20.97**
State Service Costs – Off-Island Direct Construction Workers	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$0.14**
State Service Costs – Direct Visitor Population	$1.89	$1.89	$1.89	$1.89	$1.89	$1.89	**$20.83**
Net State Revenues	**$10.86**	**$10.86**	**$10.87**	**$10.87**	**$10.87**	**$10.88**	**$119.08**

* Property taxes have one-year lag from assesment to payment; e.g., 2016 tax payments based on values assessed in 2015.

Table 6.3: County and State Revenues and Costs – Alternative-Action Scenario

Alternative-Action Scenario

(All dollar figures are millions of projected constant 2016 dollars)	existing activities 2017	existing activities 2018	existing activities 2019	existing activities 2020	existing activities 2021	existing activities 2022	existing activities 2023
County Revenues From Project (by Source)	**$4.44**	**$4.35**	**$4.29**	**$4.24**	**$4.18**	**$4.13**	**$4.08**
Property Tax (from Site) *	$3.04	$3.04	$3.04	$3.04	$3.04	$3.04	$3.04
GET 0.5% surcharge - Construction, Total O'ahu Output	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
GET 0.46% surcharge - Operations, Lodging	$0.19	$0.18	$0.17	$0.17	$0.16	$0.16	$0.15
GET 0.5% surcharge - Operations, Rest of Total O'ahu Output	$0.55	$0.50	$0.47	$0.44	$0.41	$0.38	$0.35
TAT returned to County - Operations, Direct	$0.66	$0.62	$0.60	$0.59	$0.57	$0.55	$0.53
Costs Of County Services From Project	**$0.00**	**$1.31**	**$1.29**	**$1.28**	**$1.26**	**$1.25**	**$1.23**
County Service Costs -- Off-Island Direct Renovation Workers	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
County Service Costs -- Direct Visitor Population	$0.00	$1.31	$1.29	$1.28	$1.26	$1.25	$1.23
Net County Revenues	**$4.44**	**$3.04**	**$3.00**	**$2.96**	**$2.92**	**$2.88**	**$2.85**
State Revenues From Project (All, from I-O Model)	**$11.04**	**$10.37**	**$9.97**	**$9.58**	**$9.18**	**$8.79**	**$8.40**
All State Taxes (from I-O multiplier) - Construction, Total	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
All State Taxes (from I-O multiplier) - Total, O'ahu Operations	$11.04	$10.37	$9.97	$9.58	$9.18	$8.79	$8.40
Costs Of State Services From Project	**$0.00**	**$1.76**	**$1.74**	**$1.72**	**$1.70**	**$1.68**	**$1.66**
State Service Costs -- Off-Island Direct Renovation Workers	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
State Service Costs -- Direct Visitor Population	$0.00	$1.76	$1.74	$1.72	$1.70	$1.68	$1.66
Net State Revenues	**$11.04**	**$8.60**	**$8.23**	**$7.86**	**$7.48**	**$7.11**	**$6.74**

	existing activities 2024	existing activities 2025	existing activities 2026	existing activities 2027	existing activities 2028	existing activities 2029	Total (2018-2029)
County Revenues From Project (by Source)	**$4.03**	**$3.98**	**$3.93**	**$3.88**	**$3.84**	**$3.79**	**$48.71**
Property Tax (from Site) *	$3.04	$3.04	$3.04	$3.04	$3.04	$3.04	**$36.52**
GET 0.5% surcharge - Construction, Total O'ahu Output	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$0.00**
GET 0.46% surcharge - Operations, Lodging	$0.15	$0.14	$0.13	$0.13	$0.12	$0.12	**$1.78**
GET 0.5% surcharge - Operations, Rest of Total O'ahu Output	$0.33	$0.30	$0.28	$0.26	$0.24	$0.22	**$4.18**
TAT returned to County - Operations, Direct	$0.51	$0.49	$0.47	$0.45	$0.43	$0.41	**$6.22**
Costs Of County Services From Project	**$1.21**	**$1.20**	**$1.18**	**$1.17**	**$1.15**	**$1.14**	**$14.67**
County Service Costs -- Off-Island Direct Renovation Workers	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$0.00**
County Service Costs -- Direct Visitor Population	$1.21	$1.20	$1.18	$1.17	$1.15	$1.14	**$14.67**
Net County Revenues	**$2.81**	**$2.78**	**$2.75**	**$2.71**	**$2.68**	**$2.66**	**$34.04**
State Revenues From Project (All, from I-O Model)	**$8.02**	**$7.65**	**$7.28**	**$6.93**	**$6.58**	**$6.23**	**$98.99**
All State Taxes (from I-O multiplier) - Construction, Total	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$0.00**
All State Taxes (from I-O multiplier) - Total, O'ahu Operations	$8.02	$7.65	$7.28	$6.93	$6.58	$6.23	**$98.99**
Costs Of State Services From Project	**$1.64**	**$1.62**	**$1.60**	**$1.58**	**$1.56**	**$1.54**	**$19.80**
State Service Costs -- Off-Island Direct Renovation Workers	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$0.00**
State Service Costs -- Direct Visitor Population	$1.64	$1.62	$1.60	$1.58	$1.56	$1.54	**$19.80**
Net State Revenues	**$6.38**	**$6.03**	**$5.68**	**$5.35**	**$5.02**	**$4.70**	**$79.18**

* Property taxes have one-year lag from assesment to payment; e.g., 2016 tax payments based on values assessed in 2015.

Table 6.4: County and State Revenues and Costs – Project Impact (Difference)

Project Impact (Difference Between the Two Scenarios)

(All dollar figures are millions of projected constant 2016 dollars)	existing activities 2017	const. starts 6/1 2018	construc-tion year 2019	full ops as of 7/1 2020	full oper-ations 2021	full oper-ations 2022	full oper-ations 2023
County Revenues From Project (by Source)	**$0.00**	**-$0.42**	**-$0.32**	**$0.50**	**$1.06**	**$1.47**	**$1.51**
Property Tax (from Site) *	$0.00	$0.00	$0.10	$0.66	$0.76	$1.00	$1.00
GET 0.5% surcharge - Construction, Total O'ahu Output	$0.00	$0.31	$0.45	$0.18	$0.00	$0.00	$0.00
GET 0.46% surcharge - Operations, Lodging	$0.00	-$0.10	-$0.12	-$0.05	$0.04	$0.06	$0.07
GET 0.5% surcharge - Operations, Rest of Total O'ahu Output	$0.00	-$0.28	-$0.33	-$0.12	$0.12	$0.18	$0.19
TAT returned to County - Operations, Direct	$0.00	-$0.35	-$0.42	-$0.17	$0.14	$0.23	$0.25
Costs Of County Services From Project	**$0.00**	**-$0.15**	**-$0.52**	**-$0.14**	**$0.03**	**$0.15**	**$0.17**
County Service Costs -- Off-Island Direct Construction Workers	$0.00	$0.04	$0.04	$0.02	$0.00	$0.00	$0.00
County Service Costs -- Direct Visitor Population	$0.00	-$0.19	-$0.56	-$0.16	$0.03	$0.15	$0.17
Net County Revenues	**$0.00**	**-$0.27**	**$0.19**	**$0.64**	**$1.03**	**$1.32**	**$1.35**
State Revenues From Project (All, from I-O Model)	**$0.00**	**-$1.91**	**-$1.25**	**-$0.50**	**$2.61**	**$3.95**	**$4.34**
All State Taxes (from I-O multiplier) - Construction, Total	$0.00	$3.89	$5.74	$2.22	$0.00	$0.00	$0.00
All State Taxes (from I-O multiplier) - Total, O'ahu Operations	$0.00	-$5.80	-$6.98	-$2.72	$2.61	$3.95	$4.34
Costs Of State Services From Project	**$0.00**	**-$0.20**	**-$0.70**	**-$0.19**	**$0.05**	**$0.20**	**$0.23**
State Service Costs – Off-Island Direct Construction Workers	$0.00	$0.05	$0.06	$0.02	$0.00	$0.00	$0.00
State Service Costs – Direct Visitor Population	$0.00	-$0.26	-$0.76	-$0.21	$0.05	$0.20	$0.23
Net State Revenues	**$0.00**	**-$1.71**	**-$0.55**	**-$0.31**	**$2.57**	**$3.75**	**$4.11**

	full oper-ations 2024	full oper-ations 2025	full oper-ations 2026	full oper-ations 2027	full oper-ations 2028	full oper-ations 2029	Total (2018-2029)
County Revenues From Project (by Source)	**$1.56**	**$1.60**	**$1.64**	**$1.69**	**$1.73**	**$1.77**	**$12.02**
Property Tax (from Site) *	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	**$8.53**
GET 0.5% surcharge - Construction, Total O'ahu Output	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$0.94**
GET 0.46% surcharge - Operations, Lodging	$0.08	$0.09	$0.09	$0.10	$0.11	$0.12	**$0.38**
GET 0.5% surcharge - Operations, Rest of Total O'ahu Output	$0.20	$0.21	$0.22	$0.22	$0.23	$0.24	**$0.83**
TAT returned to County - Operations, Direct	$0.28	$0.30	$0.33	$0.36	$0.38	$0.41	**$1.33**
Costs Of County Services From Project	**$0.18**	**$0.20**	**$0.21**	**$0.23**	**$0.24**	**$0.26**	**$0.61**
County Service Costs -- Off-Island Direct Construction Workers	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$0.10**
County Service Costs -- Direct Visitor Population	$0.18	$0.20	$0.21	$0.23	$0.24	$0.26	**$0.50**
Net County Revenues	**$1.38**	**$1.40**	**$1.43**	**$1.46**	**$1.48**	**$1.51**	**$12.92**
State Revenues From Project (All, from I-O Model)	**$4.72**	**$5.10**	**$5.47**	**$5.82**	**$6.18**	**$6.53**	**$34.54**
All State Taxes (from I-O multiplier) - Construction, Total	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$11.85**
All State Taxes (from I-O multiplier) - Total, O'ahu Operations	$4.72	$5.10	$5.47	$5.82	$6.18	$6.53	**$22.69**
Costs Of State Services From Project	**$0.25**	**$0.27**	**$0.29**	**$0.31**	**$0.33**	**$0.35**	**$0.82**
State Service Costs – Off-Island Direct Construction Workers	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$0.14**
State Service Costs – Direct Visitor Population	$0.25	$0.27	$0.29	$0.31	$0.33	$0.35	**$0.68**
Net State Revenues	**$4.47**	**$4.83**	**$5.18**	**$5.52**	**$5.85**	**$6.18**	**$39.90**

* Property taxes have one-year lag from assesment to payment; e.g., 2016 tax payments based on values assessed in 2015.

APPENDIX C

Transportation Assessment for the Outrigger Reef Waikiki Beach Resort Revisioning

Fehr & Peers

February 2016

FEHR PEERS

February 29, 2016

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

Subject: Transportation Assessment for the Outrigger Reef Waikiki Beach Resort Revisioning

Dear Ms. Ruotola and Ms. Tracy Furuya:

Fehr & Peers has completed a transportation assessment for the proposed revitalization of the Outrigger Reef Waikiki Beach Resort (i.e., the "Project" or Outrigger Reef) located at 2169 Kalia Road in Waikiki on the island of Oahu. The purpose of this assessment is to inform the project applicant as to the transportation opportunities and constraints associated with the project as part of the project team's Supplemental EIS process. This first section of this report summarizes the key findings and conclusions. The remainder of this letter provides the detailed project information and describes existing conditions, estimates the project's potential vehicle trip generation, and identifies potential areas of impact, including those related to construction and to multi-modal.

KEY FINDINGS AND CONCLUSIONS

The following findings resulted from the transportation assessment:

- Intersections in the study area currently operate acceptably (LOS D or better) and experience limited vehicle delays during the morning (AM) and afternoon (PM) peak hour.
- In both the AM and PM peak hours, the project is estimated to generate less than 10 net new trips under typical conditions and less than 70 net new trips under event conditions. Event conditions will include the use of various meeting rooms and are expected to occur only once or twice per week. This projection is based on trip generation rates developed through a survey of the existing hotel.
- Under future year and full buildout conditions, it is possible that the proposed project could contribute to a PM peak hour cumulative impact at Beachwalk Drive/Kalia Road, where operations may be at LOS E. It is assumed that 25% of the project's inbound trips

would use Beachwalk Drive to eventually access the Ewa driveway. Depending on the hotel conditions (i.e. typical or event), anywhere between 3% and 11% of the project's total PM peak hour trips would be turning southbound right at this intersection and would contribute to undesirable operations (i.e. slightly exceed the LOS D threshold) at this worst movement.
- No multi-modal impacts are anticipated to occur with the project. We recommend the project encourage walking, bicycling, transit use, and ridesharing through the promotion of travel demand management (TDM) strategies and non-motorized modes.

PROJECT DESCRIPTION

The project is the revitalization of the existing Outrigger Reef to meet the evolving expectations of its visitors and the local market. Improvements include expanding hotel accommodations, providing visitors more conferencing and event facility options, and redeveloping the on-site entertainment and recreational areas. The project site lies within the western part of the Waikiki resort district and is bounded by Kalia Road on the mauka side, the Outrigger Waikiki Shore to the west, the Halekulani to the east, and Waikiki Beach on the makai side. Additionally, the resort destination is part of the larger Waikiki Beach Walk, a cluster of mixed-use entertainment, retail, and restaurant properties, which has become a popular gathering place for visitors and locals in Waikiki. **Figure 1** illustrates the study area of the proposed project.

The project is expected to take approximately 25 months to complete with construction of improvements starting in June 2018. Some of the proposed improvements and planned upgrades to the existing amenities are illustrated on **Figure 2** and highlighted below:

- Demolition of the Diamond Head Tower to provide more open space and improve the transition from the resort property to Waikiki Beach;
- Construction of 60 units that will connect the existing Pacific and Ocean Towers (although the new program will only result in a net gain of 39 rooms for a total of 674 rooms);
- Reconfiguration of the arrival and lobby area;
- Expansion and elevation of the pool deck and creation of 52,800 square feet (SF) of new recreation deck space;
- Construction of a new large dining space and reorientation of the retail storefronts toward the new pedestrian walkway;
    - It should be noted that the upgrades to the hotel's commercial spaces and reconfiguration of space will actually result in the total dining and retail area

decreasing from 40,370 SF to 23,480 SF upon completion of the project (net reduction of 16,890 SF)

- Construction of new meeting facilities, which include one 4,250-SF ballroom, 1,700 SF of pre-function space, three breakout rooms totaling 1,500 SF, and an 1,800-SF meeting room (net increase of 6,730 SF in banquet/meeting facilities).

While the project includes numerous enhancements to the Outrigger Reef, those changes directly affecting transportation are the 39 net new hotel rooms and approximately 6,730 SF of net new meeting and banquet space. Similar to existing conditions, primary access would still be provided via two driveways on Kalia Road: one inbound (Ewa of Beachwalk Drive) and one two-way driveway (providing egress from the porte cochere and ingress to the underground parking area).

PROJECT STUDY AREA

The assessment focused on qualitatively evaluating the potential project-related traffic impacts at five (5) existing intersections in the vicinity of the hotel. The analyzed intersections are listed below and are shown on **Figure 1**:

1. Saratoga Road-Kalaimoku Street/Kalakaua Avenue
2. Lewers Street/Kalakaua Avenue
3. Saratoga Road/Kalia Road
4. Beachwalk Drive/Kalia Road
5. Lewers Street/Kalia Road

Figure 1
Study Area and Analyzed Intersections

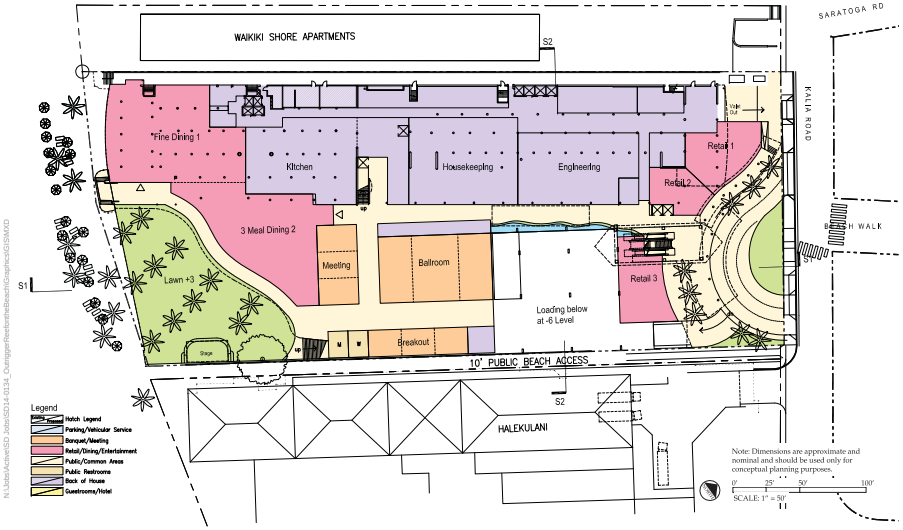

Figure 2
Conceptual Plan

EXISTING CONDITIONS

Described below is the study area's existing transportation network and includes a discussion of the roadway, bicycle, pedestrian, and transit facilities. Overall, the assessment of the existing conditions relevant to this study established an existing baseline condition against which the proposed project changes can be evaluated against.

Roadway System

The key roadways providing access to the site are described below. **Figure 1** illustrates the proposed project location and the surrounding roadway system.

Kalakaua Avenue is a major arterial that extends in a southeasterly direction from S Beretania Street to Paki Avenue-Diamond Head Road. From Beretania Street to McCully Street, Kalakaua Avenue is a two-way roadway providing between two to four lanes in each direction. Between McCully Street and Royal Hawaiian, it operates as a one-way Diamond Head-bound street with four travel lanes, except for one transit lane going Ewa-bound from Kuamoo Street to McCully Street. Within the study area, Kalakaua Avenue is a Diamond Head-bound only, four lane arterial with no parking allowed on both sides and a posted speed limit of 25 miles per hour (mph).

Kalia Road is a two-lane roadway that extends southeasterly from Ala Moana Boulevard to its terminus at the Sheraton Waikiki loading dock. It provides one through lane per direction between Hale Koa Drive and Lewers Street and parking is not allowed on either side. Kalia Road has a posted speed limit of 25 mph and provides direct access to the project site, the Outrigger Waikiki Shore, and the Halekulani.

Saratoga Road is a mauka-makai roadway from Kalia Road to Kalakaua Avenue. It includes three lanes (two mauka-bound lanes and one makai-bound lane) between Kalia Road and the US Post Office driveway, and then widens to four lanes (three mauka-bound lanes and one makai-bound lane) to Kalakaua Avenue. It has a posted speed limit of 25 mph. Makai of the post-office driveway, two-hour meter parking from 7:00 AM to 6:00 PM is present on the west (makai-bound) side of the roadway. Mauka of Kalakaua Avenue, this street becomes Kalaimoku Street.

Beachwalk Drive is a one-lane roadway that extends makai from Kalakaua Avenue to Kalia Road. It is a one-way, makai-bound only street with metered parking provided for a small portion of the Diamond Head side of the roadway just makai of Kalakaua Avenue, and no on-street parking is

provided on the Ewa side. Beachwalk Drive terminates at Kalia Road the front of the Outrigger Reef.

Lewers Street is a mauka-makai roadway that extends from Ala Wai Boulevard to Kalia Road and provides one to two through lanes of travel. It is generally a one-way street, except for the segment between Don Ho Street and Kalakaua Avenue, which provides two makai-bound lanes and one mauka-bound lane. Lewers Street from Kalakaua Avenue to Ala Wai Boulevard is a one-way, mauka-bound street with on-street, metered parking available on both sides in some portions of the segment. Lewers Street from Don Ho Street to Kalia Road is a one-way, makai-bound street with no parking anytime on either side.

Pedestrian Facilities

Pedestrian facilities are available in most parts the project study area. Pedestrian facilities consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections. Since the study area is in the Waikiki resort district, heavy pedestrian activity is generated by the surrounding retail, restaurant, and hotel facilities.

There are generally sidewalks or paved walkways along both sides of each of the streets within the study area, including Kalakaua Avenue, Lewers Street, Saratoga Road, Kalia Road, and Beachwalk Drive. Sidewalks that provide pedestrian access to the retail and restaurant frontage on Kalakaua Avenue and portions of Lewers Street are wide and well maintained. Although not as wide, the sidewalks on Saratoga Road, Beachwalk Drive, and Kalia Road are in fairly good condition. Although some sidewalk sections along Saratoga Road and Kalia Road are relatively narrow, these sections generally accommodate the level of pedestrian activity generated.

Marked crosswalks are provided at all study intersections where pedestrian crossings are permitted. All the marked pedestrian crossings are high visibility crosswalks striped using the continental pattern, with the exception of Intersection 2: Lewers Street/Kalakaua Avenue which provides regular marked crosswalks. At all the signalized study intersections, pedestrian signals and push buttons are also provided on all crossing legs. Additionally, Intersection 2: Lewers Street/Kalakaua Avenue provides a pedestrian scramble phase to serve the large numbers of pedestrians crossing at this location.

A high-visibility mid-block crossing exists on Saratoga Avenue at the US Post Office driveway. Pedestrian crossing signs are also posted on both ends of the mid-block crossing to warn

motorists to yield to pedestrians crossing at this location. Additionally, the Beachwalk Drive/Kalakaua Avenue and Lewers Street/Do Ho Street intersections provide marked pedestrian crosswalks on each of their makai and Ewa legs.

Existing Bicycle Facilities

Within the project study area, a Diamond Head-bound bike lane exists along the makai side of Kalakaua Avenue. The bicycle lane extends approximately one mile from Ala Moana Boulevard to Kapahulu Avenue and provides a designated, separate facility for bicyclists to travel from Ala Mona Boulevard to Diamond Head via a connection to existing bicycle lanes that extend along Kalakaua Avenue near Kapiolani Park. Additionally, a Ewa-bound bicycle lane is provided along the north side of Ala Wai Boulevard that extends approximately 1.1 miles from Ainakea Way to Keoniana Street, where it transitions into a bike route.

In addition to illustrating the existing bicycle lanes, **Figure 3** also demarcates existing bicycle trails within Fort DeRussy Beach Park and along Waikiki Beach.

Existing Transit Services

"The Bus" is Oahu's primary form of public transit. This system provides access within the greater urban area of Honolulu, as well as in communities on the North Shore, Leeward Coast, and Windward Coast. **Figure 4** illustrates the transit services within the study area. There are currently no bus stops adjacent to the project site. Convenient access to public transportation within the study area is provided via bus stops along Kalakaua Avenue, Kalia Road, Saratoga Road, and Kuhio Avenue. The fixed-route bus lines that serve stops in the study area include: 2, 2L, 8, 13, 19, 20, 22, 23, 42, 98A, W1, W2, W3.

Private transportation services are also readily available for Waikiki visitors. In particular, the Waikiki Trolley, Ala Moana Premium Express, and LeaLea Trolley have lines that traverse the study area and are accessible via two stops along Saratoga Road between Kalia Road and Kalakaua Avenue.

Figure 3
Existing and Proposed Bicycle Facilities

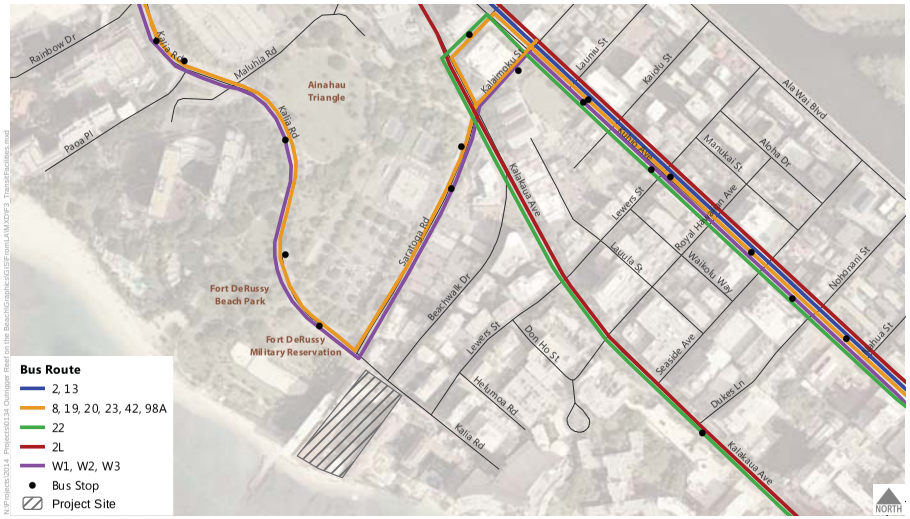

Figure 4
Existing Transit Facilities

EXISTING INTERSECTION LEVEL OF SERVICE

The operations of the five study intersections were evaluated using procedures presented in the *Highway Capacity Manual* (HCM), published by the Transportation Research Board in 2000 via the Synchro 8.0 analysis software. The operations of roadway facilities are described with the term level of service. LOS is a qualitative description of traffic flow based on such factors as speed, travel time, delay, and freedom to maneuver. Six levels are defined from LOS A, with the least congested operating conditions, to LOS F, with the most congested operating conditions. LOS E represents "at-capacity" operations. Operations are designated as LOS F when volumes exceed capacity, resulting in stop-and-go conditions.

The study intersections were evaluated during weekday morning (6:00 to 9:00 AM) and evening (3:00 to 6:00 PM) peak-period conditions. Traffic counts were collected during the weekday AM and PM peak periods at the study intersections in late-August 2014, when local schools were in session. Existing lane configurations and signal controls were obtained through field observations. **Figure 5** presents the existing AM and PM peak-hour turning movement volumes, corresponding lane configurations and traffic control devices. Traffic count data sheets are provided in **Attachment A.**

Existing peak-hour volumes and lane configurations were used to calculate levels of service for each of the study intersections. The results of the existing LOS analysis are presented in **Table 1** and the corresponding LOS calculation sheets are included in **Attachment B**.

The results of the LOS calculations indicate that all of the existing study intersections operate at an overall acceptable service level (LOS D or better); however, at two of the signalized intersections (i.e. Intersection 1: Saratoga Road/Kalakaua Avenue and Intersection 2: Lewers Street/Kalakaua Avenue) some of the individual intersection movements are operating at LOS E or F during at least one of the peak conditions.

Figure 5
Peak Hour Traffic Volumes and Lane Configurations - Existing (2014) Conditions

TABLE 1 – EXISTING INTERSECTION LEVEL OF SERVICE

Intersection	Traffic Control	Peak Hour	Delay (sec/veh)[1]	LOS[2,3]
1. Saratoga Road / Kalakaua Avenue	Signalized	AM	17.2	B
		PM	24.3	C
2. Lewers Street / Kalakaua Avenue	Signalized	AM	13.6	A
		PM	20.8	C
3. Saratoga Road / Kalia Road	Signalized	AM	6.9	A
		PM	8.2	A
4. Beachwalk Drive / Kalia Road	SSSC	AM	16.4	C
		PM	33.9	D
5. Lewers Street / Kalia Road	AWSC	AM	8.1	A
		PM	9.0	A

Source: Fehr & Peers, 2014.

Notes:

AWSC = All-way stop controlled intersection SSSC = Side street stop-controlled intersection

[1] Whole intersection weighted average stopped delay expressed in seconds per vehicle for signalized and all-way stop control intersections. The vehicular delay for the worst movement is reported for side street stop-controlled intersections.

[2] LOS calculations performed using the *2000 Highway Capacity Manual (HCM)* method.

[3] Unacceptable seconds of delay per vehicle and LOS highlighted in **bold.**

FIELD OBSERVATIONS

Field observations conducted in September 2014 showed that traffic moves fairly well throughout the study area during the AM and PM peak hours and the calculated existing peak hour LOS at the study intersections shown in **Table 1** were generally representative of field conditions. Some short delays were experienced on some streets as vehicles changed lanes to avoid vehicles turning into side streets or to avoid buses. Short delays for turning vehicles were also observed as drivers yielded to pedestrians crossing the street. In the PM peak hour, some delays and moving queues were observed along Kalakaua Avenue from its intersection at Saratoga Road to Lewers

Street, which were unable to be captured in the calculated and isolated HCM intersection analysis. The conditions of slow traffic progression and flow along Kalakaua Avenue are not due to any volume-to-capacity issues at the study intersections, but instead due to heavy traffic and/or poor operating conditions at locations further downstream.

Traffic flow has improved along Kalia Road with the signalization of Intersection 3: Saratoga Road/Kalia Road. During the AM and PM peak hour along Kalia Road, no major delays or queues were observed, with the exception of the occasional minor back-up onto Kalia Road caused by vehicles waiting to turn into the Outrigger entrance driveway. Anecdotal feedback from hotel employees also indicated that traffic along Kalia Road only experiences minor delays occasionally. They also mentioned that poor conditions are not directly related to the hotel's traffic and are usually caused by factors away from the Outrigger Reef (i.e., construction near the Hilton Hawaiian Village and Ala Mona Boulevard, TV and movie filming, closure of Kalakaua Avenue due to special events, etc.).

High pedestrian activity during the PM peak hour was also observed at all the signalized study intersections and pedestrian calls were made at every cycle. The heavy pedestrian volumes observed within the study area are reflective the variety of land uses fronting the study roadways and the overall walkability of Waikiki.

COMPARISON OF WEEKDAY VS. WEEKEND VOLUMES

City & County of Honolulu Department of Planning & Permitting (DPP) staff had previously inquired about the need for weekend analysis for the proposed project. Per consultation with the project sponsor, differences in the Outrigger Reef room occupancy between weekdays and weekends are usually not as pronounced as occupancy variations at resort hotels on neighboring islands and at corporate-type hotels on the mainland; however, some major three-day holiday weekends and/or major events are notable exceptions when the hotel experiences increased weekend activity. As a result, it is reasonably assumed that the differences in weekday versus weekend peak hour hotel trip generation are negligible. To further validate this assumption, the weekday PM peak hour volumes and weekend volumes collected in 2010 and 2011 and used in the existing condition intersection analysis reported in *Traffic Impact Analysis Report (TIAR) for the International Market Place Revitalization Project*, were compared to gauge the variation in traffic conditions in the Waikiki resort district. Based on this comparison of total intersection volumes, nine (9) out of the 13 study intersections reported higher traffic volumes during the weekday PM

versus the weekend/Saturday condition. At the four locations reporting higher total intersection volumes in the weekend, the average increase in total intersection volumes is only 6%. Therefore, no weekend peak hour traffic analysis was conducted for the project. This is also consistent with the traffic analysis prepared for the TIARs for the Hilton Hawaiian Village Renovations and the K3 Waikiki Development (Ritz Carlton).

PROJECT TRAFFIC PROJECTIONS

Development of future traffic projections related to the amount of traffic added to the roadway system by the Outrigger Reef renovation is estimated using a three-step process: (1) project trip generation, (2) trip distribution, and (3) trip assignment. The first step estimates the amount of project-generated traffic will be added to the roadway network. The second step estimates the direction of travel to and from the project site. The new trips are assigned to specific street segments and intersection turning movements during the third step. This process is described in more detail in the following sections.

Project Trip Generation Estimates

Hotel Trip Generation

Institute of Transportation Engineers (ITE) trip generation rates for hotels are based on surveys conducted at hotels primarily located outside central business districts, with little or no transit service, nearby pedestrian amenities, or travel demand management. Thus, the available ITE trip rate data for estimating vehicle trip generation for hotel rooms may not accurately reflect the travel mode split for Waikiki hotels such as Outrigger Reef, which is located in an urban, high-density setting where many land uses are within a short walk and there is an extensive use of taxis and high-occupancy vehicles (i.e. buses and shuttles).

Due to the possibility that the standard ITE trip rate per room may overestimate the traffic generation for the proposed Outrigger Reef's expansion of 39 new rooms, a trip generation survey was conducted at the existing hotel to either validate the available ITE data or to supplant it if the results were substantially different. Traffic counts were collected at the entrance and exit driveways located on Kalia Road during the AM and PM peak periods over two weekdays in late August 2014. Counting these driveways included all site generated traffic including valet activities and deliveries.

During the days of the trip generation survey, the existing 635-room hotel was 91% and 80% occupied. One of the days included a 20-person wedding reception in the evening from 6:00 PM to 10:00 PM and the other day included a 15-person conference from 8:00 AM to 5:00 PM (both were negligible events from a traffic perspective). For both days, the hotel's subterranean parking garage was able to accommodate the hotel and restaurant parking demand.

The survey results revealed that the existing hotel trip rates per room and the ITE rates differed, where the surveyed rates were substantially lower (i.e., approximately 30%-33% percent lower) than the ITE rates as was expected. To more appropriately calculate the project-generated trips, the empirical rates derived from the busier of the two survey days were used in the trip generation analysis. According to results of the project's trip generation analysis, full occupancy of the 39 new hotel rooms is expected to generate 8 weekday AM peak hour net new trips (4 inbound, 4 outbound) and 9 weekday PM peak hour net new trips (4 inbound, 5 outbound). The estimated proposed project trip generation for the typical (hotel only) scenario is shown in **Table 2**. **Attachment C** presents the empirical driveway data collected and provides calculation details of the trip generation survey conducted on the existing Outrigger Reef.

Conference and Meeting Space Trip Generation

Based on consultation with a hotel operator, it was reasonably assumed that the maximum capacity for the project's three new breakout rooms and new meeting room totaling 3,300 SF would be about 165 persons. Trip generation estimates for the full occupancy of the new breakout rooms and meeting room were derived based on the assumption that half of the 165 participants attending a meeting at one of the new facilities would already be staying at the hotel and would not generate a peak hour vehicle trip, while the remaining 83 persons are then assumed to arrive by car. Using an average vehicle occupancy rate of 1.5 persons per vehicle, the full use of the following conference and meeting spaces would generate 56 new external vehicle trips in both the AM peak hour (50 inbound, 6 outbound) and PM peak hour (6 outbound, 50 inbound). Additionally, the AM peak hour trip distribution split was assumed to be 90% entering and 10% exiting the project site, while the PM peak hour trip distribution split was assumed to be 10% entering and 90% exiting the project site. This approach is also considered conservative in that the likelihood of all of the hotel's meeting space (with the exception of the large banquet room) being used at the same time is low and would occur infrequently. Also under these conditions, more than half of the attendees would likely be staying at the hotel or would be staying at a nearby property within walking distance.

TABLE 2 – TRIP GENERATION ESTIMATES FOR TYPICAL PROJECT CONDITIONS[1]

SUMMARY OF RATES							
Land Use	Rate	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Outrigger Reef Waikiki Beach Resort[2]	per room	0.11	0.11	0.22	0.09	0.12	0.21

VEHICLE TRIP ESTIMATES								
Land Use	Quantity	Unit	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Outrigger Reef Waikiki Beach Resort[2]	39	Rooms	4	4	8	4	5	9
Total Net New Vehicle Trips			4	4	8	4	5	9

Source: Fehr & Peers, 2016

Notes:

[1]Typical Project conditions represent full occupancy of the new hotel rooms and vacancy of the meeting and conference facilities. During this time, it is assumed that there are no special events hosted at the hotel.

[2]The peak hour trip rate data were estimated based on a trip generation survey conducted of the existing hotel over the course of two days. The higher trip rates derived from the empirical data were used to estimate project trips associated with expansion of the hotel rooms.

As shown in **Table 3**, the Project would generate an estimated net increase of 64 trips during the AM peak hour (54 inbound, 10 outbound) and 65 trips during the PM peak hour (10 inbound, 55 outbound) assuming full occupancy of all of the new hotel rooms and full use of the smaller breakout/meeting rooms. The following forecasted peak hour project trips are representative of the less frequent "With Project Event" conditions, where it is anticipated that the occupancy of the three breakout rooms and meeting room would occur less than once to twice a week on average based on consultation with the project sponsor. Additionally, since the use of the ballroom is expected to be used very infrequently (i.e., once or not at all per week), it was excluded.

TABLE 3 – TRIP GENERATION ESTIMATES FOR PROJECT EVENT CONDITIONS[1]

SUMMARY OF RATES							
Land Use	Rate	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Outrigger Reef Waikiki Beach Resort[2]	per room	0.11	0.11	0.22	0.09	0.12	0.21
Breakout / Meeting Rooms[3]	N/A	0.30	0.03	0.33	0.03	0.30	0.33

VEHICLE TRIP ESTIMATES								
Land Use	Quantity	Unit	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Outrigger Reef Waikiki Beach Resort[2]	39	rooms	4	4	8	4	5	9
Breakout / Meeting Rooms[3]	165	persons	50	6	56	6	50	56
Total Net New Vehicle Trips			**54**	**10**	**64**	**10**	**55**	**65**

Source: Fehr & Peers, 2016

Notes:

[1]Project event conditions represent not only the full occupancy of the new hotel rooms, but also the occupancy of the smaller meeting/breakout rooms. These conditions are not a daily occurrence and full occupancy of these facilities are expected to only occur once or twice a week.

[2] The peak hour trip rate data were estimated based on a trip generation survey conducted of the existing hotel over the course of two days. The higher trip rates derived from the empirical data were used to estimate project trips associated with expansion of the hotel rooms.

[3]In consultation with the hotel operator, person occupancy for the meeting facilities were derived and used to estimate its associated vehicle trip generation. It is assumed that the maximum capacity of the three breakout rooms and new board room totaling 3,300 SF would be 165 persons.

PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

The geographic distribution of trips generated by the proposed project is dependent on characteristics of the street system serving the project site; the level of accessibility of routes to and from the project site; and residential areas from which the hotel guests, local visitors, and employees would be drawn.

A trip distribution pattern was developed for the project based on the assessment of the existing directional distribution of the intersection traffic counts collected and hotel driveway counts. The existing directional distribution was further refined and adjusted based on locations of complementary land uses and local arterial streets and access to the regional transportation system, in order to yield the following overall trip distribution pattern estimates for the project-generated traffic:

- 40% to/from Kalia Road (west)
- 30% to Saratoga Road/Kalaimoku Street (north)
- 3% to Lewers Street (north)
- 27% to Kalakaua Avenue (east)
- 35% from Kalakaua Avenue to Saratoga Road (west)
- 25% from Kalakaua Avenue to Beachwalk Drive (west)

Figure 6 illustrates the project trip distribution pattern described above.

Using the estimated trip generation and the distribution patterns discussed above, the traffic generated by the proposed project under two project scenarios were separately assigned to the street network. **Figure 7** and **Figure 8** show the assignment of trips generated by the proposed project under both typical and event conditions, respectively.

Figure 6
Project Trip Distribution

Figure 7

Peak Hour Traffic Volumes
and Lane Configurations -
Project Trips for Typical Conditions

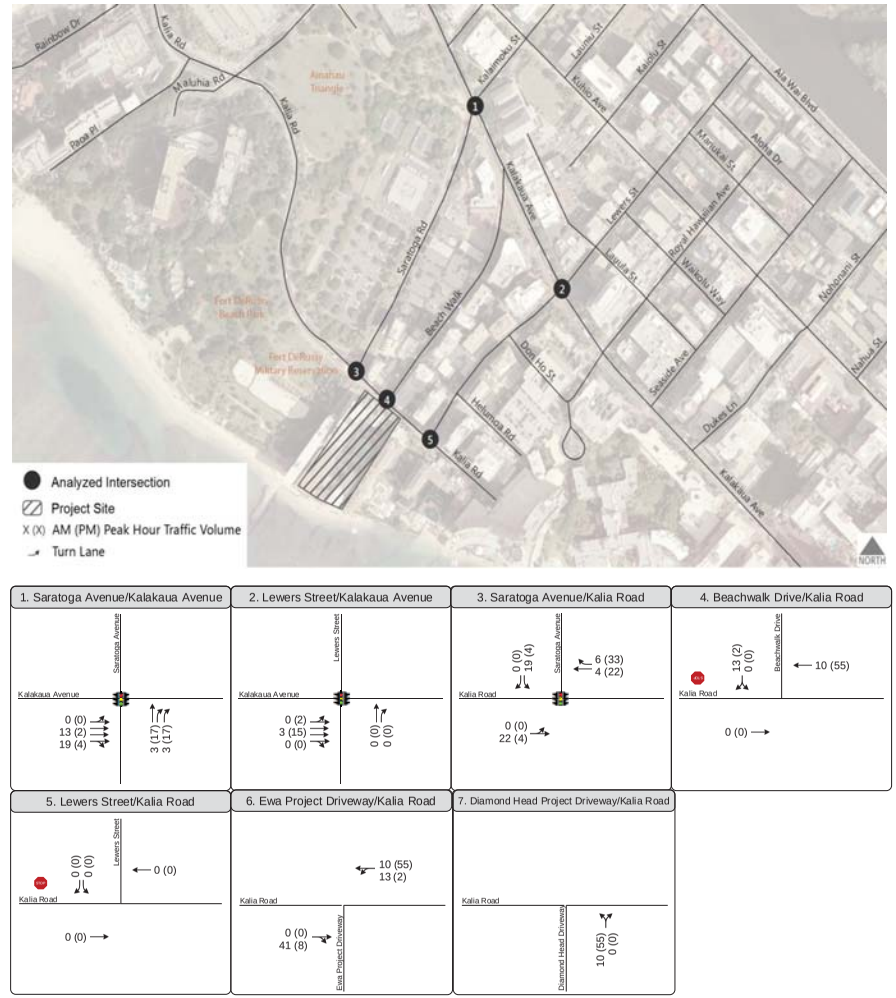

Figure 8

Peak Hour Traffic Volumes
and Lane Configurations -
Project Trips for Event Conditions

POTENTIAL OFF-SITE TRAFFIC IMPACTS

Based on our qualitative evaluation, the project under typical conditions is not expected to result in any significant negative impact to vehicle circulation in the study area based on the following:

- Under typical conditions, which characterizes an average of 70% or more of the week, the project is anticipated to generate no more than nine (9) additional peak hour trips to the roadway network (i.e. 8 net new trips in the AM peak hour and 9 net new trips in the PM peak hour).
- The negligible amount of new project trips will load onto local and regional facilities and traverse intersections that currently serve relatively low traffic volumes and/or experience limited delays during each peak period.

Under event conditions, Outrigger Reef is projected to generate 64 and 65 total net new vehicle trips in the AM peak hour and PM peak hour, respectively. Although the project-generated traffic under event conditions is significantly more than typical conditions, it is very likely the study intersections would continue to operate at LOS C or better in the both the AM and PM peak hour, with the exception of Intersection 4: Beachwalk Drive/Kalia Road during the PM peak hour. Currently, the worst movement of this side-street stop controlled intersection is operating at LOS D with 33.9 seconds of delay per vehicle, which is right at the cusp of operating at LOS E (i.e. greater than 35.0 and up to 50.0 seconds of delay per vehicle). Thus, it is possible that under future year and full project buildout conditions Beachwalk Drive/Kalia Road would have a worse movement vehicular delay increase of greater than one (1) second and therefore operate at LOS E. However, the projected undesirable operating condition at this location during the PM peak hour would primarily be due to the effects of overall regional growth and development in and around the study area and would still occur without the project; thus, the project would only contribute to a cumulative impact at this location. Overall, event conditions or full occupancy of the 39 new hotel rooms *plus* full occupancy of all the smaller meeting/breakout rooms is expected to only occur once or twice a week, and so any potential traffic delays causing negative impacts would be temporary and infrequent.

POTENTIAL TRAFFIC IMPROVEMENTS

Potential traffic improvements were identified to increase the capacity and/or efficiency at Intersection 4: Beachwalk Drive/Kalia Road, where the addition of project-related traffic under both typical and event-related conditions could contribute to projected poor operating baseline conditions in the PM peak hour. Usually, the emphasis would be to identify minor physical and/or operational improvements that could be implemented within the existing or planned roadway rights-of-way. However, the limited curb-to-curb roadway widths and relatively low traffic volumes do not allow for the addition of additional turn lanes. Thus, the only improvement that would technically improve operations to LOS D or better during event conditions is the installation of a traffic signal at this location. That said, a new signal is not recommended in this case because: 1) the projected delay would only slightly exceed the LOS D threshold for one approach, 2) the primary volume that will be delayed is comprised of vehicles turning right from Beachwalk to Kalia Road, and 3) the signal would add new delays to traffic on Kalia Road for many other hours of the day and days of the week when no impact is anticipated (i.e., under Typical Conditions).

It should also be noted that hourly segment volumes along Kalia Road from Beachwalk Drive to Lewers Street provided in the 2011 HDOT traffic database and existing peak hourly volumes at Beachwalk Drive and Kalia Road were reviewed to gauge whether or not Intersection 4: Beachwalk Drive/Kalia Road would currently warrant a traffic signal based on the Four-Hour and Eight-Hour warrant thresholds outlined in the 2009 edition of the *Manual on Uniform Traffic Control Devices for Streets and Highways* (MUTCD). Upon review of the volume data against the MUTCD signal warrant thresholds, it is expected that current hourly volumes at the Beachwalk Drive and Kalia Road intersection do not meet either of the signal warrant conditions and volume requirement for at least four hours and eight hours of an average day.

Instead, the implementation of travel demand management (TDM) strategies are recommended that could lead to vehicle trip reduction, use of alternative modes, and better traffic management to achieve better operating conditions at this location. TDM strategies that should be applied include: encouraging meeting attendees to carpool, pricing parking to encourage carpooling/mode shift, providing on-site bicycle storage facilities, providing a hotel shuttle, and developing parking and traffic management plans, especially during special events.

Potential Travel Demand Management Strategies

Travel demand management (TDM) measures were also explored to alleviate the anticipated impact at Intersection 4: Beachwalk Drive/Kalia Road that could be experienced once the Outrigger Reef renovation is complete. Below are potential applicable TDM strategies that could lead to vehicle trip reduction, use of alternative modes, or better traffic management, which would in turn help achieve better conditions at the impacted location. These strategies include:

- Implementation of a TDM plan for the study area, which would be led by a TDM coordinator who would organize and coordinate monitoring efforts, parking and traffic management plans, and the implementation of TDM recommendations.
- Frequent interaction between the TDM coordinator and the hotel event coordinator to ensure that conference/meeting participants not staying at the hotel would be fully informed as to mobility choices and options to parking at the site (e.g., provide each hotel guest with information for utilizing the transit system in Waikiki, such as maps and schedules, and the location of available structures and lots in the area).
- Provide wayfinding that provides travel times to destinations by walk, bike, and transit (e.g. "only an 8-minute walk to the Waikiki Shopping Plaza." (e.g., this could include promotion of the RideScout app).
- Contribution towards a car-share program, and/or participation in the future bicycle sharing system (including providing an area for a bike share station).
- Provide or promote walking and bicycle tours.
- Encourage carpooling and vanpools among visitors.
- Pricing parking to encourage the replacement of auto trips by, bicycle, and pedestrian trips when possible (e.g. price parking by in/out movements, instead of a daily rate, to encourage alternate modes once visitors have arrived at the hotel).
- Free or reduced rate transit passes available to all hotel guests and/or employees.
- Provide or contribute to an area hotel shuttle (in addition to the existing airport shuttle).
- Provide special event accommodations and traffic management. For example, during high attendance/special hotel events or simultaneous use of all meeting and event space a traffic officer could direct traffic at the Beachwalk Drive/Kalia Road intersection or off-site parking could be made available to accommodate the increased vehicular activity.

Prior to the implementation of any TDM measures the project sponsor will need to coordinate with the City & County of Honolulu and/or transit service providers.

POTENTIAL CONSTRUCTION IMPACTS

At the time of this assessment, the details of construction-related activities (including the amount and duration of heavy truck traffic, for example) were not known; however, a qualitative assessment of potential construction traffic impacts was made and is described below.

Potential Traffic Impacts

Five potential areas of construction traffic impacts are associated with the project, and are described below.

Haul Truck Traffic

Haul truck traffic is construction traffic derived from the demolition of some existing structures on the project site and the hauling of the demolition debris to off-site disposal facilities. Although the number of haul trips and the specific haul routes have not yet been identified, the addition of construction-related haul truck traffic could potentially impact operation of the adjacent roadway network. For example, haul truck queuing during the demolition period would have a temporary adverse impact on the segment of Kalia Road next to the hotel.

Delivery and Staging of Material and Equipment

Another source of construction traffic would occur from the transportation of material and equipment to the site. One example would be concrete, of which substantial quantities would be required for the parking garage and the buildings on-site. Other materials could include plumbing supplies, electrical fixtures, etc. used in construction of the new rooms and facilities. Delivers of these materials are expected to occur in various sized vehicles including small delivery trucks and large cement mixer trucks and would have to be stored on-site. Additionally, construction equipment would have to be delivered to the site. This equipment could include cranes, bulldozers, and excavators. Most of the heavy equipment is expected to be transported to the site on large flatbed trucks or similar vehicles.

The influx of this material and equipment could create impacts on the adjacent roadway network based on the following considerations:

- Intermittent periods when large numbers of material deliveries are required, such as when concrete trucks will be needed for the parking garage and the buildings.

- Some materials and equipment could require the use of large trucks, which could create additional congestion on the adjacent roadways.
- Delivery vehicles may need to stage temporarily on adjacent roadways, such as Kalia Road or Beachwalk Drive, as they deliver their items.

Construction Worker Traffic

It is anticipated that the number of construction workers will vary throughout the construction period. Construction worker-related trips are not all likely to arrive at the construction site within the same hour nor would leave the site at the same time. However, it is possible that the number of worker trips in combination with haul trick and delivery truck traffic could be larger than the peak hour trip generation associated with the proposed project once it is in operation. The addition of any construction-related traffic at Intersection 4: Beachwalk Drive/Kalia Road could cause temporary adverse impacts at this location during the construction period given the level of its peak hour traffic.

Construction Worker Parking

Depending on the construction activity it is possible that construction employees could park on-site on a portion of the hotel's existing parking facility. On-site construction worker parking should only be allowed if absolutely necessary. It is anticipated that construction employees would be parked off-site and possibly shuttled to the project site. Potential off-site parking locations would be identified in the Construction Management Plan.

In the absence of measures to control the construction worker parking, the need to park workers off-site during a portion of the construction period could result in impacts because it could lead to worker parking spilling over into adjacent areas, such as Waikiki Beack Walk parking areas (on-street and/or off-street). Workers may park in these areas because they find the off-site parking arrangement cumbersome and want to park closer to the site.

Construction-Related Closures

It would not be uncommon for construction-related traffic to result in temporary roadway closures, sidewalk closures, and/or parking prohibitions.

Below are some examples of potential construction-related closures for this project.

- Construction deliveries and the hauling of material could result in temporary lane closures due to truck queuing from/to the site.
- Temporary on-street parking prohibitions near the project site could potentially occur due to any equipment staging.
- On-site parking supply could also be reduced or made temporarily unavailable depending on the construction activity.
- Sidewalk along Kalia Road project frontages could be closed to pedestrian traffic during portions of the construction period.

Since businesses or activities on the project site and in adjacent areas would be generating pedestrian and vehicular traffic, the impact of these closures could be temporarily significant.

Construction Mitigation Measures

The project's construction-related traffic effects are considered to be potentially adverse, but not significant impacts because such effects, while sometimes inconvenient, are temporary. It is recommended that a Construction Management Plan (CMP) should be developed by the project sponsor. In general, the CMP would discuss the anticipated construction schedule, phasing, and staging, as well as, traffic circulation, control, parking and conflicts with site access and public transportation during the construction period. As a component of the CMP, mitigating actions would be developed that ensure that any project construction activities, traffic and other effects on affected roadways, bicycles, pedestrian, and transit facilities are minimized to the greatest extent possible. Additionally, the direct site access for all modes and on-site parking for hotel guests will be maintained as much as possible.

The CMP will include a detailed discussion of traffic control during the construction period. Traffic control shall consist of all work and materials necessary to maintain safe vehicular, pedestrian, and cyclist traffic during construction and mitigate high peak and high volume construction traffic, prevent or keep at a minimum idling and queuing, establish site access limitations and mitigation measures, identify haul routes, and provide overall control of all construction traffic entering and exiting and operating within the project area.

To reduce traffic and related impacts during project construction, the following mitigation actions should be specified in the CMP:

- Maintain access for land uses in proximity to the project site during project construction.
- Schedule deliveries and pick-ups of construction materials to non-peak travel periods, to maximum extent feasible.
- Minimize obstruction of through traffic lanes on surrounding public streets.
- Prohibit work-site and truck access via local or smaller streets, like Beachwalk Drive and Lewers Street, unless approved by the City & County.
- Identify designated transport routes for haul trucks and heavy trucks to be used over the duration of the construction period and restrict truck access to these routes.
- Provide alternate maps for public traffic if any street closures are to occur.
- Provide advance construction warning signage for lane and road closures (if any). Limit lane closures during construction duration. Advance detour signs should be provided to allow drivers to reasonably adjust their route before approaching the closure.
- Provide advance notification of necessary closures on pedestrian, bicycle, and transit facilities and maintain each respective mode's access and circulation during project construction where safe to do so. Provide detour routes for bicycles and pedestrians if any closures of sidewalks, walkways, bike lanes, are required. Additionally, provide clearly marked temporary marked bus stop locations if any bus stop closures are necessary.
- Provide crossing guards and/or flag persons as needed to avoid traffic conflicts and ensure pedestrian and bicyclist safety.
- Establish requirements for loading/unloading and storage of materials on the project site, where parking spaces would be encumbered, length of time traffic travel lanes can be encumbered, and sidewalk closings or pedestrian diversion could occur, in order to ensure the safety of the patrons and access to the project site and other local businesses.
- Notify and consult with emergency service providers, and develop means of access that would expedite and facilitate the passage of emergency vehicles. Ensure clear emergency access to all active buildings and open, neighboring business at all times.
- Provide adequate parking for construction vehicles, equipment, and workers within the designated areas. If adequate parking spaces is not available at a given work site and staging area, provide off-site parking at another suitable location, and coordinate the daily transport of construction vehicles (if beyond walking distance), equipment, and personnel to and from the work site, as needed.
- Provide all construction contractors written information on where their workers and their subcontractors are permitted to park, and provide clear consequences to violators.
- Repair or restore the road ROW to its original condition or better upon the completion of work.

The CMP should be developed and approved by the City & County of Honolulu prior to the mobilization of any construction equipment to the site and commencement of daily construction activities. The project sponsor shall coordinate as necessary with the City & County of Honolulu, HDOT, and the transit service provider, The Bus, for traffic controls and measures affecting their facilities and services. The project sponsor will be responsible for ensuring that the plan is effectively implemented. Implementation of the CMP and all its components are expected to reduce potential impacts to less than significant levels.

ASSESSMENT OF SITE ACCESS, ON-SITE CIRCULATION, & PARKING

Vehicle access to the project site would continue to be provided at the driveways on Kalia Road, directly adjacent to the Beachwalk Drive/Kalia Road intersection. As part of the project improvements, the porte cochere would be expanded, which would allow for more vehicles to queue on-site for drop-off/pick-up and valet service. Guests will continue to use the porte cochere for valet-only service and large groups will be served at the bus depot at the Trump Tower nearby. New and reconfigured parking, loading, and service routes will be provided to improve efficiencies and further remove service vehicles from Kalia Road. For example, service vehicles will be able to directly enter the hotel via the Diamond Head project driveway to access the new off-street loading area for food and beverage delivery along with trash removal located in what is currently parking.

Additionally, the site layout has been designed to improve the existing circuitous travel of valet drivers exiting out of the project outbound/Diamond Head driveway, turning left onto Kalia Road, and then making an immediate left into the entrance/Ewa driveway for guest pick-up. The new valet circulation would provide a new valet outbound driveway on the Ewa side of the porte cochere entrance, where valet drivers can exit out of the new driveway and immediately turn right into the inbound project driveway. This update to the valet circulation would remove any valet-related queuing on Kalia Road and internally shift it to the new parking area. Overall, any on-site queuing that could possibly back up into the external roadway and any heavy vehicle activity at the hotel entrance would be temporary and would not generally affect the through traffic on Kalia Road.

Hotel parking would continue to be valet only and the proposed project is anticipated to provide 200 parking spaces on-site to accommodate its 674 rooms, which meets the City & County of Honolulu's minimum off-street parking requirement of one parking space for every four lodging

units for a hotel located in the Waikiki Special District. The proposed parking spaces, however, would only accommodate the parking demand of the hotel room expansion, and on-site parking would not be sufficient to meet the parking demands associated with the full occupancy of the new conference and event spaces. Similar to existing conditions, Outrigger Reef would need to continue to coordinate with nearby off-site parking lots to absorb any of their parking overflow. Additionally, parking for the Waikiki Beach Walk project was developed cumulatively for all the different project components, which includes the Outrigger Reef on the Beach; overall, the Waikiki Beach Walk area includes a large supply of parking spaces that could absorb the hotel's excess demand during meetings and conferences (with non-hotel guest attendees). For example, the hotel should continue to coordinate and use the Embassy Suites parking garage located on Beachwalk Drive mauka of Kalia Road directly across the street from hotel, during special event conditions and heavy hotel activity. Excess hotel parking demand procedures should be outlined in a special event traffic and parking management plan.

MULTI-MODAL ASSESSMENT

Consistent with State of Hawaii and City & County of Honolulu policies on Complete Streets, this chapter addresses any potential project impacts on all non-automobile modes of transportation, including existing and planned pedestrian, bicycle, and transit facilities. Based on the review of the site plan illustrated on **Figure 2** and the project description, the renovation of Outrigger Reef would not cause any significant impact to the overall existing and planned external multi-modal transportation system. The project design adheres to the policies and principles outlined in the City & County of Honolulu's Ordinance relating to Complete Streets (2012) as it maintains to provide safe mobility and access and mobility choices for all its guests and other users using all modes of transportation.

Pedestrian Network

The pedestrian environment within the project area will continue to sufficiently meet the needs of hotel guests, as the existing marked, high-visibility crossing treatments at adjacent intersections and sidewalks would remain, and no major changes to the overall walking environment are expected in the future and with project. However, it is recommended that appropriate crossing treatments be provided where pedestrians will cross the expanded in and out driveways serving the project site.

On-site pedestrian circulation within the site would be improved through landscaping and the creation of a vibrant and expanded gateway at the Kalia Road entry. The Kalia Gateway would provide pedestrians easy and clear access to the Waikiki Beach Walk and to Waikiki form Fort DeRussy. Additionally a newly defined pedestrian path along the porte cochere will also provide an improved experience at Kalia Road and direct access to retail storefronts that will be reoriented along this new walkway as part of the project. With all the project's pedestrian enhancements creating a safe and attractive pedestrian experience, the on-site pedestrian circulation is generally considered to be acceptable.

Bicycle Network

The Oahu Bike Plan (August 2012) does plan for enhanced bicycle facilities to be implemented within the study area. The following are planned bicycle projects relevant to the project site and study area:

- Bicycle route with sharrow markings on Kalia Road from Ala Mona Boulevard to Saratoga Road;
- Bicycle route with sharrow markings on Saratoga Road from Kalia Road to Kalakaua Avenue; and
- Bicycle route with sharrow markings on Kuhio Avenue from Kalakaua Avenue to Kapahulu Avenue.

No additional designated bicycle paths or lanes are necessary as part of project implementation. However, bicycle racks should be provided near each set of major building entrances on the site to encourage cycling by both employees and hotel patrons and to provide a dedicated location for bike parking and secure storage.

Transit Network

The project would not significantly impact transit service within the study area. The Kalia Road bus stop closest to the project site, located on the Diamond Head-bound side and Ewa of Intersection 3: Saratoga Road/Kalia Road, provides a covered shelter and bench for transit users. The Saratoga Road bus stop on the makai-bound side and located makai of Intersection 1: Saratoga Road/Kalakaua Avenue also provides a covered shelter and bench for transit users. It is recommended that bus amenities such as benches and/or a covered shelter be installed at the second Saratoga Road bus stop located on the mauka-bound side and makai of Intersection 1:

Saratoga Road/Kalakaua Avenue to better serve transit riders and increase the attractiveness of taking transit. The existing study area sidewalks would continue to provide safe connections between the project site and the nearby bus stops.

Generally, the proposed project is not expected to substantially increase the walking, biking, or transit demand to a level where it could not be accommodated by existing or planned facilities. In addition, the project is expected to enhance multi-modal facilities and services, especially with promotion of TDM strategies and non-motorized modes. The project is also expected to not conflict with any existing facilities and planned improvements. Thus, the project's impacts to pedestrian, bicycle, and transit facilities and services are therefore considered *less-than-significant.*

CONCLUSIONS

Based on the results of the project's trip generation estimates and a comparison of baseline condition of traffic volumes, the off-site traffic impact of the revitalization project is expected to be minimal and/or temporary. Specifically, the build-out of the project is expected to typically result in less than 10 new trips in both the AM and PM peak hour and for one to two days of the week (i.e. under event conditions) the project would add no more than 65 total net new external vehicle trips to the roadway system that for the most part is operating acceptable (LOS D or better).

Overall, the Outrigger Reef revitalization is not expected to substantially increase the walking, biking, or transit demand to a level where it could not be accommodated by existing or planned facilities. The proposed project would expand the porte cochere which would allow for more vehicles to queue on-site for drop-off/pick-up and valet service circulation would be improved with the addition of an adjacent valet only outbound driveway. In addition, the new valet circulation reduces the number of times that vehicles will cross the sidewalk to access the porte cochere. The pedestrian experience on-site and adjacent to the hotel would be improved through the creation of a vibrant and expanded gateway at the Kalia Road entry, which would provide pedestrians easy and clear access to the Waikīkī Beach Walk and to Waikiki from Fort DeRussy.

DPP has indicated that a follow up study conducted within one year of project completion should be completed to verify the findings and conclusions of presented in this evaluation. The updated traffic assessment must include a survey of the site to determine the actual traffic counts for purposes of validating the trip generation rates used in this study. Also based on the updated findings, any additional traffic mitigation measures due to impact attributable to the traffic from the development will be borne by the applicant.

Sincerely,

FEHR & PEERS

Sincerely,

FEHR & PEERS

Sohrab Rashid, TE, Principal

Christine Mercado, Transportation Engineer

SD14-0134

Attachments:

Attachment A: Traffic Count Data
Attachment B: Existing LOS Worksheets
Attachment C: Existing Trip Generations Survey Data & Details

APPENDIX D

Preliminary Engineering Report
Outrigger Reef Expansion

Group 70 International, Inc.

March 2016

PRELIMINARY ENGINEERING REPORT

Outrigger Reef Expansion
Waikīkī, Oʻahu, Hawaiʻi

March 2016

Prepared for:

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1.0 Introduction

1.1 Overview

The Outrigger Reef Project is a planned expansion of the existing Waikīkī beach front resort built in 1967. The goal is to add, renovate, and improve on this site to attract more visitors to the hotel and the Waikīkī area. It is located adjacent to Fort DeRussy Beach Park on approximately 2.5 acres of developed land. The southern boundary of the property fronts the Pacific Ocean and its north boundary fronts Kālia Road. This project will lie within Waikīkī's Special District in the Primary Urban Center. The proposed development includes demolition of a 5-story structure, construction of a series of improvements that transition the beach into the property, construction of new hotel rooms that will connect the existing Pacific and Ocean Towers, and a new deck with enhanced pools, water features, and lounging areas. There will be approximately 52,800 square feet of additional open recreation space created, approximately 7,500 square feet of new meeting space and 39 net additional hotel rooms. The parking structure, loading zones and service routes will also be reconfigured to improve efficiencies which in turn will remove vehicle traffic from Kālia Road. **Refer to Figure 1 – Location Map & Vicinity Map** and **Figure 2 – Outrigger Reef Concept TMK Map**.

1.2 Purpose

This report describes the existing and proposed civil infrastructure and utilities that serve the Outrigger Reef Concept development. In addition, this report evaluates the adequacy of the existing infrastructure and anticipated improvements which may be required for the proposed development.

1.3 Project Description

The project will be constructed in one phase with the following components:

Beachfront Improvements

The Diamond Head Tower, a five-story structure running along the beachfront, will be demolished to provide an opening of the project site towards Waikīkī Beach. An expansive Great Lawn will be constructed at the makai end of the site to provide a transition from structure's to the beach area.

Improve Arrival and Lobby Area

The porte-cochère entry and front desk lobby are the primary points of guest arrival. The porte-cochère will be expanded, allowing for more cars to queue for drop off/pick-up and valet

service. This expansion will help to alleviate traffic build-up that occurs during peak use periods along Kālia Road.

An arrival lobby will be accessed via a new escalator that leads from the porte-cochère on the ground floor, while beach access will be maintained on-site from the porte-cochère through the new meeting spaces and out to the Great Lawn. The front desk/lobby area will be reconfigured and undergo interior renovations to enhance and improve the visual relationships between the lobby, pool deck and beach area. This expanded recreational focal point will provide visitors with an instant connection to Hawai'i and their stay at the Outrigger Reef.

Improve Pool Deck and Recreation Area

The project will transform the existing pool deck with significantly expanded and enhanced pools. Plans will increase the deck space that will be utilized for pool activities and lounging areas. The recreation deck will gradually step down to the beach level open air dining space. Approximately 52,800 sf of new open recreation space will be created. Water features and landscaping elements will be integrated throughout this space to fit with the surrounding character of the hotel site and beach area.

New Meeting Space

New meeting facilities will be constructed below the pool deck. Approximately 7,500 sf of new meeting space will include ball rooms, breakout, and pre-function space for small to medium size meetings, including the lucrative corporate and incentive meeting market.

Kālia Gateway to Waikīkī Beach Walk

The project will create a gateway at the Kālia Road entry to Waikīkī Beach Walk and to Waikīkī from Fort DeRussy. The main entry to the hotel site from Kālia Road will be renovated as part of the project improvements. Improvements will be made to the street side retail units fronting the Kālia Road entry.

Improved On-site Parking, Service and Circulation

New and reconfigured parking, loading, and service routes will be provided to improve efficiencies and further remove service vehicles from Kālia Road. New on-site parking will be created to accommodate new the hotel rooms and meeting function space.

New Hotel Rooms

The project proposes to develop 60 new infill hotel rooms between the existing Ocean and Pacific towers. Accounting for the other planned renovations and reassignment of existing spaces, this will result in a net increase of 39 new hotel rooms.

2.0 Existing Conditions

The existing property is a fully developed and operating resort in good condition. There are 639 hotel rooms, 8,200 square feet of retail space, 3,000 square feet of meeting space, and two restaurants with a combined square footage of 12,300. The restaurant dining spaces are the Ocean House Restaurant (4,800 square feet), and The Shorebird (7,500 square feet). Also located onsite are a Starbucks and a Jamba Juice.

2.1 Soil

The soils underneath the building are Beach Sand (BS) and Jaucas Sand (JaC) to a depth of approximately 60 inches. These sands are generally coarse grained and have neutral alkalinity. **Refer to Figure 3 – Soil Map**.

2.2 Rainfall and Flooding

The main floor is built at an elevation of 8′ above mean sea level. Rainfall in this location for the 10-year and 50-year 1-hour interval was determined to be 2.00 and 2.50 inches respectively from the Rules Relating to Storm Drainage Standards of Honolulu Plates 1 and 2. Additionally, the property is located within Flood Zone AE Base Flood Elevation (BFE) 8, inside of the FEMA designated 100-year floodplain. The BFE is defined as the flooding surface elevation that has a 1% chance of being equaled or exceeded in any given year. **Refer to Figure 4 – Flood Zone Map**.

Development of the property within flood hazard zones will need to conform to government regulations including FEMA regulations and the City Land Use Ordinance (LUO). There are several alternatives for the development to comply with the flood hazard district regulations such as: flood proofing for structures, anchoring of foundations, and elevating the building's lower floor above the base flood elevation. For building permits and other administrative actions, compliance is generally outlined in the regulations. For discretionary approvals such as CUP JDA, approval may be subject to agency review and approval.

2.3 Existing Infrastructure

2.3.1 Roadways – Onsite

Onsite roadways at the Outrigger Reef consist of parking garage infrastructure, valet service driveways, and service loading/unloading areas. The parking garage is partitioned into two sides with each having its own entrance to Kalia Road.

2.3.2 Roadways – Offsite

Kālia Road is the only roadway that serves the Outrigger Reef. This road is a two-way dead-end street maintained under the jurisdiction of the City and County of Honolulu. It borders the northeast side of the development and runs northwest through Fort DeRussy Beach Park toward Ala Moana Boulevard which is an urban arterial. The opposite lane heads southeast to the dead end 600 feet away. The posted speed limit is 25 miles per hour in both directions. Kālia Road connects to Ala Moana Boulevard, Saratoga Road, Beachwalk Street, and Lewers Street all through controlled intersections. Each control device favors Kālia Road with the exception of Ala Moana Boulevard. Its total length is approximately three-quarters of a mile and its right-of-way width is 40 feet. Due to heavy foot traffic in this area, several cross walks have been provided. Pedestrians have the right of way in crosswalks, except at stoplight controlled intersections where they must wait for signaling.

2.3.3 Drainage – Onsite

A majority of the site is covered by building structures and a raised pool deck. Consequently, the majority of the onsite drainage system consists of building roof drains and pool deck drains. These drains are plumbed to the basement floor below grade and are connected to 8 storm drain lift stations located throughout the basement level. The property facility personnel and mechanical engineer reported that the outlets of storm drain lift stations are all connected together and discharge at a single 4″ pipe leaving the property on the ʻEwa-beachside. **Refer to Figure 5 – Excerpt from "Partial Topographic Survey."** This excerpt is from a 1988 topographic survey prepared by Control Point Survey, which shows the 4″ discharge and a downstream offsite drainage system. Further investigation of the building systems by the mechanical engineer will be needed to verify the configuration of the lift stations and building drain lines. The street side of the project is sloped to Kālia Road and runoff from this area flows to the Kālia Road.

2.3.4 Drainage – Offsite

Storm water draining from the project site to Kālia Road is collected by two curb catch basins and carried via a City 6.5′ wide x 2′ tall box culvert in Kālia Road. This culvert flows in the ʻEwa direction and connects to a larger City 8.5′ x 6′ box culvert that runs to the ocean between Fort DeRussy and the Castle Waikīkī Shore Condominiums. The top of this larger culvert is the walking surface of the beach access ʻEwa of the project site and extends 875′ from Kālia Road to the ocean. The culvert outlets 270′ beyond the beach into the ocean. **Refer to Figure 6 – HoLIS – Existing Storm Water Infrastructure** and **Figure 7 – City Owned Storm Drain Outfall**. Figure 6 also shows an 18″ connection between the onsite 4″ storm water lift station discharge pipe and culvert running from Kālia Road and the ocean. The junction box which connects the

4″ to the 18″ shown in the figure was not found during a site visit and is assumed to be buried below the sand. Ownership of the junction box and 18″ pipe is unknown.

The project site and surrounding roadways are only slightly above sea level. Therefore, the underground drainage system has little fall to the ocean and limited capacity as a result. Specific reports of flooding could not be found for Kālia Road. However, periodic ponding and sluggish drainage during heavy rain events should be expected because of the low elevations and proximity to the ocean. Additionally, the culverts and other pipes upstream will be prone to clogging with sand since the outfall extends into the ocean.

2.3.5 Sewer – Onsite

There are several sanitary sewer lift stations throughout the basement level in addition to the storm drain lift stations described above. These sewer lift stations pump building wastewater to the sanitary sewer collection system in Kālia Road. The stations lift the waste water to two gravity sewer laterals. The first is an 8″ lateral that runs along the ʻEwa property line, and the second is a 12″ lateral that originates at the center of the property. Both are connected to the offsite system in Kālia Road. It is anticipated that these will remain in service. HoLIS shows additional laterals. However, they are not shown on the available as-builts and could not be verified in the field.

2.3.6 Sewer – Offsite

The project sewer laterals are connected to an 18″ sewer main in the Kālia Road sidewalk closest to the project site. **Refer to Figure 8 – HoLIS – Existing Sewer Infrastructure**.

The wastewater flows a short distance in the Diamond Head direction in Kālia Road then flows mauka in Lewers Street to Kūhiō Avenue where it connects into the Beachwalk Wastewater Pump Station a quarter mile away. The existing City system has limited capacity. The limiting factors of the offsite system are a 15″ sewer line at 0.20% slope on Lewers Street (between sewer manholes City IDs 688595 and 688230) and the 21″ sewer line at 0.12% slope on Kūhiō Avenue (sewer City ID: 68914).

The Beachwalk Wastewater Pump Station was recently upgraded in 2008 with the construction of 7,000 feet of new pipelines to convey wastewater from the Waikīkī area to the gravity sewer at Ala Moana Park. The system consists of two 33″ micro tunnels for the first 1,200 feet and one 72″ micro tunnel for the remaining 5,800 feet. Currently this system is being used as a force main to provide redundancy to the existing force main, however in the future it will be converted to a deep gravity sewer.

2.3.7 Water

The Board of Water Supply operates the City's water system consisting of transmission mains, distribution lines, service laterals, water meters and fire hydrants in the vicinity of the project. An existing 12″ water main is located in Kālia Road. **Refer to Figure 9 – Existing BWS Infrastructure Map**. Onsite domestic water is supplied by a Board of Water Supply (BWS) 4″ compound meter (No. 05120004) near the ʻEwa property line connected to the 12″ main in Kālia Road. The Onsite building automatic fire sprinkler system is supplied from a 6″ DC Meter (No. 8159602) Diamond Head of the domestic meter, which is also connected to the 12″ main in Kālia Road. There are no onsite fire hydrants. There are three offsite fire hydrants in the vicinity of the project. The first is located across Kālia Road on Beach Walk. The second is across Saratoga Road near Kālia Road and is closest to the fire department connections for the site, which are located near the ʻEwa property line. The third is in the Diamond Head direction on the same side of Kālia Road as the project.

The BWS was contacted to obtain the available flow and pressure in the 12″ main in Kālia Road. BWS reported that the static pressure is 75 psi, the residual pressure is 37 psi at a flow rate of 4,000 gallons per minute. **Refer to Attachment 6 – BWS Letter Response for Water Flow and Pressure Data**.

2.3.8 Electric, Gas, Telephone, Cable-TV

The ALTA/ACSM Land Title Survey of the Outrigger Reef hotel indicates that there are electric, gas, telephone and cable TV utilities running along Kālia Road. Available aerial imagery also shows that there is existing street lighting along the road. Mechanical and Electrical Engineers should be consulted to determine implications resulting from proposed site modifications.

3.0 Proposed Infrastructure Improvements

3.1 Roadways & Parking – Onsite

A new circular driveway will be built to access the property more easily. It will allow traffic to pull off of Kālia Road to a new porte-cochère and valet services or enter the parking garages.

The existing Diamond Head side of the project will be demolished to make way for a new underground parking and the ʻEwa side underground parking will be expanded.

3.2 Roadways & Parking – Offsite

No improvements proposed.

3.3 Drainage

3.3.1 Design Criteria

Site areas (non-building areas) shall be designed to the City and County of Honolulu, Department of Planning and Permitting, Rules Relating to Storm Drainage Standards (Storm Drainage Standards) dated January 1, 2000 with subsequent amendments effective May 1, 2011 and June 1, 2013. Building drainage systems shall be designed to the City and County of Honolulu Revised Ordinances of Honolulu, Chapter 19 Plumbing Code (Plumbing Code), which refers to the 1997 Uniform Plumbing Code (UPC) with amendments.

3.3.2 Hydrology Method

The Rational Method can be used to compute site drainage runoff flow rates since the total project site drainage area is less than 100 acres per the Storm Drainage Standards. The Rational Method formula is as follows:

$$Q=CIA$$

Where: Q = Peak Runoff Flow Rate (Cubic feet per second)

C = Coefficient of Runoff

I = Rainfall intensity in inches per hour (in/hr)

A = Total drainage area (acres)

Flow rates for design of the building drainage systems can be obtained from Table 11-1 of the UPC, which shows flow rates corresponding to building area and rainfall rates.

3.3.3 Hydrology

The project area was divided into 3 drainage basins corresponding to how the basins are categorized within the design criteria and consequently how runoff will be computed. **Refer to Attachment 3 – Drainage Map** for the delineation of the different drainage basins. Drainage Basin A encompasses the new pool deck area, Drainage Basin B encompasses the existing Ocean and Pacific Towers, and Drainage Basin C is the area that drains to Kālia Road. The proposed drainage basin sizes and impervious areas essentially remain the same as existing. Therefore, the existing offsite system is expected to be adequate.

Runoff from Basins A and B are collected by building roof drains or pool deck drains and are considered building drainage systems that are governed by the Plumbing Code. Both basins flow to the basement level where the runoff will be pumped to the single outlet pipe on the

'Ewa/Makai side. This outlet pipe is that is connected to the City's 8.5'x6' Box Culvert by an existing 18" storm drain pipe to the. The Plumbing Code requires sizing building systems for the 100-year 1-hour storm. The resulting flow rates will be used by the Mechanical Engineer responsible for design of the building plumbing system. Runoff from Basin C is considered site drainage that freely drains to the street and consequently sized based on a 10-year 1-hr storm per the Storm Drainage Standards.

The results of the hydrology calculations are shown in **Table 1**.

Table 1: Proposed Basin Summary

Tributary Area	Direction of Flow	Area (ac)	Flow, Q10 (cfs)	Flow, Q100 (cfs)
Basin #A	Basement Storm Pumps	1.27	Not applicable	3.6
Basin #B	Basement Storm Pumps	0.83	Not applicable	2.8
Basin #C	Kālia Road	0.36	1.5	Not applicable

3.3.4 Stormwater Quality

3.3.4.1 State Requirements

Construction will disturb more than one acre of land. Therefore, the project will require coverage under the State's General Permit for Storm Water Discharges Associated with Construction. Coverage is obtained from the State Department of Health, Clean Water Branch.

3.3.4.2 City Requirements

In accordance with Storm Drainage Standards the proposed development will require implementation of stormwater quality best management practices, also known as Low Impact Design. The purpose of the water quality criteria is to reduce the pollution associated with stormwater runoff from new development and significant redevelopment. Based on the anticipated 1.63+/- acres of new construction, the proposed project requires post construction BMPs to meet these water quality requirements.

Typical BMPs include water quality swales and retention basins. These BMPs are land intensive and not feasible due to high ground water near the ocean. Therefore, alternative

compliance for the pool deck and roofs can be achieved using a Manufactured Treatment Device (MTD). This is usually a vault type system with removable filter cartridges.

The MTD must provide a verified total Suspended Solids (TSS) removal rate of 80%. MTDs can be expensive to install especially when located inside a building as will be required for this project. They also require yearly replacement of the cartridges and periodic removal of sediments and sands accumulated in a pretreatment chamber by a pumper (vactor) truck.

The location of the MTD will need to be accessible for maintenance trucks. The designers should consider working with the MTD manufacturer to determine if custom cartridge layout could be designed so that the vault could be incorporated into the building structure. The cost of the custom solution may offset the added cost of locating a site feature inside the building.

Incorporating green roofs and vegetated bio-filters into the pool deck as landscape amenities to treat a portion of the storm water can reduce the size of the MTD and lower the overall costs associated with storm water quality. A vegetated bio-filter (also referred to as a planter box) is a specially configured planter bed that allows runoff to percolate though the planter soil and then be collected by an underdrain system.

The Civil Engineer and Landscape Architect will need to coordinate the design of the planter since the plants chosen must be water tolerant to withstand periodic standing water in the planter during rain events as the runoff percolates down through the bed.

Runoff along the Kālia Road frontage will be directed to landscape areas comprise of vegetated bio-filters to meet the storm water quality requirements at that location. Treatment for the existing runoff from the Ocean and Pacific Towers is not required since the interiors are only being renovated.

The flow–through rate shall be calculated based upon the following:

$$WQFR = C \times 0.4'' \times A$$

where, WQFR = Water quality flow rate in cubic feet per second (cfs)

C = Runoff coefficient

A = Area of the site in acres

Refer to Attachment 1 – LID Concept for the locations of MTD and bio-filter/planter-boxes along with information regarding the bio-filter and planter boxes. **Refer to Attachment 2 – Storm Concept Profile** that shows the vertical storm water connections and an example MTD.

Table 2: Flow Through Based Water Quality Basin Summary

Tributary Area	Direction of Flow	Area (ac)	WQFR (cfs)
Basin A	Basement Storm Pumps	1.27	0.5
Basin C	Kālia Road	0.36	0.1

3.4 Sewer – Onsite

The existing 8″ and 12″ sewer laterals will be used for both the existing towers for the new infill rooms. A new lateral will be designed to accommodate the projected flows from the new ballroom and restaurant after flowing through an elevated grease interceptor planned for the f basement floor.

3.5 Sewer – Offsite

A Sewer Connection Application (SCA) for the project was submitted to the City's Department Planning and Permitting Wastewater Branch (WWB) on October 27, 2014, and was initially denied stating that two off-site sewer mains were over capacity: a 340-foot 15″ sewer in Lewers close to the project and a 28-foot 21″ sewer at the intersection of Lewers and Kūhiō. However, a formal appeal was submitted to the City's Department of Environmental Services (ENV), the branch that analyzes and operates the sewer system, and they approved the request which overrides the previous denial letter from WWB. The connection is therefore approved without requiring costly offsite improvements. The SCA approval, dated March 29, 2016, requires the construction plans to be completed within two years and construction to start within one year after plan completion and approval. A Wastewater System Facility Charge may apply at the time of applying for the Building Permit if there is any subsequent water meter size increase or installation. **Refer to Attachment 4 – Sewer Connection Application Denial and Approval**.

3.6 Water

Water for the proposed development will be provided by the City and County of Honolulu water system. The existing water meters and backflow preventers currently connected to the 12″ main in Kālia Road will be utilized for the new and existing buildings. **Refer to Attachment 5 – BWS Pressure Data** for available flows and pressure. **Refer to Attachment 6 – BWS Letter Response for Adequate Water**

3.7 Gas, Electric, Telephone, and Cable-TV

The proposed development will connect to the existing underground gas, electric, telephone and cable TV utilities along Kālia Road. The onsite gas, electrical, telephone and cable TV distribution systems within the proposed development will be installed underground. The existing street lighting along Kālia Road will not be modified. Site lighting within the proposed development will be installed along the private driveway. Mechanical and Electrical Engineers will determine the required upgrade or necessary modifications to these systems and utility services.

4.0 CONCLUSION

The proposed improvements for this project will be designed in accordance with the applicable rules and regulations of the City and County of Honolulu and the State of Hawai'i.

Existing offsite infrastructure has capacity to serve the project at this time. However, the available capacity of the offsite sewer system for Waikīkī is most susceptible to changes. We recommend monitoring offsite developments by others that could potentially use up remaining sewer capacity and incorporate this into Outrigger Enterprise's development strategy.

The approved SCA expires in two years (2018). It can be re-applied for and potentially renewed if plan completion is delayed for any reason beyond the 2-year expiration date, or the approval can be locked in by paying the Wastewater System Facility Charge (if applicable).

FIGURES

Figure 1 – Location Map & Vicinity Map

Figure 2 – Outrigger Reef Concept TMK Map

Figure 3 – SOILS MAP

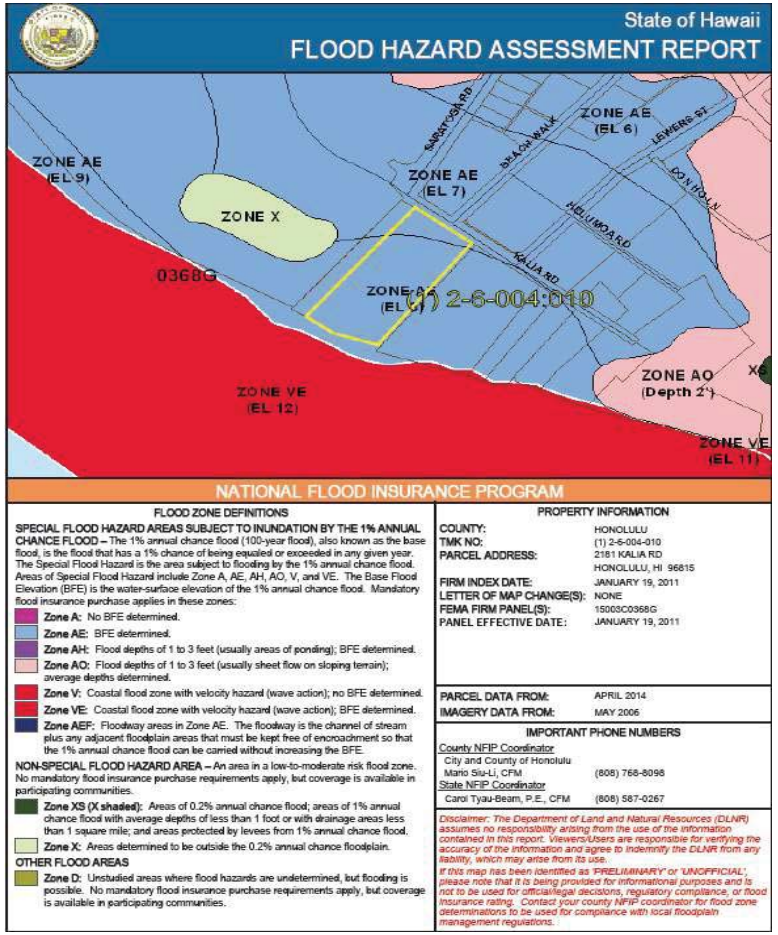


Figure 4 – Flood Zone Map

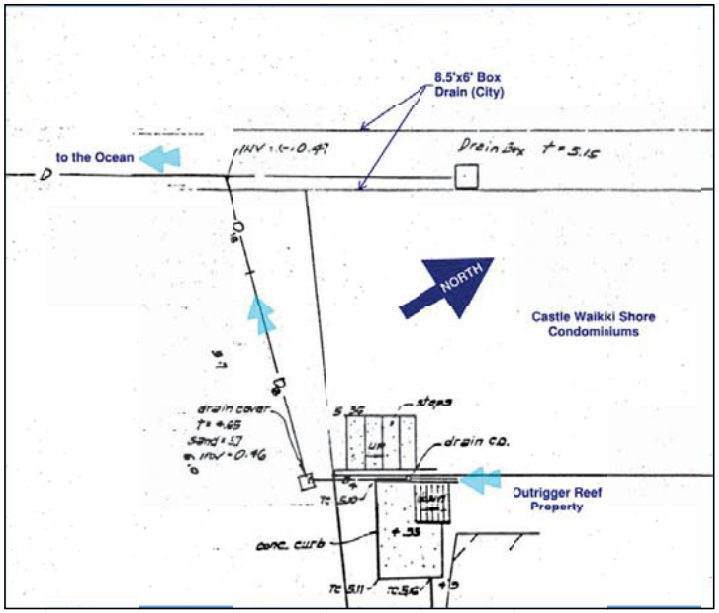


Figure 5 – Excerpt from "Partial Topographic Survey"
(1988 topographic survey prepared by Control Point Survey)

Figure 6 – HoLIS – Existing Storm water Infrastructure

Figure 7 – City Owned Storm Drain Outfall

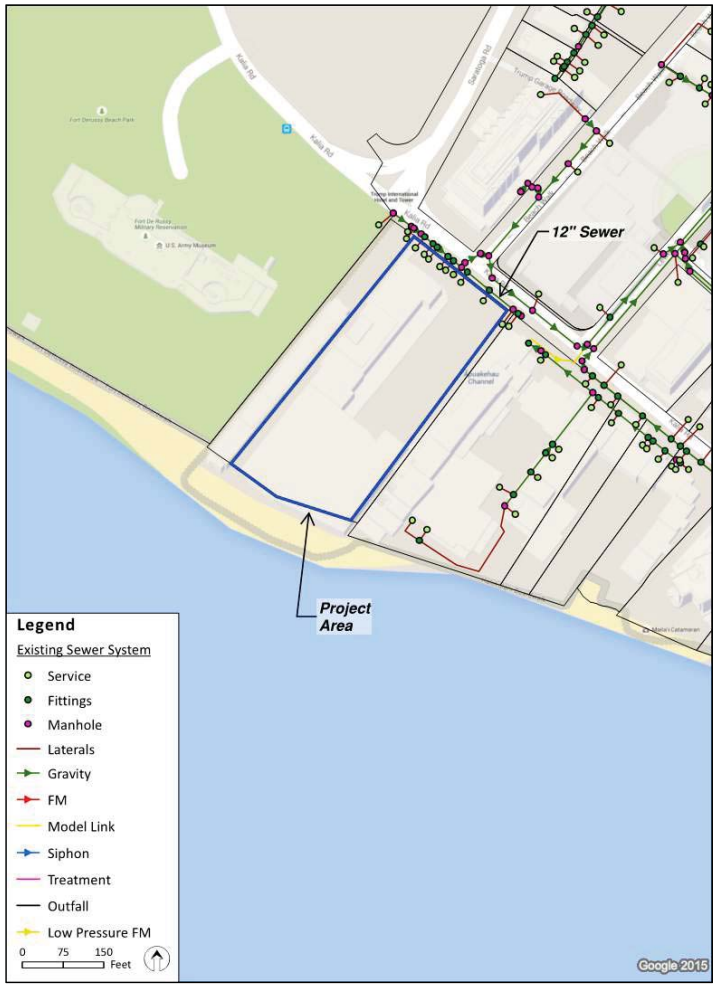


Figure 8 – HoLIS – Existing Sewer Infrastructure

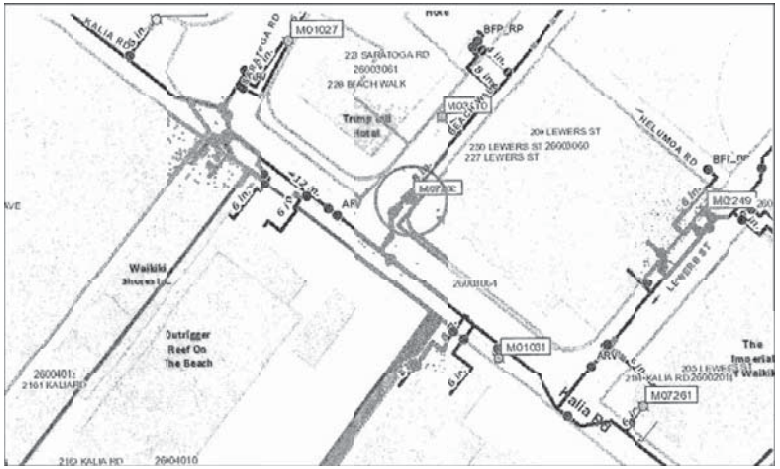


Figure 9 – Existing BWS Infrastructure Map

References

City and County of Honolulu, Board of Water Supply, Water System Standards, dated 2002

Chun, Robert, Board of Water Supply. "Your Email Dated June 19, 2014 Requesting Flow and Pressure Data for the Outrigger Reef Concept on Kālia Road - Tax Map Key: 2-4-006:010." Letter to Mr. Woods. 11 July 2014. MS. City and County of Honolulu, Honolulu, Hawai'i.

Chun, Robert, Board of Water Supply. "Your Letter Dated October 6, 2014 on the Supplemental Environmental Impact Statement Preparation Notice for Waikīkī Beach Walk, Outrigger Reef Waikīkī Beach Resort – Tax Map Key: 2-4-006:010." Letter to Ms. Ruotola. 13 November 2014. MS. City and County of Honolulu, Honolulu, Hawai'i.

City and County of Honolulu, Department of Planning and Permitting, Honolulu Land Information System (HoLIS), http://gis.hicentral.com/

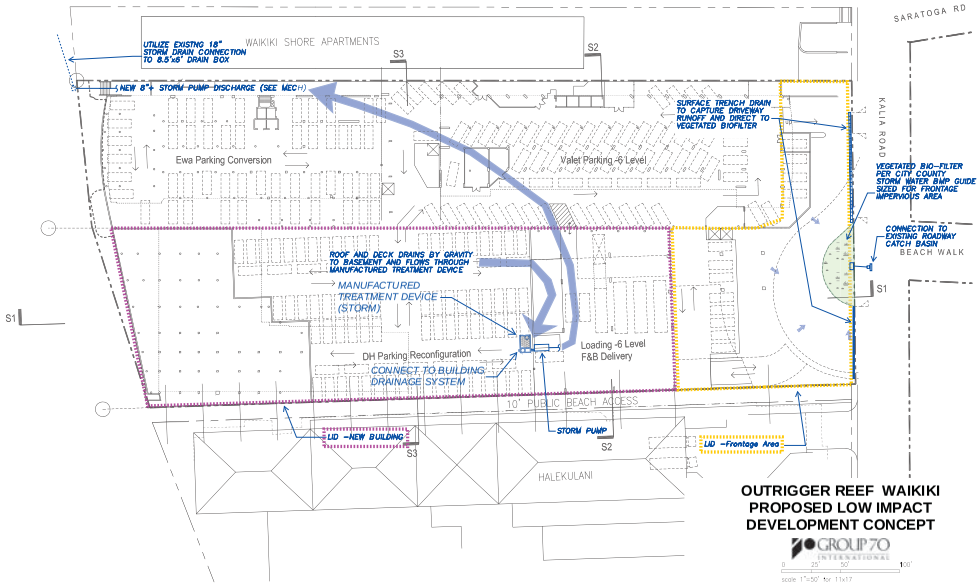
City and County of Honolulu, Department of Planning and Permitting, Rules Relating to Storm Drainage Standards (Effective January 1, 2000 with subsequent amendments effective May 1, 2011 and June 1, 2013).

City and County of Honolulu, Office of council services, Chapter 21 – Land Use Ordinance, Revised Ordinances of Honolulu, dated 1990

State of Hawai'i, Department of Land and Natural Resources, Hawai'i Flood Hazard Assessment Tool, http://gis.hawaiinfip.org/fhat/

Attachments

Attachment 1 – Proposed Low Impact Development Concept



VEGETATED BIO-FILTER

Description

Sometimes referred to as a Bioretention Filter, Storm Water Curb Extension or Planter Box, a Vegetated Bio-Filter is an engineered shallow depression that collects and filters storm water runoff using conditioned planting soil beds and vegetation. The filtered runoff discharges through an underdrain system.

BMP Category	
Retention	○
Biofiltration	●
Other	○

Expected Pollutant Removals	
Nutrients	Medium
Sediment	High
Trash	High
Pathogens	Medium
Pesticides	Unknown
Oil & Grease	High
Metals	High
Organic Compounds	High

Waikikii

Minimum Design Criteria

Design Parameter	Units	Value
Planting Soil Coefficient of Permeability	feet/day	1.0
Mulch Thickness	inches	2 – 4
Planting Soil Depth	feet	2 – 4
Drawdown (drain) Time	hours	48
Maximum Ponding Depth	inches	12
Minimum Underdrain Diameter	inches	6

Feasibility Criteria

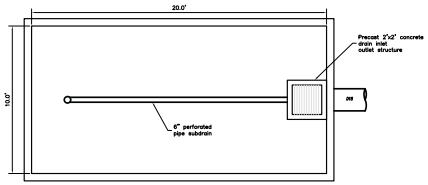
See Table 10.

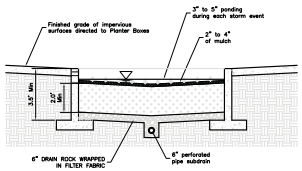
Sizing Procedure

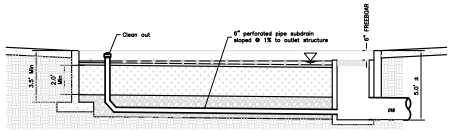
1. Use the procedure presented previously to compute the Volumetric Runoff Coefficient and Water Quality Volume.

2. Select values for the planting media depth (l_m) and maximum ponding depth (d_p).

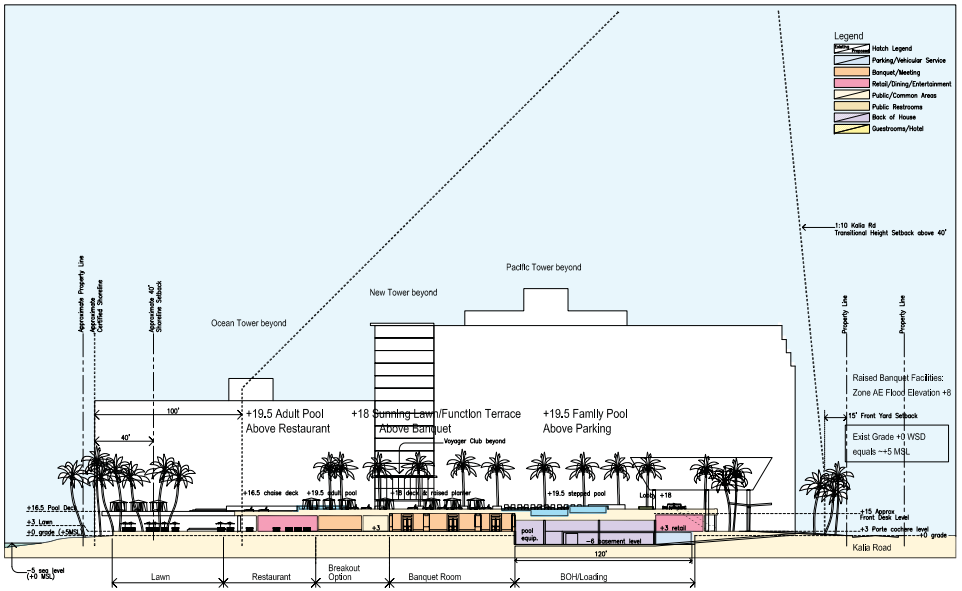
3. Use Darcy's Law to calculate the required Filter Bed Surface Area:



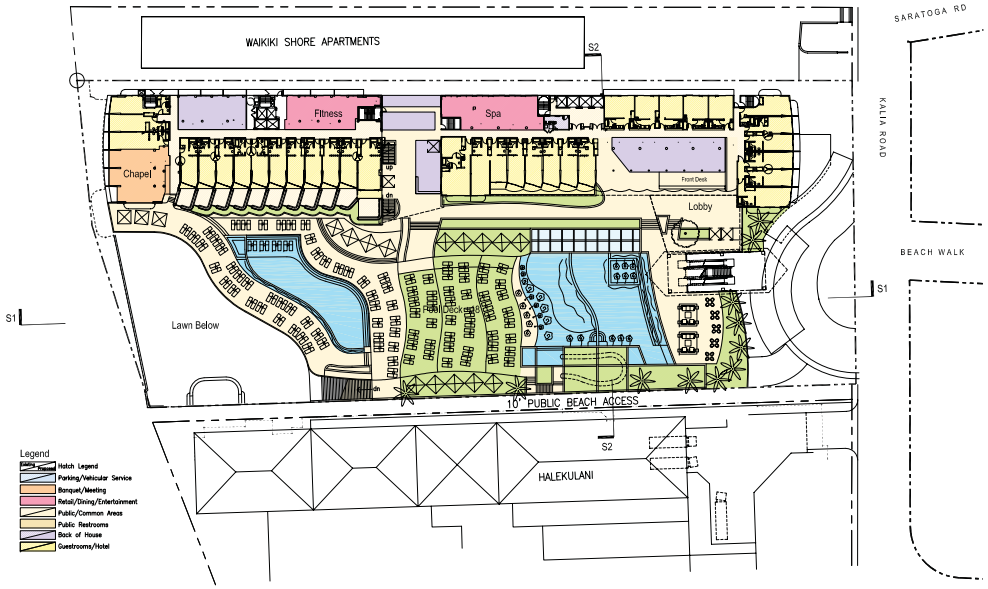




Attachment 2 – Proposed Storm Concept Profile



Attachment 3 – Drainage Map



Attachment 4 – Sewer Connection Application Denial and Approval

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET * HONOLULU, HAWAII 96813
Phone: (808) 768-8209 * Fax: (808) 768-4210

SEWER CONNECTION APPLICATION

APPLICATION NO.: **2014/SCA-0786** STATUS: **Denied**
DATE RECEIVED: **10/27/2014** IWDP APP. NO.:
PROJECT NAME: **2014/SCA-0786 Outrigger Reef Concept Hotel Development**

LOCATION:

Zone	Section	Plat	Parcel	
2	6	004	010	2169 KALIA RD Honolulu / Waikiki ! 108,968 Sq. Ft.

SPECIFIC LOCATION: **2169 Kalia Road**

APPLICANT: **Group 70 International**
ATTN. David Brotchie
925 Bethel Street, 5th floor
Honolulu, HI 96813-4307

DEVELOPMENT TYPE: **Hotel** SEWER CONNECTION WORK DESIRED:

OTHER USES: **639 rooms**
Caterers, 10 employees
Drinking Establishment, 2 employees
Health Spa, 4 employees
Parking Structure, 10 employees
Retail, 3,525 gpd
Banquet Hall, 661 seats per day

NON-RESIDENTIAL AREA: s.f. APPROXIMATE DATE OF CONNECTION:

PROPOSED UNITS	EXISTING UNITS	UNITS TO BE DEMOLISHED
No. of New Units: **0**	No. of Existing Units: **0**	No. of Units to be Demolished: **0**
Studios:	Studios:	Studios:
1-Bedroom:	1-Bedroom:	1-Bedroom:
2-Bedroom:	2-Bedroom:	2-Bedroom:
3-Bedroom:	3-Bedroom:	3-Bedroom:
4-Bedroom:	4-Bedroom:	4-Bedroom:
5-Bedroom:	5-Bedroom:	5-Bedroom:
6-Bedroom:	6-Bedroom:	6-Bedroom:

REMARKS **The downstream 15-inch sewer line at 0.20% slope on Lewers St. (between SMHs 688595 and 688230) and the 21-inch sewer line at 0.12% slope on Kuhio Avenue (sewer ID: 689914) are inadequate to support the increase in sewage.**

DENIAL DATE: **10/29/2014**

REVIEWED BY: ***Tessa Ching***

Tessa Ching
Site Development Division, Wastewater Branch

ExternalID: **053738230-001** JobId: **53738230**

Initial Print Date: Monday November 3, 2014 11:00 ar

Page 1 of 1

DEPARTMENT OF ENVIRONMENTAL SERVICES
CITY AND COUNTY OF HONOLULU
1000 ULUOHIA STREET, SUITE 308, KAPOLEI, HAWAII 96707
TELEPHONE: (808) 768-3486 • FAX: (808) 768-3487 • WEBSITE: http://envhonolulu.org

KIRK CALDWELL
MAYOR

LORI M.K. KAHIKINA, P.E.
DIRECTOR

TIMOTHY A. HOUGHTON
DEPUTY DIRECTOR

ROSS S. TANIMOTO, P.E.
DEPUTY DIRECTOR

RECEIVED

IN REPLY REFER TO
PRO 15-028

March 24, 2015

MAR 27 2015

Mr. David I. Brotchie, PE, LEED AP
Associate, Civil Engineering Project Manager
Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4307

GROUP 70 INTL

Dear Mr. Brotchie:

SUBJECT: Sewer Connection Application Review, Outrigger on the Reef, 2014/SCA-0786, (TMK: 2-6-004:010)

The City and County of Honolulu Department of Environmental Services has reviewed your letter received by our office on January 8, 2015. We informed the Department of Planning and Permitting (DPP), Site Development Division, Wastewater Branch that we approve of your Sewer Connection Application (SCA), application number 2014/SCA-0786. This approval is based on our department's analysis of downstream sewer lines and facilities of the project connection location. Please follow-up with DPP regarding the next steps for your SCA. Our approval is based on 115 additional equivalent single family dwelling units and an additional average flow of 36,808 gallons per day as provided by the Department of Planning and Permitting, Site Development Division, Wastewater Branch, and the proposed connection date of October 2018.

If you have any questions or require additional information, please call Lisa Kimura, Civil Engineer, at 768-3455. Thank you for your consideration of this matter.

Sincerely,

Lori M.K. Kahikina, P.E.
Director

cc: DPP, SDD, Wastewater Branch

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET * HONOLULU, HAWAII 96813
Phone: (808) 768-8209 * Fax: (808) 768-4210

SEWER CONNECTION APPLICATION

APPLICATION NO.: **2016/SCA-0382** STATUS: **Approved**
DATE RECEIVED: **03/24/2016** IWDP APP. NO.:
PROJECT NAME: **2016/SCA-0382 New expansion at 2169 Kalia Rd. - Outrigger Reef**

LOCATION:

Zone	Section	Plat	Parcel		
2	6	004	010	**2169 KALIA RD Honolulu / Waikiki !**	**108,968** Sq. Ft.

SPECIFIC LOCATION: **2169 Kalia Rd. Waikiki**

APPLICANT: **GROUP 70 INT**
David Brotchie
925 BETHEL ST 5TH FLR
HONOLULU, HI 96813

DEVELOPMENT TYPE: **Commercial (Misc.)** SEWER CONNECTION WORK DESIRED:

OTHER USES: **Hotel, 204 Rooms**
Caterers
Drinking Establishment
Heakth Spa
Parking Structure
Retail
Banquet Hall

NON-RESIDENTIAL AREA: s.f. APPROXIMATE DATE OF CONNECTION:

PROPOSED UNITS	EXISTING UNITS	UNITS TO BE DEMOLISHED
No. of New Units: **0**	No. of Existing Units: **0**	No. of Units to be Demolished: **0**
Studios:	Studios:	Studios:
1-Bedroom:	1-Bedroom:	1-Bedroom:
2-Bedroom:	2-Bedroom:	2-Bedroom:
3-Bedroom:	3-Bedroom:	3-Bedroom:
4-Bedroom:	4-Bedroom:	4-Bedroom:
5-Bedroom:	5-Bedroom:	5-Bedroom:
6-Bedroom:	6-Bedroom:	6-Bedroom:

REMARKS **Wastewater System Facility Charges may apply pending water meter size increase or installation.**

APPROVAL DATE: **03/29/2016**

EXPIRATION DATE: **03/29/2018**

Valid 2-years after approval date. Construction plans shall be completed and approved within this 2-year period. Construction shall commence within 1-year after approval of plans.
** Applicable WSFC shall be collected at the prevailing rate in accordance with ROH 1990, Chapter 14, Sections 14-10.3, 14-10.4, 14-10.5 and Appendix 14-D.*

REVIEWED BY: ***Keith Miyashiro***

Site Development Division, Wastewater Branch

ExternalID: **057097002-001** JobId: **57097002**

Attachment 5 – BWS Letter Response for Water Flow and Pressure Data

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

July 11, 2014

KIRK CALDWELL, MAYOR

DUANE R. MIYASHIRO, Chair
ADAM C. WONG, Vice Chair
MAHEALANI CYPHER
THERESIA C. McMURDO
DAVID C. HULIHEE

ROSS S. SASAMURA, Ex-Officio
FORD N. FUCHIGAMI, Ex-Officio

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

ELLEN E. KITAMURA, P.E.
Deputy Manager and Chief Engineer

Mr. John Woods
Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813

Dear Mr. Woods:

Subject: Your Email Dated June 19, 2014 Requesting Flow and Pressure Data for the Outrigger Reef Concept on Kalia Road – Tax Map Key: 2-4-006:010

The Board of Water Supply has suspended fire flow tests on fire hydrants as a water conservation measure. However, you may use the following calculated flow data for Fire Hydrant No. M-7262 on Beach Walk:

Static Pressure.....	75	psi
Residual Pressure.....	37	psi
Flow.....	4000	gpm

The data are based on the existing water system, and the static pressure represents the theoretical pressure at the point of calculation with the reservoir full and no demands on the water system. The static pressure is not indicative of the actual pressure in the field. Therefore, in order to determine the flows that are available to the site, you will have to determine the actual field pressure by taking on-site pressure readings at various times of the day and correlating that field data with the above hydraulic design data.

This parcel is served by a 4-inch meter with Prem ID: 1063028 and Meter Number: 05120004.

The map showing the location of the fire hydrant is attached.

If you have any questions, please contact Robert Chun, Project Review Branch of our Water Resources Division at 748-5443.

Very truly yours,

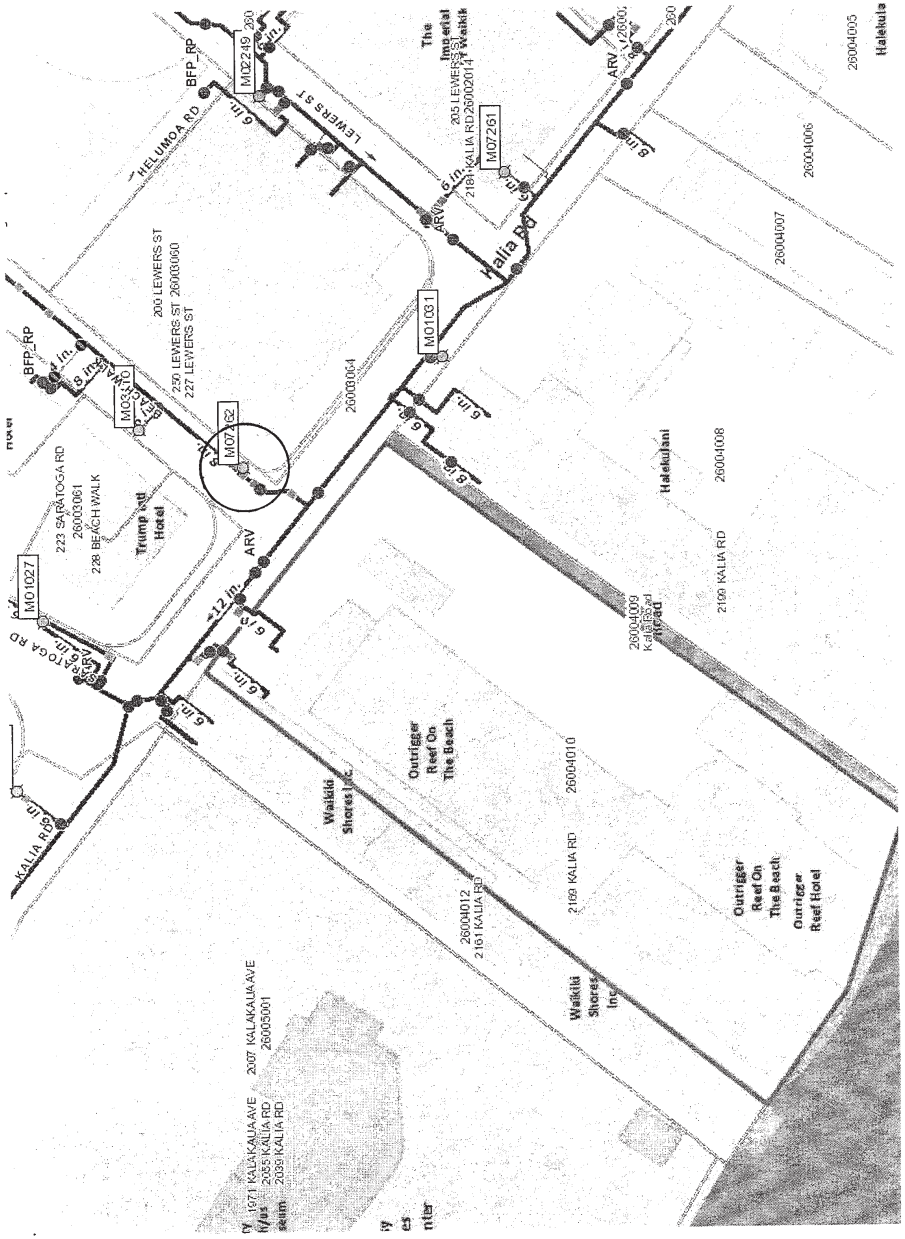
Robert Chun

ROBERT CHUN
Project Review Branch

Attachment

cc: R. Chun
14-WR-99

Water for Life . . . Ka Wai Ola



Attachment 6 – BWS Letter Response for Adequate Water

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

November 13, 2014

KIRK CALDWELL, MAYOR

DUANE R. MIYASHIRO, Chair
ADAM C. WONG, Vice Chair
MAHEALANI CYPHER
THERESIA C. McMURDO
DAVID C. HULIHEE

ROSS S. SASAMURA, Ex-Officio
ROSS M. HIGASHI, Ex-Officio

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

ELLEN E. KITAMURA, P.E.
Deputy Manager and Chief Engineer

RECEIVED
NOV 1 - 2014
GROUP 70 INT'L

Ms. Christine Mendes Ruotola, AICP, LEED AP
Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4307

Dear Ms. Ruotola:

Subject: Your Letter Dated October 6, 2014 on the Supplemental Environmental Impact Statement Preparation Notice for Waikiki Beach Walk, Outrigger Reef Waikiki Beach Resort – Tax Map Key: 2-6-002: 014, 027; 2-6-003: 001, 030, 056, 060, 061; 2-6-004: 010

Thank you for the opportunity to comment on the proposed renovations and hotel at the Outrigger Reef Waikiki Beach Resort.

The existing water system is adequate to accommodate the proposed development. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply reserves the right to change any position or information stated herein up until the final approval of 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 low flow plumbing fixtures, utilization of nonpotable water for irrigation using rain catchment and chiller/air handler condensate, cooling tower conductivity meters and water softening recycling systems, drought tolerant plants, xeriscape landscaping, efficient irrigation systems 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 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,

for ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

cc: Elizabeth Krueger, DPP

APPENDIX E

Outrigger Reef Waikiki Beach Resort
Pedestrian Wind Assessment

Rowan Williams Davies & Irwin, Inc.

March 2016

Outrigger Reef Waikiki Beach Resort

Honolulu, Hawaii

Pedestrian Wind Assessment

RWDI # 1500815
March 8, 2016

SUBMITTED TO

Tracy A.F. Camuso, AICP
Associate, Senior Planner
Group 70 International
925 Bethel Street
5th Floor
Honolulu, HI 96813
tfuruya@group70int.com

SUBMITTED BY

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West
Guelph, Ontario, Canada N1K 1B8
519.823.1311

Jill Bond, B.A.Sc., E.I.T.
Technical Coordinator
Jill.Bond@rwdi.com

Analene Belanger, P.Eng., PMP
Associate / Senior Project Manager
Analene.Belanger@rwdi.com

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1. INTRODUCTION

Rowan Williams Davies & Irwin Inc. (RWDI) was retained by Group 70 International to assess the wind comfort and safety conditions around the Outrigger Reef Waikiki Beach Resort.

The objective of this assessment is to provide a qualitative evaluation of pedestrian wind comfort and safety conditions on and around the development. Conceptual mitigation measures to improve wind comfort have been recommended, where necessary. This qualitative assessment is based on the following:

- a review of regional long-term meteorological data;
- design drawings provided by Group 70 International on February 16, 2016;
- our engineering judgment and knowledge of wind flows around buildings[1];
- our experience of wind-tunnel tests of various building projects[2] in the Honolulu area; and
- use of software developed by RWDI (*Windestimator*[3]) for estimating the potential wind conditions around generalized building forms.

This qualitative approach provides a screening-level estimation of potential wind conditions. To quantify these conditions or refine any conceptual mitigation measures, physical scale-model tests in a boundary-layer wind tunnel would be required.

Note that other wind issues, such as those relating to cladding and structural wind loads, door pressures, stack effect, exhaust re-entrainment, snow drifting and loading, etc. are not considered in the scope of this pedestrian wind assessment.

Figure 1 – Aerial Photograph of Existing Site
(Courtesy of Google Earth™, January 2013)

1. H. Wu and F. Kriksic (2012). "Designing for Pedestrian Comfort in Response to Local Climate", *Journal of Wind Engineering and Industrial Aerodynamics*, vol.104-106, pp.397-407.
2. C.J. Williams, H. Wu, W.F. Waechter and H.A. Baker (1999), "Experience with Remedial Solutions to Control Pedestrian Wind Problems", *10th International Conference on Wind Engineering*, Copenhagen, Denmark.
3. H. Wu, C.J. Williams, H.A. Baker and W.F. Waechter (2004), "Knowledge-based Desk-Top Analysis of Pedestrian Wind Conditions", *ASCE Structure Congress 2004,* Nashville, Tennessee.

2. BUILDING AND SITE INFORMATION

The Outrigger Reef Waikiki Beach Resort is currently situated on the southern coast of Oahu along Waikiki Beach. Three buildings are currently on-site with a common podium. The currently proposed changes to the existing site include a new connection between the Pacific and Ocean Towers, an increase to the meeting space and parking, a decrease in retail space, a new entry and circulation area, a revitalized pool deck, and the removal of the Diamond Head Tower.

Pedestrian areas on and around the development include public sidewalks, the public beach access, building entrances, the porte cochere, the lobby area, the pool deck, and the Great Lawn.

The site is immediately surrounded by high-rise towers to the north and east, a low-rise building to the west, and the Pacific Ocean to the south. Beyond these surroundings, urban and suburban structures prevail to the west, north, and east.

Figure 2a – Existing Site Plan

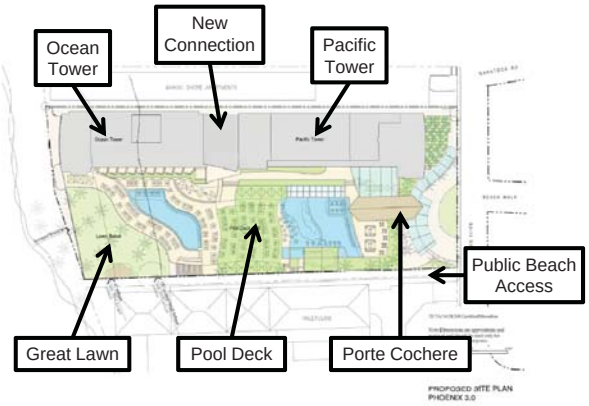


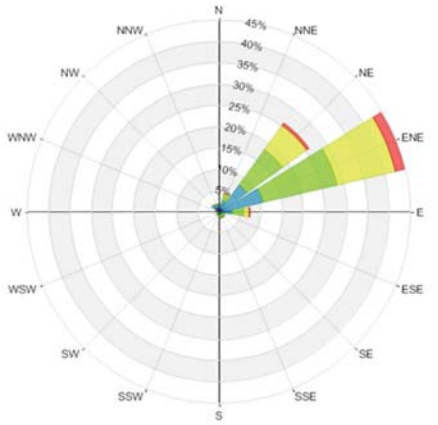
Figure 2b – Proposed Site Plan

3. METEOROLOGICAL DATA

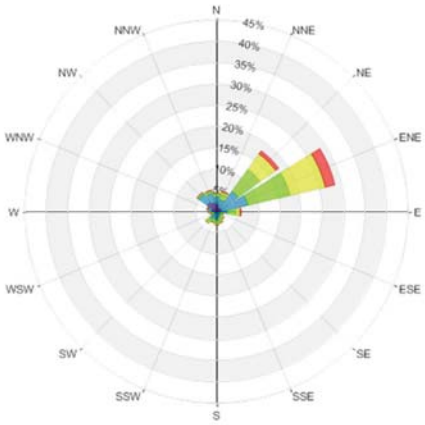
Meteorological data from Honolulu International Airport for the period of 1980 to 2009 were used to define the wind conditions in the region. This is the nearest weather station with long-term continuous wind data.

The distributions of wind frequency and directionality for the summer (May through October) and winter (November through April) seasons are shown in the wind roses below (see Figure 3). Winds from the northeast and east-northeast are predominant throughout the year, as indicated by the wind roses.

Strong winds of a mean speed greater than 20 mph measured at the airport (red bands) occur for about 3.1% and 3.9% of the time during the summer and winter seasons, respectively. These winds could potentially be the source of uncomfortable wind conditions, depending upon the site exposure or development design.



Summer Winds (May to October)



Winter Winds (November to April)

Wind Speed (mph)	Probability (%) Summer	Winter
Calm	2.9	6.1
1-5	8.2	14.5
6-10	27.4	31.9
11-15	34.7	26.9
16-20	23.6	16.8
>20	3.1	3.9

Figure 3 – Directional Distribution (%) of Winds (Blowing from) Honolulu International Airport (1980 to 2009)

4. EXPLANATION OF CRITERIA

The RWDI pedestrian wind criteria are used in the current study. These criteria have been developed by RWDI through research and consulting practice since 1974. They have also been widely accepted by municipal authorities as well as by the building design and city planning community.

Sitting: Calm or light breezes desired for outdoor restaurants and seating areas where one can read a paper without having it blown away.

Standing: Gentle breezes suitable for main building entrances and bus stops.

Strolling: Moderate winds that would be appropriate for window shopping and strolling along a downtown street, plaza or park.

Walking: Relatively high speeds that can be tolerated if one's objective is to walk, run or cycle without lingering.

Wind conditions are considered suitable for sitting, standing or walking if the wind speeds are expected for at least four out of five days (80% of the time). An **uncomfortable** designation means that the criterion for walking is not satisfied.

Safety is also considered by the criteria and is associated with excessive gust wind speeds that can adversely affect a pedestrian's balance and footing. If winds sufficient to affect a person's balance occur more than 0.1% of the time, the wind conditions are considered severe. Wind control measures are typically required at locations where winds are rated as uncomfortable or they exceed the wind safety criterion.

These criteria for wind forces represent average wind tolerance. They are sometimes subjective and regional differences in wind climate and thermal conditions as well as variations in age, health, clothing, etc. can also affect people's perception of the wind climate. Comparisons of wind speeds for different building configurations are the most objective way in assessing local pedestrian wind conditions.

5. PEDESTRIAN WIND CONDITIONS

Predicting wind speeds and occurrence frequencies requires a complete understanding of building geometry, orientation, position and height of surrounding massings, upstream terrain and the local wind climate. RWDI has conducted more than 2,500 wind-tunnel model studies on pedestrian wind conditions around buildings, yielding a broad knowledge base. This knowledge has been incorporated into RWDI's proprietary software that allows, in many situations, for a qualitative, screening-level numerical estimation of pedestrian wind conditions without wind tunnel testing.

Generally, wind speeds comfortable for walking or strolling are appropriate for sidewalks and walkways, and lower wind speeds comfortable for standing are desired at building entrances where pedestrians tend to linger. Low wind speeds comfortable for sitting are desired at outdoor terraces and the pool deck; however, standing conditions are generally accepted, as a breeze is often considered pleasant in a warmer climate, such as that found in Honolulu.

No wind safety issues are expected anywhere on or near the Outrigger Reef Waikiki Beach Resort.

5.1 Sidewalks

Existing wind conditions along the sidewalks around the perimeter of the site are likely comfortable for walking or better throughout the year, which is suitable. Due to the prevalence of tall towers in the vicinity of Kalia Road, much of the higher-speed winds are due to winds from high elevations downwashing off buildings such as the Pacific Tower and the towers across the street (see Figure 4).

After the proposed changes to the site, wind conditions are expected to remain similar. The canopy along the north facade of the Pacific Tower is a positive design feature as it would help keep downwashing winds above pedestrian level.

Figure 4 – A *Downwashing Flow* occurs when tall buildings intercept stronger winds at higher elevations and redirect them to ground level.

5.2 Public Beach Access

Existing wind conditions along the public beach access to the east of the development are likely comfortable for walking or strolling throughout the year. This is considered suitable for the intended pedestrian usage.

The proposed changes to the development include a wall along the west edge of the beach access, as shown in Figure 5. This is a positive addition, as it prevents northeasterly winds from channeling between the proposed development and the buildings to the east. This should be retained in the final design.

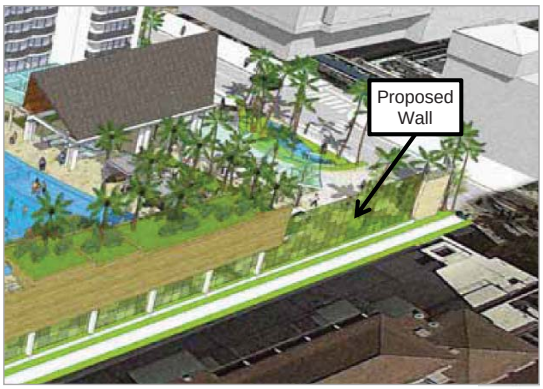


Figure 5 – Proposed Wall near Public Beach Access

5.3 Main Entrance and Porte Cochere

The main entrance to the development is located on the north side of the development along Kalia Road. Existing conditions in this area are windier than desired; likely they are comfortable for strolling or walking, but not for lingering at an entrance area. Winds downwash off the existing tower to the northwest, channel along Beach Walk and flow into the porte cochere (see Figure 6).

Similar conditions are expected for the proposed changes to the development. If it is desired to lower these wind speeds, vertical components such as porous wind screens or dense landscaping would be of benefit. These elements should be at least 6ft in height to be effective. See Figure 7 for examples.

Figure 6 – Wind Flows along Beach Walk and Kalia Road (Image Courtesy of Google Earth™)

Figure 7 – Examples of Wind Mitigation Along Sidewalks

5.4 Main Lobby and Escalators

The main lobby is located on the 2nd floor to the west of the escalators. If possible, the wall to the north of the lobby should be kept sealed, which will prevent northeasterly winds from infiltrating the space (see Figure 8). If this is the case, suitable conditions comfortable for sitting or standing are expected.

Higher wind speeds suitable for walking or strolling are expected on the escalators. These may be considered windy by users. To lower these wind speeds, the landscaping to the north in the entrance area could include trees of differing heights, to dissipate winds along the two-story height of the escalators. Alternatively, a vertical fin could be added below the canopy, at a porosity of preferably 20 – 30%. See Figures 9a and 9b for illustrations of these mitigation measures.

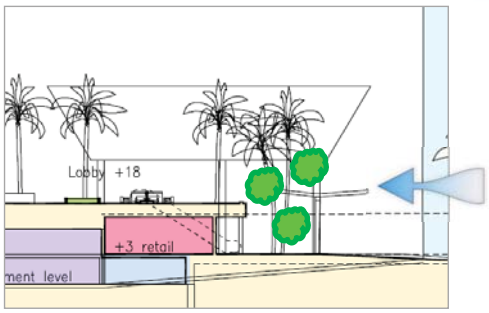


Figure 9a – Landscaping of Differing Heights

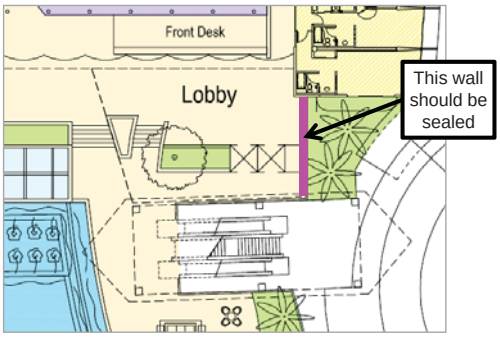


Figure 8 – Lobby on 2nd Floor Plan

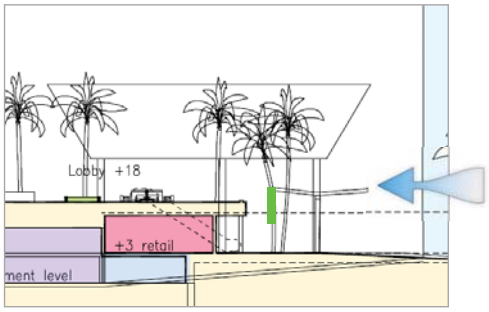


Figure 9b – Vertical Porous Fin Below Canopy

5.5 Pool Deck and Great Lawn

The pool deck and Great Lawn will both be well protected from prevailing winds. Wind conditions comfortable for sitting or standing are anticipated throughout the year, which is considered suitable for outdoor amenity spaces in Honolulu.

The increase in height of the pool deck as the result of adding one story of meeting space below is not expected to change the wind conditions in the area. In addition, the addition of the new connection between the Pacific and Ocean Towers is not expected to negatively affect the wind conditions.

6. SUMMARY

The proposed changes to the existing site include a new connection between the Pacific and Ocean Towers, an increase to the meeting space and parking, a decrease in retail space, a new entry and circulation area, a revitalized pool deck, and the removal of the Diamond Head Tower. The current design includes several positive design features for wind control, including the canopy to the north of the development and the wall to the west of the Public Beach Access.

Based on the local wind data and our experience with similar projects, suitable wind conditions are generally expected on the sidewalks, the public beach access, the pool deck, and the Great Lawn. Wind speeds are expected to be higher than desired at the porte cochere and the escalators leading to the lobby. Street landscaping and wind screens have been suggested for wind mitigation.

No safety issues are expected anywhere on the development.

7. APPLICABILITY OF RESULTS

In the event of any significant changes to the design, construction or operation of the building or addition of surroundings in the future, RWDI could provide an assessment of their impact on the design considered in this report. It is the responsibility of others to contact RWDI to initiate this process.

APPENDIX F

Air Quality Impact Assessment
Waikiki Beach Walk – Outrigger Reef Waikiki Beach Resort

ARCADIS

March 2016

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Group 70 International, Inc.

REVISED Air Quality Impact Assessment

Waikiki Beach Walk – Outrigger Reef Waikiki Beach Resort

March 10, 2016

ARCADIS

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Project Scientist

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REVISED Air Quality Impact Assessment

Waikiki Beach Walk – Outrigger Reef Waikiki Beach Resort

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Appendix A URBEMIS 2007 Emissions Model Inputs and Results

Executive Summary

Arcadis performed a review of applicable federal, state, and local regulations relating to the redevelopment of the proposed Waikiki Beach Walk – Outrigger Waikiki Beach Resort project (Outrigger Reef, or the Site) located in Honolulu, Hawaii. Based on information provided to Arcadis, the Outrigger Reef project involves the demolition of the five-story Diamond Head Tower, renovations to the 10-story Ocean Tower and 17-story Pacific Tower, construction of a new 16-story tower connecting the Ocean and Pacific Towers, and redevelopment of meeting rooms, restaurants, retail stores, and open recreational space.

Impacts to air quality during construction and operation will consist of emissions of fugitive dust, including particulate matter less than 10 microns (PM_{10}), and less than 2.5 microns ($PM_{2.5}$), and the criteria pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and volatile organic compounds (VOCs).

Arcadis has conducted an emissions analysis to quantify the total projected increase in emissions of criteria pollutants, as well as carbon dioxide (CO_2), due to demolition, construction, and annual operation of the Outrigger Reef. Emissions from construction activities are assumed to be fugitive dust from demolition activities, soil hauling and handling; emission of criteria pollutants from vehicle and construction equipment exhaust; and off-gassing of pollutants from architectural coating and concrete finishing operations. Operational emissions from the hotel development consist of direct (area) sources and indirect (vehicle) emissions of the criteria pollutants and CO_2.

Emissions of the criteria pollutants were found to be very low for construction, with fugitive dust accounting for the majority of the emissions. The majority of operational emissions were attributed to a slight increase in the number of vehicle trips by hotel guests and visitors. The total increase in emissions are projected to be less than two tons per year for all criteria pollutants for each year of construction. Total CO_2 emissions increased by a maximum of 626 tons per year emitted during construction, and an annual average increase of 172 tons during operations.

The low levels of pollutant emissions during the course of the construction and operation of the proposed Outrigger Reef will not result in any significant impacts to air quality or trigger any permit requirements.

1. Introduction

The purpose of this Air Quality Impact Assessment is to evaluate whether emissions from the proposed Waikiki Beach Walk – Outrigger Waikiki Beach Resort project would cause or contribute to the deterioration of the air quality in the area. The impacts are evaluated by qualitatively assessing the air pollutant emissions resulting from the construction and operation of the proposed Outrigger Reef. Emissions from construction activities are assumed to be fugitive dust from demolition activities, soil hauling and handling; emission of criteria pollutants from vehicle and construction equipment exhaust; and off-gassing of pollutants from architectural coating and concrete finishing operations. Operational emissions from the hotel development

consist of direct (area) sources and indirect (vehicle) emissions of the criteria pollutants and CO_2. The emission rates will be compared to the applicable local, state and federal regulatory requirements pertaining to air quality.

2. Project Description

The proposed Outrigger Reef project consists of the redevelopment of approximately 2.6 acres of resort mixed use zoned property within the Waikiki Special District. The Outrigger Reef property is bounded by Kalia Road on the north, Fort DeRussy to the west, Halekulani Hotel to the east, and Waikiki Beach to the south.

The proposed project will include:

- Demolition of the beachfront Diamond Head Tower (TMK No. 26004010)
- Renovations to the Ocean and Pacific Towers and the construction of a series of improvements, including meeting rooms, restaurants, and an open recreational area that transitions from Waikiki Beach into the property.
- Construction of a 60-unit, 16-story tower addition between the existing Ocean and Pacific Towers..
- Construction and landscaping at the Kalia Road entry to the planned Waikiki Beach Walk.

The purpose of the project is to accommodate the Outrigger Reef redevelopment plans.

3. Environmental Setting

3.1 Project Location

The project site is located within the Waikiki Special District of the south shore of Oahu, Hawaii, and is bounded by Kalia Road on the north, Fort DeRussy to the west, Halekulani Hotel to the east, and Waikiki Beach to the south. The site abuts the shoreline of Waikiki Beach. The site is surrounded by high-rise resort hotels, high-rise apartment buildings, and public parks.

3.2 Climate

3.2.1 Regional

Hawaii is comprised of several islands with diverse topography, but is generally classified as mountainous. These factors contribute to a mixture of climate regimes that exist within the island chain. Diverse climates can exist within relatively short distances on the same island due to topographical effects on wind direction and speed and rainfall patterns.

Oahu is the third-largest of the Hawaiian Islands. The Ko'olau Range, at an average elevation of 2,000 feet, parallels the northeastern coast. The Wai'anae Mountains, somewhat higher in elevation, parallel the west coast. Honolulu International Airport, the business and Waikiki districts, and a number of Honolulu's residential areas lie along the southern coastal plain.

The predominant winds that affect the island are the trade winds that generally flow from the northeast, although its average frequency varies from 80 to 90 percent during the summer to only 50 percent in January. Lighter southeasterly winds prevail in the cooler winter months, with occasional strong wind events from winter storms.

The moderate temperature range is associated with the small seasonal variation in energy received from the sun and the tempering effect of the surrounding ocean. Honolulu International Airport has recorded temperatures as high as the lower 90s and as low as the lower 50s.

Heavy mountain rainfall sustains agricultural irrigation and Honolulu's water supply. The high elevations of the Ko'olau Mountains are extremely wet year-round, averaging over 200 inches per year. O'ahu is driest along the coast west of the Wainae Mountains, where rainfall drops to about 20 inches a year. Daytime showers, usually light, often occur while the sun continues to shine.

Intense rains in the October to April winter season sometimes causes serious flash flooding. Thunderstorms are infrequent and usually mild, and hail seldom occurs. Infrequently, a small tornado or waterspout may cause some damage. Only a few tropical cyclones have struck Hawaii, although others have come near enough for their outlying winds, waves, clouds, and rain to affect the islands.

3.2.2 Local

The Outrigger Reef site is located within the highly developed Waikiki district in the City of Honolulu. The site is flat with an elevation of approximately five feet above mean sea level (MSL), and abuts the shoreline. The city of Honolulu averages approximately 91 days of rain and 21 inches of rain per year. Light to moderate trade winds from the east to north-northeast are common in the Waikiki district. Due to the orientation of the south-southeast facing coastline, the predominant wind is offshore. Small-scale wind patterns are highly variable due to the density of high-rise development.

3.3 Ambient Air Quality

The ambient air quality in an area can be characterized in terms of whether it complies with National Ambient Air Quality Standards (NAAQS) and State Ambient Air Quality Standards (SAAQS), where applicable. The Clean Air Act (42 U.S.C. 7401 et seq.) requires the U.S. Environmental Protection Agency (USEPA) to set national standards for emissions that are considered harmful to public health and the environment (criteria pollutants). The seven criteria pollutants are: carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), ozone (O_3), and particulate matter (PM_{10} and $PM_{2.5}$). Hawaii also has a state ambient

Table 3-1 Air Quality Standards Attainment Status for Hawaii

Parameter		State Standard		Federal Standard		Ambient Air Quality*
Ozone	1-Hour	--	--	0.12 ppm	Attainment	0.026 ppm[S]
	8-Hour	0.080 ppm	Attainment	0.075 ppm	Attainment	
Carbon Monoxide	1-Hour	9 ppm	Attainment	35 ppm	Attainment	0.4 ppm[H]
	8-Hour	4.4 ppm	Attainment	9 ppm	Attainment	
Nitrogen Dioxide	1-Hour	--	--	0.100 ppm	Unclassified	0.003 ppm[K]
	Annual Mean	0.040 ppm	Attainment	0.053 ppm	Attainment	
Sulfur Dioxide	1-Hour	--	--	0.075 ppm	Attainment	0.001 ppm[H]
	3-Hour	0.5 ppm	Attainment	0.5 ppm (secondary)	Attainment	
	24-Hour	0.14 ppm	Attainment	--	Attainment	
	Annual Mean	0.030 ppm	Attainment	--	Attainment	
Particulate Matter (PM_{10})	24-Hour	150 µg/m^3	Attainment	150 µg/m^3	Attainment	11.4 µg/m^3[H]
	Annual Mean	50 µg/m^3	Attainment	--	--	
Particulate Matter – Fine ($PM_{2.5}$)	24-Hour	--	--	35 µg/m^3	Attainment	5.3 µg/m^3[H]
	Annual Mean	--	--	12 µg/m^3 (primary)	Attainment	
		--	--	15 µg/m^3 (secondary)	Attainment	
Lead	Calendar Quarter	1.5 µg/m^3	Attainment	--	--	0.001 µg/m^3 [K]
	Running 3-Month Avg.	--	--	0.15 µg/m^3	Attainment	
Hydrogen Sulfide (H_2S)	1-Hour	0.025 ppm	Attainment	--	--	-

Notes:

-- = no standard available
µg/m^3 = micrograms per cubic meter
ppm = parts per million
[S] = air quality measurements recorded at Sand Island HDOH site
[H] = air quality measurements recorded at Honolulu HDOH site
[K] = air quality measurements recorded at Kapolei HDOH site
* = ambient air quality measured as annual mean of 1-hour average

Sources: HAR 11-59; Ambient Air Quality Standards; 40 CFR Part 50: National Primary and Secondary Ambient Air Quality Standard; State of Hawaii Department of Health: *State of Hawaii Annual Summary 2013 Air Quality Data*

air standard for hydrogen sulfide (H_2S). Based on air monitoring data, Hawaii is currently classified as attainment for all Federal and State standards, except for 1-hour NO_2, for which attainment status is currently unclassified. Table 3-1 presents the NAAQS and SAAQS for each criteria pollutant and the 2013 attainment designations for the State of Hawaii.

4. Emissions Evaluation

4.1 Construction Emissions

Under the proposed scenario, air quality impacts from construction would be intermittent and short term. Construction activities would generate emissions of the criteria pollutants, as well as CO_2 (Appendix A). Emissions were calculated using the URBEMIS 2007 v. 9.2.4 environmental management software. The URBEMIS model provides a platform to calculate construction emissions using equipment emission factors (mass of emissions per unit time) from sources such as USEPA and California Air Resources Board (CARB). URBEMIS also provides default values when site-specific equipment information is not available. Table 4-1 summarizes the site-specific information assumed for the construction emissions calculations, including activity durations, types of equipment, and shift length.

Construction is expected to be conducted in a series of phases, beginning in June 2018. Construction will begin with the demolition the existing Diamond Head Tower, followed by renovation of the Ocean Tower and Pacific Tower, excavation of the new tower foundation, site grading, building of the new tower, and construction of a lawn and pool deck, meeting rooms, and restaurant. Table 4-1 summarizes the anticipated construction schedule, which is expected to be completed in approximately 25 months.

To calculate pollutant emissions results from demolition, the approximate dimensions of the Diamond Head Tower were input into the model which then estimates a corresponding volume of debris. It was assumed that debris will need to be hauled 60 miles round trip to PVT Landfill in Nanakuli, Hawaii, and that dump trucks would average three round trips from the Outrigger Reef site to PVT Landfill per working day.

Emissions from grading activities is dependent on several variables including total acreage to be graded, maximum daily acreage disturbed, volume of onsite soil cut and fill per day, volume soil to import and/or export, and equipment used. Based on site plans and knowledge of similar hotel construction projects, it was assumed that grading and soil import/export would be fairly minimal, as most soil can likely be reused onsite. For the model it was assumed a total of 500 cubic yards is imported and 1,000 cubic yards exported, with a total graded area of 2.2 acres and a maximum daily disturbance of 0.55 acres, or one-quarter of the site. To meet the corresponding requirement of soil hauling, an average of only one dump truck round-trip would be required per day. Corresponding total vehicle miles are estimated at an average of approximately 14 miles per day.

The URBEMIS software also allows the user to select pre-programmed “Mitigations” to control fugitive dust emissions during grading. The measures selected and assumed to be implemented are:

- replacing ground cover in disturbed areas quickly
- using water to control dust during loading and unloading activities
- applying water to disturbed surfaces and haul roads two times per day, and
- reducing speed on unpaved roads to < 15 miles per hour

These measures are all common practices that are required by local and state regulations to control dust and prevent storm water pollution. Combined, the mitigations reduce fugitive dust by approximately 70 percent.

Emissions from building construction consist mainly of vehicle and heavy equipment exhaust.

Paving and concrete finishing activities are expected to be fairly minimal, as it will be restricted to narrow areas along Kalia Road and the public beach access east of the site property. A value of 4,300 square feet was used in the model for total area paved.

Assumptions for off-road vehicle and equipment usage during the various construction phases are summarized in Table 4-1. These assumptions are based on Arcadis’ conservative estimates of the redevelopment plans, knowledge of construction activities at similar projects, and URBEMIS guidance. Actual construction schedule, equipment, and hauling volumes may differ.

Table 4-1 Construction Equipment Assumptions per Phase

Activity	Start	Duration	Diesel Construction Equipment	Hours per Day Construction	Hauling
Demolition	Q2 2018	5 months	2 Excavators 1 Rubber Tired Dozer 2 Tractors/Loaders/Backhoes 1 Concrete/Industrial Saw 1 Water Truck	8 Hours	~35,000 yd^3 demolition debris
Site Grading & Excavation	Q4 2018	5 months	1 Excavator 1 Rubber Tired Dozer 1 Skid Steer Loader 1 Tractor/Loader/Backhoe 1 Water Truck	8 Hours	500 yd^3 imported; 1,000 yd^3 exported (net)
Construction & Renovation	Q2 2019	14 months	1 Welder 2 Forklifts 1 Crane 1 Generator Set 1 Tractor/Loader/Backhoe 1 Skid Steer Loader 1 Cement and Mortar Mixer	8 Hours	None
Coating, Paving & Concrete Finishing	Q3 2020	1 month	1 Cement and Mortar Mixer 1 Paver 1 Paving Equipment 1 Roller 1 Tractor/Loader/Backhoe	8 Hours	None

Projected emissions calculated from URBEMIS are summarized in Table 4-2, below. Modeling assumptions and results are presented in Appendix A.

Table 4-2 Estimated Proposed Construction Emissions (Tons per Year)

Construction Year	Annual Emissions (tons per year)						
	VOCs	NO_2	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
2018	0.15	1.05	0.99	0.00	1.70	0.39	236
2019	0.20	1.20	1.39	0.00	0.59	0.16	270
2020	0.61	0.50	0.66	0.00	0.03	0.02	120
Total	**0.96**	**2.75**	**3.04**	**0.00**	**1.17**	**0.12**	**626**

Notes: Detailed annual results presented in Appendix A.
Reactive organic gas (ROG) emissions reported in URBEMIS is used as a surrogate for VOCs in this analysis.
Nitrogen oxide (NOx) emissions reported in URBEMIS is used as a surrogate for NO_2 in this analysis.
Results are calculated with mitigation measures ON

4.2 Operational Emissions

Operational emissions from the hotel development consist of direct (area) sources and indirect (vehicle) emissions of the criteria pollutants and CO_2. Only new or increased sources of emissions were considered in this analysis

4.2.1 Area Source Emissions

Area emission sources for a hotel development are typically low, especially in Hawaii where heating for climate control is not necessary. The likely area emission sources are assumed to be combustion of natural gas for cooking in the restaurant(s), fuel combustion from gasoline-powered landscape maintenance equipment, and exterior and interior architectural coating maintenance (repainting). Restaurant emissions were not considered because the proposed project will not increase overall restaurant capacity.

Emissions from landscape maintenance equipment and interior and exterior repainting are directly calculated by URBEMIS based on landscaped area (assumed to be 0.5 acres) and the number of additional rooms in the hotel (39) after renovations. Projected area source emissions calculated from URBEMIS are summarized in Table 4-3, below.

Table 4-3 Estimated Proposed Area Source Emissions (Tons per Year)

Area Source	Annual Emissions (tons per year)						
	VOCs	NO_2	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Landscape Maintenance	0.09	0.02	1.16	0.00	0.00	0.00	2.11
Architectural Coatings	0.05	n/a	n/a	n/a	n/a	n/a	n/a
Total	**0.14**	**0.02**	**1.16**	**0.00**	**0.00**	**0.00**	**2.11**

Notes: Detailed annual results presented in Appendix A.
Reactive organic gas (ROG) emissions reported in URBEMIS is used as a surrogate for VOCs in this analysis.
Nitrogen oxide (NOx) emissions reported in URBEMIS is used as a surrogate for NO_2 in this analysis.
n/a = not applicable

As expected, area source estimates for the criteria pollutants are very low.

4.2.2 Vehicle Emissions

The URBEMIS model was designed to estimate the number of vehicle trips generated based on project size and land use, and use a database of vehicle emissions factors, called EMFAC, published by the California Air Resources Board (CARB), to calculate exhaust and dust emissions based on the number of trips and likely vehicle fleet. For this project, the number of vehicle trips in the URBEMIS model were adjusted to match the site-specific traffic data and estimates presented in the report *Outrigger Reef Waikiki Beach Resort Transportation Impact Analysis Report*, prepared by Fehr & Peers, dated February 29, 2016. Table 4-4 presents the number of vehicle trips and miles travelled that were used in the model, with the Trip Rate manually adjusted so that Total Trips matched the traffic report. The City Park, Quality Restaurant, and Retail land uses were input in URBEMIS to account for construction emissions, but do not apply to operational emissions because there is no net increase over existing uses. Trip Rates for these land uses were therefore set to 0.01 (the input must be nonzero).

Table 4-4 Vehicle Trip Assumptions by Land Use – 2025 Increase Versus Existing

Land Use	Trip Rate	No. Units	Unit Type	Total Trips	Total VMT
City Park	0.01	0.5	acres	0.00	0.04
Quality Restaurant	0.01	16	1,000 sq. ft.	0.16	1.20
New Tower	0.44	39	rooms	17.16	127.97
Retail	0.01	7	1,000 sq. ft	0.07	0.52
Meeting/Banquet Rooms	16.6	6.7	1,000 sq. ft	111.72	825.93

A summary of the resulting emissions estimates for the criteria pollutants and CO_2 are presented in Table 4-5, below.

Table 4-5 Estimated Vehicle Emissions (Tons per Year) – 2025 Increase Versus Existing

Land Use	Annual Emissions (tons per year)						
	VOCs	NO_2	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Hotel	0.05	0.01	0.10	0.00	0.04	0.01	22.8
Meeting/Banquet Rooms	0.06	0.06	0.64	0.00	0.26	0.05	147
Total	**0.11**	**0.07**	**0.74**	**0.00**	**0.30**	**0.06**	**169.8**

Notes: Detailed annual results presented in Appendix A.
Reactive organic gas (ROG) emissions reported in URBEMIS is used as a surrogate for VOCs in this analysis.
Nitrogen oxide (NOx) emissions reported in URBEMIS is used as a surrogate for NO_2 in this analysis.

As expected from the minor increase in vehicle trips expected from the hotel development, annual vehicle emissions of the criteria pollutants are projected to be very low.

The total projected increase in emissions for operation of the Outrigger Reef are summarized in Table 4-6, below.

Table 4-6 Estimated Total Operational Emissions (Tons per Year) – 2025 Increase Versus Existing

Source	Annual Emissions (tons per year)						
	VOCs	NO_2	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Area	0.14	0.02	1.16	0.00	0.00	0.00	2.11
Vehicle	0.14	0.07	0.74	0.00	0.30	0.06	169.8
Total	**0.28**	**0.09**	**1.90**	**0.00**	**0.30**	**0.06**	**172**

Notes: Detailed annual results presented in Appendix A.
Reactive organic gas (ROG) emissions reported in URBEMIS is used as a surrogate for VOCs in this analysis.
Nitrogen oxide (NOx) emissions reported in URBEMIS is used as a surrogate for NO_2 in this analysis.

4.3 Greenhouse Gas Emissions

Greenhouse gases (GHGs) are pollutants of concern for air quality and climate change. GHGs include water vapor, CO_2, methane, N_2O, O_3, and several chlorofluorocarbons. Water vapor is a naturally occurring GHG and accounts for the largest percentage of the greenhouse effect. Next to water vapor, CO_2 is the second-most abundant GHG and is typically produced from human-related activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities and other sources. Additionally, a number of specialized industrial production processes and product uses such as mineral production, metal production and the use of petroleum-based products can also lead to CO_2 emissions.

Although regulatory agencies are taking actions to address GHG effects, there are currently no state or Federal standards or regulations limiting CO_2 emissions and concentrations in the ambient air. In response to the *FY2008 Consolidated Appropriations Act* (House Resolution 2764; Public Law 110–161), USEPA issued the *Final Mandatory Reporting of Greenhouse Gases Rule* (GHG Reporting Rule), which became effective on January 1, 2010. The GHG Reporting Rule requires annual reporting of GHG emissions to the USEPA from large sources and suppliers in the United States, including suppliers of fossil fuels or industrial GHGs; manufacturers of vehicles and engines; and facilities that emit greater than 25,000 metric tons per year (mtpy) (27,558 tons per year [tpy]) each of CO_2 and other GHGs. The intent of the rule is to collect accurate and timely emissions data to inform future policy decisions and programs to reduce emissions, as well as fight against the effects of climate change.

Additionally, on September 30, 2009, USEPA proposed, under the Clean Air Act (CAA), new thresholds for GHG that would require that facilities subjected to the New Source Review and Title V operating permit programs to obtain permits and would cover nearly 70 percent of the nation's largest stationary source GHG emitters—including power plants, refineries, and cement production facilities, while shielding small businesses and farms from permitting requirements. The Final Rule, known as the GHG Tailoring Rule, affects sources with the potential to emit 100,000 tpy or greater of GHGs.

Construction and operation of the proposed Outrigger Reef will result in very low emissions of GHGs, both for short term emissions from fuel-burning construction equipment, and long term area source emissions from the restaurant and hotel maintenance and vehicle emissions from traffic. The total emissions of CO_2 from construction are projected to be 626 tons, and the average annual increase in emissions of CO_2 from operation are projected to be 172 tons, as shown in Tables 4-2 and 4-6, respectively. Methane and other GHGs were not included in the analysis but are expected to be much lower than emissions of CO_2.

5. Air Permitting Considerations

The State of Hawaii Department of Health (DOH) Clean Air Branch (CAB) is the permitting authority for new and existing sources of pollutant emissions. Arcadis performed a regulatory review of Hawaii Administrative Rules Title 11 Chapters 60.1, 260, 451, and 453, and Code of Federal Regulations 40 CFR 52.21, 40 CFR 60, and 40 CFR 63. Based on the type of project and low emissions during construction and operation, the Outrigger Reef project is exempt from any permitting considerations.

6. Conclusions

Based on a review of State and Federal Regulations and preliminary emission calculations (Appendix A), there do not appear to be any significant emissions that would cause or contribute to any appreciable impact to local or regional air quality. If any significant changes to the proposed construction or operation of the Outrigger Reef alter the potential to emit, or if the DOH imparts additional restrictions, the air quality impacts may need to be re-evaluated for compliance.

G:\Active Projects\HI011181.0000 G70 Waikiki Beach Walk Air EA\Figures.ai

LEGEND:

- PROPERTY BOUNDARY
- CURRENT DIAMOND HEAD TOWER (TO BE DEMOLISHED)
- NEW 16-STORY HOTEL TOWER EXPANSION (TO BE CONSTRUCTED)

NOTES:

1. ALL LOCATIONS ARE APPROXIMATE.

0 100' 200'

GRAPHIC SCALE

Outrigger Reef on the Beach Hotel
2169 Kalia Road, Honolulu, Hawaii 96815

Site Location Map

ARCADIS

FIGURE
1

ARCADIS

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Urbemis 2007 Version 9.2.4

Detail Report for Annual Construction Mitigated Emissions (Tons/Year)

File Name: G:\Active Projects\HI011181.0000 G70 Waikiki Beach Walk Air EA\URBEMIS\3-10-16.urb924

Project Name: Outrigger Reef - revised 2016

Project Location: California State-wide

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Annual Tons Per Year, Mitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
2018	0.15	1.05	0.99	0.00	0.51	0.05	0.55	0.11	0.04	0.15	236.36
Demolition 06/01/2018-11/01/2018	0.11	0.75	0.75	0.00	0.17	0.04	0.20	0.04	0.03	0.07	182.53
Fugitive Dust	0.00	0.00	0.00	0.00	0.47	0.00	0.47	0.10	0.00	0.10	0.00
Demo Off Road Diesel	0.10	0.63	0.64	0.00	0.00	0.03	0.03	0.00	0.03	0.03	128.39
Demo On Road Diesel	0.01	0.12	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	44.29
Demo Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.85
Fine Grading 11/05/2018-04/01/2019	0.04	0.29	0.24	0.00	0.34	0.01	0.35	0.07	0.01	0.08	53.83
Fine Grading Dust	0.00	0.00	0.00	0.00	0.34	0.00	0.34	0.07	0.00	0.07	0.00
Fine Grading Off Road Diesel	0.04	0.29	0.23	0.00	0.00	0.01	0.01	0.00	0.01	0.01	50.04
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.17
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.62
2019	0.20	1.20	1.39	0.00	0.54	0.06	0.59	0.11	0.05	0.16	270.07
Fine Grading 11/05/2018-04/01/2019	0.06	0.42	0.37	0.00	0.53	0.02	0.55	0.11	0.02	0.13	85.35
Fine Grading Dust	0.00	0.00	0.00	0.00	0.53	0.00	0.53	0.11	0.00	0.11	0.00
Fine Grading Off Road Diesel	0.06	0.42	0.35	0.00	0.00	0.02	0.02	0.00	0.02	0.02	79.34
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.16
Building 04/05/2019-06/01/2020	0.14	0.78	1.02	0.00	0.00	0.04	0.04	0.00	0.03	0.04	184.72
Building Off Road Diesel	0.13	0.76	0.78	0.00	0.00	0.04	0.04	0.00	0.03	0.03	136.89
Building Vendor Trips	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.67
Building Worker Trips	0.01	0.01	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.16
2020	0.61	0.50	0.66	0.00	0.00	0.03	0.03	0.00	0.02	0.02	119.64
Building 04/05/2019-06/01/2020	0.07	0.41	0.56	0.00	0.00	0.02	0.02	0.00	0.02	0.02	104.33
Building Off Road Diesel	0.07	0.40	0.44	0.00	0.00	0.02	0.02	0.00	0.02	0.02	77.31
Building Vendor Trips	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.33
Building Worker Trips	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.69
Asphalt 05/01/2020-06/01/2020	0.01	0.09	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	14.68
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix A

URBEMIS 2007 Emissions Model
Inputs and Results

ARCADIS

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 5/1/2020 - 6/1/2020 - Default Architectural Coating Description
Acres to be Paved: 0.1
Off-Road Equipment:
1 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 4/5/2019 - 6/1/2020 - Default Building Construction Description
Off-Road Equipment:
1 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day
1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day
2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
1 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 8 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 6/5/2020 - 7/5/2020 - Type Your Description Here
Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Paving Off Road Diesel	0.01	0.09	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	13.21
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41
Coating 06/05/2020-07/05/2020	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63
Architectural Coating	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 11/5/2018 - 4/1/2019 - Default Paving Description
For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:
PM10: 84% PM25: 84%
For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:
PM10: 5% PM25: 5%
For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:
PM10: 55% PM25: 55%
For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:
PM10: 69% PM25: 69%

Phase Assumptions

Phase: Demolition 6/1/2018 - 11/1/2018 - Default Fine Site Grading Description
Building Volume Total (cubic feet): 945000
Building Volume Daily (cubic feet): 7200
On Road Truck Travel (VMT): 200
Off-Road Equipment:
1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Fine Grading 11/5/2018 - 4/1/2019 - Default Paving Description
Total Acres Disturbed: 2.2
Maximum Daily Acreage Disturbed: 0.55
Fugitive Dust Level of Detail: Low
Onsite Cut/Fill: 120 cubic yards/day; Offsite Cut/Fill: 120 cubic yards/day
On Road Truck Travel (VMT): 14.15
Off-Road Equipment:
1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 8 hours per day

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SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.28	0.09	1.90	0.00	0.30	0.06	172.26

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2018	0.15	1.05	0.99	0.00	0.51	0.05	0.55	0.11	0.04	0.15	236.36
Demolition 06/01/2018-11/01/2018	0.11	0.75	0.75	0.00	0.17	0.04	0.20	0.04	0.03	0.07	182.53
Fugitive Dust	0.00	0.00	0.00	0.00	0.47	0.00	0.47	0.10	0.00	0.10	0.00
Demo Off Road Diesel	0.10	0.63	0.64	0.00	0.00	0.03	0.03	0.00	0.03	0.03	128.39
Demo On Road Diesel	0.01	0.12	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	44.29
Demo Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.85
Fine Grading 11/05/2018-04/01/2019	0.04	0.29	0.24	0.00	0.34	0.01	0.35	0.07	0.01	0.08	53.83
Fine Grading Dust	0.00	0.00	0.00	0.00	0.34	0.00	0.34	0.07	0.00	0.07	0.00
Fine Grading Off Road Diesel	0.04	0.29	0.23	0.00	0.00	0.01	0.01	0.00	0.01	0.01	50.04
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.17
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.62
2019	0.20	1.20	1.39	0.00	0.54	0.06	0.59	0.11	0.05	0.16	270.07
Fine Grading 11/05/2018-04/01/2019	0.06	0.42	0.37	0.00	0.53	0.02	0.55	0.11	0.02	0.13	85.35
Fine Grading Dust	0.00	0.00	0.00	0.00	0.53	0.00	0.53	0.11	0.00	0.11	0.00
Fine Grading Off Road Diesel	0.06	0.42	0.35	0.00	0.00	0.02	0.02	0.00	0.02	0.02	79.34
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.16
Building 04/05/2019-06/01/2020	0.14	0.78	1.02	0.00	0.00	0.04	0.04	0.00	0.03	0.04	184.72
Building Off Road Diesel	0.13	0.76	0.78	0.00	0.00	0.04	0.04	0.00	0.03	0.03	136.89
Building Vendor Trips	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.67
Building Worker Trips	0.01	0.01	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.16
2020	0.61	0.50	0.66	0.00	0.00	0.03	0.03	0.00	0.02	0.02	119.64

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Combined Annual Emissions Reports (Tons/Year)

File Name: G:\Active Projects\HI011181.0000 G70 Waikiki Beach Walk Air EA\URBEMIS\3-10-16.urb924

Project Name: Outrigger Reef - revised 2016

Project Location: California State-wide

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2018 TOTALS (tons/year unmitigated)	0.15	1.05	0.99	0.00	1.65	0.05	1.70	0.35	0.04	0.39	236.36
2018 TOTALS (tons/year mitigated)	0.15	1.05	0.99	0.00	0.51	0.05	0.55	0.11	0.04	0.15	236.36
Percent Reduction	0.00	0.00	0.00	0.00	69.45	0.00	67.45	69.42	0.00	61.43	0.00
2019 TOTALS (tons/year unmitigated)	0.20	1.20	1.39	0.00	2.36	0.06	2.41	0.49	0.05	0.54	270.07
2019 TOTALS (tons/year mitigated)	0.20	1.20	1.39	0.00	0.54	0.06	0.59	0.11	0.05	0.16	270.07
Percent Reduction	0.00	0.00	0.00	0.00	77.24	0.00	75.46	77.18	0.00	69.93	0.00
2020 TOTALS (tons/year unmitigated)	0.61	0.50	0.66	0.00	0.00	0.03	0.03	0.00	0.02	0.02	119.64
2020 TOTALS (tons/year mitigated)	0.61	0.50	0.66	0.00	0.00	0.03	0.03	0.00	0.02	0.02	119.64
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.14	0.02	1.16	0.00	0.00	0.00	2.11

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.14	0.07	0.74	0.00	0.30	0.06	170.15

TOTALS (tons/year, unmitigated)	0.14	0.02	1.16	0.00	0.00	0.00	2.11

Area Source Changes to Defaults

Length of summer period for landscape equipment changed from 180 days to 300 days

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
City park	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Quality resturant	0.02	0.00	0.00	0.00	0.00	0.00	0.21
Hotel	0.05	0.01	0.10	0.00	0.04	0.01	22.80
Strip mall	0.01	0.00	0.00	0.00	0.00	0.00	0.09
Meeting and Banquet Rooms	0.06	0.06	0.64	0.00	0.26	0.05	147.04
TOTALS (tons/year, unmitigated)	0.14	0.07	0.74	0.00	0.30	0.06	170.15

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2025 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
City park		0.01	acres	0.50	0.00	0.04
Quality resturant		0.01	1000 sq ft	16.00	0.16	1.20
Hotel		0.44	rooms	39.00	17.16	127.97
Strip mall		0.01	1000 sq ft	7.00	0.07	0.52
Meeting and Banquet Rooms		16.60	1000 sq ft	6.73	111.72	825.93
					129.11	955.66

Vehicle Fleet Mix

Building 04/05/2019-06/01/2020	0.07	0.41	0.56	0.00	0.00	0.02	0.02	0.00	0.02	0.02	104.33
Building Off Road Diesel	0.07	0.40	0.44	0.00	0.00	0.02	0.02	0.00	0.02	0.02	77.31
Building Vendor Trips	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.33
Building Worker Trips	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.69
Asphalt 05/01/2020-06/01/2020	0.01	0.09	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	14.68
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.09	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	13.21
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41
Coating 06/05/2020-07/05/2020	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63
Architectural Coating	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 11/5/2018 - 4/1/2019 - Default Paving Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:
PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:
PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:
PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:
PM10: 69% PM25: 69%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas							
Hearth							
Landscape	0.09	0.02	1.16	0.00	0.00	0.00	2.11
Consumer Products	0.00						
Architectural Coatings	0.05						

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Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.8	0.0	100.0	0.0
Light Truck < 3750 lbs	10.9	0.0	99.1	0.9
Light Truck 3751-5750 lbs	22.1	0.0	100.0	0.0
Med Truck 5751-8500 lbs	9.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.8	0.0	77.8	22.2
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	57.1	42.9
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.5	34.3	65.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.1	0.0	90.9	9.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
City park				5.0	2.5	92.5
Quality resturant				8.0	4.0	88.0
Hotel				5.0	2.5	92.5
Strip mall				2.0	1.0	97.0
Meeting and Banquet Rooms				2.0	1.0	97.0

Operational Changes to Defaults

Ambient winter temperature changed from 40 degrees F to 75 degrees F

APPENDIX G

Potential Impacts to Surface and Groundwater Resources of the Proposed Redevelopment of the Outrigger Reef Property Honolulu, Oahu, Hawaii

Tom Nance Water Resource Engineering

April 2015

Potential Impacts to Surface and Groundwater Resources of the Proposed Redevelopment of the Outrigger Reef Property Honolulu, Oahu, Hawaii

Prepared for:

Group 70 International, Inc.
925 Bethel Street – 5th Floor
Honolulu, Hawaii 96813

Prepared by:

Tom Nance Water Resource Engineering
560 N. Nimitz Hwy. - Suite 213
Honolulu, Hawaii 96817

Revised April 2015
November 2014

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INTRODUCTION

This report addresses potential impacts to surface and groundwater resources of the proposed redevelopment of the 2.50-acre Outrigger Reef property (TMK 2-6-4:10) along Kalia Road in Waikiki. Figures 1 and 2 show the property's location.

PRESENT FACILITIES AND PROPOSED REDEVELOPMENT

Figure 3 illustrates the present development on the site. It consists of 635 hotel rooms in two towers, the 17-story Pacific Tower (436 rooms) and the 10-story Ocean Tower (199 rooms). The separate 5-story Diamond Head Tower contains offices and long-term tenants rather than hotel rooms. The site also contains meeting space, recreational amenities, retail shops, and restaurants. The proposed redevelopment is depicted on Figure 4. Phase 1 will include demolition of the Diamond Head Tower, improvements to the arrival and lobby area, new meeting space, and new and reconfigured onsite parking. Phase 2 will consist of a new 34-story tower at the Kalia Road edge with 204 rooms.

It should be noted that renovation of the Outrigger Reef property was included in a 2002 EIS prepared by Group 70 International, Inc. which covered the entire 7.97-acre Beach Walk area (the shaded parcels on Figures 1 and 2). In support of the 2002 EIS, Tom Nance Water Resource Engineering (TNWRE) prepared a report dated September 2001 and titled "Impact on Surface and Groundwater Resources of the Proposed Waikiki Beach Walk Redevelopment." However, the specific improvements now being proposed for the Outrigger Reef property were not included in the 2002 EIS. As such, a supplemental EIA (SEIS) is required for the proposed action. This update of potential surface and groundwater impacts has been undertaken to support the SEIS.

UNDERLYING GEOLOGY AND GROUNDWATER OCCURRENCE

The project site sits on a thick coastal caprock formation comprised primarily of marine sediments (coral, sand, and marine clays) with interbedded terrestrial alluvium weathered to clay. Nine deep wells were drilled in the area between the Ala Wai Canal and the shoreline in the 1882 to 1914 period, all in search of groundwater in the Koolau volcanics at depth below the caprock (State Nos. 1649-01 to -09). Their records show the coastal caprock to be on the order of 700 feet thick near the Ala Wai Canal and progressively thicker toward the shoreline. Based on the records of these long since sealed wells, the thickness of the caprock directly beneath the Outrigger Reef parcel is almost certainly substantially in excess of 900 feet. Salinity in the Koolau volcanics at this depth is undoubtedly significantly more than 50 percent of seawater.

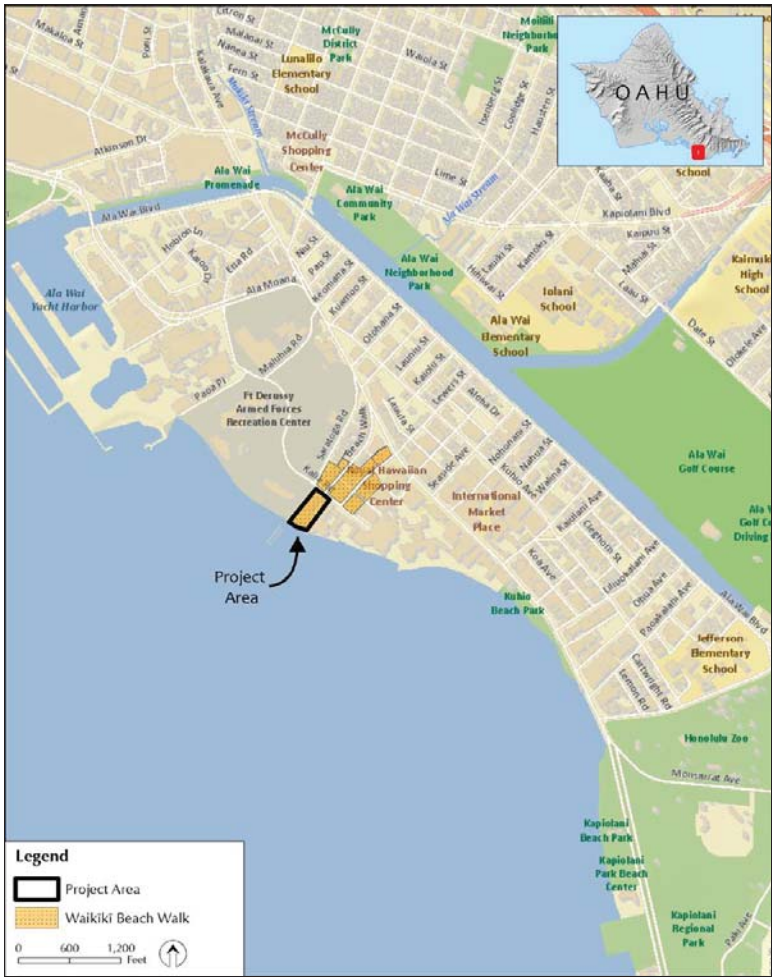


Figure 1 Project Location

Figure 2 Tax Map Key

Figure 3 Existing Outrigger Reef Waikīkī Beach Resort Site Plan

Figure 4 Proposed Outrigger Reef Waikīkī Beach Resort Site Plan

Groundwater also exists in the coastal caprock itself. This groundwater is hydrologically isolated from the groundwater in the volcanics at depth. Due to the heterogeneity of the caprock's sedimentary layers and the manner of their disposition, their permeability is generally very limited. In support of the original 2002 EIS, three shallow monitor wells were drilled at the locations shown on Figure 5. All three encountered silty calcareous sands and decomposing organics, all of limited permeability. Two of the three wells, labeled "Mauka" and "Middle" as shown on Figure 5, were destroyed in the initial Waikiki Beach Walk redevelopment. The "Makai" well is in the driveway of the Outrigger Reef. It is still intact and it has been reused in the collection of field data for this update.

Groundwater in the coastal caprock in the Waikiki Beach Walk area is quite saline, generally between 70 and 95 percent of the salinity of seawater. As shown on the original salinity profiles made in August 2001 (Figure 6) and again in the Makai well in September 2014 (Figures 7 and 8) there is a sigmoid shape to the salinity curves, with somewhat less saline water at the top which rapidly transitions to near seawater salinity about four to five feet below the water surface.

Prior to the development in Waikiki of high rises with below sea level basements requiring continuous dewatering pumping, rainfall on the caprock would sink into the ground and move laterally to discharge into the Ala Wai Canal and into the ocean along the Waikiki shoreline. Now, with dewatering pumping being done by every high rise with a below sea level basement, the groundwater in the caprock has been drawn down below sea level. This has reversed the natural direction of groundwater flow, drawing saline water in from the shoreline and in from the Ala Wai Canal. Groundwater withdrawn by these dewatering sumps is typically discharged into the storm drains in adjacent streets and returned to the shoreline or the Ala Wai Canal.

At the Outrigger Reef, the basement level is five (5) feet below sea level. There are eight (8) dewatering sumps which keep the basement dry. Their approximate locations are shown on Figure 9. Some of these pump groundwater exclusively while others also pump runoff from the roof and deck drains when the rainfall is sufficient to produce runoff and periodic discharges from the hotel's water features. Figure 10 depicts water levels recorded in the Makai Monitor Well and in Pump Sump No. 4 in comparison to the basement level at -5.0 feet and the ocean level as recorded by NOAA at its tide gage in Honolulu Harbor. Start/stop of the sump pump keeps the groundwater level at that location between 2.1 and 2.6 feet below the basement level. Based on the size of Sump No. 4, the water level recording indicates that the rate of natural seepage of groundwater into it is about 0.4 GPM. The pump operates at 25 to 30 GPM.

The Makai Monitor Well is in the hotel's downward sloping paved driveway and about 45 feet from the basement level. The pavement elevation at the well is about eight (8) feet higher than the

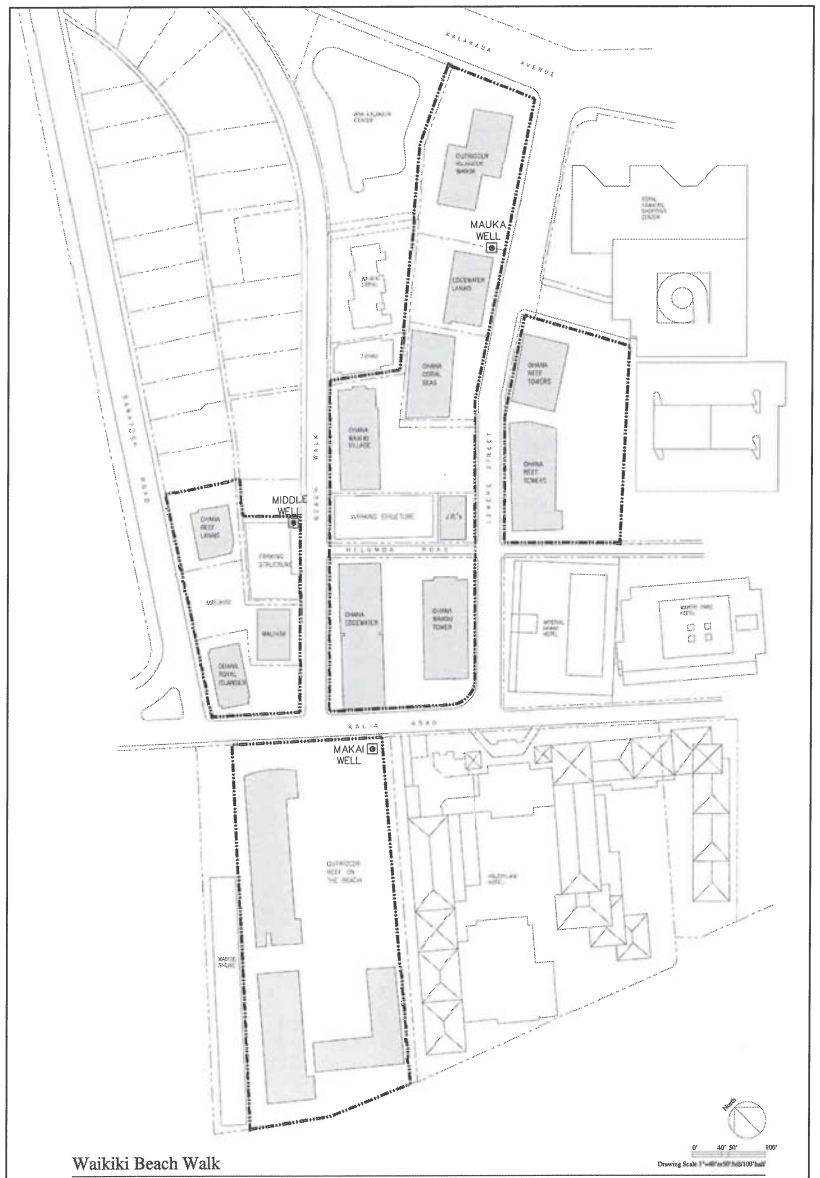


Figure 5
Monitor Well Locations in the Waikiki Beach Walk Area

Figure 6. Salinity Profiles of the Three Waikiki Beach Walk Monitor Wells

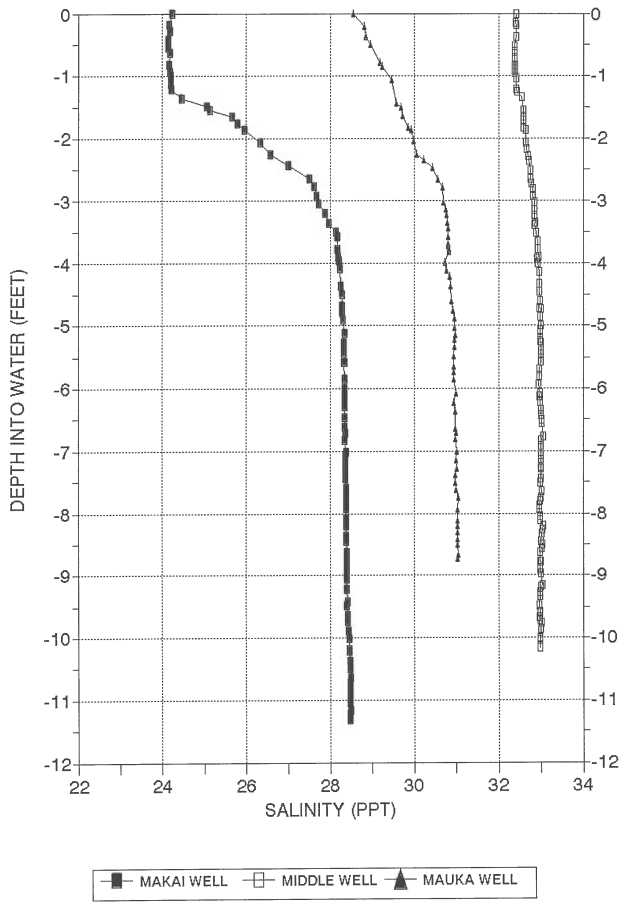


Figure 7. Salinity and Temperature Profile through the Water Column of the Makai Monitor Well on September 25, 2014

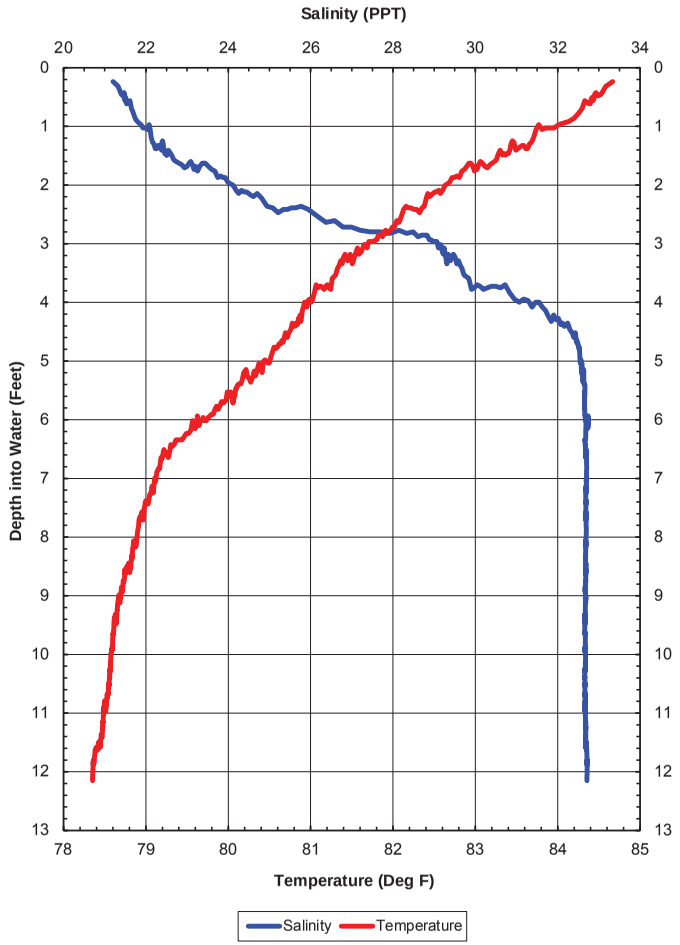
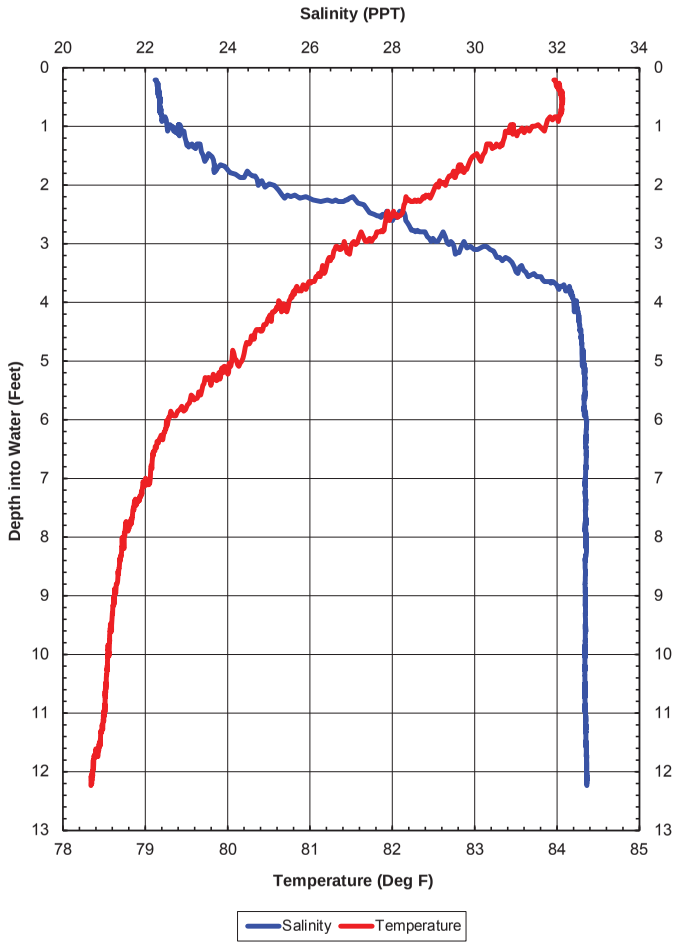


Figure 8. Salinity and Temperature Profile through the Water Column of the Makai Monitor Well on September 29, 2014



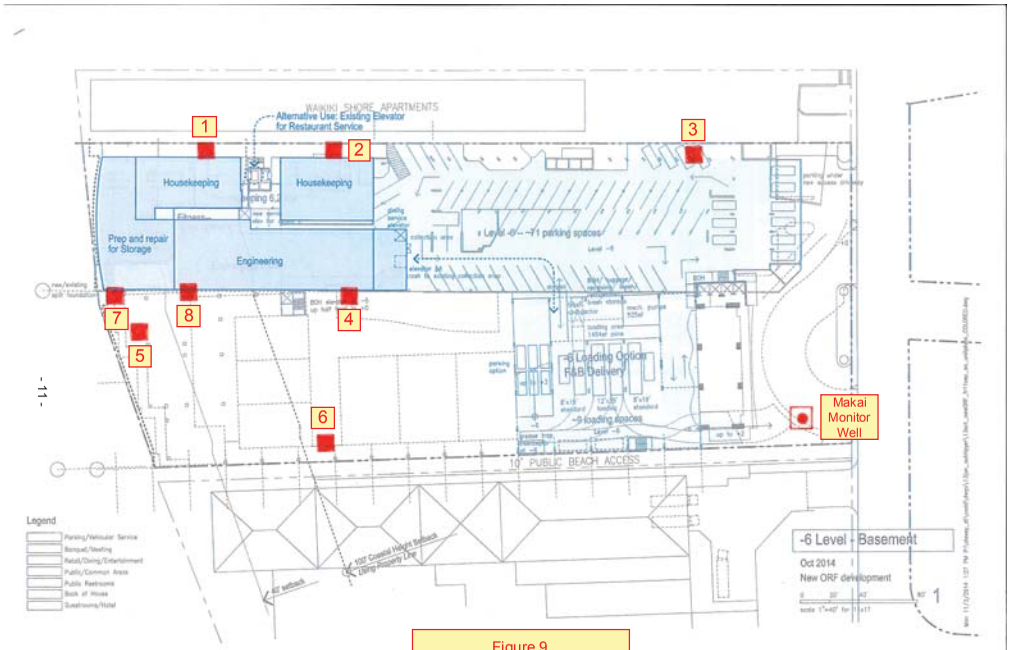
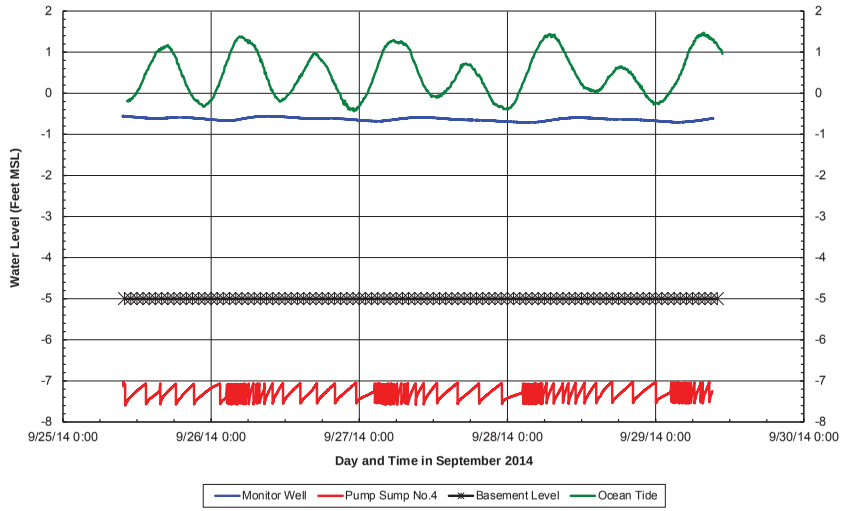


Figure 9

Approximate Locations of the Eight Pump Sumps in the Basement of the Outrigger Reef Hotel

Figure 10. Water Levels in the Makai Monitor Well, Pump Sump No. 4, and the Ocean in Comparison to the Hotel's Basement Level



basement level. The groundwater level in the monitor well over the September 25 to 29, 2014 period was generally between -0.6 and -0.7 feet MSL. On average, this was 1.1 feet lower than the actual ocean level but 8.7 feet higher than the level in Pump Sump No. 4. Figure 11 illustrates the muted tidal response in the monitor well. It lags about four hours behind the ocean tide and its amplitude is only about five (5) percent of the ocean tide.

GROUNDWATER QUALITY

Tables 1 and 2 are a compilation of water quality sampling done on August 2, 2001 and again on October 16, 2014. Samples of the three monitor wells on August 2001 and from two depths of the Makai Monitor Well in October 2014 are considered to be representative of the shallow groundwater in the caprock formation. It can be characterized as very saline (70 to 93 percent of seawater salinity), significantly lower nutrient (nitrogen and phosphorus) levels than is typical for most Hawaiian groundwater, and influenced by irrigation return and possibly wastewater discharges based on the higher than expected levels of silica.

Water in Sump Nos. 4 and 6 in the Outrigger basement is a combination of groundwater seepage, residual rainfall-runoff (periodically), and, for Sump No. 4, drainage from hotel water features. As a result, this water is less saline (16 and 43 percent of seawater salinity) and has higher silica content. Nutrient levels are not significantly different than the ambient groundwater.

Samples in August 2001 and October 2014 from the catch basin on the makai side of the Kalia / Saratoga road intersection is representative of water being pumped from dewatering sumps of other nearby high rises. It does not include water from the Outrigger sumps. This water is quite saline (87 to 93 percent of seawater salinity), very low in nutrients, and also relatively low in its silica content.

SURFACE WATER COLLECTION AND CONVEYANCE

Figure 12 depicts the surface water drainage system in the Waikiki Beach Walk area. The backbone of the system is a box drain that starts and runs makai on Lewers Street, goes west on Kalia Road past the Outrigger Reef, and turns makai on the west side of the adjacent Waikiki Shore condominium to discharge into the ocean about 250 feet offshore. The system captures surface runoff from roadway and sidewalks in catch basins and also receives water pumped by the numerous dewatering sumps from high rises connected to the system. Only a small portion of the Outrigger Reef site drains as surface runoff into catch basins along Kalia Road. Most of the site's rainfall-runoff is

Figure 11. Tidal Response in the Makai Monitor Well over the September 25 to 29, 2014 Period

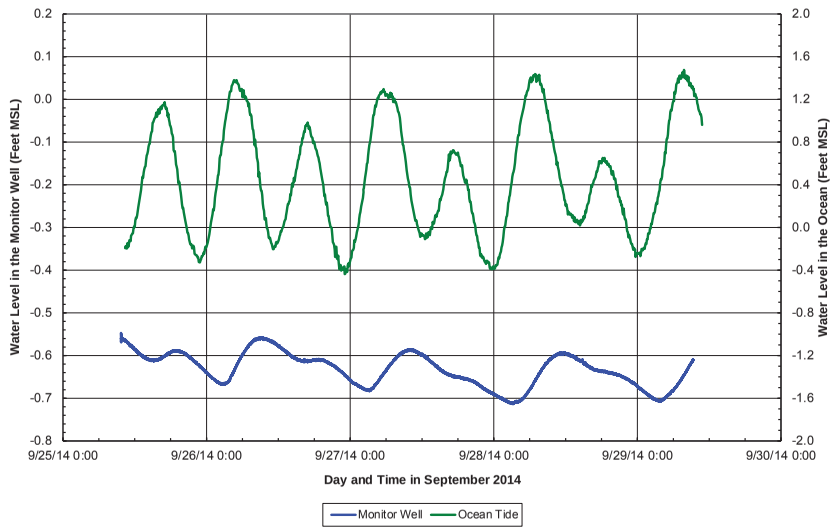


Table 1

Water Quality of Samples Collected on August 2, 2001

Parameter	Unit	Location of Sample			
		Makai Monitor Well	Middle Monitor Well	Mauka Monitor Well	Catch Basin at Kalia/Saratoga Roads
Nitrate-Nitrogen	µM	0.76	10.63	38.36	5.20
Ammonium-Nitrogen	µM	16.80	25.20	80.12	0.68
Dissolved Organic Nitrogen	µM	5.36	3.08	6.60	7.20
Total Nitrogen	µM	22.92	38.92	125.08	13.08
Phosphate Phosphorus	µM	4.84	3.48	1.32	0.68
Dissolved Organic Phosphorus	µM	0.08	0.08	0.44	0.48
Total Phosphorus	µM	4.92	3.56	1.76	1.16
pH	pH Units	7.49	7.53	7.56	7.98
Salinity	PPT	25.16	33.13	27.29	32.33
Silica	µM	275	190	244	63.3

Notes: 1. Samples were collected on a rising tide on August 2, 2001.
2. Samples were analyzed by Marine Analytical Laboratory.

Table 2

Water Quality of Samples Collected on October 16, 2014

Parameter	Unit	Location of Sample				
		Makai Monitor Well		Outrigger Sump 4	Outrigger Sump 6	Catch Basin at Kalia / Saratoga Roads
		Near the Top	Near Bottom			
Nitrate-Nitrogen	µM	1.08	0.36	11.8	13.7	11.8
Ammonium-Nitrogen	µM	0.84	13.1	0.60	11.5	3.48
Dissolved Organic Nitrogen	µM	41.0	21.0	23.7	19.4	18.7
Total Nitrogen	µM	42.9	34.4	36.2	44.6	34.0
Phosphate Phosphorus	µM	0.88	2.76	2.32	3.76	1.28
Dissolved Organic Phosphorus	µM	0.52	0.24	0.88	0.04	0.80
Total Phosphorus	µM	1.40	3.00	3.20	3.80	2.08
pH	pH Units	7.10	7.26	7.69	7.71	7.72
Salinity	PPT	24.21	32.49	5.68	14.92	30.37
Silica	µM	244	188	499	328	117

Notes: 1. Samples were collected on October 16, 2014
2. Samples were analyzed by Marine Analytical Laboratory.

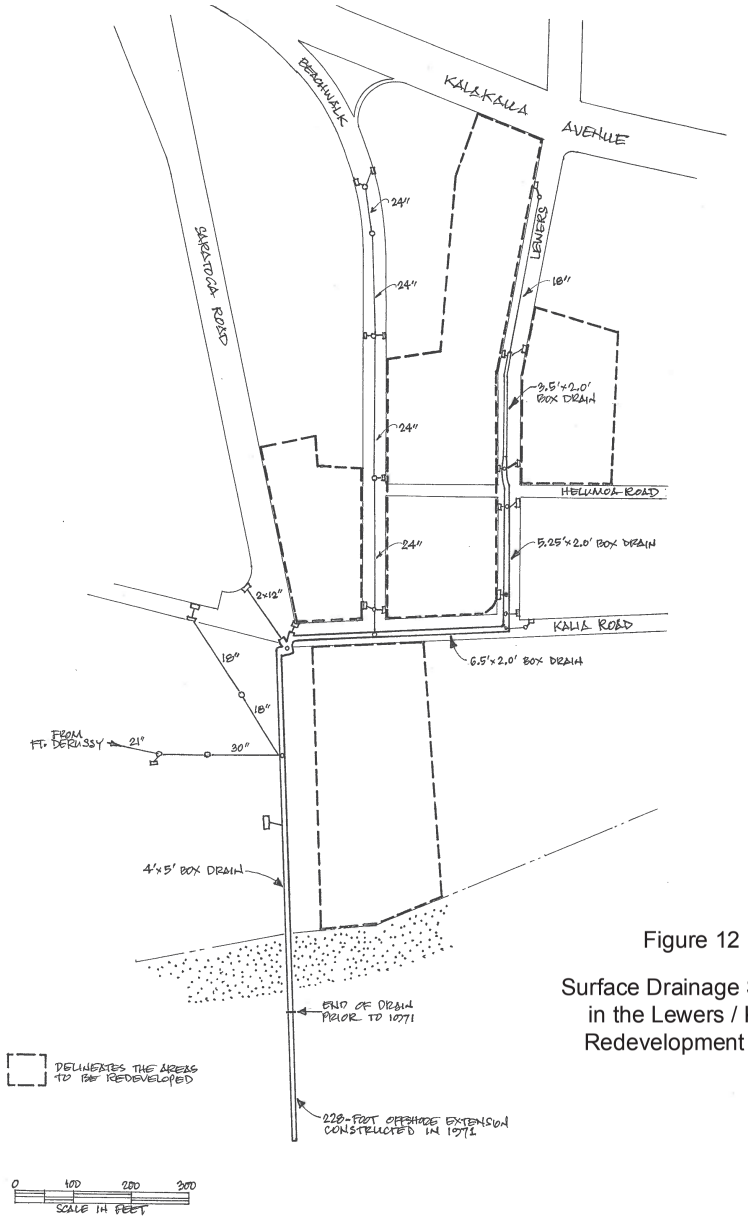


Figure 12

Surface Drainage System in the Lewers / Kalia Redevelopment Area

conveyed by roof and deck drains into one of the Outrigger's pump sumps in its basement. Water pumped from these sumps is conveyed by a 12-inch pipeline which is connected to the drain system on the makai side of the hotel.

CHANGES TO THE SURFACE DRAINAGE AND GROUNDWATER DEWATERING SYSTEMS AS A RESULT OF THE REDEVELOPMENT OF THE OUTRIGGER REEF PROPERTY

At this point in the project's planning, no substantial changes to the groundwater pumping systems or the surface drainage system in Kalia Road are envisioned. Changes to the site's basement level, which is five feet below sea level, will include: new BOH Engineering (relocated on the basement floor); increased parking spaces; new parking connection from the basement to the street; moving kitchen and fitness facilities to upstairs levels; and possible backfilling of the portion of the basement beneath the Diamond Head Tower.

POTENTIAL IMPACT TO SURFACE AND GROUNDWATER RESOURCES

No significant change to the quantity or handling of the site's rainfall runoff will occur as a result of the site's redevelopment. Similarly, there will be no significant changes to the dewatering system's quantity, quality, or point of delivery into the existing drainage system. As such, potential impact's to surface and groundwater resources are not considered to be significant.

APPENDIX H

An Assessment of Potential Effects to Water Quality and Marine Communities from Proposed Redevelopments of the Outrigger Reef Property, Waikiki, Oahu, Hawaii

Marine Research Consultants, Inc.

May 2015

AN ASSESSMENT OF POTENTIAL EFFECTS TO WATER QUALITY AND MARINE COMMUNITIES FROM PROPOSED REDEVELOPMENTS THE OUTRIGGER REEF PROPERTY, WAIKIKI, OAHU, HAWAII

Prepared for

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Revised
May, 2015

1. INTRODUCTION and PURPOSE

Outrigger Enterprises is In the process of planning a substantial redevelopment of its properties In the Lewers/Saratoga/Kalia area of Waikiki. The present development, located on the 2.50-acre Outrigger Reef property consists of 635 hotel rooms in two towers, the Pacific Tower (436 rooms) and the Ocean Tower (199 rooms). The separate 5-story Diamond Head Tower contains offices and long-term tenants rather than hotel rooms. The site also contains meeting space, recreational amenities, retail shops, and restaurants.

The proposed redevelopment includes the addition of a Great Lawn constructed at the Makai end of the site to provide a transition from property to the beach area. Redevelopment plans also include demolition of the Diamond Head Tower, and the construction of a new, 350-foot hotel tower at the Kalia Road edge with 100 to 160 first class rooms. The base of the hotel tower will be designed to provide an opening or "puka" (hole) that will provide air and light to the property and open up pedestrian level views of the hotel site from Kalia Road. Beach access will be maintained on-site from the porte cochere through the new meeting spaces and out to the Great Lawn. The front desk/lobby area will be reconfigured and undergo interior renovations to enhance and improve the visual relationships between the lobby, pool deck and beach area. This expanded recreational focal point will provide visitors with an instant connection to Hawaii and their stay at the Outrigger Reef. The project will transform the existing pool deck with significantly expanded and enhanced pools. Plans will increase the deck space that will be utilized for pool activities and lounging areas. The recreation deck will gradually step down to the beach level open air dining space. Approximately 34,000 sf of new open recreation space will be created. Water features and landscaping elements will be integrated throughout this space to fit with the surrounding character of the hotel site and beach area.

This report addresses potential impacts to the marine environment offshore of the Outrigger property as a result of the proposed redevelopment. It should be noted that renovation of the Outrigger Reef property was included in a 2002 EIS prepared by Group 70 International, Inc. which covered the entire 7.97-acre Beach Walk area. In support of the 2002 EIS, Marine Research Consultants (MRC) prepared a report dated September 2001 and titled "An Assessment of Potential Effects to Water Quality and Marine Communities from Proposed Redevelopments of the Outrigger Properties in the Lewers-Kalia Area, Waikiki, Oahu, Hawaii." However, the

specific improvements now being proposed for the Outrigger Reef property were not included in the 2002 EIS. As such, a supplemental EIA (SEIS) is required for the proposed action. This report presents and update of potential effects to the marine environment has been undertaken to support the SEIS.

While the Proposed Outrigger Reef Waikiki Beach is located adjacent to the beach, there are no plans for alteration of the actual shoreline and nearshore area. As a result, the primary means of Impact to the nearshore marine water chemistry Is through alteration of water that flows beneath or through the area of redevelopment. With no physical alteration, it follows that communities of marine biota can only be affected by alterations of water quality caused by efflux of groundwater or surface water (Including erosional materials) in the nearshore zone. The rationale of this assessment is to determine the composition and effect to marine water chemistry prior to commencement of any new redevelopment activities. The resulting data provides a characterization of the effects of the existing development In the Lewers Saratoga area of Waikiki to the adjacent marine environment. With an understanding of the existing linkages between activities on land and the effects to the marine environment, it will be possible to address the potential for Impacts to the marine environment that may result from the redeveloped project.

Combining information on the existing composition of marine waters with estimates of changes in surface water discharge and groundwater percolation that will result from the redevelopment project will provide the basis to estimate the potential effects to the marine environment from the proposed project. Predicted changes in groundwater flow rates and chemistry have been supplied by Tom Nance Water Resource Engineering (TNWRE) in a report under separate cover entitled "Potential Impacts to Surface and Groundwater Resources of the Proposed Redevelopment of the Outrigger Reef Property, Honolulu, Oahu, Hawaii" dated November 2014. Results of the combined evaluation will Indicate If, and to what degree there is the potential for negative effects to the aquatic environments from the proposed project.

2. METHODS

2.1. Sampling Sites

The Lewers/Kalia properties encompass approximately 1,000 feet of shoreline of Waikiki. At present, runoff from the area of Waikiki that encompasses the project site drains to the ocean through a box culvert with an outlet offshore of the

beach. As this culvert is the point source of runoff entering the ocean, the sampling scheme was centered around the drainage outlet (hereafter termed the "Outrigger Drain"). Sampling was conducted within a corridor bounded at the west by Fort DeRussy Beach, to the east by the Halekulani sand Channel and centered on the drainage culvert. At each of these points, a transect was established that consisted of an imaginary line running perpendicular to the beach, and extending from the shoreline out to the open ocean. Transect 1 is located at Fort DeRussy, Transect 2 is located off the drainage culvert, and Transect 3 bisected the Halekulani Sand Channel (Figure 1). Transects extended approximately 50 meters (m) offshore. To the extent possible, the sampling scheme replicated the scheme used in the 2001 survey. However, in the present survey, sampling was concentrated in the nearshore area as results of the 2001 work indicated that beyond this region there was minimal affects to the marine environment from land.

In addition to the ocean sampling sites, water from a monitoring well in the driveway of the Outrigger Reef Hotel, as well as three sumps in the basement of the Hotel. Water was also collected from a manhole in the drainage culvert at the junction of Kalia Road and Saratoga Road.

2.2. Monitoring Constituents

Water quality parameters evaluated Included the nine specific criteria mandated for open coastal waters In Chapter 11-54, Section 06 of the Water Quality Standards, Department of Health, State of Hawaii. These criteria Include: total nitrogen (TN) which is defined as inorganic nitrogen plus organic nitrogen, nitrate + nitrite nitrogen (NO_{3-} + NO_{2-}), ammonium (NH_{4+}), total phosphorus (TP) which Is defined as inorganic phosphorus plus organic phosphorus, Chlorophyll a (Chl a), turbidity, dissolved oxygen, temperature, pH and salinity. In addition, orthophosphate phosphorus (PO_4^{3-} and silica (Si) were analyzed because these constituents are sensitive Indicators of biological activity and the degree of groundwater mixing, respectively.

2.3. Sampling Protocol

All ocean field work was conducted between 10:30 and 12:20 on November 10, 2014 by divers swimming from shore. Monitoring wells were sampled on October 16, 2014. Environmental conditions during ocean sample collection consisted of calm seas and wind, and ebbing tide (+1 to 0.0). Water samples were collected at 5 stations along each transect at distances or approximately 1, 5, 10, 25, 50 and

150 m offshore (the sample collected at a distance of 1 m was collected at the highest wash of waves on the beach). Such a sampling scheme was designed to span the greatest range of salinity with respect to freshwater influx at the shoreline and into the coastal ocean. Sampling was more concentrated in the nearshore zone because this area is most likely to show the effects of mixing of surface water and groundwater with marine waters. At the ocean stations farthest from the shoreline, samples were collected at two depths; a surface was collected within approximately 20 centimeters (cm) of the sea surface, and a bottom sample was collected within approximately 20 cm of the seafloor. Owing to the shallow depth (~2 feet) and turbulent mixing at the ocean stations at stations closer to shore, only one water sample was collected.

Water samples were collected by opening 1liter polyethylene bottles at the desired depth. Subsamples for nutrient analyses were immediately placed In 125 milliliter (ml) acid-washed, triple rinsed, polyethylene bottles. All samples were stored on ice following collection, and delivered to the analytical laboratory as soon as possible, where they were processed within 24 hours of collection. All laboratory chemistry analyses were performed by Marine Analytical Services in Honolulu, HI (EPA Lab. No. HI00009). Marine Analytical Services possess "acceptable" ratings from EPA-compliant proficiency and quality control testing.

2.4. Analytical Methodology

The EPA and Standard Methods (SM) methods that were employed for chemical analyses, as well as detection limits, are listed in the Code of Federal Regulations (CRF) Title 40, Chapter 1, Part 136, are as follows:

- NH_4^+ EPA 350.1, detection limit 0.14 µg/L,
- NO_3^- +NO_2^- EPA 353.2, detection limit 0.14 µg/L,
- PO_4^{-3} EPA 365.2, detection limit 0.31 µg/L,
- TP EPA 365.4, detection limit 3.1 µg/L,
- TN SM 4500-N C., detection limit 1.4 µg/L. and
- Si, EPA 370.1, detection limit 2.8 µg/L.
- Chlorophyll a, SM 10200, detection limit 0.001 µg/L
- pH, EPA 150.1, detection limit 0.001 pH units
- Turbidity, EPA 180.1, detection limit 0.01 NTU
- Temperature, EPA 170.1, detection limit 0.01 degrees centigrade
- Salinity, SM 2520, detection limit 0.001ppt
- Dissolved Oxygen, EPA 360.1, detection limit 0.01% sat.

Analysis for inorganic nutrients (NH_4^+, PO_4^{-3}, NO_3^- and Si) were performed by Marine Analytical Services using a continuous flow Technicon Autoanalyzer according to published methods of seawater and wastewater analysis (Strickland and Parsons 1968, Technicon 1973, Clesceri et al. 1989). TN and TP were analyzed in a similar fashion following alkaline oxidative digestion using potassium persulfate. Turbidity was determined on subsamples analyzed with a Monitek 21 90-degree Nephelometer. Chl *a* was measured by filtering enough water through glass fiber filters for color to be visible; pigments on filters were extracted in 90% acetone in the dark at 20° C for 12-24 hours. Fluorescence before and after acidification of the extract was measured with a Turner Designs fluorometer. Salinity was determined using an AGE Model 2100 laboratory salinometer with a readability of 0.0001‰ (ppt). Salinity and temperature were measured as vertical profiles in situ using an RBR Model XR-60-CTD calibrated to factory specifications.

3. RESULTS

3.1. Physical Structure of the Waikiki Marine Area

The marine area off of Waikiki consists or a poorly defined embayment within Mamala Bay that extends from the Ala Wai Channel to the Kapahulu Groin area. The entire area has been altered substantially over the past decades, being created from infilling of wetlands following the construction of the Ala Wai Canal. The shoreline of the Waikiki area is rimmed with a constructed sand beach. Periodically the beach has been nourished by importing sand from offshore deposits of sand that has been transported off the beach.

Offshore of the beach, the shallowest region consists of a sandy flat that extends from the shoreline offshore for a distance or several meters. Beyond the sandy zone, the inner area of the Waikiki embayment consists of a relatively flat limestone platform that has a depth of 0.5 - 2 meters. A layer of constantly shifting sand covers the platform. Off of the Halekulani Hotel, a continuous channel of sand, called the "Halekulani Sand Channel" extends from the shoreline in a southwesterly direction across the reef to offshore waters (Figure 1).

The inner reef platform forms a basin with the outer boundary formed by a shallow reef crest. The crest consists of an elevated ridge of limestone. In some areas the ridge crest is nearly emergent at low tide. The seaward edge of the reef crest slopes gradually to an outer reef shelf that extends to the open coastal ocean.

The outer edge of the reef crest is the main area where surf breaks In the Waikiki area.

3.2. Marine Water Chemistry

Tables 1 and 2 show results of all marine and well water chemical analyses for samples collected in November 2014 on the three transects off of Waikiki In the vicinity of the proposed Outrigger Project. Table 1 shows nutrient concentration in units or micromoles (µM), while Table 2 shows nutrient concentrations in units of micrograms per liter (µg/L). Concentrations of eight dissolved nutrients are shown as functions of distance from the shoreline In Figure 2. Concentrations or salinity, turbidity, Chl *a* and temperature as functions of distance from the shoreline are shown in Figure 3.

A weak pattern is apparent on all three transects with respect to concentrations of Si, NO_3^-, NH_4^+ and salinity. On these three transects, concentrations of Inorganic nutrients were highest In samples collected nearest the shoreline (1-25 m), and decreased slightly over the inner reef (50-150 m) (Tables 1-2, Figure 2). Salinity exhibited the opposite trend as nutrients, with the lowest values in samples collected in the nearshore zone closest to the shoreline (Figure 3).

These patterns reflect the typical physical processes that occur in the nearshore ocean off of Waikiki. Small amounts of groundwater enter ocean near the shoreline. Groundwater normally contains higher concentrations of inorganic nutrients and low salinity relative to seawater. The groundwater Input results in the small area of decreased salinity and Increased nutrients near the shoreline.

Because groundwater entering the ocean is lower in density than ocean water, a surface layer characterized by high nutrient concentrations and low salinity often occurs in many nearshore areas of Hawaii. Inspection of surface and bottom water samples Indicates slight vertical gradients In salinity (elevated In bottom water compared to surface water) and NO_3^- (elevated In surface water compared to bottom water) (Tables 1 and 2). None or the other chemical constituents exhibited any degree of consistent vertical stratification. Rather, concentrations of water chemistry were not stratified through the water column.

Concentrations of other nutrient constituents that do not occur In groundwater (TP,TN, DON, DOP) also showed a slight degree of horizontal stratification with elevated values nearest the shoreline, particularly on Transect 1 (Table1, Figure 2). Turbidity showed a consistent pattern across all three transects. Values were

highest in the samples collected within 5 m of the shoreline, with progressively lower values with distance from the shoreline. At the farthest distance from shore, all values of turbidity were uniformly low with values on the order of 0.2 NTU (Table 1, Figure 2). Similarly, values of Chl a were highest in the samples collected closest to shore with relatively constant values across the remainder of the transects. The highest values of Chl *a*, as well as the steepest gradients, occurred on Transect 3 in the Halekulani sand channel transect (Table1, Figure 3). This pattern may be a reflection of transport of fragments of algae or plankton by currents which flush the inner reefs through the sand channel. Temperature was also slightly elevated at the sampling stations closest to shore, likely from solar warming of shallow nearshore water.

3.3. Groundwater Chemistry

The project site sits on a thick coastal caprock formation consisting or marine sediments, some of which were imported to fill wetlands that formerly occurred in Waikiki following the construction of the Ala Wai Canal. Three shallow monitoring wells were drilled Into the caprock within the boundaries of the Outrigger Properties in support of the 2002 EIS work. At least to the depth of the monitoring wells (1.5 meters below sea level), caprock consists of silty sands and decomposing organics which are generally poorly permeable (TNWRE 2001). Prior to the development in Waikiki of high rises with below sea level basements requiring continuous dewatering pumping, rainfall on the caprock would sink into the ground and move laterally to discharge into the Ala Wai Canal and into the ocean along the Waikiki shoreline. Now, with dewatering pumping being done by every high rise with a below sea level basement, the groundwater in the caprock has been drawn down below sea level. This has reversed the natural direction of groundwater flow, drawing saline water in from the shoreline and in from the Ala Wai Canal. Groundwater withdrawn by these dewatering sumps is typically discharged into the storm drains in adjacent streets and returned to the shoreline or the Ala Wai Canal. TNWRE (2001, 2014) reports that the monitoring wells demonstrate very little tidal response despite the close proximity to the shoreline. Tidal fluctuation lags about four hours behind the ocean tide and its amplitude is only about 5% percent of the ocean tide. The lack of tidal response reflects the limited permeability of the silty sands and carbonates that the wells penetrate. In addition, all of the water

The concentrations of nutrients and salinity found in water sampled in 2014 from the top and bottom of the makai monitoring well, as well as two sumps within the

basement of the Outrigger Reef Hotel and the box drain which runs to the shoreline between the Waikiki Shore Apartments and Fort DeRussy are shown In Tables 1 and 2. Salinity In the well ranged from about 24 to 32 parts per thousand, which is about 69% to 91% seawater. Thus, there is a small, but distinct freshwater component to the groundwater that enters the ocean through the aquifer. Nutrient concentrations in the well, sump and drain samples were generally elevated relative to ocean water. In particular, most of the concentrations of PO_4^{3-}, NO_3^- and NH_4^+ were elevated by as much as an order or magnitude over the values measured in ocean samples.

3.4. Compliance with DOH Standards

DOH Water Quality Standards Include specific criteria for three situations; criteria that are not to be exceeded during either 10% or 2% of the time, and criteria that are not to be exceeded by the geometric mean of samples. With only one set of samples, comparison of the 10%, and 2% of the time criteria, or geometric means for any sampling station are not statistically meaningful. However, comparing sample concentrations to these criteria provide an Indication of whether water quality is within the standards set out by the specific criteria.

Noted in Table 1 are samples that exceed DOH water quality standards for open coastal waters under "wet" and "dry" conditions. The criteria for separating wet and dry conditions is whether an area receives less (dry) or more (wet) than 3 million gallons of freshwater input per mile per day. A comparison of the results of analyses of water chemistry with DOH criteria reveals that during the November 2014 sampling no samples of NO_3^-, TP or TN exceeded any of the criteria. Nearshore samples of NH_4^+ on all three transects exceeded the maximum standards for wet conditions. Several of the samples nearest to the shoreline exceeded turbidity and Chl *a* standards. In comparison, in the sampling carried out in August 2001 two measures of NO_3^-, three measurements of NH_4^+, and five measurements of turbidity exceeded the 10% "dry" criteria. In August 2001, no measurements or TP, TN or Chl *a* exceeded any of the DOH water quality standards.

Based on these two studies, it is apparent that with some exceptions, water quality within the survey area generally complies with DOH standards. The most notable exception is for NH4+, which was overall higher in November 2014 relative to August 2001. As 2014 was a notable wet year, and 2001 considered dry (particularly in August), the overall elevation of NH_4^+ may be a result of increased discharge of surface water from land through the Waikiki drainage system.

These results are Important with respect to how the overall water quality In Waikiki relates to the proposed redevelopment project. Without doubt, this area is probably the most utilized marine recreational area in the state of Hawaii, and is also located off a fully developed urban area. The result of this study that only several of the samples exceeded State of Hawaii water quality standards suggests that Input from land or urbanization do not have a significant effect on marine water quality.

3.5. Biotic Community Structure

The biotic community structure of the Waikiki area is divided into two major zones that correspond to the physical zonation or the area. The Inner zone, consisting of the region from the shoreline over the reef platform to the reef crest is primarily a sand and rubble-covered flat Inhabited primarily by various species of algae. Reef corals, and most other epibenthic organisms are sparse in the inner zone, primarily as a result of continuously shifting sand that is kept in motion by wave surge. Where corals do occur In the Inner area, they are attached to the upper surfaces of boulders or rock outcrops, such as occur at the edges of the channel leading to the pier at the Hilton Hawaiian Village. Predominant algae In the Inner area are the alien species of red algae *Acanthophora specifera*, and the blue green algae *Lygbya majuscula*. The Inner zone is the area that would be subjected to changes in water quality resulting from Inputs from land.

The second major zone, which originates just seaward or the reef crest and extends seaward to offshore sand plains is composed of a relatively flat "hardpan" limestone bottom. Because this zone is at depths below most of the destructive force of waves, and beyond the limits of sand scour, reef corals occur abundantly. As is typical on most coral reefs in Hawaii, the most dominant corals are Porites lobata and Pocillopora meandrina.

Results from a study to assess the effects of beach sand replenishment In Waikiki (Marine Research Consultants 1990) showed quantitatively that the dominant environmental factor shaping the nearshore benthic and reef fish communities off of Waikiki Is movement of sand. As Waikiki Beach has been created by importation of sand, and will continually require sand nourishment (as was done in 2012), the situation regarding the factors controlling biotic community composition are not likely to change.

4.0 DISCUSSION and CONCLUSIONS

The purpose or this second baseline survey is to provide the Information to make valid estimates or tile potential for Impacts to the marine environment of Waikiki offshore or the proposed Outrigger Redevelopment. The information collected for this study provides the basis to understand the processes that are operating in the linked groundwater-marine system.

The Outrigger Redevelopment does not include any plans for direct alteration of the shoreline or offshore areas. Therefore, potential Impacts to the marine environment can only be considered from activities on land that may result in delivery of materials to the ocean through infiltration to groundwater and/or surface runoff. At this point in the project's planning, no substantial changes to the groundwater pumping systems or the surface drainage system in Kalia Road are envisioned. Changes to the basement level, which is five feet below sea level, will include increased parking spaces, new parking connection from the basement to the street, moving kitchen and fitness facilities to upstairs levels, and possible backfilling of the portion of the basement beneath the Diamond Head Tower.

No significant change to the quantity or handling of the site's rainfall runoff will occur as a result of the site redevelopment. Similarly, there will be no significant changes to the dewatering systems quantity, quality, or point of delivery into the existing drainage system. As such, potential impacts to surface and groundwater resources are not considered to be significant (TNWRE 2014).

Results of the water chemistry assessment reveal that under the present development scenario, water quality throughout the survey area of Waikiki is in within the levels that would be in compliance with respect to State of Hawaii Water Quality Standards. The single constituent that is consistently elevated with respect to the standards is NH_4^+, which was elevated at all sampling locations (Tables 1 and 2). As the single sampling occurred during the wet season of a wet year, it is not possible to determine if the elevated levels of NH_4^+ are the result of seasonal events and will return to low levels similar to those measured in August 2001. However, it is not apparent that the elevated levels of NH_4^+ are the result of activities on the Outrigger property that would be amplified by the proposed project.

The overall result of water quality that is generally within DOH compliance is perhaps even more surprising when the locations of the sampling transects are considered. The Fort DeRussy transect Is situated close to the point where water

from the Ala Wai Canal drains out of the Ala Wai Harbor channel to the open ocean. Similarly, the location of Transect 2 bisect the area where the box drain containing surface drainage water and sump-pumped water discharges to the ocean from the project site. As the sampling period occurred during the winter season in a year when rainfall was above average, under existing conditions the present development has minimal effect on water quality of the marine environment that is directly offshore of the project property. Because the redevelopment will not result in substantial quantitative or qualitative changes to surface water runoff or groundwater percolation, it can be concluded that the project will not cause any significant changes over the existing situation.

Shifting sand is the dominant physical feature in the nearshore marine environment that affects marine community structure. Substantial quantities of calcareous sand that has been pumped from offshore reserves and placed on the beach continue to cycle through the nearshore marine environment. Corals and other reef organisms are capable of removing sediment suspended by natural phenomena up to a threshold level. Above this level, scouring and burial by sand can result in severe abrasion or burial. Because of the existence of large quantities of naturally occurring and re-nourished beach sand in the nearshore area off of the project site, biotic community structure is presently controlled by the ability to deal with continual stress from sand stress. Organisms that occur in the nearshore area (primarily algae) are capable of withstanding the stress associated with large deposits of sediment. In comparison, the effects to marine communities from the small changes of input of materials contained in surface water and groundwater discharge would be insignificant.

The marine areas in the outer zone of the Waikiki reef that presently are populated by well-developed coral communities are beyond the influence of the small potential changes to water chemistry that could be caused by the re-development. Even if changes to discharge of water from land to the ocean was greater than predicted, it is likely that these effects would be diluted to non-detectable levels prior to reaching the outer reefs. Rather, these communities are influenced by other larger scale factors (primarily wave impacts).

During the construction phases, it is likely that permit regulations will require dust control measures that will limit or prevent sediment input to the nearshore area. Because there is no plan for any work in the nearshore region, these is no potential for blasting or excavation that might affect protected species, including turtles, whales and monk seals.

In summary, the proposed redevelopment of the Outrigger properties should have little or no potential to alter the marine environment fronting the project site. As long as reasonable best management practices are employed during the construction phases, and operational procedures proceed as in the past, there should be no adverse effects to the marine environment.

5.0 REFERENCES CITED

Grasshoff, K. 1983. Methods of seawater analysis. Verlag Chemie, Weinheim, 419 pp.

Strickland J. D. H. and T. R. Parsons. 1968. A practical handbook of sea water analysis. Fisheries Research Bd. of Canada, Bull. 167. 311 pp.

FIGURE 1. Aerial view of western end of Waikiki area showing location of Outrigger Reef redevelopment project area. Also shown are locations of three offshore water sampling transects. Water samples were collected along transects from the shoreline to a distance of approximately 150 meters offshore.

TABLE 1. Results of water chemistry sampling along three transects extending from the shoreline to approximately 50 meters offshore of the Outrigger Reef Property, Waikikik, Honolulu Hawaii. Also shown are values from four groundwater sources that discharge to the ocean. Concentrations of dissolved nutrients are shown in micromolar units (µM). For locations of sampling transects, see Figure 1. Samples collected on November 10, 2014.

TRANSECT	DFS	Depth	PO_4^{3-} (µM)	NO_3^- (µM)	NH_4^+ (µM)	Si (µM)	TOP (µM)	TON (µM)	TP (µM)	TN (µM)	TURB (ntu)	SALT (ppt)	pH (rel)	Chl-a (µg/l)	TEMP °C	Diss. O_2 % sat
TRANSECT 1	1	S	0.03	0.47	1.21	5.09	0.33	7.31	0.36	8.99	0.84	34.940	8.168	0.41	27.17	97.88
	5	S	0.04	0.58	0.92	8.05	0.34	7.08	0.38	8.58	0.67	34.767	8.157	0.36	26.92	110.19
	10	S	0.06	0.28	1.00	7.11	0.36	6.18	0.42	7.46	0.23	34.721	8.211	0.38	26.62	96.55
	25	S	0.03	0.29	1.02	5.54	0.30	6.26	0.33	7.57	0.48	34.882	8.170	0.39	26.82	106.51
	50	S	0.04	0.27	0.62	5.58	0.31	6.26	0.35	7.15	0.20	34.642	8.240	0.32	26.89	95.58
	50	B	0.08	0.27	0.45	5.89	0.30	6.46	0.38	7.18	0.25	34.854	8.199	0.57	26.66	98.69
	150	S	0.12	0.28	0.35	5.47	0.27	6.25	0.39	6.88	0.17	34.924	8.204	0.52	26.59	96.84
	150	B	0.12	0.28	0.48	5.56	0.27	6.15	0.39	6.91	0.18	34.929	8.206	0.58	26.99	100.72
TRANSECT 2	1	S	0.11	0.53	1.13	4.55	0.28	6.21	0.39	7.87	2.85	34.934	8.176	0.74	26.48	105.10
	5	S	0.04	0.45	1.46	5.68	0.31	6.12	0.35	8.03	1.13	34.900	8.185	0.44	26.48	108.94
	10	S	0.04	0.58	1.61	6.40	0.29	6.07	0.33	8.26	1.15	34.840	8.159	0.44	26.35	99.68
	25	S	0.04	0.49	1.36	5.99	0.26	6.28	0.30	8.13	1.13	34.856	8.168	0.76	26.40	102.85
	50	S	0.03	0.29	0.97	4.24	0.28	6.17	0.31	7.43	0.81	34.978	8.147	0.39	26.15	98.77
	50	B	0.08	0.24	1.40	4.13	0.30	5.51	0.38	7.15	0.58	35.011	8.144	0.38	26.17	104.00
	150	S	0.03	0.23	1.28	3.97	0.30	5.27	0.33	6.78	0.24	35.043	8.151	0.36	26.15	97.49
	150	B	0.03	0.24	1.12	3.71	0.28	5.72	0.31	7.08	0.24	35.077	8.151	0.32	26.15	104.37
TRANSECT 3	1	S	0.01	0.47	0.75	4.32	0.29	6.27	0.30	7.49	2.36	34.965	8.069	0.46	26.44	105.04
	5	S	0.02	0.43	1.32	4.12	0.30	6.10	0.32	7.85	2.07	34.969	8.081	0.36	26.47	102.73
	10	S	0.04	0.27	0.99	4.64	0.25	6.08	0.29	7.34	1.77	34.931	8.145	0.35	26.33	98.33
	25	S	0.05	0.21	0.84	4.45	0.29	6.26	0.34	7.31	1.67	34.943	8.088	0.32	26.25	94.46
	50	S	0.03	0.24	0.94	4.00	0.27	6.06	0.30	7.24	0.77	34.983	8.106	0.31	26.28	98.73
	50	B	0.04	0.20	1.02	3.95	0.27	6.05	0.31	7.27	0.82	34.978	8.097	0.52	25.82	95.20
	150	S	0.03	0.20	0.93	3.46	0.28	6.20	0.31	7.33	0.29	35.080	8.114	0.35	25.95	99.67
	150	B	0.03	0.19	0.65	3.55	0.30	6.11	0.33	6.95	0.25	35.058	8.118	0.38	25.85	94.23
WELLS	Makai top		0.88	1.08	0.84	244.24	0.52	41.00	1.40	42.92	201.00	24.21	7.10			
	Makai bottom		2.76	0.36	13.08	187.72	0.24	20.96	3.00	34.40	5.10	32.49	7.27			
	Sump 4		2.32	11.84	0.60	499.44	0.88	23.72	3.20	36.16	0.98	5.69	7.70			
	Sump 6		3.76	13.72	11.48	327.88	0.04	19.36	3.80	44.56	0.94	14.93	7.71			
	Catch Basin		1.28	11.80	3.48	117.40	0.80	18.72	2.08	34.00	1.69	30.37	7.72			

TABLE 2. Results of water chemistry sampling along three transects extending from the shoreline to approximately 50 meters offshore of the Outrigger Reef Property, Waikikik, Honolulu Hawaii. Also shown are values from four groundwater sources that discharge to the ocean. Concentrations of dissolved nutrients are shown in units of micrograms per liter (µg/L). Also shown are State of Hawaii Dept. of Health water quality standards (DOH WQS) for open coastal waters under wet and dry conditions in terms of both "not to exceed more than 10%" and not to "exceed more than 2%" of the time. For locations of sampling transects, see Figure 1. Samples collected on November 10, 2014.

TRANSECT	DFS	Depth	PO_4^{3-} (µg/L)	NO_3^- (µg/L)	NH_4^+ (µg/L)	Si (µg/L)	TOP (µg/L)	TON (µg/L)	TP (µg/L)	TN (µg/L)	TURB (ntu)	SALT (ppt)	pH (rel)	Chl-a (µg/L)	TEMP °C	Diss. O_2 % sat
TRANSECT 1	1	S	0.93	6.58	16.94	142.52	10.23	102.34	11.16	125.86	0.84	34.940	8.168	0.41	27.17	97.88
	5	S	1.24	8.12	12.88	225.40	10.54	99.12	11.78	120.12	0.67	34.767	8.157	0.36	26.92	110.19
	10	S	1.86	3.92	14.00	199.08	11.16	86.52	13.02	104.44	0.23	34.721	8.211	0.38	26.62	96.55
	25	S	0.93	4.06	14.28	155.12	9.30	87.64	10.23	105.98	0.48	34.882	8.170	0.39	26.82	106.51
	50	S	1.24	3.78	8.68	156.48	9.61	87.64	10.85	100.10	0.20	34.642	8.240	0.32	26.89	95.58
	50	B	2.48	3.78	6.30	164.92	9.30	90.44	11.78	100.52	0.25	34.854	8.199	0.57	26.66	98.69
	150	S	3.72	3.92	4.90	153.16	8.37	87.50	12.09	96.32	0.17	34.924	8.204	0.52	26.59	96.84
	150	B	3.72	3.92	6.72	155.68	8.37	86.10	12.09	96.74	0.18	34.929	8.206	0.58	26.99	100.72
TRANSECT 2	1	S	3.41	7.42	15.82	127.40	8.68	86.94	12.09	110.18	2.85	34.934	8.176	0.74	26.48	105.10
	5	S	1.24	6.30	20.44	159.04	9.61	85.68	10.85	112.42	1.13	34.900	8.185	0.44	26.48	108.94
	10	S	1.24	8.12	22.54	179.20	8.99	84.98	10.23	115.64	1.15	34.840	8.159	0.44	26.35	99.68
	25	S	1.24	6.86	19.04	167.72	8.06	87.92	9.30	113.82	1.13	34.856	8.168	0.76	26.40	102.85
	50	S	0.93	4.06	13.58	118.72	8.68	86.38	9.61	104.02	0.81	34.978	8.147	0.39	26.15	98.77
	50	B	2.48	3.36	19.60	115.64	9.30	77.14	11.78	100.10	0.58	35.011	8.144	0.38	26.17	104.00
	150	S	0.93	3.22	17.92	111.16	9.30	73.78	10.23	94.92	0.24	35.043	8.151	0.36	26.15	97.49
	150	B	0.93	3.36	15.68	103.88	8.68	80.08	9.61	99.12	0.24	35.077	8.151	0.32	26.15	104.37
TRANSECT 3	1	S	0.31	6.58	10.50	120.96	8.99	87.78	9.30	104.86	2.36	34.965	8.069	0.46	26.44	105.04
	5	S	0.62	6.02	18.48	115.36	9.30	85.40	9.92	109.90	2.07	34.969	8.081	0.36	26.47	102.73
	10	S	1.24	3.78	13.86	129.92	7.75	85.12	8.99	102.76	1.77	34.931	8.145	0.35	26.33	98.33
	25	S	1.55	2.94	11.76	124.60	8.99	87.64	10.54	102.34	1.67	34.943	8.088	0.32	26.25	94.46
	50	S	0.93	3.36	13.16	112.00	8.37	84.84	9.30	101.36	0.77	34.983	8.106	0.31	26.28	98.73
	50	B	1.24	2.80	14.28	110.60	8.37	84.70	9.61	101.78	0.82	34.978	8.097	0.52	25.82	95.20
	150	S	0.93	2.80	13.02	96.88	8.68	86.80	9.61	102.62	0.29	35.080	8.114	0.35	25.95	99.67
	150	B	0.93	2.66	9.10	99.40	9.30	85.54	10.23	97.30	0.25	35.058	8.118	0.38	25.85	94.23
WELLS	Makai top		27.28	15.12	11.76	6838.72	16.12	574.00	43.40	600.88	201.00	24.21	7.10			
	Makai bottom		85.56	5.04	183.12	5256.16	7.44	293.44	93.00	481.60	5.10	32.49	7.27			
	Sump 4		71.92	165.76	8.40	13984.32	27.28	332.08	99.20	506.24	0.98	5.69	7.70			
	Sump 6		116.56	192.08	160.72	9180.64	1.24	271.04	117.80	623.84	0.94	14.93	7.71			
	Catch Basin		39.68	165.20	48.72	3287.20	24.80	262.08	64.48	476.00	1.69	30.37	7.72			
DOH WQS	WET	nte 10%		14.00	8.50				40.00	250.00	1.25			0.90		
		nte 2%		25.00	15.00				60.00	350.00	2.00			1.75		
	DRY	nte 10%		10.00	5.00				30.00	180.00	0.50			0.50		
		nte 2%		20.00	9.00				45.00	250.00	1.00			1.00		

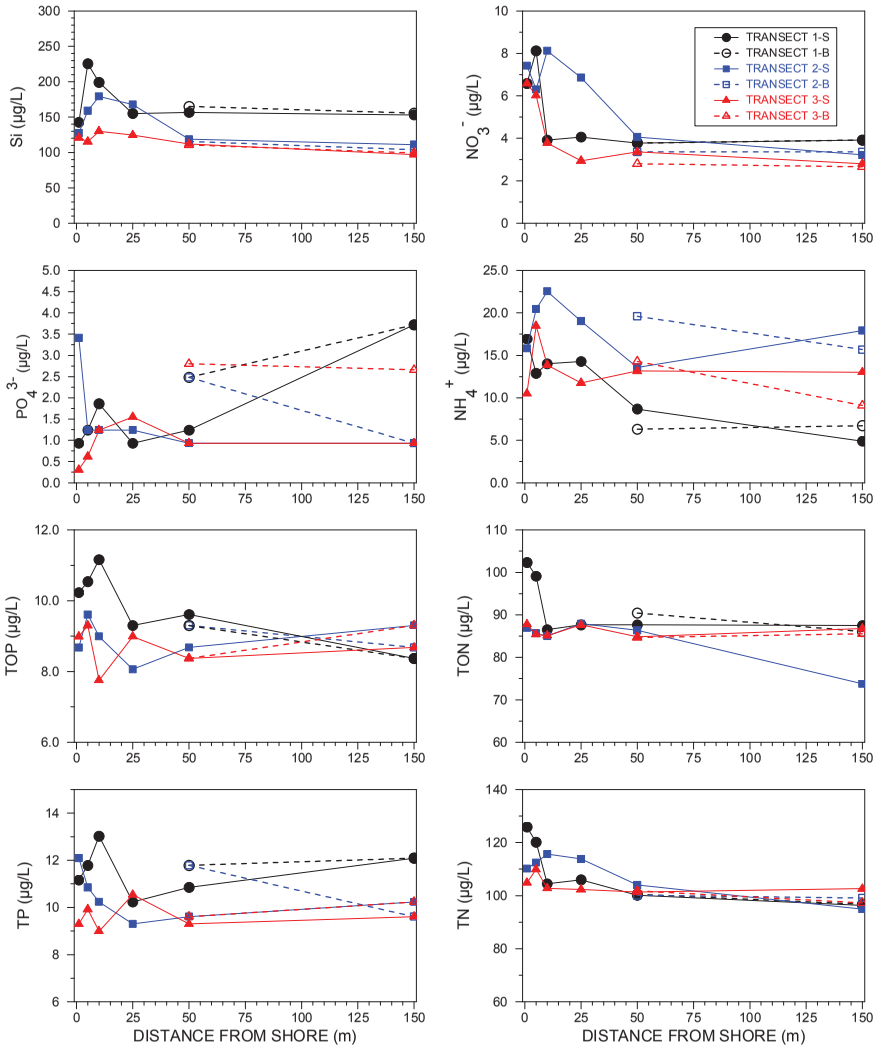

FIGURE 2. Plots of dissolved nutrients in surface (S) and bottom (B) samples collected along three transects offshore of the Outrigger property at Waikiki. on November 10, 2014 as a function of distance from the shoreline. For transect locations, see Figure 1.

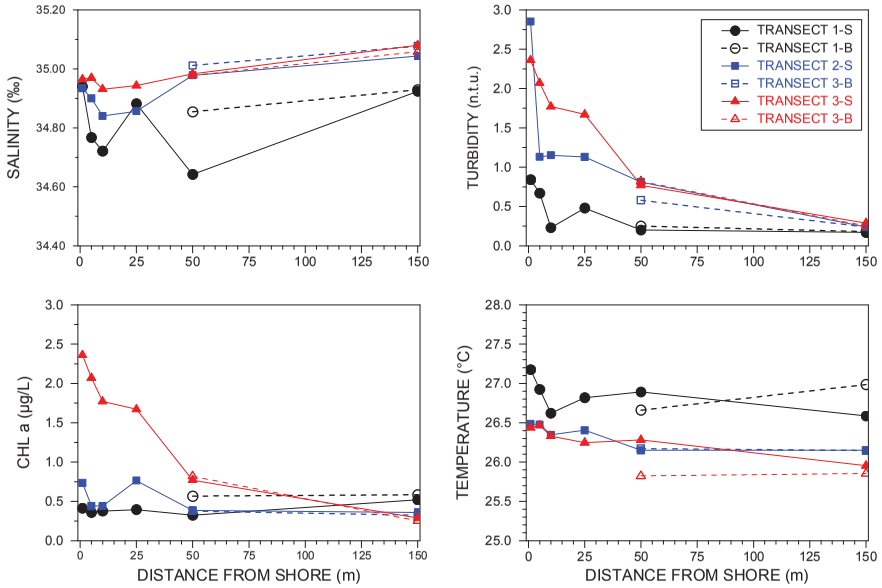

FIGURE 3. Plots of water chemistry constituents in surface (S) and bottom (B) samples collected on three transects offshore of the Outrigger properties in Waikiki. For transect locations, see Figure 1.

APPENDIX I

Archaeological Monitoring Plan for Outrigger Reef on the Beach Revitalization Project

T.S. Dye & Colleagues, Archaeologists, Inc.

September 2014

T. S. Dye & Colleagues, Archaeologists, Inc.
735 Bishop St., Suite 315, Honolulu, Hawai'i 96813

Reference: 393 AIS Letter

May 26, 2015

Dr. Susan Lebo
State Historic Preservation Division
Room 555 Kakuhihewa Building
601 Kamokila Blvd.
Kapolei, HI 96707

Dear Dr. Lebo:

Subject: Commitment to Carry out Archaeological Inventory Survey Prior to Construction at Outrigger Reef on the Beach Hotel, Land of Waikīkī, Kona, O'ahu, TMK: (1) 2–6–004:010

Thank you for the opportunity to consult with you about proposed construction activities at Outrigger Reef on the Beach Hotel. We have previously submitted "Archaeological Monitoring Plan for Outrigger Reef on the Beach Revitalization Project."

The purpose of this letter is to convey the commitment of Outrigger Hotels to complete an archaeological inventory survey beneath the porte cochere prior to construction activities. The archaeological inventory survey will demonstrate to descendants a good faith effort to identify human burial remains. We understand that, regardless of the inventory survey results, archaeological monitoring during construction excavations will be required.

We propose to carry out the archaeological inventory survey by digging 4 or 5 backhoe trenches, each about 5 m long, in the approximate locations indicated in red on the attached engineering drawing. Trench excavations will extend to the water table.

We propose to carry out the archaeological inventory survey immediately prior to construction, when the porte cochere is closed to the public.

We look forward to your office's review and approval of the archaeological monitoring plan and welcome your continued consultation on these important historic preservation concerns.

Sincerely,

Thomas S. Dye
President

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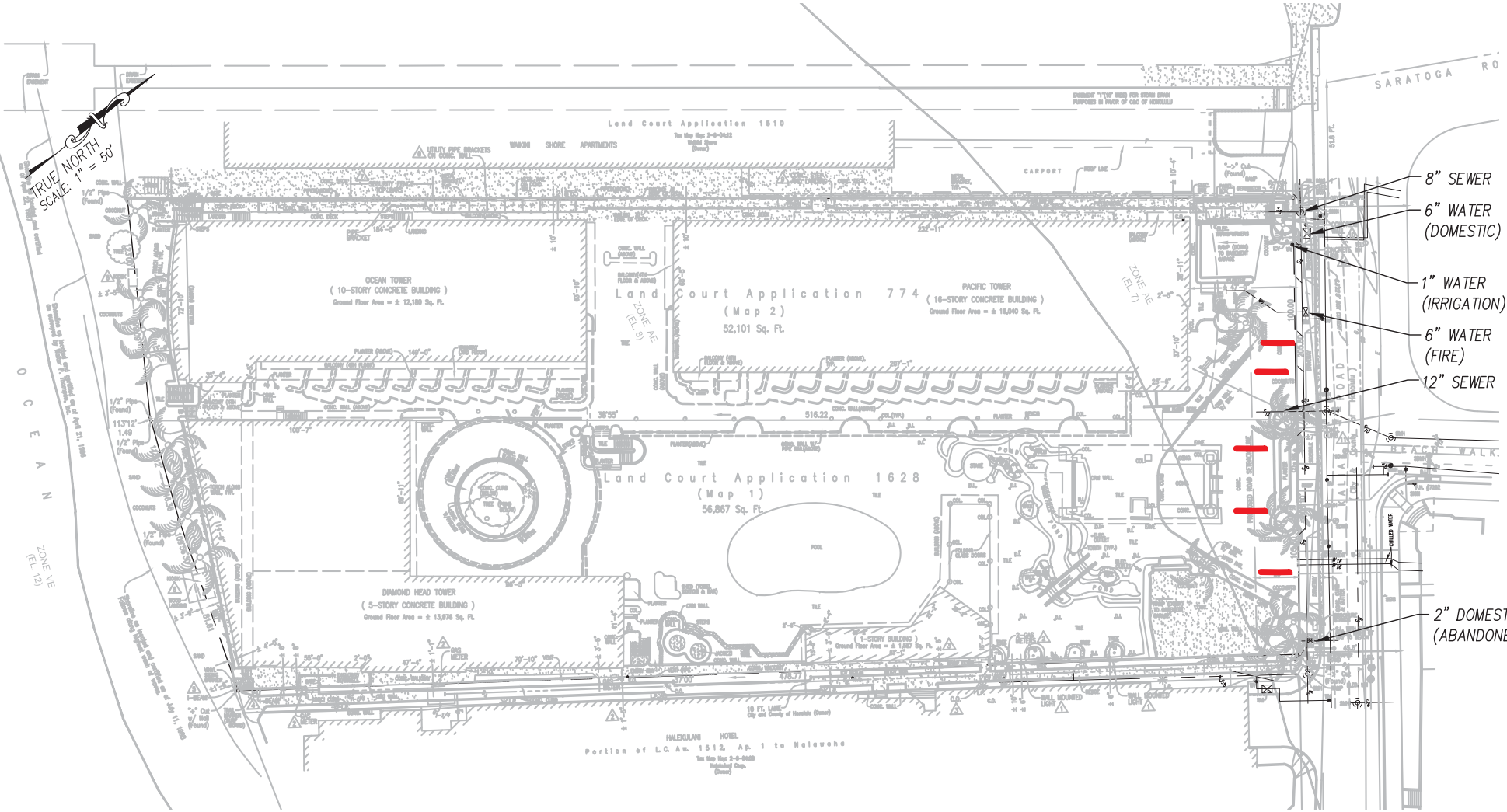

Archaeological Inventory Survey Trench Location

Street Level Existing Civil

0 25' 50' 100'

scale 1"=50' for 11x17

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Archaeological Monitoring Plan for Outrigger Reef on the Beach Revitalization Project

Land of Waikīkī, Kona, O'ahu
TMK: (1) 2-6-004:010*

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September 29, 2014

Abstract

At the request of Group 70 International, T. S. Dye & Colleagues, Archaeologists has prepared an archaeological monitoring plan for the Outrigger Reef on the Beach Revitalization Project, located at Waikīkī, Kona District, O'ahu Island. A review of historical and archaeological background information indicates that human burials, as well as other potentially significant cultural remains, such as habitation deposits with portable artifacts and midden materials, and features including fire-pits, ovens, postholes, pavements, and trash pits, might be found during the Outrigger Reef on the Beach Revitalization Project. Accordingly, this plan proposes archaeological monitoring for all ground-disturbing activities during demolition and foundation construction at the Outrigger Reef on the Beach Revitalization Project where these activities have a potential for adverse effect on significant historic properties.

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1 Introduction

At the request of Group 70 International, T. S. Dye & Colleagues, Archaeologists has prepared an archaeological monitoring plan for Outrigger Reef on the Beach Revitalization Project. The Outrigger Reef on the Beach Revitalization Project is located in the land of Waikīkī, Kona District, O'ahu Island (fig. 1). The Outrigger Reef on the Beach Revitalization Project is identified on tax maps as TMK: (1) 2-6-004:010.

Outrigger Enterprises Group proposes to improve its Outrigger Reef on the Beach Hotel to increase the number of quality first-class hotel rooms in Waikīkī, provide meeting and function space, and add a new resort pool and recreation area. Preliminary plans call for a new hotel tower along the *mauka* end of the property at Kālia Road and demolition of the beach-side four-story Diamond Head tower and pool deck to be replaced by a resort pool and dining and lounging areas. The Outrigger Reef on the Beach Revitalization Project is envisioned as the capstone of a larger project that began with development of Waikīkī Beach Walk and will transform the area from Kalākaua Avenue to Waikīkī Beach.

This archaeological monitoring plan proposes archaeological monitoring for all ground-disturbing activities with a potential for adverse effect on significant historic properties

*Prepared for Group 70 International, 925 Bethel Street, Honolulu, HI 96813.

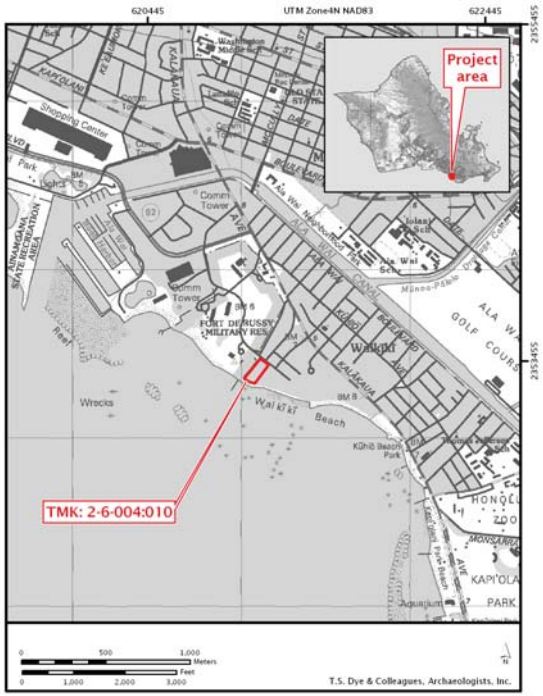


Figure 1: Location of Outrigger Reef on the Beach Revitalization Project.

during demolition and foundation construction at the Outrigger Reef on the Beach Revitalization Project.

2 Background

This section describes the physical environment of the *project* area, surveys what is known about the traditional Hawaiian and early historic-period land use in this part of Waikīkī, reviews relevant archaeological reports from the region, and sets out the types of historic

site that are expected to be found during the archaeological monitoring for the Outrigger Reef on the Beach Revitalization Project.

2.1 Physical Environment

The project area has been essentially fully developed for many years, and the ground surface, for all intents and purposes, has been entirely modified. The terrain in the project area is flat, and portions lacking structural improvements are mostly asphalt or concrete pavement and *fill*. Vegetation consists primarily of maintained ornamentals. The average minimum temperature in the project area is 63°F, and the annual maximum temperature is 88°F [1]. Rainfall in the project area averages 20 in. per year [1]. According to geotechnical studies and tests conducted by Tom Nance, URS (Dames & Moore), and Geolabs, the *water table* occurs slightly below mean sea level.

2.2 Pre-Contact and Early Historic Land Use

The *ahupua'a* of Waikīkī has a long and colorful past, and was once the favored locale for the ruling chiefs of O'ahu. This may have begun as early as the fourteenth century, when the *ali'i nui* Ma'ilikūkahi transferred the seat of government to Waikīkī [18]. It remained the seat of government until Kamehameha I briefly transferred the government, after unifying the islands, to Kailua-Kona on the Island of Hawai'i. Much of early Waikīkī, through the time of Ma'ilikūkahi in the fourteenth century, was a plantation of irrigated agricultural fields covered in taro and fishponds. This area extended as far inland as Makiki, Mānoa, and Pālolo valleys. At the time of European *Contact*, Waikīkī was one of the richest and most densely populated areas on O'ahu [9:8].

One of the first written accounts of Waikīkī comes from Captain George Vancouver who arrived in Hawai'i in 1792. He wrote

> The situation occupied by us in this bay, which the natives call Whyteete [Waikīkī] seemed nearly as eligible as most of the anchoring places these islands are generally found to afford ... On the shores, the villages appeared numerous, large, and in good repair; and the surrounding country pleasingly deep ... with the plains near the sea-side, presented a high degree of cultivation and fertility ... Several portions of land were planted with eddo or taro root, in different stages of inundation; none being perfectly dry, and some under three to six or seven inches under water ... In this excursion we found the land in a high state of cultivation, mostly under immediate crops of taro; and abounding with a variety of wild fowl, chiefly of the duck kind. [32:Vol. I]

Another westerner who described the fishponds of Waikīkī was Andrew Bloxam, who arrived in Hawai'i in 1825 aboard the HMS Blonde.

> The whole distance to the village of Whyteete [Waikīkī] is taken up with artificial fishponds extending a mile inland from the shore, in these fish taken by nets in the sea are put, and though most of the ponds are fresh water, yet

> the fish seem to thrive and fatten. Most of these fish belong to the chiefs, and are caught as wanted. [3:35]

The increased arrival of Europeans and Americans to Hawai'i brought much change to Waikīkī. A growing population meant an increase in development, and new construction began in the area. The numerous ponds that once dotted the landscape soon fell out of cultivation and into disrepair as described by Levi Chamberlain in 1828:

> Our path led us along the borders of extensive plats of marshy ground, having raised banks on one or more sides, and which were once filled with water, and replenished abundantly with esculent fish; but now overgrown with tall rushes waving in the wind. The land all around for several miles has the appearance of having once been under cultivation. I entered into conversation with the natives respecting this present neglected state. They ascribed it to the decrease of population. [5:26]

The once beautiful and impressive system of irrigation had become what some in the community considered an eyesore and a possible health hazard.

In the 1870s the influence of westerners on Waikīkī was apparent. With the growing trade and tourism, a number of westerners saw the need and potential for the development of hotels and permanent residences [8]. It was around this time that the first modern development likely occurred in the project area.

Soon, it was argued that something had to be done about the condition of the old ponds. In 1896, Act 61 of the session Laws was passed; it required landowners of wetlands to create dry landscapes in the interest of public health [31]. Not long after, the idea of in-filling the ponds and fields of Waikīkī began to take shape.

The 1900s saw a new face put on Waikīkī. In 1921, the Waikīkī Reclamation Project began. The Dillingham Construction Company worked on this project between 1921 and 1929. It consisted of dredging the entire length of the Ala Wai Canal. The dredged material was then used as fill over a large portion of Waikīkī but was mainly used to fill in the many ponds and terraces thus making the previous "swamp land" usable to the United States Military for Fort DeRussy and others for commercial use [25].

2.2.1 Land Commission Awards

A review of the currently available information indicates that four Land Commission Awards (LCA) were made for lands within the project area. Descriptions of the LCA were obtained from the Native Register, Native Testimony, and Foreign Testimony on file at the Hawai'i State Archives. The four award parcels were LCA 104 FL (Fort Lands) to Mataio Kekuanaoa, LCA 1408 to Kaua, LCA 1436 to Kalaipaopao, and LCA 1513 to Wailehua. With the exception of LCA 104, which includes the northern portion of the project area and incorporated the two ponds Loko Kaohai and Loko Halemauuola (not in the project area), the remaining three LCA were located *makai* of the present Kālia Road. The LCAs are detailed below.

LCA 104 FL (Fort Lands) Awarded to Mataio Kekuanaoa. Kekuanaoa became the governor of O'ahu in 1839 [11] and was the caretaker at the fort, located at the base of Fort Street in Honolulu. Claiming land at the fort as well as land in Waikīkī and numerous other properties around O'ahu, Kekuanaoa obtained a large amount of property. His claims for Waikīkī include two *lo'i*, five fishponds, and a *muliwai*. Much of this land would eventually become Fort DeRussy.

LCA 1408 Awarded to Kaua. He claimed two *lo'i* and a house lot in Waikīkī. Nalaweha, who was supervising *konohiki*, states that he had given this land to Kaua in the time of Ka'ahumanu I because of his service to the *konohiki*.

LCA 1436 Awarded to Kalaipaopao. Kalaipaopao inherited the land from her father Ahia, who obtained it from his parents, who were given the land by Ka'ahumanu I. Her claim was for two *lo'i* in the *'ili* of Kanuku, two sections of an unnamed stream, and a house lot at Kawehewehe, which is near the stream.

LCA 1513 Awarded to Wailehua. His claim was for eight *lo'i*, a house lot, and a *kula*. Nalaueha testified on behalf of Wailehua that the land had been given to him by Ka'ahumanu and that Wailehua was *konohiki* under Victoria Kamāmalu.

2.2.2 Historic-Period Development

The project area has seen much change over a relatively short period of time. At European Contact, Waikīkī was under intense agricultural and aquacultural use, with irrigated pondfields, or *lo'i*, and fishponds, or *loko i'a*, north of the project area. The native Hawaiians that worked the ponds likely had houses in or near the project area. They took advantage of the dunes of Waikīkī to bury their dead, and the ocean fronting Waikīkī supported many people with its productive reefs and readily available deepwater fishing.

With Western influence, the *lo'i* and *loko i'a* were eventually abandoned, and the once highly productive Waikīkī became what some considered an eyesore and a health hazard. The *Māhele* land division of 1848 brought about a change in land ownership and different approaches to land use. With the dredging and subsequent filling of the many ponds, including those north of the project area, a large expanse of land became available for commercial and residential use. Registered Map 1720 shows structures located between the tract that would become Kālia Road and the ocean, where the Outrigger Reef on the Beach Revitalization Project lies (fig. 2).

The increase in development within the project area between 1914 and 1927 coincided with the changing landscape throughout Waikīkī. Prior to 1914, very little development had occurred within and immediately adjacent to the project area. The area south of Kālia Road and west of the existing Halekulani Hotel, where the Outrigger Reef on the Beach Revitalization Project lies, was not recorded on the Sanborn®[1] Fire Insurance maps for the period, suggesting that no structures were present prior to 1914.[2]

By 1927, it is apparent that the project area had become nearly completely developed. The Sanborn® map shows that two apartment developments had been constructed at the Outrigger Reef on the Beach Revitalization Project, called Ocean View Court and Edgewater

[1] The terms "Sanborn" and "Sanborn Maps" are registered trademarks owned by The Sanborn Library, LLC.
[2] Sanborn Map, Honolulu, 1914, Sheet 119.

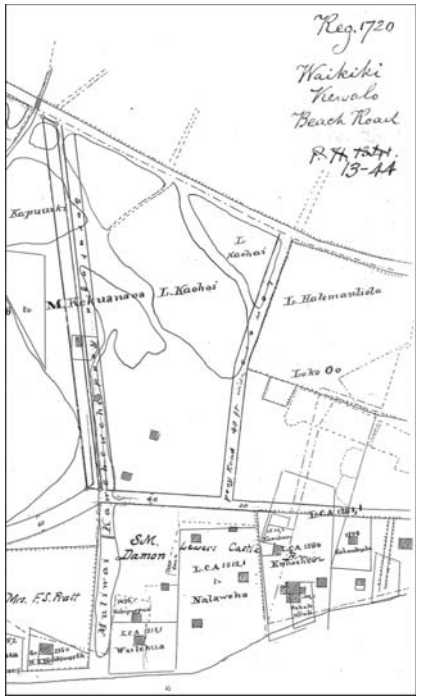


Figure 2: A portion of Registered Map 1720, dated 1890, showing Land Commission Awards (LCAs) at the project area. Note that Saratoga Road and Lewers Street are marked, but Beachwalk does not yet exist.

Beach Apartments.[3] In a relatively short time period, Waikīkī had been transformed from a productive agricultural complex to a developed urban area.

Battery Randolph is located west of the Outrigger Reef on the Beach Revitalization Project at Fort DeRussy. It is part of the Artillery District of Honolulu, site 50-80-13-1382, which was added to the National Register of Historic Places in 1984. Battery Randolph was constructed in 1911 as a general storehouse. In 1975, an unsuccessful attempt was made to demolish it, so instead it was turned into a museum.[4] The U.S. Army Museum of Hawai'i still operates today. Battery Randolph's areas of *significance* are architecture, engineering, and military.

[3]Sanborn Map, Honolulu, 1927, Vol. 3, Sheet 381.
[4]Department of the Army, Inventory of Historic Property Form, April 1977.

Constructed in 1955, the Outrigger Reef on the Beach Hotel has a basement beneath Pacific Tower that covers approximately half of the TMK: (1) 2-6-004:010 parcel and is currently used to park cars and for other back of the house activities. The floor of the basement is located slightly below mean sea level, so its construction removed any potentially significant historic properties that might have been located at the northeast half of the parcel. Diamond Head Tower, at the southeast end of the parcel next to the Halekūlani Hotel, was built at or near ground level and does not have a basement. The space between the two towers is developed with facilities that also appear to be founded at or near ground level.

2.3 Land Ownership

The current boundaries of TMK: (1) 2-6-004:010 contains Land Court Application 774 and 1628. Sometime after 1985, TMK: (1) 2-6-004:010 absorbed TMK: (1) 2-6-004:011. Before this, TMK: (1) 2-6-004:011 was the land described in Land Court Application 774, with an area of 52,101 ft.^{2} and TMK: (1) 2-6-004:010 was the land described in Land Court Application 1628, with an area of 56,867 ft.^{2}

The owner of Land Court Application 774 in 1927 was Joel Charles Cohen.[5] By 1948, the land of Land Court Application 774 was owned by Roy Cecil Kelley and Estelle Louise Kelley.[6] The Kelleys deeded the land to Edgewater, Limited in 1953. Then, in 1971, Edgewater, Limited transferred the land to Hawaii Hotel Operators, Inc., whose name later changed to Hotel Operating Company of Hawaii, Ltd. The land was deeded to Outrigger Hotels Hawaii in 1985.

Land Court Application 1628 consisted of Lots 4-A, 4-B, 5-A, and 5-B of the Damon Lots, which is detailed in File Plan 217. From the 1920s through 1980s, the land seems to have passed through inheritance to descendants of the Damon family.

File Plan 217 is dated 1921, and at the time, the land was owned by Harriet M. Damon. In a 1926 map,[7] the owner of Land Court Application 1628 was Douglas W. Damon. Land Court Application 1628 is dated 1951, and the owner and applicant is Daphne Mills Damon.

Daphne Mills Damon died in 1959, and the land of TMK: (1) 2-6-004:010 passed to Richard C. Damon (10% interest); Cyril F. Damon, Jr. (10% interest); Gordon H. Damon (10% interest); Geraldine Putman Clark (30% interest); and Luther Damon Gadd (40% interest). Between 1970 and 1984, Geraldine Putman Clark grants a total of 6% of her interest to Putman D. Clark (3%) and Sefton R. Clark (3%), bringing her share down to 24%. In 1984, Luther Damon Gadd deeded 10% of his interest to Megan Damon Gadd Trusts No. 1 and 2 (5%) and Sara V. Gadd Trusts No. 1 and 2 (5%), bringing his share down to 30%.

In 1988, several individuals granted land associated with Land Court Application 1628, which is in the project parcel, TMK: (1) 2-6-004:010, to Hotel Operating Company Hawaii, Ltd. The grantors' names include Gordon H. Damon; Sara R. Gadd; Luther D. Gadd; Putman D. Clark; Geraldine P. Clark; Henry B. Clark, Jr.; Sefton R. Clark; Cyril F. Damon, Jr.; C. F. Damon, Jr., Trust; Gordon H. Damon Trust; Bishop Trust Company; Henry Clark Trust;

[5]Land Court Application 774, Map 1.
[6]Land Court Application 774, Map 2.
[7]Land Court Application 774, Map 1.

Louis W. Anderson Trust; Sara Victoria Gadd Trust 1 and 2; and Megan Damon Gadd Trust 1 and 2. Hotel Operating Company Hawaii sold the land to Outrigger Hotels Hawaii later in 1988. Then, in 2001, Outrigger Hotels Hawaii deeded the parcel to ORF LLC, the current owner.

2.4 Previous Archaeology

The following is a summary of the sites identified in the vicinity of the Outrigger Reef on the Beach Revitalization Project (fig. 3).[8]

Site 50-80-14-4570 Remnant prehistoric cultural deposits in the Fort DeRussy area.

Site 50-80-14-4575 Loko Kaihikapu, a fishpond. Excavations here revealed pond deposits.

Site 50-80-14-4578 Loko Kaohai, a fishpond.

Site 50-80-14-4579 Loko Halemauuola, a fishpond. Burial and habitation features were found here.

Site 50-80-14-4966 Human burials and an occupation layer at Fort DeRussy.

Site 50-80-14-9919 The Gump Building, constructed in 1929. A two-story rectangular structure with a hip-and-valley roof and decorative oriental wall perforations. It is in the state architectural inventory, but it is not listed on the State Inventory of Historic Properties.

Site 50-80-14-9957 Excavations at the Halekulani Hotel found prehistoric Hawaiian cultural remains and a large collection of late nineteenth-century artifacts.

Site 50-80-14-9980 *'Ulu maika* were found during construction of the Royal Hawaiian Hotel.

Most archaeological investigations undertaken in the Waikīkī area have occurred during the last 30 years. However, archaeological reports associated with Waikīkī Ahupua'a extend back to more than a century ago, when human remains were discovered in the vicinity of the current Elks Club, near Kapi'olani Park, during excavations on the James B. Castle property [15]. This discovery took place in 1901. The skeletal remains of four adults were uncovered along with whale teeth and glass beads. Given the extensive archaeological literature associated with such a large *ahupua'a* as Waikīkī, the following will provide only a summary of the archaeology of Waikīkī and focus on the immediate area surrounding the project area.

In 1930, J. Gilbert McAllister conducted an island-wide survey of O'ahu [24]. He reported a total of four *heiau* sites within the vicinity of Waikīkī, the largest of which was Papaenaena, site 58, located at the base of Diamond Head in the area of the present Hawaii School for Girls at La Pietra. This *luakini heiau* was reportedly associated with Kamehameha I. Kenneth P. Emory of the Bishop Museum attempted to identify the *heiau* foundation in 1968 when the La Pietra property was being developed, but results were inconclusive [9:20].

In 1976, while excavating for the Hale Koa Hotel at Fort DeRussy, west of the project area, Bishop Museum archaeologists recovered five human burials [20]. The remains

[8] State Site Inventory.

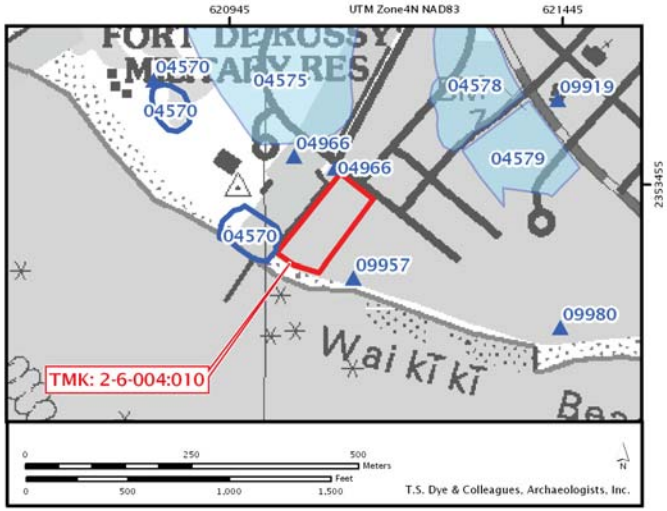


Figure 3: Location of the Outrigger Reef on the Beach Revitalization Project parcel, TMK: (1) 2-6-004:010, and the surrounding sites identified in the State Site Inventory. The site numbers are prefaced by 50-80-14- (e.g., site 50-80-14-04966).

were reported to be prehistoric or early historic bundle burials and were designated site 50-80-14-9500. A sixth human burial was also recovered from immediately beneath the road and was believed to be of later interment.

In 1980, emergency excavations were conducted at the Hilton Hawaiian Village Tapa Tower site [26]. The remains of three individuals were recovered along with nearby trash pits. This was designated site 50-80-14-2870. Due to ongoing construction activity, controlled excavations were not conducted at the site. Using historic documents, the historic shoreline was reconstructed and it was determined that the burials were likely interred after 1850.

In 1981, an archaeological reconnaissance and emergency recovery were carried out at the site of the then-new Halekūlani Hotel, located immediately east of the project area, along the coastline [27]. Four distinct burials were found, three located northwest of the project site and one along the shoreline on the east side. The area was designated site 50-80-14-9957. There were also a number of bottles and historic trash pits discovered

during construction. All cultural remains were disturbed prior to notification, yet several determinations regarding the burials and their *context* were made [27]. The burials were thought to be native Hawaiian, dating to the 1800s. The historic artifacts recovered from the site dated to the late 1800s and early 1900s. Although there were no intact archaeological deposits, the available evidence indicated that an historic site was located along this portion of Waikīkī, and archaeological investigations, including monitoring, were recommended.

In 1984, archaeological and historical investigations were conducted at the Halekūlani Hotel [8]. Test pits and trenches were excavated in an attempt to isolate intact cultural deposits at site 50-80-14-9957. While most of the property was disturbed by recent construction, an area along the beach and an isolated area in the center of the property remained relatively intact. Excavations uncovered 32 features, including human skeletal remains, a dog burial, postholes, trash pits, privies, and several pits. Most of the trash pits contained bottles, ceramics, and metal. Although the area had been heavily disturbed by the recent construction, significant cultural materials dating to the late 1800s remained intact.

Between 1985 and 1987, archaeological monitoring of construction excavations associated with the Mechanical Loop Project at the Hilton Hawaiian Village was carried out [19]. Fifteen features were identified at site 50-80-14-2870, mostly on the northeast end of the project area near Kālia Road. Nearly 4,000 artifacts consisting of household (glassware and tableware) and architectural (nails, glass, etc.) items were recovered. The majority of the artifacts dated between 1870 and 1930.

In 1987, a human burial was inadvertently discovered during utilities excavations on Kalākaua Avenue [16], in front of the Moana Hotel at site 50-80-14-3745. The burial was determined to be a male between 25 and 30 years of age [22]. The following year, eight more burials were encountered in the same area during the Waikīkī Moana Historical Rehabilitation Project at site 50-80-14-9901 [30].

Extensive archaeological work has been conducted in the vicinity of Kālia Road and the Fort DeRussy property. Beginning in 1989, a series of test excavations, data recovery, and monitoring projects were undertaken in the area. In July of 1989, a limited subsurface inventory survey was carried out for a proposed *lū'au* facility located at the Hale Koa Hotel [29]. Test excavations identified a buried cultural layer and associated historic artifacts. Based on the disturbance of the cultural layer and the lack of *midden* remains, the area was thought to have been disturbed and the historic artifacts were in a secondary context. Nevertheless, archaeological monitoring of construction activities was recommended.

In 1989, subsurface reconnaissance survey and historical documentary research were conducted at Fort DeRussy [9]. Archaeological testing attempted to confirm archival data indicating the former presence of buried fishponds, *'auwai*, and associated habitation remains. The testing documented intact subsurface cultural deposits with individual features, including *'auwai*, fishpond walls, and historic deposits. The historic land filling episodes that occurred at Fort DeRussy had filled in the ponds and *'auwai*, but had not destroyed them. The area along the beachfront at site 50-80-14-4570 contained glass and ceramics that dated to the nineteenth century and an earlier *pre-contact* component with fire-pits and a *posthole*.

A follow-up study was conducted in 1991 [10], during which a burial pit was encountered. The burial pit was described thus:

> This was a formalized post-contact grave pit: deep, vertical-sided, rectangular, and presumably square-cornered (the corners of this feature were not exposed). The burial was laid in a supine-extended [position] with the hands apparently originally placed across the hips … [It is inferred] that this feature probably represents the inhumation of a woman whose kin were following, at least in part, Euro-American burial practices and, furthermore, that this burial occurred before the general imposition of cemetery regulations—sometime after the 1850s. [10:42-45]

In 1992, archaeological data recovery excavations were carried out in connection with the construction of new recreational facilities at Fort DeRussy [31]. Further excavations at site 50-80-14-4570 uncovered information regarding the construction and structure of the fishponds and the *'auwai* system that fed the ponds. A permanent habitation deposit was also identified.

In 1993, archaeological monitoring was conducted during Phase I activities for the Kālia Road Realignment, which was associated with the construction of a new tower for the Hale Koa Hotel [13]. The monitoring uncovered the remains of the Loko Paweo fishpond, site 50-80-14-4574, and two other sites, 50-80-14-4570 and 50-80-14-4966. These contained historic trash pits, features, an occupation layer, and human remains, including several sets located directly in front of the US Army Museum.

The human remains discovered during the Kālia Road Realignment were described in a 1994 report [4]. A concentration of burials called Burial Area 7 was located approximately 0.1 mi. northwest of the Outrigger Reef on the Beach Revitalization Project, where four individuals were recovered. In addition, a cultural deposit was found that contained "subsurface features (postholes and a pit), midden remains, and portable artifacts" [4:61]. No artifacts were found in association with the burials, but the cultural deposit yielded 84 artifacts, consisting of 44 prehistoric artifacts and 40 historic artifacts. Vertical migration of artifacts may have occurred in the fine-grained marine *sand*. The archaeologists concluded that the cultural deposit at Burial Area 7 probably corresponds to the *makai* habitation zone.[9]

In 1996, an archaeological inventory survey and subsurface testing were conducted at the site of the proposed Kalākaua Plaza, situated on the *mauka* side of Kalākaua Avenue, directly across from Fort DeRussy. Archival research indicated the probability of encountering fishpond deposits or other cultural resources associated with the intensive cultivation in Waikīkī [6]. No cultural deposits were identified, and the area was determined to be extremely wet or marshy and "not conducive for traditional economic practices" [6:15].

[9] Figure 5-1 in the Carlson et al. [4:72] report indicates "Burial 5" at the intersection of Saratoga and Kalia Roads, which is near the northern corner of the Outrigger Reef on the Beach Revitalization Project parcel. However, Burial 5 is not discussed in the report and we were unable to locate a report for work predating the Carlson report that discusses it. Burial 5 may correlate with site 50-80-14-4966, which is discussed in Denham and Pantaleo [13].

In 1997, archaeological data recovery excavations were conducted at Fort DeRussy, between Dudley Street and Kālia Road [12]. A *fire-pit*, coral concentration, and posthole were recorded at site 50-80-14-4570. At site 50-80-14-4579, fire-pits, a pit, a human burial, dark stains, historic middens, and possible pre-contact midden features were documented. Site 50-80-14-4579 was thought to be used for permanent historic occupation and possibly pre-contact burial and intermittent use.

In 1999, the remains of two human burials, site 50-80-14-5744-1 and 2, were found along Kalākaua Avenue, near ʻEna Road [17]. The remains were uncovered between 1.2 and 1.5 m below surface during the placement of anti-crime lighting in Waikīkī.

In 2000, an archaeological subsurface inventory survey was carried out on a proposed development parcel directly across Kalākaua Avenue from the Fort DeRussy tennis courts [23]. This was across Kālaimoku Street from the negative findings at Kalākaua Plaza [6]. The subsurface testing identified the major *ʻauwai*, site 50-80-14-4970, that fed the fishponds of Waikīkī. Also identified were site 50-80-14-5796, an historic-period wetland that may have been used for agricultural purposes, and abundant micro-strata interpreted as fill episodes from the dredging of the Ala Wai Canal.

In 2001, a subsurface inventory survey was conducted at the Hilton Waikikian property, which lies just northwest of the existing Hilton Hawaiian Village Complex [7]. A series of backhoe trenches revealed that the area had been extensively disturbed by historic-period land modification. While recent historic materials were recovered, no evidence of earlier archaeological remains was encountered.

In 2002, archaeological monitoring of excavations for sewer lines was conducted on Kalākaua Avenue and Ala Moana Boulevard in front of the Hilton Hawaiian Village [28]. Five pits were found within site 50-80-14-6399; one was a fire-pit, three were refuse pits, and the function of the final pit was undetermined. Four fishponds, two *ʻauwai*, and a prominent waterway were also identified.

From 2005 to 2007, archaeological monitoring was carried out for the Waikīkī Beach Walk project which was located just *mauka* of the Outrigger Reef on the Beach Revitalization Project, across Kalia Road [21]. Twenty-nine features and 10 isolated finds were recorded during the archaeological monitoring. The identification of marsh deposits was also recorded in the *mauka* portion of the project area. In addition, three inadvertent finds of secondarily deposited human remains were made. The stratigraphy generally consisted of episodes of historic fill over a natural sand layer. The features identified included postholes, fire-pits, trenches, and pits of unknown use containing deposits dating between 1870 and 1930.

> Intact deposits from traditional Hawaiian times appear to have been extremely rare or absent in the project area ... The great majority of cultural materials recovered during the archaeological monitoring date to the late nineteenth or early twentieth centuries ... no significant historic properties were found during the archaeological monitoring. [21:79]

In 2006, Cultural Surveys Hawaiʻi conducted archaeological investigations for a retail development between Beachwalk and Saratoga Road, located approximately 0.15 mi. north-northeast of the Outrigger Reef on the Beach Revitalization Project [2]. A pedestrian

inspection was conducted of the entire area and no surface historic properties were identified. Eleven trenches were excavated throughout the project area. In an area of high ground, trenches contained

> thin layers of Jaucas beach sand that have been disturbed significantly by historic or modern excavation and filling ... Pond sediments dominated the remaining trenches ... typified by a layer of a gray or grayish brown sandy clay loam overlying a brown or grayish brown sandy clay loam. [2:55-57]

No historic properties were identified. However, the possibility of burials elicited a recommendation of archaeological monitoring.

In 2007, archaeological inventory survey through subsurface testing prior to construction was conducted by T. S. Dye & Colleagues, Archaeologists for areas where new utility connections were installed during redevelopment of Waikīkī Beach Walk, located just *mauka* of the Outrigger Reef on the Beach Revitalization Project [14]. Archaeological inventory survey was accomplished by controlled excavation of proposed utility trenches with a backhoe. The inventory survey excavations all yielded negative results. No traditional Hawaiian artifacts, early historic-period materials, or human remains were found in the inventory survey excavations.

In 2013, an archaeological inventory survey was conducted for the Kālia-Fort DeRussy wastewater system improvements, which consists of an approximately 2,500 ft. linear corridor [33]. The wastewater improvement project was located approximately 0.4 mi. north-northwest of the Outrigger Reef on the Beach Revitalization Project. A pedestrian survey, geotechnical boring, and limited subsurface investigations were completed. The borings revealed sand deposits in the project area, and excavations showed a stratigraphy of several modern fill layers overlying natural Jaucas sand. No historic properties were identified during the inventory survey. However, five previously identified sites are believed to be within or close to the wastewater system corridor: sites 50-80-14-2870, -4570, -4573, -4970, and -7087 (cultural deposits, fishpond complex, *ʻauwai* and bund system). These sites, which include burials, are significant and may be encountered during the wastewater system improvements undertaking. For these reasons, archaeological monitoring was recommended to mitigate any potential effect to the historic properties.

2.5 Expected Site Types

Based on the findings of the historical documentary research, several inferences were made regarding the nature and distribution of potentially significant archaeological and historical resources that might possibly be present in the project area. These inferences were tentative, and subject to the qualification that any such resources that might have once been present may have been subsequently disturbed, substantially destroyed, and/or removed by construction activities undertaken in the course of the extensive commercial and residential development that occurred within and adjacent to the project area during the last 50 years and prior to the current redevelopment project.

Historic maps of the area indicate that several fishponds were once present near the project area. Loko Kaohai, site 50-80-14-4578, and Loko Halemauuola, site 50-80-14-

5479, were situated northwest of the project area. Previous investigations at nearby Fort DeRussy revealed subsurface evidence of fishponds, and it is possible that demolition or construction excavation in this general area might encounter buried fishpond deposits along with associated cultural remains.

Human burial and cultural deposits related to both traditional Hawaiian and historic-period occupations have been recovered east and west of the project area. Excavations at the Halekūlani Hotel encountered both intact and disturbed human burials, as well as historic deposits, on the property [8; 27]. Excavations immediately west of Fort DeRussy and the Hale Koa Hotel also encountered intact human remains [4; 20]. Thus it is considered possible that the coastal portion of the project area contains human burials, as well as other potentially significant cultural remains, such as habitation deposits with portable artifacts and midden materials, and features including fire-pits, ovens, postholes, pavements, and trash pits.

3 Project Design

Archaeological monitoring will be conducted for all *undertaking* activities with a potential for adverse effect on significant historic properties. Identified archaeological remains will be recorded and appropriate archaeological samples collected. If cultural materials that indicate the presence of undisturbed deposits are discovered, then archaeological subsurface test excavations may be conducted after consultation with Group 70 International.

3.1 Field Problem

The field problem is defined as a phase of subsurface inventory survey for traditional Hawaiian and historic-era archaeological sites. The primary field problem of the monitoring is identification of paleosols and cultural remains appropriate or suitable for data collection through a program of limited test excavation and sampling. The field problem is explicitly constrained to the area of potential effect (APE) of the undertaking.

3.2 Research Problems

The problems of archaeological monitoring can be separated into two general categories: site or deposit identification and site or deposit characterization. Site or deposit identification refers to the location of intact cultural deposits, and the estimation of their extent and depth. Site or deposit characterization refers to the determination of the nature and significance of the deposits, and their potential to address questions of Hawaiian cultural history and settlement. This set of research problems concerns elements of stratigraphic interpretation, the historical *sequence*, and the larger problems of Hawaiian archaeology.

As with all exploratory investigations, there is the potential that unexpected historic remains or features will be found. Such remains will be recorded and analyzed with the goal of assessing their relation to either traditional Hawaiian or historic-period land use in Waikīkī.

Although the preceding research problems address positive archaeological concerns, it is clear from previous projects that even well-documented archaeological features often prove elusive in the field. In the event that archaeological remains are not identified in a given area, the collection of stratigraphic data will be directed toward the following problems: (i) determining the extent to which native deposits have been impacted by historic processes in a given area; and (ii) determining the depositional mode of native deposits.

3.3 Fieldwork

Fieldwork will be carried out pursuant to the archaeological monitoring plan (AMP) and in accordance with applicable standards.

3.3.1 Role of the Archaeological Monitor

The archaeological monitor and field crew members will attend a work plan meeting with the engineers involved with the undertaking. At the first of these meetings and subsequent meetings as necessary, the archaeological monitor shall explain the purpose of the archaeological monitoring, the responsibility of the monitor to authorize that construction activities stop in the vicinity of the find, and the conditions under which such authorization would be made. The field procedures and organization will be discussed at these meetings so agreement can be reached on coordination, communication, and scheduling.

3.3.2 Project Personnel

A senior archaeologist will serve as principal investigator for the project. The principal investigator will be responsible for overall project organization and management, will establish and ensure high standards for field sampling and laboratory analyses, may conduct field visits and direct supervision of field personnel as appropriate, and will review content of draft and final monitoring reports. The principal investigator will also be responsible for directing archaeological subsurface test excavations in the event cultural materials indicating the presence of undisturbed deposits are discovered and test excavations are performed.

An archaeological monitor will be present during the ground-disturbing activities associated with the undertaking as set out in section 3, and will implement the field and laboratory methodologies detailed below. The archaeological monitor will be a BA-level archaeologist, or an archaeologist with equivalent field experience and shall be certified for hazardous waste operations. The archaeological monitor shall have the authority to temporarily halt any undertaking activities in any area where cultural materials have been tentatively identified and are threatened by continuation of the activities. The archaeological monitor will prepare the draft and final monitoring reports.

3.3.3 Field Recording and Sampling

Field recording and sampling will be directed toward the research problems outlined above (see sec. 3.2). They are intended to mitigate any potentially adverse effects to historic properties. Standards of documentation, recording, and analysis of features, soil and sediment profiles, and artifacts shall accord with *Rules Governing Standards for Archaeological Monitoring Studies and Reports*, Hawaii Administrative Rules Chapter 13-279. Accurate map locations of test units, stratigraphic profiles, and archaeological features, deposits, and artifacts shall be maintained.

The first three items in the following list are intended to provide basic stratigraphic data relevant to the reconstruction of land surfaces in the project area in sufficient detail to make possible *correlation* of land surfaces with information from early topographic maps and with information from past or future archaeological projects. Items four through eleven are intended to address the problem of long-term use of a stable surface and the associated difficulties of inferring use and occupational history.

1. The archaeological monitor will be responsible for recording all stratigraphic profiles with cultural remains or features; stratigraphic profiles where samples have been taken; and profiles where there is a sedimentary change or unconformity that, in the professional judgment of the archaeological monitor, contains information important for the research problems itemized above (see p. 15).
2. The archaeological monitor will make notes on exposures whose stratigraphic profiles are not drawn.
3. Locations of all stratigraphic profile drawings and photographs will be recorded, and an elevation above sea level will be established by an appropriate means.
4. All cultural deposits will be examined in the field for
   a) evidence of micro-stratification and other data relevant to evaluation of depositional history, and
   b) evidence of disturbance, irregularity, or boundary conditions that might indicate cultural activities;

   such evidence will be recorded in the profile description.
5. All deposits will be examined for cultural items and the stratigraphic positions of these items will be noted. Notation shall include reference to the age of the artifact and how this age might indicate either disturbance to a deposit of different age, or the age of the deposit.
6. Features will be recorded with attention to stratigraphic positioning, particularly their position of origin.
7. Profile descriptions will include appropriate technical information, in conformance with standards established by the U.S. Soil Conservation Service, as well as field-based interpretation of depositional history.
8. The stratigraphic positions of samples collected from profiles, including artifacts, feature contents, soil samples, and dating materials will be recorded.
9. As needed, sediment and feature content samples may be collected as *total units* without screening for laboratory processing.
10. Samples for dating and environmental analysis shall be collected from the smallest stratigraphic units practicable.
11. Archaeological test excavations, if they occur, will follow the *Rules Governing Standards for Archaeological Monitoring Studies and Reports*, Hawaii Administrative Rules Chapter 13-279. They will be designed to yield information applicable to the research and field problems set out in section 3.

3.4 Burial Treatment Plan

The project area was inhabited and used by native Hawaiians and more recently by diverse ethnic groups. Inadvertently discovered human remains might belong to one of several ethnic groups. If human remains are discovered, the archaeological monitor will notify the State Historic Preservation Division (SHPD) and all excavation in the vicinity of the find will stop. It is understood that undertaking activities can be performed in other areas. The archaeological monitor will protect any exposed bones in an appropriate fashion, such as covering them with a shallow layer of sediment, and will secure the area.

The archaeological monitor will provide the proper authorities with observed data relevant to the cultural affiliation of the human remains. The observation will be made only on the exposed and/or disturbed deposits and will not involve additional excavation.

The AMP does not propose any additional treatment of human remains, other than documentation of archaeological context.

3.5 Post-Field Actions

The nature and scope of post-field actions will vary depending upon the results of field investigations. At a minimum, if no cultural remains are discovered, a report will be produced to document the negative findings of the field investigations. If cultural remains are discovered, analyses appropriate to the research questions presented in subsection 3 will be carried out and reported.

3.5.1 Laboratory Analyses

Laboratory processing of recovered cultural remains and sediments will meet or exceed *Rules Governing Standards for Archaeological Monitoring Studies and Reports*, Hawaii Administrative Rules Chapter 13-279. Specific analyses will be performed in accordance with the goals of the research design. All data will be recorded on standardized laboratory forms and entered into a project database.

It should be understood that not all samples collected in the course of fieldwork are of equal analytic value. Samples which are determined to have the potential to contribute to the goals of the research design will be sent to specialists for intensive analysis. Materials which are considered to have a low information value will also be reported and described, but may not be analyzed intensively or sent to a specialist.

Generally speaking, artifacts will be photographed, sketched, and identified as appropriate; relevant metric attributes will be measured and recorded. Mathematical manipulations of laboratory data will be carried out for summary descriptions and comparisons with

other collections, as appropriate. As appropriate, a *concentration index* will be calculated for each relevant archaeological context related to occupational history and will not be calculated in an interpretive vacuum.

The specific procedures employed in laboratory analysis will vary depending on the type of remains involved. Procedures for the most common types of remains likely to be recovered from Outrigger Reef on the Beach Revitalization Project are described below.

Historic artifacts Historic artifacts will be sorted into sub-classes as appropriate. Examples of sub-classes include bottles and bottle glass, ceramics, nails, other metals, and buttons. Materials which are amenable to in-house analysis will be so treated. Other materials will be sent out for analysis by a qualified specialist. All data will be recorded on standardized laboratory forms.

Lithic artifacts Lithic artifacts will be sorted into the sub-classes of *lithic tools* and *lithic* debitage. Further distinctions will be made between material types (e.g., basalt, volcanic glass, chert). Lithic tools will be photographed, weighed, measured, and assigned to a functional class (e.g., scraper, adze, hammerstone, etc.). Lithic debitage will be weighed and examined for use-wear. For potentially important debitage assemblages, a normal attribute-based analysis will be performed. All data will be recorded on standardized laboratory forms.

Marine shell Marine shell identified as traditional Hawaiian food remains will be identified to the lowest possible taxonomic level. Each taxon will be weighed in bulk by provenience. Modified shell will be photographed, weighed, measured, and described separately. Shell identified as dating to the historic period will be weighed in bulk by provenience and a representative sample analyzed to establish the range and relative abundance of taxa present. All data will be recorded on standardized laboratory forms.

Non-human bone Non-human bone identified as possible food remains will be identified to the lowest possible taxonomic level. Individual taxa from each provenience will be weighed in bulk. All bone will be examined for intentional modification, processing marks, or other distinguishing features. Bone tools or ornaments will be photographed, weighed, measured, and described separately. All data will be recorded on standardized laboratory forms.

Bulk feature fill Bulk sediment collected from subsurface features will be screened through 0.125 in. mesh screen. A technical sediment description will be recorded for the matrix. Lag captured in the screen will be sorted by material type. Individual material classes will receive the appropriate specialized analyses described in this section.

Wood charcoal Carbonized plant material submitted for ^{14}C analyses will be identified to the lowest possible taxonomic level and selected to minimize *in-built age*. Wood charcoal identification also provides useful information on the occupational history of a region and on changes to the environment.

3.5.2 Curation

At the completion of the project all cultural materials shall be housed temporarily in the storage facilities of T. S. Dye & Colleagues, Archaeologists. At an appropriate time the materials will be returned to Group 70 International.

3.6 Report Preparation and Scheduling

Preparation of a final technical report shall conform to *Rules Governing Standards for Archaeological Monitoring Studies and Reports*, Hawaii Administrative Rules Chapter 13-279. A draft technical report shall be prepared and submitted in a timely manner, within four months following the end of fieldwork. The revised and corrected final report will be submitted in a timely manner following receipt of review comments on the draft report.

Glossary

chronology The assigning of dates to given events, objects or, by inference, to units of stratification.

clay Fine earth particles less than 0.002 mm.

concentration index A measure, such as weight or count, of cultural material per unit excavated sediment.

Contact A period in Hawaiian history marked by the arrival of Captain James Cook in 1778 and characterized by the social changes that eventually brought about the end of traditional Hawai'i.

context A unit of stratification associated with a natural or cultural process or event.

correlation The equation of separate layers which once formed a single deposit, or the equation of separate parts of an original feature, the missing parts of the original unit of stratification having been destroyed by later digging.

debitage Waste by-products of stone tool manufacture.

detritus Material produced by the disintegration and weathering of rocks that has been moved from its site of origin, or a deposit of such material.

fill Any sediment deposited by any agent so as to fill or partly fill a valley, sink, or other depression.

fire-pit A pit of varying depth, often bowl shaped at the base, usually identified by a concentration of charcoal and/or burned material in the fill, especially at the feature interface.

in-built age The age of a material when it was incorporated into the archaeological record.

midden A heap or stratum of refuse normally found on the site of an ancient settlement. In Hawai'i, the term generally refers to food remains, whether or not they appear as a heap or stratum.

post-contact After the arrival of Captain Cook in 1778.

posthole A rock or earth-cut socket that at one time held an upright timber post.

pre-contact Prior to AD 1778 and the first written records of the Hawaiian Islands made by Captain James Cook and his crew.

project The archaeological investigation, including laboratory analyses and report preparation. See also undertaking.
sand Detrital material ranging in size from 0.5 mm to 2 mm in diameter. See also *detritus*.
sequence A succession of events, as opposed to chronology which is the dating of such events. See also *chronology*.
significance A quality of a historic property that possesses integrity of location, design, setting, materials, workmanship, feeling, and association. The qualities are set out in SHPD administrative rule §13-275-6, *Evaluations of Significance*.
site The fundamental unit of archaeological investigation, a location that exhibits material evidence of past human activity.
undertaking Any action with the potential for an adverse effect on significant historic properties. See also project.
water table Locus of points in soil water at which the pressure is equal to atmospheric pressure.

Hawaiian Terms

ahupua'a Traditional Hawaiian land division, usually extending from the uplands to the sea.
ali'i nui Principal chief.
'auwai Ditch.
heiau Traditional Hawaiian place of worship.
heiau luakini Large temple where ruling chiefs prayed and human sacrifices were offered.
i'a Fish or any marine animal; meat or any flesh food; any food eaten as a relish with the staple, including meat, fish, vegetable, or even salt.
'ili A land section, next in importance to *ahupua'a*, and usually a subdivision of an *ahupua'a*.
konohiki Head man of an *ahupua'a* land division under the chief; land or fishing rights under control of the *konohiki*. See also *ahupua'a*.
kula 1. Plain, field, open country, pasture; land with no water rights. 2. School.
lo'i A single irrigated taro patch; irrigated terrace, especially for taro.
loko Pond, lake, pool.
lū'au Hawaiian feast, named for the taro tops always served at one; this is not an ancient name, but goes back to at least 1856.
Māhele The mid-nineteenth century land division responsible for the introduction of fee simple land title in Hawai'i.
maika Ancient Hawaiian game suggesting bowling.
makai Seaward.
mauka Inland, upland, toward the mountain.
muliwai River, river mouth; pool near mouth of a stream, as behind a sand bar, enlarged by ocean water left there by high tide; estuary.
'ulu maika Stone used in the *maika* game. See also *maika*.

Abbreviations

AMP A plan for archaeological monitoring written to satisfy the requirements of Hawaii Administrative Rules §13-279-4.
APE The geographic area or areas within which an undertaking may cause changes in the character or use of historic properties, if any such properties exist. See also undertaking.
in. A unit of linear measure equal to one twelfth of a foot (2.54 cm).
LCA Awards issued by the Board of Commissioners to Quiet Land Titles between 1846 and 1855 to persons who filed claims to land between 1846 and 1848.
m The meter, a base unit of length in the International System of Units, equal to the length of the path traveled by light in vacuum during a time interval of 1/299,792,458 of a second.
SHPD The State Historic Preservation Division of the Hawai'i Department of Land and Natural Resources, a government agency responsible for implementing the National Historic Preservation Act of 1966, as amended, and Chapter 6E of the Hawai'i Revised Statutes.

Bibliography

1. Armstong, R. W. (Ed.) (1973). *Atlas of Hawaii* (Second ed.). Honolulu: University of Hawaii Press.

2. Bell, M. J. and M. J. McDermott (2007, January). *Archaeological Assessment Report for the 280 Beach Walk Retail Development, Waikīkī Ahupua'a, Honolulu (Kona) District, O'ahu, TMK [1] 2-6-003:026, 027, 048, 049, and 058*. Prepared for First Round Pacific. Kailua, HI: Cultural Surveys Hawaii.

3. Bloxam, A. (1925). *Diary of Andrew Bloxam*. Number 10 in B. P. Bishop Museum Special Publication. Honolulu: Bishop Museum Press.

4. Carlson, I. K., S. Collins, and P. L. Cleghorn (1994, May). *Report of Human Remains Found During the Realignment of Kalia Road Fort DeRussy, Waikīkī, O'ahu*. Prepared for Hawaiian Dredging and Construction Company. Kailua, HI: BioSystems Analysis.

5. Chamberlain, L. (1957). Tour around Oahu: 1828. *Annual Report of the Hawaiian Historical Society for the Year 1956 65*, 25-41.

6. Cleghorn, P. L. (1996, March). *The Results of an Archaeological Inventory Survey at the Proposed Kalakaua Plaza, Waikiki, Oahu, Hawaii, TMK:2-6-16: 23, 25, 26, 28, 61, and 69*. Prepared for K. Young Kalakaua Partners. Kailua, HI: Pacific Legacy.

7. Corbin, A. B. (2001, April). *Subsurface Archaeological Inventory Survey, Hilton Waikīkīan Property; Land of Waikīkī, Honolulu (Kona) District, Island of O'ahu*. Prepared for Hilton Hotels. Hilo, HI: Paul H. Rosendahl, PhD.

8. Davis, B. D. (1984, February). *The Halekūlani Hotel Site: Archaeological and Historical Investigations in Waikīkī, O'ahu, Hawai'i.* Prepared for Halekulani Corporation. Honolulu: Anthropology Department, B. P. Bishop Museum.

9. Davis, B. D. (1989, December). *Subsurface Archaeological Reconnaissance Survey and Historical Research at Fort DeRussy, Waikiki, Island of O'ahu, Hawai'i.* Prepared for U.S. Army Engineer District, Pacific Ocean Division. Honolulu: International Archaeological Research Institute.

10. Davis, B. D. (1991, December). *Archaeological Monitoring of Environmental Baseline Survey and Excavations in Hawaiian Land Commission Award 1515 ('Apana 2) at Fort DeRussy, Waikiki, O'ahu.* Prepared for U.S. Army Engineer District, Pacific Ocean Division. Honolulu: International Archaeological Research Institute.

11. Day, A. G. (1984). *History Makers of Hawaii: A Biographical Dictionary.* Honolulu: Mutual.

12. Denham, T. P. and J. Pantaleo (1997a, July). *Archaeological Data Recovery Excavations at the Fort DeRussy Military Reservation, Waikīkī, Island of O'ahu, State of Hawai'i.* Prepared for U.S. Army Engineer District, Pacific Ocean Division. Honolulu: Garcia and Associates.

13. Denham, T. P. and J. Pantaleo (1997b, July). *Archaeological Monitoring and Investigations During Phase I: Kālia Road Realignment and Underground Utilities, Fort DeRussy, Waikīkī, O'ahu.* Prepared for U.S. Army Engineer District, Pacific Ocean Division. Honolulu: Garcia and Associates.

14. Dye, T. S. (2007, March). *Archaeological Inventory Survey for New Utility Connections, Waikiki Beach Walk Project, Waikīkī Ahupua'a, Kona District, Island of O'ahu (TMK: 2-6-002, 003, 004).* Prepared for Outrigger Enterprises. Honolulu: T. S. Dye & Colleagues, Archaeologists.

15. Emerson, N. B. (1902). A preliminary report on a find of human bones exhumed in the sands of Waikiki. *Tenth Annual Report of the Hawaiian Historic Society for the Year 1901*, 18-20.

16. Griffin, A. (1987, March). Kalakaua Avenue gas pipe excavation burial recovery, Waikiki, Honolulu, O'ahu TMK:2-6-01:12. Memorandum on file at the State Historic Preservation Division, Kapolei, HI.

17. Hammatt, H. H. and M. J. McDermott (1999). *Burial Disinterment Plan and Report, State Site Numbers 50-80-14-5744-1 and 2, Found During Anti-Crime Street Lighting Improvements Beneath Kalakaua Avenue, Waikiki, Island of O'ahu.* Kailua, HI: Cultural Surveys Hawaii.

18. Handy, E. S. C. and E. G. Handy (1972). *Native Planters in Old Hawaii: Their Life, Lore, and Environment.* Number 233 in B. P. Bishop Museum Bulletin. Honolulu: Bishop Museum Press. With the collaboration of Mary Kawena Pukui.

19. Hurlbett, R., L. A. Carter, and S. T. Goodfellow (1992, August). *Archaeological Monitoring of Mechanical Loop Excavations at Hilton Hawaiian Village.* Prepared for Hilton Hawaiian Village Joint Venture. Hilo, HI: Paul H. Rosendahl, PhD.

20. Kimble, R. (1976). Memo for the record regarding the burials found during construction of the Hale Koa Hotel. Memorandum on file at the State Historic Preservation Division, Kapolei, HI.

21. Lebo, S. A., E. H. R. Jourdane, and T. S. Dye (2009, October). *Archaeological Monitoring Report for the Waikīkī Beach Walk Project, Waikīkī Ahupua'a, Kona District, Island of O'ahu (TMK: 2-6-002, 003, 004).* Prepared for Outrigger Enterprises. Honolulu: T. S. Dye & Colleagues, Archaeologists.

22. Lee, L. J. M. and M. Pietrusewsky (1988, April). *A Human Skeleton Found at the Moana Hotel, Waikiki, Oahu.* Honolulu: University of Hawaii.

23. LeSuer, C. C., M. J. McDermott, R. Chiogioji, and H. H. Hammatt (2000, April). *An Archaeological Inventory Survey of King Kalakaua Plaza Phase II, Waikiki, Island of O'ahu, Hawai'i.* Prepared for Kalakaua South Seas Owners. Kailua, HI: Cultural Surveys Hawaii.

24. McAllister, J. G. (1933). *Archaeology of Oahu.* Number 104 in B. P. Bishop Museum Bulletin. Honolulu: Bishop Museum Press.

25. Nakamura, B. (1979). The story of Waikīkī and the reclamation project. Master's thesis, University of Hawai'i, Honolulu.

26. Neller, E. (1980, September). The Kalia burial site No. 50-OA-2870: Rescue archaeology in Waikiki, Hawaii. Typescript in library, State Historic Preservation Division, Kapolei, HI.

27. Neller, E. (1981, August). An archaeological reconnaissance of the new construction at the Halekulani Hotel, Waikīkī. Typescript on file at State Historic Preservation Division, Kapolei, HI.

28. Putzi, J. L. and P. L. Cleghorn (2002, June). *Archaeological Monitoring of Trench Excavations for Sewer Connections Associated with the Hilton Hawaiian Village Improvements, Waikiki, Honolulu, Island of Oahu.* Prepared for Hilton Hotels Corporation. Hilo, HI: Paul H. Rosendahl, PhD.

29. Rosendahl, P. H. (1989, July). *Hale Koa Hotel Subsurface Inventory Survey, Luau Facility, Kālia, Land of Waikīkī, District of Kona, Island of Oahu.* Prepared for Hale Koa Hotel. Hilo, HI: Paul H. Rosendahl, PhD.

30. Simons, J. A. (1988, March). *Interim Field Summary of Archaeological Monitoring and Data Recovery at the Moana Hotel Historical Rehabilitation Project, Waikīkī, O'ahu.* Prepared for the Moana Hotel. Honolulu: Applied Research Group, Bishop Museum.

31. Simons, J. P., P. L. Cleghorn, and J. Thomas L (1995). *Archaeological Data Recovery Excavations at Fort DeRussy, Waikīkī, O'ahu, Hawai'i.* Prepared for U.S. Army Corps of Engineers. Kailua, HI: BioSystems Analysis.

32. Vancouver, G. (1798). *A Voyage of Discovery to the North Pacific Ocean, and Round the World . . . Performed in the Years 1790-1795*. London: Robinson and Edwards. 3 Volumes.

33. Yucha, J. M. and M. J. McDermott (2013, August). *Archaeological Inventory Survey Report for the Kālia-Fort DeRussy Wastewater System Improvements, Waikīkī Ahupua'a, Honolulu (Kona) District, O'ahu Island, TMK: [1] 2-6-005:001 por. + easements*. Prepared for Group 70 International. Kailua, HI: Cultural Surveys Hawaii.

APPENDIX J

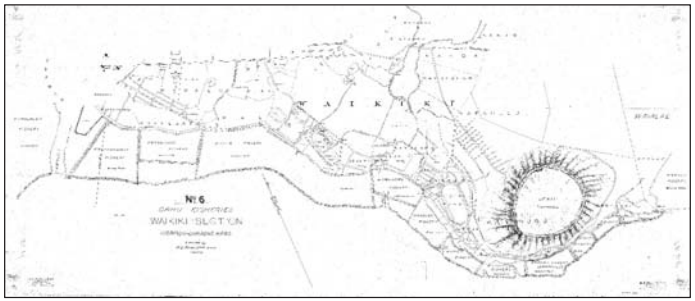
Cultural Impact Assessment for the Outrigger Reef on the Beach Hotel Revisioning, Waikīkī Ahupuaʻa, Kona District, Island of Oʻahu

Keala Pono

April 2015

FINAL—Cultural Impact Assessment for the Outrigger Reef on the Beach Hotel Revisioning, Waikīkī Ahupuaʻa, Kona District, Island of Oʻahu

TMK: (1) 2-6-004:010



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FINAL— Cultural Impact Assessment for the Outrigger Reef on the Beach Hotel Revisioning, Waikīkī Ahupuaʻa, Kona District, Island of Oʻahu

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MANAGEMENT SUMMARY

A Cultural Impact Assessment was conducted for the Outrigger Reef on the Beach Revisioning Project, at TMK: (1) 2-6-004:010 in Waikīkī Ahupuaʻa, Kona District, on the island of Oʻahu, in anticipation of hotel improvements.

The current study took the form of background research and an ethnographic survey consisting of four interviews, all of which are included in this report. The background research synthesizes traditional and historic accounts and land use history for the Waikīkī area. Community consultations were performed to obtain information about the cultural significance of the subject property and Waikīkī as a whole, as well as to address concerns of community members regarding the effects of the proposed construction on places of cultural or traditional importance.

As a result of this work, the cultural significance of Waikīkī has been made clear. The background study revealed that Waikīkī was a vibrant region with natural resources that supported traditional subsistence activities such as *loʻi* agriculture, the gathering of *limu*, and fishing. It was also an area for human burial. Consultations with individuals knowledgeable about Waikīkī produced information on its rich cultural history.

The consultants were generally supportive of the Outrigger Reef on the Beach Revisioning Project but shared several concerns and recommendations. Most of these centered around incorporating Hawaiian elements and themes into designs, keeping the community involved in plans, and identifying and caring for historic properties, such as human burials and cultural layers. Another important consideration is access and parking so that today's *kamaʻāina* can enjoy the beach and amenities.

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INTRODUCTION

At the request of Group 70 International, Keala Pono Archaeological Consulting conducted a cultural impact assessment for the Outrigger Reef on the Beach Hotel Revisioning Project in Waikīkī Ahupuaʻa, Kona District, on the island of Oʻahu. Outrigger is planning improvements to the property on TMK: (1) 2-6-004:010, to include demolition of existing structures, transformation of the pool deck, and other improvements. The cultural impact assessment study was designed to identify any cultural resources or practices that may occur in the area and to gain an understanding of the community's perspectives on the proposed hotel revisioning.

The report begins with a description of the project area and an historical overview of land use and archaeology in the area. The next section presents methods and results of the ethnographic survey. Project results are summarized, and recommendations are made in the final section. Hawaiian words, flora and fauna, and technical terms are defined in a glossary, and an index at the end of the report assists readers in finding specific information. Also included are appendices with documents relevant to the ethnographic survey, including full transcripts of the interviews.

Project Location and Environment

The project area is located on the south shore of Oʻahu, on Waikīkī Beach, in the Kona District of the island (Figure 1). TMK: (1) 2-6-004:010 is situated between Kālia Road and the coast, with Fort DeRussy Beach Park on the west and the Halekulani Hotel on the east.

The Waikīkī of today is generally recognized as the tourist mecca bounded by Diamond Head on the east, Ala Moana on the west, and inland from the Ala Wai Canal to the long sandy shore at the coast. This perimeter is a faint image of the Waikīkī from Hawai'i's pre-contact era. In traditional times, Waikīkī was an *ahupuaʻa* that stretched much further east to Maunalua and much further west to the outskirts of Kou (Honolulu). And the *ahupuaʻa* included all the land in between from the Koʻolau ridgeline and summits down through the valleys of Pālolo, Mānoa, and Makiki to the seashore (Kanahele 1995).

Of particular note were the extensive marshlands which made up just one specific ecosystem within the large *ahupuaʻa* of Waikīkī. The original marshlands of Waikīkī predate the man-made Ala Wai Canal. It spanned the coastline from Diamond Head and Kaimukī in the east; traversed Mōʻiliʻili while passing the mouths of Mānoa and Makiki Valleys towards Kewalo; and ended roughly near today's Piʻikoi Street in the west. The original Waikīkī marshlands covered a 2,000-acre area three miles wide by one mile long, an expanse approximately four times the size of today's Waikīkī (Kanahele 1995).

Two major factors contributed significantly to Waikīkī's hydrology. The first was the continuous flow of subterranean water which manifested itself in former times through an abundance of springs. Indeed, this natural characteristic of Waikīkī reinforced the literal translation of its name, "Spouting Water." The second significant contributor to Waikīkī's hydrology was its surface water flow. Originating far inland at the headwaters of Pālolo Stream in Pālolo Valley and Mānoa Stream in Mānoa Valley, these two were a perennial source of fresh water. Further downstream, the Pālolo took the name of Pāhoa Stream, and the Mānoa took the name of Kālia Stream. Both of these streams joined at a place near today's Kapahulu Library, and after going a little way, divided once again, this time into three streams: the Kuekaunahi Stream, the ʻĀpuakēhau Stream, and the Piʻinaio Stream. The Kuekaunahi met the sea at Hamohamo, a place near today's intersection of Kalākaua and ʻŌhua Streets. The ʻĀpuakēhau met the sea at Helumoa, a place between today's Moana Surfrider and Royal Hawaiian Hotels. The stream outlet here was also called Muliwai o Kawehewehe meaning

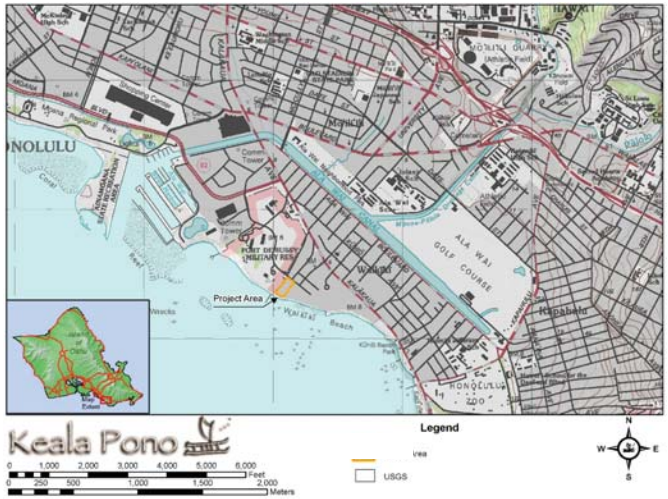

Figure 1. Project area on a 7.5 minute USGS Honolulu quadrangle map.

"The stream which opens the way." And finally, the third stream was the Pi'inaio which met the sea at Kālia near today's 'Ilikai Hotel. The Pi'inaio gave way to an enormous sediment-filled delta, much more than that of the Kuekaunahi or the 'Āpuakēhau. Where these three streams met the ocean, the shorelands in between were called Waikolu or "Three-waters" (Kanahele 1995).

Focusing on the contemporary boundaries of today's Waikīkī, the terrain as relatively flat with a slope of 0-15%, no more than 15 feet (4.5 meters) above sea level. Its geologic composition consists mostly of well-drained Jaucus Sand (JaC) which is derived from marine shells and coral particles, with a strip of Beaches (BS) at the coast (Figure 2) (Foote et al. 1972). Winds are typical northeasterlies with an average velocity of about 10 miles per hour and varying in frequency from 50% in the winter to more than 90% in the summer. Rainfall averages from 20 to 30 inches annually (Juvik and Juvik 1998), and the average temperature varies from 63 degrees Fahrenheit in the winter to 88 degrees in the summer (Armstrong 1973). The vegetation of Waikīkī is largely made up of maintained ornamentals on a landscape that has been thoroughly modified for many years.

The Undertaking

Improvements proposed for the Outrigger Hotel Revisioning include the demolition of existing structures and conversion of floor area to non-floor area use (Figure 3). Specific improvements are as follows:

- Addition of a Great Lawn to provide a transition from the hotel property to the beach.
- Beachfront improvements include demolition of the Diamond Head Tower, a 4-story structure running along the beachfront, and construction of a series of improvements that transition from the beach into the property, blending the two and providing a sense of open space and connection between the beach and hotel open areas.
- New hotel rooms will be provided through construction of a new 350 ft. hotel tower at the Kalia Road edge of the property. This new tower will offer approximately 100–160 new oceanfront hotel rooms.
- The pool deck will be transformed to feature expanded and enhanced pools, water features, lounging areas, and recreation deck, that gradually step down to beach level open air dining. Approximately 34,000 square feet of new open recreation space will be created.
- Approximately 8,700 square feet of new meeting facilities will be constructed, including a ball room, breakout, and prefunction space to meet a need for mid-sized meetings.
- A gateway will be created at the Kālia Road entry to Waikiki Beach Walk to offer an attractive, landscaped pedestrian experience.
- Service will be improved with new and reconfigured parking, loading, and service routes from Kālia Road.
- Waikiki Beach Walk's signature Hawaiian sense of place will be continued through physical improvements, signage, programs, and employee training and outreach.

Figure 2. Soils in the vicinity of the project area.

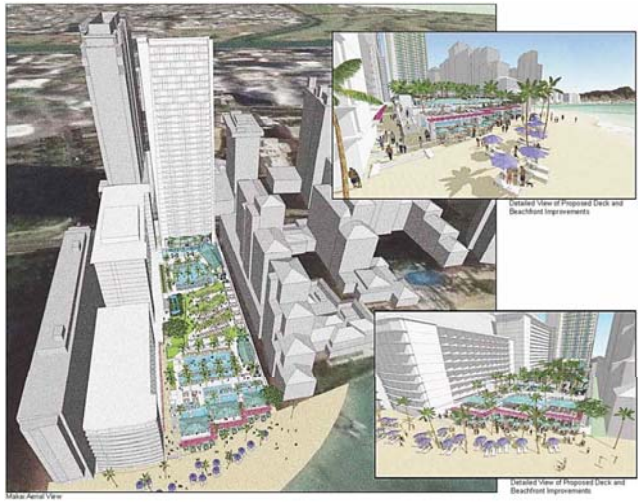

Figure 3. Proposed improvements associated with the undertaking.

TRADITIONAL CULTURAL AND HISTORIC BACKGROUND

A brief historic review of Waikīkī is provided below, to offer a better holistic understanding of the use and occupation of the project area. In the attempt to record and preserve both the tangible (i.e., traditional and historic archaeological sites) and intangible (i.e., *moʻolelo*, *ʻōlelo noʻeau*) culture, this research assists in the discussion of anticipated finds. Research was conducted at the Hawaiʻi State Library, Hawaiʻi State Archives, the University of Hawaiʻi at Mānoa libraries, the Leeward Community College library, the SHPD library, and online on the Papakilo database, Ulukau database, Waihona ʻAina database, and the State of Hawaiʻi Department of Accounting and General Services (DAGS) website. Historical maps and photographs, archaeological reports, and historical reference books were among the materials examined.

Waikīkī in Traditional Times

The recording of Waikīkī's history goes back long before the first accounts were written in the late 1700s. Since the days of antiquity, Waikīkī's history has been documented through oral accounts passed down through the generations. One of the earliest accounts of Waikīkī's inhabitants comes from the early 15th century. This was during the very end of the Hawaiian-Tahitian long distance migrations. There were four renowned *kahuna* who would heal the population of their ills and teach their healing art. They eventually moved back to Tahiti but not before instructing the Oʻahu people to consecrate four boulders in their memory. The four boulders remain in Waikīkī today next to the Waikiki Police Station on Kalākaua Street. They are called "Na Pohaku Ola O Kapaemahu A Me Kapuni," and nicknamed "The Wizard Stones." The historian Andrea Feeser shares the story of The Wizard Stones:

> Today, the *pōhaku* [stones] are memorialized in recognition of their sacred power and the blessings they have bestowed on many people throughout Hawaiʻi. The huge basalt boulders, each of which weighs several tons, were moved from Kaimukī to Ulukou [near today's Moana Hotel] sometime around 1400 at the direction of four Tahitian *kāhuna* [priests]. These healers --- Kapaemahu, Kahaloa, Kapuni, and Kinohi --- …were *māhū* (men who dress and live as women) and possessed both manly stature and feminine grace coupled with tremendous healing powers. They toured all of the Hawaiian Islands before making a home at Ulukou; during their travels, they became famous for many miraculous cures, which they generously taught to their admirers. After a long sojourn in Hawaiʻi, the four *kāhuna* decided to return to their homeland. Before doing so, they asked their *kanaka maoli* [Hawaiian] friends to move four large stones from the vicinity of the renowned 'bell rock' at Kaimukī… On the night of Pō Kāne… thousands of Native Hawaiians moved the boulders to Ulukou, placing two on the grounds of the healers' residence and two in the surf where the four men loved to bathe… Each stone was named for one of the men who imbued the *pōhaku* with their restorative mana [power]. Today, areas where two of the boulders were originally located also bear their names: Kahaloa is a section of beach, and Kapuni is a portion of Waikīkī surf. (Feeser 2006:79, 81)

Subsistence and Traditional Land Use

The Hawaiian scholar George Kanahele explains that when Waikīkī was first settled, its waters provided most of the food resources. On land, there were few edible plants.

> [When the] pioneer families arrived in Waikīkī, the marshland and the valleys had no food resources except for native berries, such as the *ʻōhelo* and the roots of the *hāpuʻu* fern and the edible birds. Until the new *mahiʻai* (farmers), could prepare the soil, plant the offspring of the *kalo* (taro), *niu* (coconut), *ʻuala* (sweet potato), or *maiʻa* (banana) that they had originally brought from the motherland, they had to rely mostly on the fish in the streams

> and sea for nourishment. Other land sources of food were rats and bats and the birds that inhabited the forests and marshes. Time was needed for the migrants to increase the small number of pigs, dogs and chickens which may have accompanied them. (Kanahele 1995:16, 17)

Although some of Waikīkī's aquatic resources came from streams and ponds, the majority came from the bountiful coastal waters. Waikīkī's pelagic waters were rich with deep-sea marine life. Most of the shoreline was devoid of reef due to the flow of fresh water and its sediments into the sea which stifled coral growth. However, there was a healthy reef system growing at the eastern end of Waikīkī fronting Kapiʻolani Park and Leʻahi, and there was some reef noted at the western end of Waikīkī towards Kālia. These provided a good variety of reef fishes. In addition, the entire coast offered many other types of marine resources such as crabs, shellfish and *limu* (Kanahele 1995).

To supplement their marine diet, the natives made use of inland ponds. Some ponds were near the shore, separated from the sea by a sand dune, but connected to the sea through a canal or ʻauwai; these were called loko pu'uone. Other ponds were further inland and only fed by freshwater streams or springs; these were called loko wai. Many loko wai used to exist in the region of Mo'ili'ili. The loko pu'uone, on the other hand, were plentiful in the delta area of the Pi'inaio Stream at Kalia. All of these ponds were modified, stocked and maintained through the ingenuity of the natives. They added to their waters such things as makaha or sluice gates, paniwai or dams, kahe or fish traps, and umu or man-made fish shelters. Ko'a or shrines were also erected near these water resources and dedicated to the god Ku'ula to ensure an abundant harvest of fish (Kanahele 1995).

Another aquacultural innovation was the *loko iʻa kalo*, or taro fish ponds. These were ponds in which fish were raised, but they also served the purpose of growing taro. The latter purpose was probably more important since taro was culturally and spiritually significant in Hawaiian cosmology, and taro was the main starch in the Hawaiian diet. The marsh environment of Waikīkī was perfectly suited for the conditions essential to wetland taro cultivation. An estimated 20 acres of Waikīkī's marshlands were converted for this sole purpose. Some of these wetland taro fields continued into operation well into the 19th century (Kanahele 1995).

Besides taro, the original inhabitants of Waikīkī cultivated *ʻuala*; grew *ipu* for containers; and cultivated *wauke* for clothing. In addition, the *ahupuaʻa* of Waikīkī provided various ferns and berries for food; *pili* grass for house thatching; *hau* for cordage, clothing, canoe making, and for igniting fires; *mamaki* for clothing; *naio* for timber; *kukui* for food, medicine, and lamp oil; *lama*, *ʻōhiʻa ʻai* and *uhiuhi* for timber; *ʻolonā* for cordage; *ʻieʻie* for weaving; and the *ʻōhiʻa lehua* for house building and weapon making. Clearly, the natural environment of Waikīkī was a place that easily furnished a large community with all the necessities for survival (Kanahele 1995).

Dr. Kanahele explains that Waikīkī started as a patriarchal society firmly centered around the family unit. This extended family or *ʻohana* was the most important socio-cultural and economic unit. In such a society, the "heads of families initially ruled the settlement in a kind of patriarchical confederacy" (Kanahele 1995:49). It wasn't until many generations later, after immense population growth, that there was the need for strong societal organization under a chiefly class. Under centralized leadership, the Waikīkī tapestry of taro fields and fishponds was developed into one coherent sustaining system (Kanahele 1995).

In addition to the agricultural and aquacutural engineering feats, the centralized leadership organized the population of Waikīkī to construct huge places of worship, or *heiau*. The famed historian Samuel Manaiakalani Kamakau named the three Waikīkī *heiau* that were used for human sacrifices. They were Mauʻoki, Kupalaha, and Leʻahi, also called Papaʻenaʻena (Kamakau 1976).

There is some disagreement as to whether or not Mauʻoki Heiau was used for human sacrifice. However, the accounts all agree that Mauʻoki was constructed by the legendary ancient people of Hawaiʻi, the *menehune*. Written in *The Works of the People of Old: Na Hana a Ka Poʻe Kahiko*, Kamakau explained:

> Mauʻoki was a *luakini heiau* built by the Menehune, a numerous race of men often spoken of in the traditions of *ka poʻe kahiko*… Mauʻoki was made of stones from Kawiwi in Waiʻanae, and there were so many Menehune that each brought one stone, and Mauʻoki was completed. (Kamakau 1976:144)

Kanahele stated that Mauʻoki was torn down in 1883, and its stones were used for roadwork. He went on to describe the other *heiau* located in Waikīkī some of which were enumerated by Kamakau.

> [Besides Mauʻoki] the other six are: Helumoa, more frequently referred to as the ʻĀpuakēhau; the previously mentioned Hale Kumukaʻaha built by Kaʻihikapu and Papaʻenaʻena at the foot of Diamond Head; Kupalaha at Waikīkī's Cunha Beach, which may have been a sister *heiau* to Papaʻenaʻena; Kapua, another *luakini* located in the Kapiʻolani Park area; Kulanihakoi near Helumoa; and Makahuna near Diamond Head, dedicated to *Kanaloa*, the god of the Seas, and hence attended to by fishermen and seamen. (Kanahele 1995:61)

The famed historian John Papa ʻĪʻī reminds us that there was a well-known, well-traveled network of trails that crisscrossed Oʻahu connecting east to west and north to south (Figure 4). Of the famous trail which traversed Waikīkī, ʻĪʻī elucidates:

> 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 sandy beach of Ulukou to Kapuni, where the surfs roll in; thence to the stream of Kuekaunahi; to Waiaula and to Paliiki, Kamanawa's house site. The latter was named for the Paliiki 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 Palikki the trail ran up to Kalahu, above Leahi, and on to the place where the Waialae stream reached the sand. (Ii 1959:92)

Moʻolelo

The *heiau* called Kupalaha at today's Cunha Beach, is intimately connected to a supernatural battle against owls in the days of old. As a result of this battle, the Oʻahu chief Kakuhihewa pardoned the life of the man named Kapoi who built Kupalaha. The noted ethnographer Dr. Martha Beckwith shared this story concerning Kupalaha Heiau in her documentation of Hawaiian mythology.

> A famous Oahu owl story is that of the owl war carried on in behalf of a man named Kapoi who, having robbed an owl's nest, took pity on the lamenting parent and returned the eggs. He then took the owl as his god and built a heiau [Kupalaha Heiau] for its worship. The ruling chief Kakuhihewa, considering this an act of rebellion, ordered his execution but at the moment of carrying out the order the air was darkened by flying owls who had come to his protection. The places on Oahu where the owls made rendezvous for this battle are known today by the word pueo (owl) in their names, such as Kala-pueo east of Diamond Head, Kanoni-a-ka-pueo in Nuʻuanu valley, Pueo-hulu-nui near Moanalua. The scene of the battle at Waikiki is called Kukaeunahio-ke-pueo (Confused sound of owls rising in masses). (Beckwith 1970:124, 125)

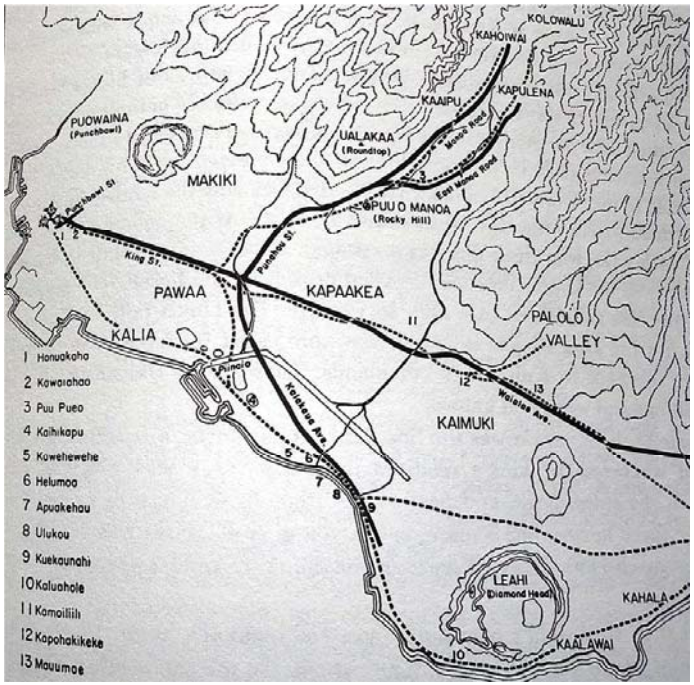

Figure 4. Trails in the vicinity of the project area. Adopted from Ii (1959:93).

Chief Kakuhihewa was just one of many *ali‘i* connected to Waikīkī through *mo‘olelo*. One of the first *ali‘i* mentioned as being connected to Waikīkī was Kalamakua-a-Kaipuholua. He was the chief who built the grand taro fields of Ke‘okea, Kualulua, and Kalamanamana and others in Waikīkī. Kalamakua-a-Kaipuhola married the skilled surfing chiefess Kelea-nui-noho-‘ana-‘api‘api. Their daughter La‘ie-lohelohe was born in Waikīkī at Helumoa and raised there at Kaluaokau. La‘ie-lohelohe later married the famed Maui chief Pi‘ilani, and this marriage solidified the ties between Waikīkī and Maui. The son of La‘ie-lohelohe and Pi‘ilani was Kiha-a-Piilani, an heir to the Maui chiefdom. He was raised in Waikīkī by a *kahuna* at Mau‘oki Heiau (Kamakau 1991).

There are many other O‘ahu chiefs connected to Waikīkī. Some of the most noted are Mā‘ilikūkahi, Ka‘ihikapuamanuia, Kakuhihewa, Ka‘ihikapuakakuhikewa, and Kahahana. Sometime around the start of the 15th century, Mā‘ilikūkahi was born at the sacred birthing place in Wahiawā known as Kukaniloko. When Mā‘ilikūkahi was 29 years old, he was chosen by the *ali‘i*, *kahuna*, and *maka‘āinana* to become O‘ahu’s king. He consented and moved to Waikīkī, making it his

administrative center. Mā‘ilikūkahi was well-loved because he ruled with compassion and wisdom as heard in his decree:

> Cultivate the land, raise pigs and dogs and fowl, and take the produce for food. And you, chiefs of the lands, do not steal from others or death will be the penalty. The chiefs are not to take from the *maka‘āinana*. To plunder is to rebel; death will be the penalty. This is my command to the chiefs, the lesser chiefs, the warrior chiefs, the warriors, and the people: all the first-born sons, the *keiki makahiapo*, are to be mine to raise; they will be my sons, *ka‘u keiki*, and mine to take care of. (Kamakau 1991:55)

Many generations after Mā‘ilikūkahi, Ka‘ihikapuamanuia became the ruler of Waikīkī, and like Mā‘ilikūkahi, Ka‘ihikapuamanuia was well-liked by the people. Ka‘ihikapuamanuia built the *heiau* in Waikīkī called Hale Kumuka‘aha, and shortly thereafter laid plans to kill his brother Ha‘o who was the chief at Waikele in ‘Ewa. After Ka‘ihikapuamanuia carried out his plans of murdering his brother, there was a dividing of O‘ahu into two chiefdoms. Out of Waikīkī, Ka‘ihikapuamanuia continued ruling the districts of Kona, Ko‘olaupoko and his brother’s former stronghold of ‘Ewa. Ha‘o’s son Napulanahumahiki, who escaped to Wai‘anae after his father’s murder, became O‘ahu’s other chief, ruling the districts of Wai‘anae, Waialua, and Ko‘olauloa (Kamakau 1991).

Upon the death of Ka‘ihikapuamanuia, his warrior son Kakuhihewa assumed power. Kakuhihewa’s daughter Kaeaakalona married the rival chief Napulanahumahiki of Wai‘anae, and once again, O‘ahu became one united kingdom under Kakuhihewa. The reign of peace and prosperity that Kakuhihewa brought to the kingdom of O‘ahu marked him as the greatest of Mā‘ilikūkahi’s descendants and gave O‘ahu the nickname of “The Sands of Kakuhihewa.” Dr. Kanahele sums up the greatness of Kakuhihewa’s sway:

> Conditions in the kingdom in the mid-1500s were excellent. Agricultural and fishing industries were thriving. Food was abundant and the people were healthy. The prosperous economy attracted chiefs from Maui, Hawai‘i and Moloka‘i who came to O‘ahu to live or to enjoy the excitement and brilliance of the court. Chiefs from the island of Hawai‘i also came to escape their own interminable wars. (Kanahele 1995:73)

When Kauhihewa died, his oldest son Kanekapuakakuhihewa became the ruler, and this new king shared the monarchy over O‘ahu with his three brothers. One of the four brothers, Ka‘ihikapuakakuhihewa, made sure that the kingdom of O‘ahu continued to be administered from Waikīkī as well as ‘Ewa. Unlike previous generations, the four brothers did not succumb to intrafamily conflict, and as a result they brought five generations of continued peace to O‘ahu. Their only challenge came from the outside when the Maui chief Kauhiakama invaded O‘ahu at Waikīkī. The invading Maui ruler was routed, and he was offered up at the *heiau* ‘Āpuakēhau in Waikīkī (Kanahele 1995).

A little over a century later, the last of O‘ahu’s sovereign chiefs was Kahahana. Although Kahahana was born on O‘ahu, he was raised by his uncle, the chief of Maui, Kahekili. Since the people of O‘ahu had been mistreated by their ruler Kumuhana, the O‘ahu chiefs deposed Kumuhana and summoned Kahahana from Maui to be their new ruler. Kahahana accepted and sailed for O‘ahu where he was greeted with rejoicing when he landed on the Waikīkī shores of Kahaloa, an area between today’s Halekulani and Royal Hawaiian Hotels. Kahahana had his residence at Helumoa in Waikīkī as did the future rulers Kahekili and Kamehameha I (Feeser 2006). For a while, Kahahana was a well-loved chief, and much of his good leadership was attributed to the guidance of his high priest Ka‘opulupulu. However, Kahahana’s uncle Kahekili had coveted the O‘ahu kingdom, and he wrongfully convinced Kahahana that Ka‘opulupulu was a traitor. As a result, Kahahana killed his high priest and presented him on the sacrificial altar of the *heiau* at Helumoa (Pukui 1983:44). As soon as Kahekili learned that the wise priest was dead, he set out to invade and conquer O‘ahu.

Kahekili and his army from Maui landed their war canoes on the shores of Waikīkī covering the entire coast from Kaʻalawai near today's Diamond Head to Kawehewehe near the present Halekulani Hotel. After three years of fighting, Kahekili finally subdued the forces of Kahahana, and the sovereignty of the Oʻahu kingdom was no more. The year was 1783, and by that time, the Western explorers had also already arrived on Oʻahu's shores (Kanahele 1995). Thus ended one chapter of Oʻahu's history and started a new one toward the modern era.

Oli

Waikīkī's rightful place in Hawaiian pre-contact history is further bolstered by its appearance in traditional *oli* and *ʻōlelo noʻeau.* These expressions of folklore have not lost their merit in today's society. They continue to be referred to in contemporary discussions of Hawaiian history, Hawaiian values, and Hawaiian identity.

A well-known person in Hawaiian oral traditions is the demigod Kamapuaʻa. He was a legendary figure from Oʻahu who could assume the shapes of various plants and animals. In the story of Kamapuaʻa published in 1891 in the Hawaiian language newspaper *Ka Leo o ka Lahui*, Kamapuaʻa utters a chant which mentions the wind and rain of Waikīkī by name. He tells us that the wind belonging to Kapua, an ancient well-known surf spot near present-day Kapiʻolani Park, is called Haualialia. Kamapuaʻa then indicates that the rain belonging to Waikīkī is called Waʻahila:

Oli aku la o Kamapuaa:	Kamapuaʻa chanted:
… He Haualialia ko Kapua	… Kapua has the Hauālialia [breeze]
He ua Waahila ko Waikiki	Waikīkī has the Waʻahila rain
He ua Kukalahale ko Honolulu…	Honolulu has the Kūkalahale rain…
	(Akana 2004:13, 16, 17)

In 1923, the Hawaiian Legend and Folklore Commission contracted the American scholar Helen H. Roberts to come to Hawaiʻi and record Hawaiian chants and songs. With the invaluable assistance of the Hawaiian scholar Thomas K. Maunupau, Roberts documented close to 700 *mele*. In the section of chants dedicated to the royalty, there is a chant that was composed to honor King Kalākaua, and in this chant, the king is acknowledged by the lights of Lēʻahi or Diamond Head; the lights of Kaluahole, a coastal area from Lēʻahi to Black Point; and the lights of Kālia at the western end of Waikīkī. Maunupau and Roberts recorded this chant from Mr. P.K. Kuhi, a resident of Kalihi Kai, Kauaʻi who was born in Honolulu in 1861:

Lamalama i Makapuʻu ke Ahi o Hilo	Brightly shining toward Makapuʻu are the lights of Hilo
...Hoʻohuelo i luna ke ahi o Lēʻahi,	...The light of Lēʻahi send a beam above,
Hoʻonohonoho i muliwaʻa ke ahi o Kaluahole,	In proper order at the sterns of canoes are the lights of Kaluahole.
Mehe maka ihu waʻa ala nā ahi o Kālia…	Like mysterious lights are the lights of Kālia…
	(Bacon and Napoka 1995: 132, 133)

Two more chants, which make specific reference to Lēʻahi, can be found in the collection gathered by Mary Kawena Pukuʻi and Alfons L. Korn. They were published in a book called *The Echo of Our Song.* Pukuʻi and Korn gathered these works to demonstrate, among other things, the significance of chants "as documents illuminating Hawaiian social and cultural history" (Pukui and Korn 1973:xv). The first chant printed below mentions Lēʻahi in the context of Hawaiʻi's whaling industry in the 1860s. It illustrates the tall-masted whaling ships and reminisces of the love found at Lēʻahi:

Ka Ulu Lāʻau o Kai	Forest Trees of the Sea
…O ka home aʻe o Lēʻahi,	...Love's home is Diamond Head.
Oni ana Puʻu-loa i ke kai,	Love's shelter is where Pearl Harbor hills reach out to sea.
Loa ke kiʻina a ke aloha…	Love's gaze is keen and long…
	(Pukui and Korn 1973: 103, 104)

The other chant from *The Echo of Our Song* which references Lēʻahi does so in the context of Hawaiʻi's reaction to Hansen's disease, or leprosy, in the 1880s. It is an autobiographical account composed by the great chanter Kaʻehu of Kauaʻi who had become afflicted with the illness. In this chant, he lamented the coldness of the Board of Health officials who pointed past Lēʻahi and exiled the afflicted to Molokaʻi:

Mele a Ka-ʻehu ka Haku Mele	Song of the Chanter Ka-ʻehu
Lohe ana kauka aupuni,	...Word reached the medical authorities.
Hoʻoūna ke koa mākaʻi.	The doctors sent the military to fetch us.
Hopuhopu ʻia mai kohu moa,	We were caught like chickens,
Alakaʻi i ke ala kohu pipi.	like cattle herded along roadway and country lane.
Ku ana imua o ka Papa Ola,	Then they paraded us before the Board of Health
Papa ola ʻole o nei maʻi.	but there was no health in that Board for such as we.
Kiʻei wale mai nā kauka,	Examining doctors eyed us,
Hālō maʻō, maʻaneʻi,	squinted this way and that.
Kuhi aʻe na lima i Lēʻahi,	More fingers pointed Diamond Head way:
ʻHele ʻoe ma Kalawao!'	'You go to Kala-wao!'
	(Pukui and Korn 1973:126–128).

Yet another chant which references Waikīkī is *He Inoa no Kualiʻi*, a chant which honors the great Oʻahu chief Kualiʻi. The chant has been shared through the generations by such historians as Samuel Manaiakalani Kamakau in the Hawaiian language newspaper *Ka Nupepa Kuokoa* and by Abraham Fornander in his book *Account of the Polynesian Race*. A portion of this chant is published in Kamakau's *Tales and Traditions of the People of Old,* and in this portion, the waters around Oʻahu are described. Here is an excerpt of it from that publication. It describes the coastal waters of Waikīkī:

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 sea whispers to the pebbles…
He kai heʻe nalu kō Kahaloa,	Kahaloa [the area between the Halekūlani and Royal Hawaiian Hotel] has a sea for surf riding,
He kai hoʻopuni kō Kālia…	Kālia [the area near Fort DeRussy and the Hilton Hawaiian Village] has a surrounding sea…
	(Kamakau 1991:44)

ʻŌlelo Noʻeau

Waikīkī's connection with its distinguished coast is also preserved in several traditional proverbs and wise sayings. In 1983, Mary Kawena Pukuʻi published a volume of close to 3,000 *ʻōlelo noʻeau* that she collected throughout the islands. The introductory chapter reminds us that if we know these proverbs and wise sayings well, then we will know Hawaiʻi well (Pukui 1983). Not all of these *ʻōlelo noʻeau* focus on the sea of Waikīkī, some emphasize other aspects of the *ahupuaʻa*. But more importantly, the fact that Waikīkī is memorialized in these *ʻōlelo noʻeau* is a testament to the

significance of the entire place. Here are the traditional sayings from Puku‘i’s book which mention Waikīkī either in its text or in its explanation:

(27) Aia aku la paha i Waikīkī i ka ‘imi ‘ahu‘awa.

Perhaps gone to Waikīkī to seek the ‘ahu‘awa sedge.

Gone where disappointment is met. A play on *ahu* (heap) and *‘awa* (sour).

(110) Alia e ‘oki ka ‘āina o Kahewahewa, he ua.

Wait to cut the land of Kahewahewa, for it is raining.

Let us not rush. Said by Kaweloleimakua as he wrestled with an opponent at Waikīkī.

(285) E ho‘i i ka u‘i o Mānoa, ua ahiahi.

Let the youth of Mānoa go home, for it is evening.

Refers to the youth of Mānoa who used to ride the surf at Kalehuawehe in Waikīkī. The surfboards were shared among several people who would take turns using them. Those who finished first often suggested going home early, even though it might not be evening, to avoid carrying the boards to the *hālau* where they were stored. Later the expression was used for anyone who went off to avoid work.

(1378) Ka i‘a pīkoi kānaka o Kālia; he kānaka ka pīkoi, he kanaka 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, O‘ahu, 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 kā’ili aloha o Kīpahulu.

The love-snatching wind of Kīpahulu.

A woman of Kīpahulu, Maui, listened to the entreaties of a man from O‘ahu 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, O‘ahu, when she saw a container floating in on a wave. She picked it up and opened it, whereupon a great longing possessed her to go home. She walked until she found a canoe to take her to Maui.

(1493) Ka nalu ha‘i o Kalehuawehe.

The rolling surf of Kalehuawehe.

Ka-lehua-wehe (Take-off-the-*lehua*) was Waikīkī’s most famous surf. It was so named when a legendary hero took off his *lei* of *lehua* blossoms and gave it to the wife of the ruling chief, with whom he was surfing.

(1772) Ke one ‘ai ali‘i o Kakuhihewa.

The chief-destroying sands of Kakuhihewa.

The island of O‘ahu. When the priest Ka‘opulupulu was put to death by 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* in Waikīkī, there would lie the chief’s corpse as well. Furthermore, he said, the land would someday go across the sea. This was felt to be a curse. When Kamehameha III was persuaded by a missionary friend to move the capital from Lahaina to O‘ahu, a *kahuna*, remembering the curse, warned him not to, lest the monarchy perish. The warning was ignored, and before the century had passed, the Kingdom of Hawai‘i was no more.

(1776) Ke one kuilima laula o ‘Ewa.

The sand on which there was a linking of arms on the breadth of ‘Ewa.

‘Ewa, O‘ahu. The chiefs of Waikīkī and Waikele were brothers. The former wished to destroy the latter and laid his plot. He went fishing and caught a large *niuhi*, whose skin he stretched over a framework. Then he sent a messenger to ask his brother if he would keep a fish for him. Having gained his consent, the chief left Waikīkī, hidden with his best warriors in the “fish.” Other warriors joined them along the way until there was a large army. They surrounded the residence of the chief of Waikele and linked arms to form a wall, while the Waikīkī warriors poured out of the “fish” and destroyed those of Waikele.

Historic Waikīkī

Since the arrival of Westerners to Hawai‘i in the late 1700s, perhaps no other village in the islands epitomizes the transformation of Hawai‘i as well as Waikīkī does. At the time of contact, Waikīkī was the center of rule for the independent O‘ahu kingdom under Kahahana. Waikīkī remained a seat of political administration even under Kahekili, the chief from Maui who wrested control from Kahahana, and it continued to be the seat of rule for the completely unified Hawaiian Kingdom under Kamehameha who conquered Kahekili. After little more than a decade of ruling from Waikīkī, Kamehameha moved the seat of government to Honolulu, but Waikīkī continued to be a place of royal residences, surf spots, and temples.

The first half of the 1800s brought whalers, sandalwood traders, and Protestant missionaries to Waikīkī’s doorstep. The foreigners brought with them new diseases for which Hawaiians had no immunization, and as a result, there was a rapid depopulation of Waikīkī and throughout Hawai‘i. Waikīkī’s once-thriving taro fields and fishponds would decline severely. In the latter half of the 1800s, the lands and fishponds of Waikīkī would be carved out for the royalty, the commoners, and the foreigners, allowing everyone ownership, a new concept of land tenure in Hawai‘i. The land-owning foreigners would start massive agricultural ventures throughout the islands bringing in laborers from Asia and other places around the world. Some of these new Asian laborers found their way to Waikīkī and rehabilitated the fields and ponds of Waikīkī to a productive state. By the end of the century, Waikīkī was a lovely back country near bustling Honolulu, but that would change with the overthrow of the monarchy and annexation by the United States.

As the 1900s started, the U.S. military began construction of a base in Waikīkī and dredged the Ala Wai Canal, permanently changing the nature of Waikīkī’s landscape. This spurred a host of construction projects by developers wanting to capitalize on the filled-in former marshlands. Development came to a standstill during the Second World War when martial law strictly regulated non-military presence in Waikīkī. But after the war, the construction projects in Waikīkī ensued. The latter half of the 1900s witnessed hyper-development of Waikīkī, turning it into one of the most famous tourist destinations in the world today.

Historic Land Use

By the time Western explorers had arrived in the Hawaiian Islands, Waikīkī had been the seat of Hawaiian royalty for almost four centuries. As pointed out in the previous section, O‘ahu’s King Mā‘ilikūkahi made Waikīkī the seat of his kingdom when he assumed power in the early 1400s. Because of Mā‘ilikūkahi’s wisdom and benevolence toward his people, the kingdom of O‘ahu flourished. O‘ahu’s prosperity endured throughout the centuries as Mā‘ilikūkahi’s descendants followed his style of rule, the most renowned being the great Chief Kakuhihewa. Generations after Kakuhihewa, Kahahana became the ruler of O‘ahu, and it was in 1783, during his reign, that Chief Kahekili of Maui conquered the island, and O‘ahu never again regained its independence.

Some of our first Western accounts of Waikīkī were written during the reign of Kahekili. In 1792, the British Captain George Vancouver anchored off of Waikīkī and described the wealth he saw on the land:

> On shores, the villages appeared numerous, large, and in good repair; and the surrounding country pleasingly interspersed with deep, though not extensive valleys; which, with the plains near the sea-side, presented a high degree of cultivation and fertility...
>
> Our guides led us to the northward through the village, to an exceedingly well-made causeway, about twelve feet broad, with a ditch on each side.
>
> This opened our view to a spacious plain, which… had the appearance of the open common fields in England; but, on advancing, the major part appeared to be divided into fields of irregular shape and figure, which were separated from each other by low stone walls, and were in a very high state of cultivation. These several portions of land were planted with the eddo or taro root, in different stages of inundation; none being perfectly dry, and some from three to six or seven inches under water. The causeway led us near a mile from the beach, at the end of which was the water we were in quest of. It was a rivulet five or six feet wide, and about two or three feet deep, well banked up, and nearly motionless; some small rills only, finding a passage through the dams that checked the sluggish stream, by which a constant supply was afforded to the taro plantations. (Kanahele 1995:82,83)

Another early Westerner who contributed to the first written accounts of Waikīkī was Archibald Menzies, an expert on board Vancouver’s ship, who specialized in natural environmental studies. He echoed the favorable descriptions that Vancouver gave about Waikīkī:

> The verge of the shore was planted with a large grove of cocoanut palms, affording a delightful shade to the scattered habitations of the natives. Some of those near the beach were raised a few feet from the ground upon a kind of stage, so as to admit the surf to wash underneath them... We pursued a pleasing path back to the plantation, which was nearly level and very extensive, and laid out with great neatness into little fields planted with taro, yams, sweet potatoes and the cloth plant. These, in many cases, were divided by little banks on which grew the sugar cane and a species of *Draecena* [the *ki* or ti plant] without the aid of much cultivation, and the whole was watered in a most ingenious manner by dividing the general stream into little aqueducts leading in various directions so as to be able to supply the most distant fields at pleasure, and the soil seemed to repay the labour and industry of these people by the luxuriancy of its productions. Here and there we met with ponds of considerable size, and besides being well stocked with fish, they swarmed with water fowl of various kinds such as ducks, coots, water hens, bitterns, plovers and curlews. (Kanahele 1995:83)

Within two years of Vancouver’s 1792 visit, Chief Kahekili died, and control of O‘ahu went to Kahekili’s son, Kalanikūpule. The next year, 1795, Chief Kamehameha of Hawai‘i Island landed his

war canoes along Waikīkī’s shore to engage Kalanikūpule in battle. So massive was Kamehameha’s war fleet that his canoes covered two miles of shoreline from Waikīkī to Wai‘alae. Kamehameha advanced across Waikīkī toward Nu‘uanu Valley and met Kalanikūpule’s forces at the Nu‘uanu Pali in the back of the valley. There he overwhelmed Kalanikūpule’s warriors at the Battle of Nu‘uanu, effectively gaining control of all the islands from O‘ahu to Hawai‘i. Kamehameha took up residence in Waikīkī like the rulers before him and administered his kingdom from there (Kanahele 1995).

Dr. Kanahele noted that the name of Kamehameha’s royal residence at Waikīkī was Kuihelani. It had a central location along the coast at Pua‘ali‘ili‘i, an area between today’s Royal Hawaiian and Moana Hotels (Kanahele 1995). The Hawaiian historian John Papa ‘Ī‘ī described Kamehameha’s Waikīkī household, the birth of his children there, and his farmlands further inland:

> He (Kamehameha) 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. (1959:69)
>
> Kamehameha’s houses were at Puaaliilii, makai of the old road, and extended as far as the west side of the sands of Apuakehau. Within it was Helumoa, where Kaahumanu ma went to while away the time. The king built a stone house there, enclosed by a fence; and Lamalo, Wawae, and their relatives were in charge of the royal residence. Kamalo and Wawae were the children of Luluka and Keaka, the childhood guardians of Kamehameha. (1959:17)
>
> Kamehameha had three sons and two daughters born to him during his residence on Oahu. Kinau, by Kaheiheimalie, was the older of the daughters and Nanaulu was the younger… Kinau and an older child than she were born at Waikiki. Kinau’s eyes rolled about, but she was one of the king’s brightest children. (1959:70)
>
> He (Kamehameha) also farmed at Ualakaa in Manoa, in Waikiki, and in Kapalama. (1959:68)

In 1809, Kamehameha moved his royal court from Waikīkī to Honolulu (Kanahele 1995). That same year, Kamehameha sentenced an adulterer to death and had the transgressor’s body placed on Waikīkī’s Papa‘ena‘ena Heiau in one of his last such recorded uses of that structure. John Papa ‘Ī‘ī explained that the condemned in this case was guilty of having relations with Kamehameha’s favorite wife, Ka‘ahumanu:

> When, in 1809, Kanihonui, a nephew of Kamehameha, was put to death for committing adultery with Kaahumanu, Kaahumanu’s wrath was aroused. She sought to recover from her anger but was unable to do so; and she considered taking the kingdom from the king by force and giving it to the young chief, Liholiho. Before she laid her plans for the war, a holiday for the purpose of surfing at Kapua in Waikiki was proclaimed, because the surf was rolling fine then. It was where one could look up directly to the heiau on Leahi, where the remains of Kanihonui were, all prepared in the customary manner of that time. It was said that only Kaleiheana, who was a Luluka, watched over the corpse from the time of death until it was decomposed. The chiefess had heard something about her lover’s remains being there, and perhaps that was why the proclamation was made. (Ii 1959:50, 51)

The following year, Kamehameha met King Kaumuali‘i of Kaua‘i in Honolulu to negotiate a peaceful way for Kaua‘i to join the rest of the Hawaiian kingdom. It was agreed upon that Kaumuali‘i would surrender his lands to Kamehameha as long as Kaumuali‘i would be allowed to continue governing Kaua‘i under Kamehameha’s rule. Thus marked the final unification of all the Hawaiian Islands under one monarch. While Kamehameha ruled his unified kingdom from Honolulu, he, like many other chiefs, held onto his royal lands at Waikīkī. Kamehameha died in 1819, and in a twist of

fate, the very next year marked the arrival of Protestant missionaries from America intent on Christianizing the Hawaiian nation. Kamehameha's wife, the Chiefess Keōpūolani, was among those first royals who converted to Christianity. She was taught the Christian faith at her house in Waikīkī:

> The missionaries concentrated on the chiefs, especially those who had supported the breaking of the kapu system. One of the converts was Keopuolani who, in failing health, moved to the quiet groves of Waikīkī in early 1823… During the few weeks she encamped there she was taught the gospel by Hiram Bingham and other missionaries, including Taua, a Tahitian. (Kanahele 1995:107)

Not all of the chiefs and commoners welcomed the new religion of the missionaries. There was a division between those who converted their faith and those who clinged to the old religion. Chief Boki, the governor of O'ahu, was one of the chiefs who adhered to the traditional beliefs. He was the younger brother of Chief Kalanimoku, a trusted advisor to Kamehameha I, and he did not approve of Ka'ahumanu's efforts to control Kamehameha II. In 1826, he hid in Waikīkī while devising a plot to get rid of Ka'ahumanu:

> In December 1826… After Kaahumanu's return, a rumor went abroad that Boki desired to rebel against her… (Boki) decided to take the king and his men to hide in Waikiki.
>
> Before they departed for Waikiki, Boki sent secretly for Hinau, Kaleohano, Aua, and Kapalaau and commanded them to gather the people of Kapahu and destroy Kaahumanu. He said, 'We will wait at Waikiki and when we hear the report of your guns at Kapahu, we will know that you have carried out the deed.' Those who were so commanded were filled with consternation. They discussed the fact that Kaahumanu had no fault, and they refused to carry out the evil deed. They resolved to send Kapalaau to notify Kekuanaoa to inform Kaahumanu of what Boki wanted them to do. Kinau overheard Kapalaau telling Kekuanaoa, and departed tearfully at once to go to Kaahumanu. 'What are the tears for?' asked Kaahumanu.
>
> Kinau replied, 'Boki plots your death and has commanded Hinau, Kaleohano, Aua, and Kapalaau to kill you. They sent Kapalaau to tell Kekuanaoa because they were sorry for you and refused to carry out Boki's evil plan.' (Ii 1959:153–155)

Chief Boki's wife, Liliha, followed in her husband's footsteps with a displeasure for Ka'ahumanu's political influence. After Boki died, Liliha plotted against Ka'ahumanu, and like Boki's failed plot, Liliha's attempt to overcome Ka'ahumanu failed. As a result, Liliha was stripped of her governance of Waikīkī, and Keloa was named the new administrator of the Waikīkī lands (Kanahele 1995).

Other *ali'i* maintained their residences and lands at Waikīkī throughout the years. Besides being the homes of Kamehameha I, and Kahekili and Kahahana before him, Waikīkī was also notably the home of Kamehameha V, and Princess Ke'elikōlani and Princess Pauahi after him. Kamehameha V, also named Lota Kapuāiwa, built his home at Helumoa on the grounds of the present-day Royal Hawaiian Hotel. When he died in 1872, his property was inherited by Princess Ruth Ke'elikōlani, and when she died, the property went to Princess Pauahi (Feeser 2006).

A very important thing to point out is that while the monarchs continued ruling, while the missionaries continued proselytizing, and while more foreigners kept arriving onto Hawai'i's shores in increasing numbers, the native Hawaiian population declined drastically. Much of this decline has been attributed to foreign-introduced diseases to which the Hawaiians had no immunity. The resulting depopulation was unmistakably apparent in the landscape of Waikīkī and throughout the villages on all of the islands. In 1828, a French navigator named Auguste Bernard Duhaut-Cilly observed the landscape of Waikīkī and Honolulu and wrote:

> ...irrigation canals are now blocked nearly everywhere; small ponds where taro was grown are totally dried and barren… great expanses of terrain, remnants of what had been dikes and causeways, where now the soil has been so much reduced from its normal elevation that no further witness is needed to prove that in earlier times here stood fields under constant cultivation. (Kanahele 1995:112)

One of the early Protestant missionaries to Hawai'i, Levi Chamberlain, echoed the remarks of Duhaut-Cilly:

> We took a path… leading through a grove of tall cocoanut trees towards Waikīkī --- our path led us 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 esculent fish' but now overgrown with tall rushes waving in the wind. The land all around for several miles has the appearance of having been once under cultivation. I entered in to conversation with the natives respecting its present neglected state. They ascribed it to the decrease of population. (Kanahele 1995:112)

By the mid-1800s, thousands upon thousands of native Hawaiians had succumbed to the arrival of one epidemic after another—dysentery, whooping cough, measles, typhoid, small pox, mumps, syphilis, and gonorrhea. In response to the small pox epidemic of 1853, a hospital was built in Waikīkī near today's Kapi'olani Park to treat the natives. As a sign of the times, there had already been a hospital in Waikīkī, the first in all of Hawai'i, built in 1837, but it was only opened to treat American seamen (Kanahele 1995).

The depopulation of Hawai'i by foreign diseases was a major factor that shaped early history of post-contact Waikīkī. Two more events would occur by the end of the century that would drastically affect Waikīkī and indeed all of Hawai'i. One was the proclamation of the Māhele of 1848, and the other was the overthrow of the Hawaiian Kingdom in 1893 which led to Hawai'i's annexation by the United States in 1898.

Māhele Land Tenure

On the heels of the depopulation of the Hawaiian nation in the first half of the 1800s was the official enactment of King Kamehameha III, called the Māhele of 1848. This proclamation by the king divided the lands throughout Hawai'i and set aside land ownership for three groups of people: the king, the chiefs, and the commoners. This was a sweeping departure from the traditional land tenure system which originally fostered common stewardship rather than private ownership:

> THE MAHELE is rightfully considered one of the most significant chapters in the modern history of Hawai'i. Several legislative acts during the period 1845–1855 codified a sweeping transformation from the centuries-old Hawaiian traditions of royal land tenure to the western practice of private land ownership. (Moffat and Fitzpatrick 1995)

The king enacted the Māhele intending for it to provide the Native Hawaiian population with an irrevocable land base they would own. The process that the commoners needed to follow to secure their land titles consisted of filing a claim with the Land Commission; having their land claim surveyed; testifying in person on behalf of their claim; and submitting their final Land Commission Award to get a binding royal patent. However, in actuality, the vast majority of the native population never received any land commission awards recognizing their land holdings due to several reasons such as their unfamiliarity with the process, their distrust of the process, and/or their desire to cling to their traditional way of land tenure regardless of how they felt about the new system (Moffat and Fitzpatrick 1995).

With regard to Waikīkī, about 250 high chiefs, lesser chiefs, and commoners filed land claims for the *ahupua'a*. Among those awarded lands there were six well-known chiefs, and their properties are broken down as follows: 2,229 acres went to William Charles Lunalilo, a future king of Hawai'i. His Waikīkī lands were at Kamoku, Kaluaokau, and Kapahulu. Another 133 acres went to Mataio Kekuanao'a, the husband of Kamehameha I's daughter Kīna'u. His lands were at Uluniu, Kapuni, and Kālia including the large fishpond called Paweo. Another 100 acres went to Ane Keohokalole, the mother of future King Kalākaua and Queen Lili'uokalani. Her land was at Hamohamo. An additional 62 acres remained under the ownership of the current king, Kamehameha III, himself the son of King Kamehameha I and Queen Keōpūolani. His lands were at Hohe, Kalamanama, and Ke'okea. Another 11 acres went to Keoni Ana, the son of the daughter of Kamehameha I's brother Keli'imaika'i. His land was at Pāhoa. And nine acres went to Kapa'akea, the great-grandson of Kamehameha I's advisor/uncle Kame'eiamoku. His land was at Kapa'akea. The total Waikīkī acreage awarded to the king and his chiefs amounted to 3,235.95 acres (Kanahele 1995).

Most of the awardees given land from the Māhele of 1848 were commoners, chiefly retainers, and *konohiki* or land managers. Most of the land awards given to the commoners were less than an acre in size with just a few exceptions. The total Waikīkī acreage awarded to the commoners was roughly 691 acres. Kanahele provides some details:

> A partial list of the non-royal awardees names and the locations of their lands are as follows: Aua, Kaelemakule, Kalawaia, Kamaukoli, Kameheu, Kapule, Muakoki, and Okuu in Auaukai. Haau, Iwinui, Kaanaana, Kahaka, Kahue, Kaiahopuwale, Kalui, Kapea, Keamalu, Kinikini, Koa, Kuihewa, Manaole, Naa, Ohuohu, Palaualelo, Pelekane, and Pupuka in Hamohamo. Laamama, Kahope, Kalaiheana, Kanemakua, Okauu and Wahahee in Helumoa. Kaleipaopao, Kaluahimenui, Kanae, Kaua, Kawaihapai, Manaole, Nalaweha, Naoho, and Wahahee in Kanukuaula. Ainoa, Kahiloaho, Kahope, Kaluhi, Kamaka, Kao, Kauhao and Makoli in Kanukulahi. Alapai, Aua, Kaauhau, Kaeina, Kahikaele, Kamalie, Kaihuoloa, Kalaeone, Kaleipaopao, Kaluahinenui, Kaluaolka, Kamaukoli, Kaohulenui, Kapapa, Kapilimanu, Kaua and Kaunuohua in Kalia. Haole, Kaaha, Kaaimoa, Kahue, Kamoho, Kaneauhii, Kaniuhi and Kawela in Kapaakea. And Kohokahina and Waikīkī (in 1848 this was also a personal name) in Ulukou and William Sumner [a part-Hawaiian also known as J. S. Keolaloa] in Kuilei. (1995:117)

In 1850, the king passed another law, this one allowing foreigners to buy land. Regarding foreign landowners in Waikīkī, Kanahele sheds some light on this as well:

> Only a handful of foreigners were awarded land parcels in Waikīkī. They included Nicholas George 1.92 acres in Kaluaolohe, and J. Emmanuel, 2.64 acres, W. Webster, 12.7 acres, George McLean, 1.5 acres, Alice Montgomery, .58 acres, and Francis Spencer, 1.4 acres, all in Kālia. Their total holdings amounted to less than 21 acres.
>
> For the next 20 years additional properties went to non-Hawaiians with names such as, E. H. Allen, W.L. Green, H. J. Holdsworth, Catherine Lewis, Lawrence McCully, H. F. Poor and H. Widemann. With the exception of Chief Justice McCully who was awarded 118 acres, the other foreign landowners owned only about a dozen acres that, like the royal properties, were mostly located on or near the beach. (1995:118)

Until the mid-1800s, all foreigners arriving in Hawai'i were mostly White American and European. But with the advent of Hawai'i's sugar and pineapple industries in the 1800s, non-White immigrants began arriving in Hawai'i in great numbers to work on the large plantations. It is important to give some historical context before illustrating the effect that the Asian arrivals had on the transformation of Waikīkī in the latter 1800s:

> Extensive Asian settlement in Hawai'i was made possible by American colonial efforts to secure a labor base for a settler plantation economy… Thus by 1852, when the first major contract labor group of Chinese arrived in Hawai'i, the Hawaiian Kingdom was already a nation in distress under Western forces of colonialism. As the Hawaiian population continued to plummet, the sugar planters sought to build their empire by securing Asian laborers from China, Japan, Korea, and the Philippines. The planters found that British, American, Spanish, and Japanese acts of imperial aggression created social and political conditions in Asia that helped to facilitate their own efforts in the building of an American settler colony in Hawai'i. (Fujikane 2008:17)

Hence, when the taro fields and fishponds of Waikīkī deteriorated due to the native depopulation of Hawai'i, it was conducive for the newly arrived Chinese agricultural immigrants to work in the fields and ponds of Waikīkī. The Chinese immigrants, many of whom eventually married Native Hawaiians, rehabilitated the dilapidated taro fields, turning many into thriving rice fields as well. And they restored Waikīkī's fishponds, stocking a healthy fish market with *'ama'ama*, *awa*, and *i'a pake* and turning some of the fishponds into lucrative duck farms as well. The Chinese soon had many interests in Waikīkī:

> Hawaiians began to lease their lands to new Chinese immigrants who knew all about rice cultivation. Occasionally, they sold their lands… Hawaiian landowners, including the Bishop and Lunalilo estates, were more than happy to lease their old taro patches—hundreds of which were 'lying idle' and unused, 'at exceptionally high rents.' Rice had become the survival crop that offered more profits than taro. (Kanahele 1995:121, 122)
>
> [The Chinese immigrant Lum Yip Kee] made his money initially by raising taro in Mānoa and Mō'ili'ili where he also had a poi factory. Eventually he controlled the largest poi factories on O'ahu along with hundreds of acres of taro lands in Mānoa, Pālolo and Mō'ili'ili. (Kanahele 1995:123)
>
> As time went on, Hawaiian landowners leased their fish ponds to the Chinese… Not only did the Chinese operate the fish ponds, but they also controlled the local fish market… In 1889, the Chinese-controlled fish market was able to supply the demand for mullet by Honolulu's restaurants, almost all of which were run by Chinese. (Kanahele 1995:128)

The 19th century ended with an exponential number of immigrants from various parts of the globe arriving in Hawai'i to work on the plantations. This influx continued well into the 20th century. As the economy in the islands changed and an increasing number of Westerners gained power and influence, conditions were set in place for the 1893 overthrow of the Hawaiian monarchy by Americans and Europeans in Hawai'i. This paved the way for an irrevocable future for Waikīkī and a permanent change on its landscape as the 20th century began (Feeser 2006).

Historic Maps and Photographs

Historic maps and photos help to paint a picture of Waikīkī in years past and illustrate the many changes that have taken place in the region. The earliest map found for this area is from 1825 (Figure 5). Little detail is shown of the project area vicinity, although palm trees are illustrated inland of the coast, along with a symbol that may depict marshland. To the east of the project area are two fresh water ponds and "Ruins or a Morai." Farther inland is "Cultivated Land."

An 1879 map shows development already beginning in Waikīkī, with roads and structures illustrated (Figure 6). The project area is mostly within the lot labeled as "Nalaweha L.C. 1512," but may extend into the adjacent lot marked as "Haaheo L.C. 1380 C.C. Harris." A house is depicted on this

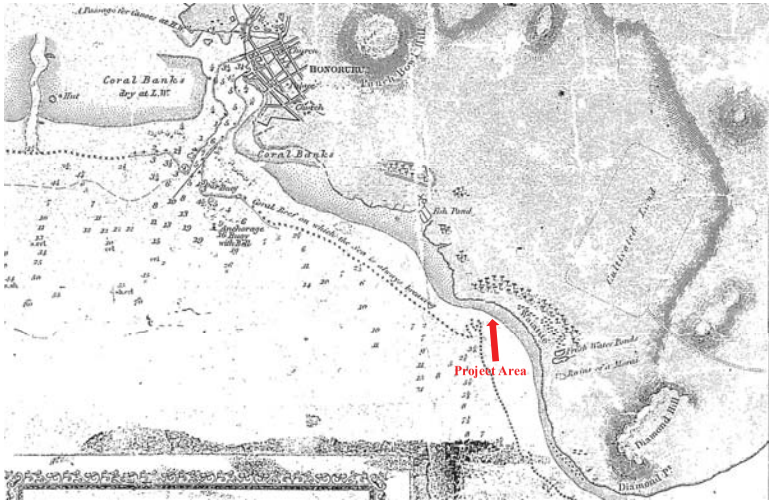

Figure 5. Portion of a map of the south coast of O'ahu (Malden 1825).

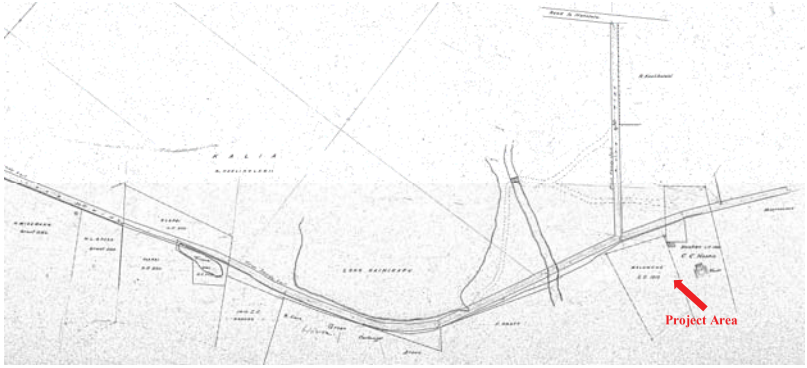

Figure 6. Portion of an early map of Waikīkī (Brown 1879).

latter property. A road heads *makai* to *mauka*, intersecting with the "Road to Honolulu." The west side of the *makai*/*mauka* road is labeled as "Firm Sandy Soil." The Fort DeRussy area is marked "Loko Kaihikapu."

By 1892, more development is seen in Waikīkī and Honolulu (Figure 7). A grid of streets occupies the expanse south of Punchbowl, and Kapi'olani Park is already established. The project area lies in what looks to be marshland, with a series of ponds just to the north.

Just a few years later, as shown on an 1897 map, the main streets near the project area are laid out (Figure 8). These include Kālia Road, Saratoga Road, and Lewers Street (called Lewers Road at the time). Many structures are depicted along the coast within and around the project site, with the project lands labeled "S.M. Damon" and "F.S. Keiki." Despite all the new development, ponds are still present to the northeast.

The ponds in the 1892 map can still be seen in a 1909 fisheries map (Figure 9). Two of the ponds are named: Kahikapu on the south and Paweo in the center of the cluster. Piinaio Stream surrounds the ponds, and is bridged once on Kālia Road and twice on Kalākaua Avenue. The project lands are labeled as "Damon," as in the 1897 map, and the offshore resources are part of the Kalia Fishery, marked as "Government." The Seaside and Moana hotels are established, on opposite sides of 'Āpuakēhau Stream, which is bridged at Kalākaua Avenue. The waters fronting the Moana Hotel are part of the Hamohamo Fishery, labeled as "H.M. Liliuokalani." Mauka of the Moana Hotel are a school, a church, and a structure marked as "Queen Emma." Rice fields can be seen farther inland.

The final map depicts the Waikīkī region in 1928 (Figure 10). The project area appears to encompass lands owned by Robert Lewers, Est. and Clifford Kimball. Many structures are visible along the beach, and a "Public Walk" skirts the west edge of the project site. A concrete retaining wall runs along the ocean side of the property, and what appears to be a stone jetty extends into the ocean just to the southeast.

Historic photos also help to illustrate the transformation of the project area during the 1900s. The first photo shows the Royal Hawaiian Hotel in 1928 (Figure 11). The Outrigger Reef on the Beach Hotel site would have been just off the photo to the left. The area is already somewhat developed, although many palm trees can still be seen.

The next two photos date to 1934 (Figures 12 and 13). They show a structure at or very near to the project site. Several other buildings are visible in the area, although the multitude of palm trees remain. The forest of palm trees can still be seen ca. 1937–1941, and Ft. DeRussy is already constructed (Figure 14).

Several historic photos were found in the Hawai'i State Archives that were not dated. These include two aerial images that show Waikīkī before many of the hotels were constructed (Figures 16 and 17), as well as a more modern view of the city (Figure 17). Rampant development is evident by 1953 (Figure 18).

Mele

Like the traditional chants from ancient times that give us a window into pre-contact Hawai'i, the modern songs of today also provide a glimpse of the specific recent time and place in which they were written. There is a clear evolution in the content of the songs composed for Waikīkī in contemporary times. Perhaps the most poignant Waikīkī song is *Ku'u Pua I Paoakalani*, written by

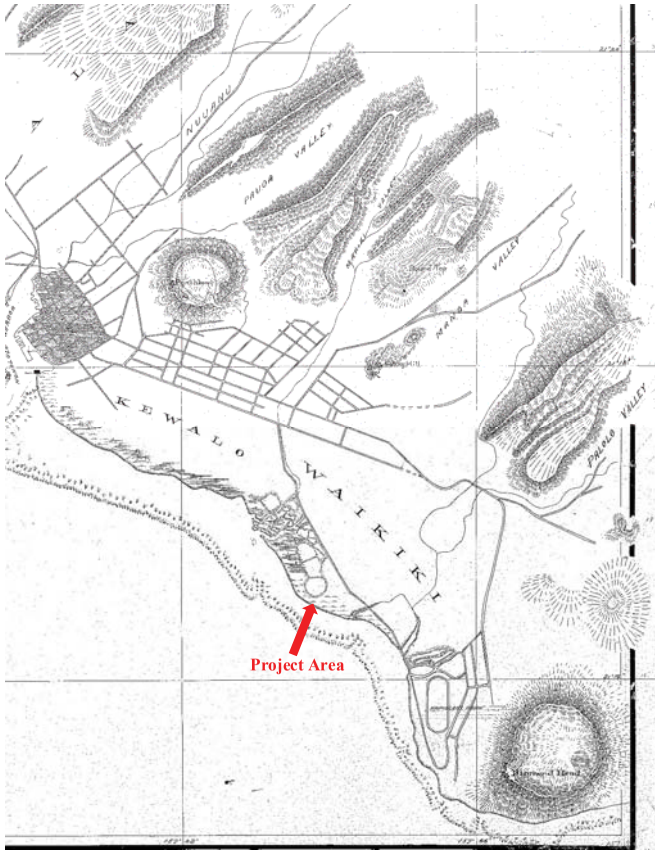

Figure 7. Portion of a map of Honolulu and Pearl River (Thrum 1892).

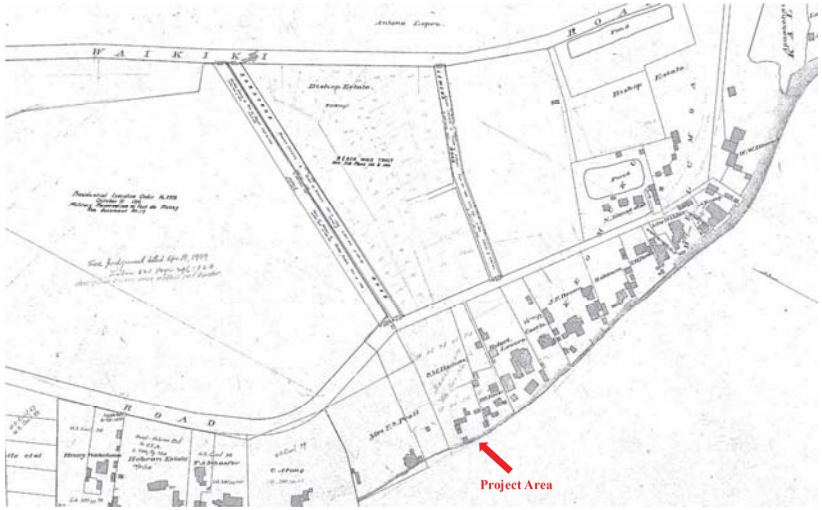

Figure 8. Portion of a map of Waikīkī Beach (Kanakanui 1897).

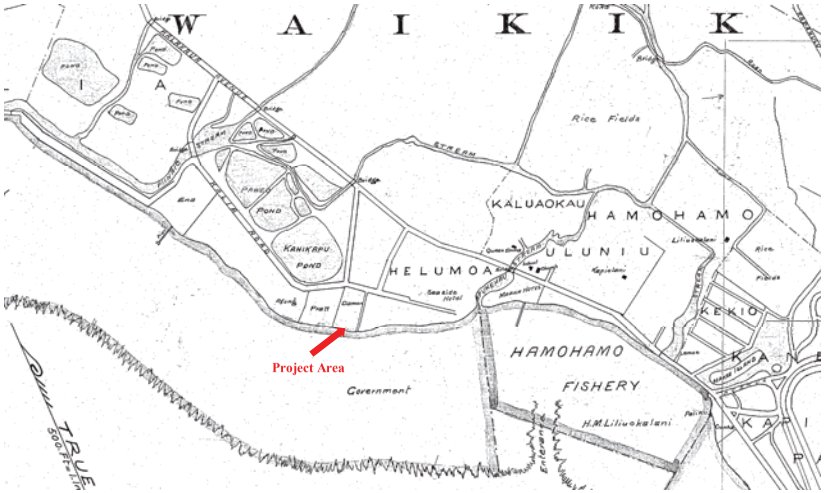

Figure 9. Portion of a Waikīkī fisheries map (Monsarrat 1909).

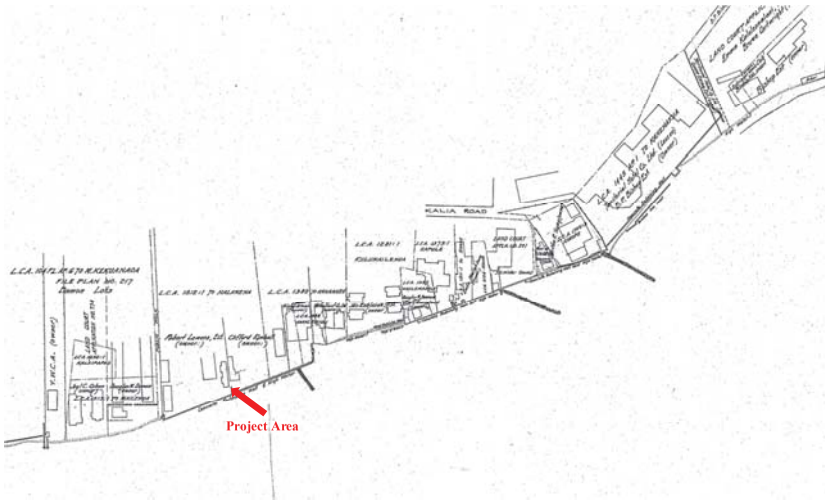

Figure 10. Portion of a Hawaii Territory Survey map (Kanahele 1928).

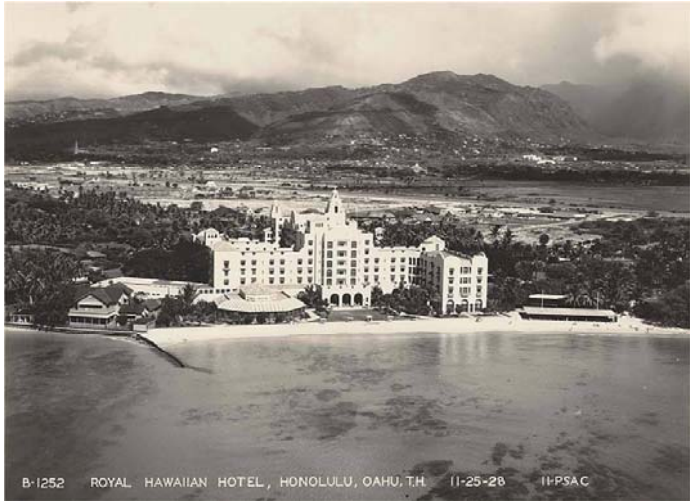

Figure 11. View of the Royal Hawaiian Hotel in 1928.

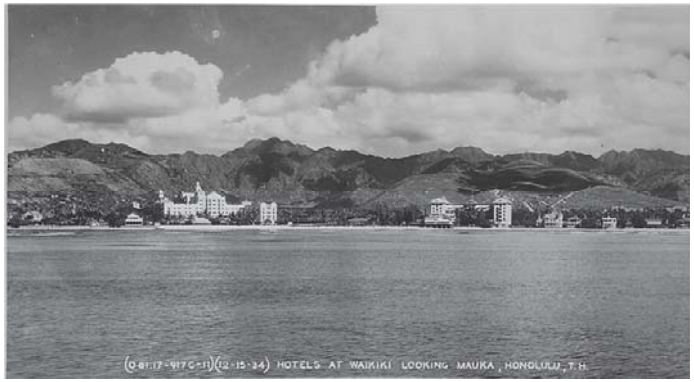

Figure 12. The Royal Hawaiian Hotel vicinity in 1934.

Figure 13. View of the Waikīkī and Diamond Head area in 1934.

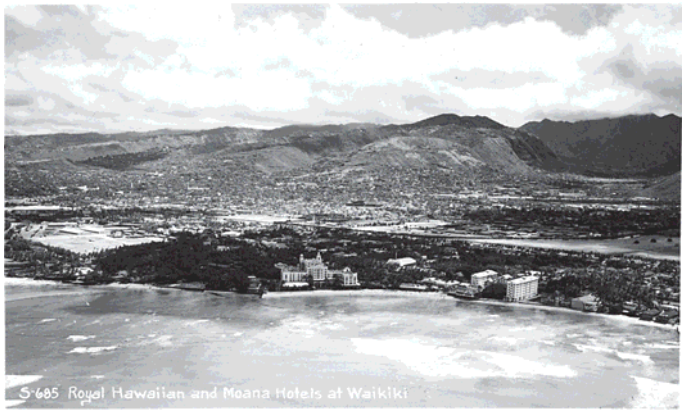

Figure 14. The Royal Hawaiian and Moana Hotel vicinity ca. 1937–1941.

Figure 15. View of Waikīkī and Diamond Head, date unknown.

Figure 16. Aerial view of the Moana and Royal Hawaiian hotels, date unknown.

Figure 17. Aerial view of the project area, date unknown.

Figure 18. Aerial view of the project area in 1953.

Queen Liliʻuokalani at the turn of the 20th century. The Queen wrote this balad while she was imprisoned by foreigners in ʻIolani Palace after the overthrow. In her song, Queen Liliʻuokalani expresses her affection for her beloved home in Waikīkī which was named Paoakalani:

Kuʻu Pua I Paoakalani by Queen Liliʻuokalani

E ka gentle breeze a pa mai nei	O gentle breeze that waft to me
Hoʻohäliʻaliʻa mai ana iaʻu	Sweet, cherished memories of you
E kuʻu sweet never fading flower	Of my sweet never fading flower
I pua i ka uka o Paoakalani	That blooms in the fields of Paoakalani
ʻIke mau i ka nani o nā pua	I've often seen those beauteous flowers
O ka uka o Uluhaimalama	That grew at Uluhaimalama
ʻAʻole naʻe hoʻi e like	But none of those could be compared
Me kuʻu pua i ka laʻi o Paoakalani	To my flower that blooms in the fields of Paoakalani
Lahilahi kona ma hiʻona	Her face is fair to behold
With softest eyes as black as jet	With softest eyes as black as jet
Pink cheeks so delicate of hue	Pink cheeks so delicate of hue
I ulu i ka uka o Paoakalani	That grew in the fields of Paoakalani
Nane ʻia mai ana kuʻu aloha	Now name to me the one I love
E ka gentle breeze e waft mai nei	Gentle breezes passing by
O come to me kʻau mea e liʻa nei	And bring to me that blossom fair
I ulu ika uka o Paoakalani	That blooms in the fields of Paoakalani

Paoakalani (Royal Perfume), the Waikiki estate where the Queen spent most of her time composing and translating Hawaiian legends into English, was inherited by Lydia Kamakaeha from her grandfather ʻAikanaka, along with Keʻalohilani (Royal Brightness). April 11, 1877, the day after Leleiohoku, her brother, died, she was proclaimed heir apparent to the throne and changed her name to Liliʻuokalani at the request of her brother, King Kalākaua. This song was composed by the Queen during her 8 month imprisonment in ʻIolani Palace. Evelyn Townsend Wilson was voluntarily imprisoned with the Queen. Her son, John, would send newspapers hidden in flowers from Uluhaimalama, the Queen's garden in Pauoa Valley. He later became Mayor of Honolulu. She visited Washington D.C. after she was deposed where she finished translating the Kumulipo. Her three hanai children were John Aimoku Dominis, Kaiponohea Aea and Lydia Kaʻonohiponiponiokalani Aholo. Her estate established Queen Liliʻuokalani Children's Center that provides counseling to Hawaiian families. Translation by Liliʻuokalani. (Lyrics and translation to this song and all other songs in this section along with their accompanied description are from the www.huapala.org database compiled by Kanoa-Martin 2012)

Another song written for a royal residence in Waikīkī is the song *ʻAinahau* written by Princess Likelike. ʻAinahau was the name of Princess Kaʻiulani's Waikīkī home, part of the estates that she inherited from Princess Keʻelikōlani:

ʻĀinahau by Princess Likelike

Na ka wai lūkini	It is the perfume and the lovely
Wai anuhea o ka rose	Fragrance of the roses that sweeten
E hoʻopē nei i ka liko o nā pua	The leaf buds of the flowering plants
Na ka manu pīkake	The peacocks
Manu hulu melemele	And the yellow feathered birds
Nā kāhiko ia o kuʻu home	Are the adornments of my home

Nani wale ku‘u home	Beautiful is my home
‘O ‘Āinahau i ka ‘iu	‘Ainahau so regal
I ka holunape	Where the fronds
A ka lau o ka niu	Of the coco palms sway
I ka uluwehiwehi	The beautiful grove
I ke ‘ala o nā pua	The fragrance of flowers
Ku‘u home, ku‘u home i ka ‘iu‘iu	At my home, my home so regal
Na ka makani	It is the gentle breeze
Aheahe i pā mai makai	From the sea
I lawe mai i ke	That brings the sweet
Onaona līpoa	Odor of lipoa sea weed
E ho‘oipo ho‘onipo me ke ‘ala	Mingling with the fragrance of my love
O ku‘u home ku‘u home	Of my home, my home
Ku‘u home i ka ‘iu‘iu	My home so regal

Source: ‘Āinahau, one of the homes of the O‘ahu chiefs, was part of the 10 acre estate inherited by Princess Ruth Ke‘elikōlani. Originally called Auaukai, Princess Likelike named it ‘Āinahau or “Cool Land” when she lived there with her husband, Archibald Scott Cleghorn, who turned it into a botanical garden. The stream that flowed through ‘Āinahau and emptied into the ocean where the present Outrigger Hotel is located, was called Apuakehau. At one point more than 50 peacocks roamed the estate and were fed by the hands of Princess Ka‘iulani. When Ka‘iulani, heir to the Hawaiian throne died, the peacocks screeched so intensely and incessantly, that some were destroyed. Translation by Mary Pukui.

Staying true to the tradition of composing chants to memorialize special places in the landscape, the song *Makee ‘Ailana* is a famous Hawaiian song that takes us back to a Waikīkī that was still primarily a wetland environment. James K. I‘i wrote this song about one of the little islands that existed in the marshes:

Makee ‘Ailana by James K. I‘i

Makee ‘ailana ke aloha lā	I love Makee island
‘Āina i ka ‘ehu‘ehu o ke kai	Land freshened by the sea spray
‘Elua ‘ekolu nō mākou	There were two or three couples with us
I ka ‘ailana māhiehie	On this charming island
Ka leo o ka wai ka‘u aloha	I love the sound of the water
I ka ‘ī mai ē anu kāua	When it speaks, we two are chilled
Inā ‘o you me mī nei	I wish you were here with me
Noho ‘oe i ka noho paipai	Sitting in the rocking chair
Ha‘ina ‘ia mai ana ka puana	The story is told of Makee ‘Ailana
Makee ‘Ailana hu‘e ka mana‘o	With its fond memories

Source: Baker Collection - The present site of the Honolulu Zoo parking lot, this island was named for the sea Captain James Makee (1812–1879) born in Woburn, Massachusetts. It was off the shore of Kapiolani Park, where a fresh water stream flowed into the ocean. There was a bridge across this stream and lilies in the water. Older musicians seem to remember 2 other verses.

Another modern song which celebrates the landscape of Waikīkī focuses on Diamond Head. Interestingly, this song also mentions Makee Island and the royal grounds of ‘Ainahau, but in addition to that, this song also points out Kapi‘olani Park and the Seaside Hotel on the Waikīkī landscape. The song is called *Kaimana Hila*, and it was written by Charles E. King:

Kaimana Hila by Charles E. King

Iwaho mākou i Ka‘alawai lā	We all went there on Ka‘alawai shores
‘Ike i ka nani Kaimana Hila lā	And gazed up at the grandeur of old Diamond Head
Kau mai i luna	So majestic
Iwaho mākou Kapi‘olani Paka lā	We all went and saw Kapi‘olani Park
‘I ka lina poepoe ho‘oluhi kino	To see a ring that exhausted the body
Aloha ‘ino	That is too bad
Iwaho mākou Waikīkī lā	We all went and saw Waikiki
‘Ike i ka nani hale ho‘onui ‘ike lā	To see a house that increased knowledge
Ho‘onui hana	And made much work
Iwaho mākou Maki ‘Ailana lā	We all went and saw Makee Island
Ku‘u pua lilia lana i ka wai lā	Beheld the beauty of the floating water lily
Lana mālie	Sweet and peaceful
Iwaho mākou i ka Seaside lā	We all went to the Seaside Hotel
‘Ike i ka nani papa he‘e nalu lā	And looked with wonder at all the riders of the surf
He‘e mālie	Gliding swiftly
Iwaho mākou ‘Āinahau lā	We all went to ‘Ainahau
‘Ike i ka nani papa hinuhinu lā	And saw the beautiful shining surfboards
Hele mālie	Moving gently
Ha‘ina ‘ia mai ana ka puana lā	This is the end of the song
‘Ike i ka nani Kaimana Hila lā	Gazed up at the grandeur of old Diamond Head
Kau mai i luna	So majestic

Source: King’s Hawaiian Melodies - This song relates the adventures of a group of friends on a Hawaiian holiday. Verse 1, stanza 1, Ka‘alawai is the land below Diamond Head. They go to Kapiolani Park, dedicated in 1877, by King Kalakaua, and renowned for the beautiful oval horse race track, the ring, in verse 2, stanza 2. The exhausted body is that of the jockey. They watch the races, then meander through Maki (Makee) ‘Ailana, an island in the park. They marvel at the big hotels and stop for refreshments at the Seaside Inn, a favorite of kama‘āina and malihini in the early 1900’s. This hotel, situated on 10 acres of Waikīkī beachfront property, was demolished in 1920, to make way for the new Royal Hawaiian Hotel. They end their holiday with a leisurely stroll thru ‘Āinahau, the lush estate of Princess Miriam Likelike. The melody and lyrics as it is sung today, was popularized by Andy Cummings and is different from the original tune and lyrics. Translation from Hawaiian Melodies. Copyright 1916, 1943, Charles E. King

In a twisting sign of the times, one of the new man-made hotels in Waikīkī becomes a landmark in itself. The Royal Hawaiian Hotel secures its own famous name song becoming memorialized in a composition written by Mary Pula‘a Robins:

Royal Hawaiian Hotel by Mary Pula‘a Robins

Uluwehiwehi ‘oe i ka‘u ‘ike la	You are festive to see
E ka Royal Hawaiian Hotel	O Royal Hawaiian Hotel
A he nani la ke hulali nei	Beauty gleaming
A he nani maoli nō	True beauty
Ka moena weleweka moe kāua la	Velvet beds we sleep upon
He pakika he pahe‘e maika‘i nei	Smooth, soft and good
A he nani la ke hulali nei	Beauty gleaming
A he nani maoli nō	True beauty
Ka paia māpala ‘ōma‘oma‘o la	Green marble walls
He pipi‘o mau e ke ānuenue	Rainbow constantly at arch
A he nani la ke hulali nei	Beauty gleaming
A he nani maoli nō	True beauty
‘O ka hone a ke kai i ka pu‘u one la	Soft song of sea on sand dunes
Me ke ‘ala līpoa e moani nei	Wafting in fragrance of seaweed
A he nani la ke hulali nei	Beauty gleaming
A he nani maoli nō	True beauty
‘O ka holunape a ka lau o ka niu la	Leaves of coconut sway
I ke kulukulu aumoe	In the late night
A he nani la ke hulali nei	Beauty gleaming
A he nani maoli nō	True beauty
Ka Hōkū-loa nō kou alaka‘i la	The morning star your guide
‘O ka mana Kāhikolu kou home la	Power of the Trinity your home
A he nani la ke hulali nei	Beauty gleaming
A he nani maoli nō	True beauty
E ō e ka Royal Hawaiian Hotel	Answer O Royal Hawaiian Hotel
Kou inoa hanohano ia la	This is for the glory of your name
A he nani la ke hulali nei	Beauty gleaming
A he nani maoli nō	True beauty

Source: Na Mele ‘o Hawai‘i Nei by Elbert & Mahoe - Composed for the grand opening of the $4 million Royal Hawaiian Hotel on Feb 1, 1927. Opening night festivities at the Pink Palace was attended by 1,200 invited guests who enjoyed a black tie dinner, concert by the Royal Hawaiian Band and dancing in the grand ballroom. © 1929 Johnny Noble Rights throughout the world controlled by Miller Music Corp.

Several other contemporary Hawaiian compositions make revealing references to Waikīkī in their verses. The song *Miloli‘i* written by John Makuakane takes the listeners on a tour from Hawai‘i to California and back. One of the verses in this song tells us that Waikīkī is where one can ride an elephant. The verse is as follows:

Waikīkī aku nei au la	At Waikiki, there was I
I ke kau ‘elepani la	As I got on the elephant
Ihu peleleu	It swings its trunk

[*Composed in the 1930’s, verse #2, the elephant was Daisy, a popular animal at the Honolulu Zoo]

Another similar song takes listeners on a tour of various places in O‘ahu’s Honolulu District. In this song, Waikīkī is especially a place to enjoy swimming. The composer of this song has been lost to history, so it is simply called a ‘traditional’ song without author. The name of the song is *Henehene Kou ‘Aka*, and the verse about Waikīkī is as follows:

I Waikīkī mākou	To Waikiki we go
‘Au ana i ke kai	Swimming in the sea
He mea ma‘a mau ia	Always a good time
For you and I	For you and I

[*Source: Leilehua Yuen as told by Nona Beamer]

As Hawai‘i became Americanized in the 1900s, more and more songs were being written in the English language. An entire genre of Hawaiian music called *hapa-haole* (literally, ‘half-foreign’) music was born. The birth of this music and its accompanying dances are largely credited to an attempt to entertain the increasing numbers of tourists to Hawai‘i. The bulk of these tourists flocked to Waikīkī’s shores, and *hapa-haole* songs and dances became a staple in Hawai‘i’s tourism industry. A list of popular *hapa-haole* song titles from the 1900s reinforces the reappropriation of Waikīkī as a tourist playground. From the huapala.org online collection of songs we see such titles as *Waikiki Hula, Waikiki Chickadee, Hawaii Calls, Hawaiian Hospitality, Hawaiian Moonlight, Honolulu I Am Coming Back Again, At Waikiki, Coconut Willie, Hula Glide, I Fell In Love With Honolulu, I Want To Learn To Speak Hawaiian, I’ll See You In Hawai‘i, In A Canoe, My Hawaiiana* (for the Hawaiiana Hotel), *My Rose Of Waikiki, My Tropical Hula Girl, My Waikiki Girl, On The Beach At Waikiki,* and *Out On The Beach At Waikiki.*

The historian Dorothy Barrere of Hilo reminds us that these *hapa-haole* songs and dances, while different from the chants and dances of old, became popular especially with the visitors to Waikīkī, and have now become an important part of Hawaiian history:

> The [*hapa-haole*] hula came into public prominence again after the first decade or so of the 20th century, this time under the stimulus of business—the entertainment business. The hula became a feature of carnivals and pageants and then became entrenched as standard entertainment fare catering to the growing tourist trade. (Barrere et al. 1980:64)

Perhaps one of the most famous and enduring songs about Waikīkī known around the world is the *hapa-haole* song composed by Andy Cummings. The magical spell of Waikīkī leaves both residents and tourists yearning to return. Here are the lyrics to that well-known song which sums up the charm of Waikīkī that world continues to love:

Waikīkī by Andy Cummings

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
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
*Alternate stanza

Source: Copyright 1947, 73 Atlantic Music Corp—The composer, on tour with the Paradise Islands Revue in Lansing, Michigan, had a severe attack of homesickness one cold and foggy night in November, 1938. Walking back to his hotel he thought about Waikiki with its rolling surf, warm sunshine and palm trees.

History of the Outrigger Reef on the Beach Hotel

Outrigger founder, Roy Kelley, arrived in Hawai'i with his new wife, Estelle, in 1929 (Outrigger Enterprises Group 2011:1). In 1947, Kelley bought his first hotels, including the Edgewater Apartments, near the site of the Outrigger Reef on the Beach Hotel. The Edgewater Hotel's Ocean Wing was built three years later, and the second Edgewater tower was constructed two years after that. The Ocean Wing was luxurious for its time, boasting six stories, a swimming pool, and an elevator.

The Reef Hotel's Ocean Tower was constructed in 1955 where the Edgewater Cottages once stood (Outrigger Enterprises Group 2011:1). Four years later, the Reef Towers Hotel fronting Lewer's Street was erected. The Outrigger name was branded in the early 1960s and the Reef Lanais were built, although the first hotel to feature the Outrigger name was the Outrigger Waikiki, established in 1967 (Outrigger Enterprises Group 2011:2).

In 1969, the Edgewater, Reef, and Reef Towers were sold to the Cinerama movie company so Outrigger could finance other projects (Outrigger Enterprises Group 2011:2). The hotels were repurchased in 1982, however. In the 1980s, the Reef Hotels, Waikiki Hotels, and Outrigger Hotels were consolidated into a single entity, and most properties took on the Outrigger name. The Edgewater and Reef Lanai hotels were demolished as part of the Waikiki Beachwalk project, which began construction in 2005, and the Reef Towers were transformed into the Wyhdham Vacation Ownership. The Outrigger Reef on the Beach underwent major renovations, completed in 2009, as part of the Waikiki Beachwalk project.

Contemporary History

Following the overthrow of 1893, the United States declared that the Hawaiian Islands were an American territory with its annexation in 1898 (Feeser 2006). Within the following decade or so, more than 70 acres of Waikīkī land in the area of Kālia was acquired by the U.S. War Department to establish a new military compound called Fort DeRussy. The construction of Fort DeRussy required the military to fill in the centuries-old fishponds in the area, and by 1928, all of the fishponds in this part of Waikīkī were filled (O'Hare et al 2005).

The filling in and draining of all of Waikīkī's fishponds and wetland agricultural fields coincided with the construction of the famous Ala Wai Drainage Canal. Construction of this canal started in 1921 and was completed in 1928. Subsequently, the 1930s saw the layout of today's familiar grid of Waikīkī's streets and spurred a rush to develop the carefully created tracts of land.

The rush to development in the 1930s came to a halt in the 1940s on the eve of World War II. Hawai'i's budding tourism industry focused on Waikīkī came to a standstill as the U.S. military imposed strict control throughout Hawai'i. The military declared a good portion of Waikīkī off limits to the public, but not off limits to military personnel. Instead, during the war years, Waikīkī became a special recreation area for the military. By the war's end, Waikīkī had sprouted a mix of curio shops, miscellaneous 'joints' and other so-called eyesores.

In the postwar era, the 1950s saw the comeback of extensive development throughout Waikīkī:

> By the mid-1950s there were more than fifty hotels and apartments from the Kalia area to the Diamond Head end of Kapi'olani Park… [the Waikīkī population] was not limited to transient tourists but also included 11,000 permanent residents living in 4,000 apartments in stucco or frame buildings. (O'Hare et al 2005:27)

The second half of the 20th century has promoted the continued development of Waikīkī into the 21st century making it a celebrated tourist destination:

> Waikīkī, one of the most famous and popular tourist destinations in the world, is today a concrete jungle built on grounds that were once Native Hawaiian royal compounds and on land reclaimed by draining the multiple fishponds and taro fields that *kānaka maoli* cultivated. Because Hawai'i's current economy relies on tourist-related industries, development continues in Waikīkī and elsewhere in the islands… and facsimiles of kanaka maoli culture are marketed as commodities to fulfill visitors' fantasies of an exotic, tropical paradise. (Feeser 2006:8)

Previous Archaeology

By the time Waikīkī came under serious archaeological investigation, most of the region had been cleared and rebuilt. J. Gilbert McAllister is credited with doing the first major archaeological documentation in Waikīkī in 1930. As part of his famous island-wide survey of O'ahu, he identified four pre-contact Waikīkī *heiau* sites, one of which was Kamehameha's Papaenaena Heiau near today's La Pietra School for Girls (McAllister 1933). Prior to that, nothing archaeological had been recorded except for the inadvertent discovery of *iwi* near the present day Waikiki Elks Club in 1901 (Emerson 1902). The *iwi* at the Elks Club were the remains of four adults, and they were uncovered along with glass beads and whale teeth. After McAllister's survey, archaeological work in Waikīkī did not resume until the 1960s when Kenneth Emory of the Bishop Museum tried to find Papaenaena Heiau again. His results were inconclusive.

The bulk of the intensive archaeological investigations within the Waikīkī area have taken place in the last few decades. A summary of that work concentrating on the vicinity of the project area is shared here, based on reports found at the SHPD library in Kapolei (Figure 11 and Table 1).

Considerable work has been conducted in the Fort DeRussy area, just northwest of the project area. In 1976, archaeologists for the Bishop Museum recovered five prehistoric or early historic human burials during excavation there. This was designated SIHP (State Inventory of Historic Places) 50-80-14-9500. One more burial was recovered from the road area, but it was believed to be of a more recent time period (Kimble 1976).

Figure 19. Previous archaeology in the vicinity of the project area.

Table 1. Previous Archaeology in the Vicinity of the Project Area

Author	Year	Location	Work Completed	Findings
Kimble	1976	Hale Koa Hotel	Inadvertent Discovery	Documented five human burials.
Neller	1980	Hilton Hawaiian Village	Rescue Archaeology	Identified SIHP 2870, three sets of *iwi* and historic trash pits.
Neller	1981	Halekulani Hotel	Reconnaissance	Identified SIHP 9957, four sets of *iwi*.
Davis	1984	Halekulani Hotel	Archaeological and Historical Investigation	Documented 32 features of SIHP 9957, including human remains, a dog burial, pits, privies, and post holes.
Davis	1989	Fort DeRussy and Hale Koa Hotel	Subsurface Reconnaissance	Documented SIHP 4573–4577, fishponds, and 4570, a cultural layer.
Kennedy	1991	IMAX Theater	Monitoring	Recovered pollen and ^{14}C samples from ponded sediments.
Simons et al.	1991	Moana Surfrider Hotel	Monitoring & Data Recovery	Documented 24 sets of human remains along with traditional and historic artifacts.
Hurlbett et al.	1992	Hilton Hawaiian Village	Monitoring	Identified 15 features and 4,000 artifacts of SIHP 2870.
Pietrusewsky	1992	Moana Surfrider Hotel	Inadvertent Discovery	Documented a human mandible that was inadvertently discovered.
Carlson et al.	1994	Kālia Rd.	Monitoring	Documented SIHP 4574, a buried fishpond.
Simmons et al.	1995	Fort DeRussy	Data Recovery	Documented a habitation deposit.
Cleghorn	1996	King Kalākaua Plaza	Inventory Survey	No findings.
Denham and Pantaleo	1997	Fort DeRussy	Data Recovery	Identified a human burial at SIHP 4579; further documented SIHP 4570.
Le Suer et al.	2000	King Kalākaua Plaza	Inventory Survey	Documented SIHP 4970, an *ʻauwai*, and 5796, a historic wetland agricultural layer.
Rosendahl	2001	Waikiki Beach Walk	Assessment	No findings.
Bush et al.	2002	Kalākaua Ave.	Monitoring	Identified four human burials associated with three sites: SIHP 4856, 5860, and 5864.
Putzi & Cleghorn	2002	Hilton Hawaiian Village	Monitoring	Documented SIHP 6399, fishponds, *ʻauwai*, and pits.
Bush et al.	2003	International Marketplace	Monitoring	No findings.
Kaliliwiha & Cleghorn	2003	Lauʻulu St., Waikolu Way, & Royal Hawaiian Ave.	Monitoring	No findings.
Chiogioji & Hammatt	2004	Royal Hawaiian Shopping Center	Assessment	No findings.
Esh & Hammatt	2006	Kuhio Ave.	Monitoring	No findings.
O'Leary et al.	2006	Royal Kahili Condo	Inventory Survey	No findings.

Table 1. Continued

Author	Year	Location	Work Completed	Findings
Dye	2007	Waikiki Beachwalk	Inventory Survey	No findings.
Hazlett et al.	2008	2284 Kalakaua Ave.	Monitoring	No findings.
Hazlett et al.	2008	Royal Hawaiian Shopping Center	Monitoring	No findings.
Runyon et al.	2008	Royal Hawaiian and Sheraton Hotels	Assessment	Found two human bones.
Thurman et al.	2009	Moana Surfrider Hotel	Inventory Survey	Identified SIHP 7068, a cultural layer, and 7069, a historic trash pit.
Yucha et al.	2009	Waikiki Shopping Plaza	Inventory Survey	Documented SIHP 5796, a previously recorded culturally modified wetland agricultural layer.
Runyon et al.	2010	Sheraton Waikiki	Burial Site Component of Data Recovery Plan	Reported on an inadvertent find of human remains to be preserved in place.
Sroat et al.	2011	Waikiki Shopping Plaza	Monitoring	Documented SIHP 5796, a previously recorded culturally modified wetland agricultural layer.
Tulchin et al.	2011	Hilton Hawaiian Village	Inventory Survey	Documented a buried cultural layer associated with SIHP 2870.
Thurman et al.	2012	Royal Hawaiian Hotel	Monitoring	Documented SIHP 7119, a subsurface cultural layer.

In 1989, archaeological investigations at Fort DeRussy and the Hale Koa Hotel sought to confirm the former presence of fishponds, habitations sites, and *ʻauwai* (Davis 1989). Test excavations at the Hale Koa Hotel uncovered a previously disturbed cultural layer with historic artifacts in secondary context. Along the beachfront at SIHP 50-80-14-4570, a pre-contact feature with fire pits and a post hole was discovered along with various 19th century glass and ceramic material. A subsurface reconnaissance survey at Fort DeRussy identified an intact cultural deposit and confirmed that while the fishponds and *ʻauwai* had been previously filled in, they were not destroyed (Davis 1989).

In 1992, a habitation deposit was identified during data recovery excavations at Fort DeRussy during the construction of recreational facilities. Additionally, excavations at SIHP 50-80-14-4570 revealed further information about the structure of Waikīkī's former fishpond and *ʻauwai* systems (Simmons et al. 1995).

In 1993, archaeological monitoring was carried out for the Kālia Road Realignment project. A significant find was the buried Loko Paweo Fishpond, SIHP 50-80-14-4574. In addition, human remains were identified in front of the U.S. Army Museum along with an occupation layer with historic trash pits and features. These were SIHP 50-80-14-4570 and 50-80-14-4966 (Carlson et al 1994).

In 1997, a human burial was uncovered at SIHP 50-80-14-4579 during data recovery excavations at Fort DeRussy between Kālia Road and Dudley Street. Also identified were historic middens, fire pits, dark stains, and possible pre-contact midden features. In addition, a concentration of coral, a fire pit, and a post hole were identified at SIHP 50-80-14-4570 (Denham and Pantaleo 1997).

In 2000, a major *ʻauwai*, SIHP 50-80-14-4970, was found during subsurface testing conducted on a parcel across from the Fort DeRussy tennis courts. In the same project, a historic period wetland was identified with an abundant micro-strata determined to be fill from the dredging of the Ala Wai Canal. This was assigned the site number 50-80-14-5796 (LeSuer et al. 2000).

Farther northwest is the Hilton Hawaiian Village, where several archaeological projects have taken place. In 1980, three sets of *iwi* were recovered and nearby trash pits were identified during excavations. This was designated SIHP 50-80-14-2870. It was determined through historic documents that the burials were likely post-1850 (Neller 1980). Later archaeological inventory survey documented a buried cultural layer associated with Site 2870 (Tulchin et al. 2011). Historic and modern debris was found, including glass bottles, ceramics, and faunal material.

Between 1985 and 1987, 15 features and nearly 4,000 artifacts were identified during archaeological monitoring of excavations at the Hilton Hawaiian Village. This was at the previously identified Site 2870. The artifacts consisted of household items of glassware and tableware and architectural material, such as nails and glass, with most of the artifacts dating from 1870 to 1930 (Hurlbett et al. 1992).

In 2002, four fishponds were identified during the archaeological monitoring conducted for excavations on the roadways fronting the Hilton Hawaiian Village. Also documented were two *ʻauwai*, a prominent waterway, a fire pit, three refuse pits, and a fifth pit, the function of which was undetermined. This entire site was designated as SIHP 50-80-14-6399 (Putzi and Cleghorn 2002).

On the east side of the project area, the remains of four individuals were identified at the Halekulani Hotel during an archaeological reconnaissance and recovery (Neller 1981). Historic trash pits were also discovered. The site was designated as SIHP 50-80-14-9957. Although the cultural remains had been previously disturbed, the burials were dated to the 1800s. The historic artifacts dated to the late 1800s and early 1900s (Neller 1981).

In 1984, trenches and test pits were excavated to isolate the cultural deposits at Site 9957. A significant amount of cultural material dating to the late 1800s was found, and 32 features were documented, including human skeletal remains, a dog burial, pits, privies, and post holes. The trash pits contained ceramics, bottles, and metal (Davis 1984).

A series of projects were conducted in the Sheraton Waikiki and Royal Hawaiian Hotel and Shopping Center area, farther to the east of the project area. Isolated fragments of human remains were reinterred on the grounds of the Royal Hawaiian Hotel at SIHP 50-80-14-5937 (Runyon et al. 2008). Later archaeological monitoring documented a subsurface cultural layer, SIHP 50-80-14-7119 (Thurman et al. 2012). Other work at the Royal Hawaiian Shopping Center had no findings (Chiogioji and Hammat 2004; Hazlett et al. 2008).

Farther east at the Moana Surfrider Hotel, several other archaeological projects were carried out. The earliest work identified 24 sets of human remains, along with traditional and historic cultural material (Simons et al. 1991). The next year a human mandible was found by a hotel guest (Pietrusewsky 1992). A later inventory survey identified SIHP 50-80-14-7068, a buried cultural layer, and -7069, a historic trash pit (Thurman et al. 2009).

At the Waikiki Shopping Plaza, on the *mauka* side of Kalākaua Avenue, archaeological inventory survey and monitoring were completed (Yucha et al. 2009; Sroat et al. 2011). A previously recorded wetland agricultural layer was found, Site 5796. The layer was buried deeply, more than 1.2 m below the surface.

Other archaeological monitoring projects have yielded various findings. At the IMAX Theater, pollen and radiocarbon samples were collected from ponded sediments (Kennedy 1991). Along Kalākaua Avenue, three sites (SIHP 50-80-14-4856, -5860, and -5864) contained four human burials (Bush et al. 2002). The two burials of Site 5860 and the burial of Site 5856 were disinterred and moved to a shrine at the corner of Kalākaua Avenue and Kapahulu Avenue. The burial at Site 5864 was left in place.

Other projects that did not identify new archaeological sites include work at the International Marketplace (Bush et al. 2003), the Royal Kahili Condo (O'Leary et al. 2006), the Waikiki Beachwalk (Rosendahl 2001; Dye 2007), the IMAX Theater (Kennedy 1991), The Kalakaua Plaza (Cleghorn 1996), 2284 Kalākaua Avenue (Hazlett et al. 2008), and two roadwork projects (Kalilihiwa and Cleghorn 2003; Esh and Hammatt 2006).

Countless other archaeological investigations have been undertaken throughout Waikīkī, and many more human remains have been inadvertently uncovered. However, only the above projects documented have taken place in the vicinity of the current project area.

Previous Oral Histories

A wealth of information can be found in the numerous previous oral histories of Waikīkī (Table 2). In 2001, an assessment was conducted regarding the nature of cultural practices in Waikīkī, especially in the area of the Outrigger Reef redevelopment project. The research was aimed to document traditional and historical cultural practices; identify cultural concerns of the community; and propose recommendations to mitigate possible negative impacts of the planned development. A large part of their research was an oral history component where they interviewed four *kūpuna* connected to the project area. The four *kūpuna* interviewed were: Peter Ahoe Akimo Jr, Florence Kamakaʻōpiopio Clark Miyamoto, Robert Clarke Paoa, and Betty Dyer Sorensen.

Although, the specific details of the interviews varied with the individuals, common themes emerged. All four *kūpuna* depicted a Waikīkī they grew up in that was substantially different from the Waikīkī of today. Among the illustrations of old Waikīkī that they shared were the abundance of marine resources in the past and the many ways they would harvest these resources. It was a common scene to see a great number of fishermen and divers; of ladies gathering different types of seaweed; of people laying net and throwing net; of those looking for squid or crabs or *ʻoʻopu* inshore; and of fishermen torching at night. Another depiction they provided was the visual description of the landscape. This included memories of which families lived where in Waikīkī; of people living on the edges of the Ala Wai and of others "squatting" in the area of present-day Ala Moana; of duck ponds once cared for by the Chinese; and of a strong military presence in the vicinity of Fort DeRussy. Most of the *kūpuna* acknowledged the presence of burials uncovered in the development of Waikīkī and some were even lineal descendants. All of the interviewees agreed that the development of the last century surely changed the face of Waikīkī.

Another source of oral histories regarding Waikīkī comes from a University of Hawaiʻi (UH) project called *Waikiki,1900–1985: Oral Histories* (Oral History Project 1985). The project was undertaken by the UH Center for Oral History under the direction of ethnographer, Professor Warren Nishimoto. A total of 50 *kūpuna* with ties to Waikīkī were asked to share their accounts of growing up, living in, and working in Waikīkī. The aim of this oral history project was to focus on the changes of Waikīkī today from how it used to be. The life stories of the 50 *kūpuna* that UH interviewed offer priceless first-hand memories of the Waikīkī of bygone times: of neighborhoods within a rural Waikīkī; of duck ponds and rivers; of surfing and fishing and crabbing; of two teahouses and few

Table 2. Previous Oral History Interviews for Waikīkī

Person Interviewed	Age (at time of interview)	Occupation
Akana, Joe	79	Beachboy, Naval shipyard worker
Akimo, Peter Ahoe Jr.	74	Moving company operations manager, Shuttle bus driver
Anderson, Robert Alexander	92	Composer, Sales executive
Aoki, Harold	75	Store owner
Arashiro, John	84	Waiter
Asuka, Miyo	91	Laundress
Bader, Esther Jackson	69	Shopping company employee
Bishaw, Jack	67	Federal civil service worker
Clarke, Mary Paoa	84	Homemaker
Cook, William	64	Businessman
Craw, Wilbur	72	Food broker
Ernstberg, John	76	Beachboy/musician, City & County lifeguard
Freitas, Hilda	76	Nutrition Aide
Fullard-Leo, Leslie	77	Family estate manager
Hikida, Sadao	72	Bellhop, federal employee
Holt, Lemon "Rusty"	82	Postmaster, School store manager
Joy, LeiIlima	58	Taxi driver
Kaawakauo, Emma	59	State clerical worker
Kahanamoku, Louis	78	Beachboy, U.S. marshal
Kalama, Benny	70	Musician
Kaneapua, Rose P.	67	Condominium owner, entertainer
Kapule, Rebecca	73	Hotel clerk
Kelley, Roy C.	81	Developer, Hotel owner
Kennedy, Eugene	73	Police detective
Kimball, Richard "Kingie"	No age given	Hotel owner
Kusunoki, Helen	68	Family-run restaurant helper
Love, Alan "Turkey"	No age given	Beachboy
Matthias, Jesse	90	Auditor, Realtor
McKinzie, Adelaide Kaʻai	85	School teacher
Midkiff, Marjorie	66	Executive secretary
Miyamoto, Florence Kamakaʻopiopio Clark	73	Occupation not stated
Murakami, Ume	89	Laundress
Nakamura, Susumu	70	Boat carpenter

Table 2. (Continued)

Person Interviewed	Age (at time of interview)	Occupation
Nunotani, Fumiko	72	Homemaker
Paoa, Fred	81	Assistant police chief
Paoa, Robert "Bob" Clarke	64	Gun repairman, Army National Guard inspector
Peterson, King	75	Business manager
Reiplinger, Lila	63	Hula dancer, Musician
Richards, Mervin	65	Naval shipyard worker
Roxburgh, Nani Espinda	75	Homemaker
Sasaki, Richard	68	Police officer
Sniffen, Lilinoe	67	Lei seller
Sorenson, Betty Dyer	79	Occupation not stated
Steer, "Tootsie" Notley	71	Hula dancer
Steiner, Ernest	78	Stockbroker
Tominaga, Beatrice	71	Clerk
Uyehara, Sam	76	Restaurant owner
Vida, Earle "Liko"	84	Business executive
Wong, Ella Ling	74	School teacher
Yasumatsu, Taka	86	Dry cleaner helper
Yasumatsu, Toshio	86	Dry cleaner
Yee, Ah Kin "Ah Buck"	86	Beachboy, Federal worker
Yoshimoto, Teiki	83	City & County worker, Taxi driver
Yoshimura, Masayuki "Mahjong"	70	Lumber salesman

hotels and *lu'aus*; of family life and growing up in Waikīkī; and the list goes on. These 50 elders echo the memories of the four *kūpuna* mentioned above, and the collective thoughts of all 54 of them agree with the stories of the community members that Keala Pono interviewed for this project.

Summary and Settlement Patterns

Scientific models, historical evidence and traditional sources advance the theory that Waikīkī was one of the first places that Pacific Islanders settled on O'ahu after the initial occupation of the Ko'olaupoko area. The first arrivals to Hawai'i probably came around 300 A.D., and the settlement of Waikīkī probably occurred around 600 A.D (Kanahele 1995). The well-watered lands and the rich coast of Waikīkī were conducive to sustaining a healthy population. While the earliest form of society in Waikīkī centered on extended family units headed by a number of patriarchs, as the population expanded, it evolved into a strict hierarchal class-society ruled by divine chiefs. It is suggested that Hawai'i's organization under divine chiefdoms probably first appeared around 800 A.D. (Kanahele 1995).

The Hawaiian Islands consisted of several sovereign island kingdoms independent of each other for almost 1,000 years. During this time, different islands were consolidated under one ruler, and at

other times, the chiefdoms consisting of several islands were splintered, all of this fluidity due to inter-island wars and alliances. For much of this portion of Hawaiian history, Waikīkī not only remained part of the O'ahu kingdom, it was the very seat of power for the O'ahu king. Toward the end of the 18th century when O'ahu was first conquered by the Maui king, and about a decade later when O'ahu was conquered by the Hawai'i Island king, Waikīkī remained the seat of political power. The newly unified Hawaiian Islands continued to be ruled out of Waikīkī under King Kamehameha the Great until he moved his seat of government to Honolulu. Throughout it all, Waikīkī was still a place reserved for Hawaiian royalty to live, worship, and play. Even after King Kamehameha III's sweeping enactment of the Māhele of 1848 which allowed for private ownership of land, Waikīkī continued to be associated with the Hawaiian royals and their comrades.

The 19th century closed with the overthrow of the Hawaiian monarchy by foreigners backed by the United States and the annexation of Hawai'i into an American territory, and the next century began with the U.S. military building a base in Waikīkī. By the end of the 1920s, the U.S. military drained and filled all of the natural wetland environment that Waikīkī had been known for, and developers started converting the entire area into prime real estate. Development was halted during the 1940s due to World War II when the U.S. military declared martial law and all non-military movement was strictly curtailed in the region. However, after the war, Waikīkī was re-opened for business, and it was slated to become Hawai'i's premier tourist destination. The hyper-development of Waikīkī snowballed throughout the rest of the 20th century, and staying true to the original plans, the area had become the number one destination for Hawai'i's tourists. Today, the name and reputation of Waikīkī is known around the globe, its allure continues to attract new visitors and bring back returning visitors year after year.

ETHNOGRAPHIC SURVEY

As we all know, there are some things that cannot be found in the archives, in textbooks, or at the library. It is here, through the stories, knowledge and experiences of our *kamaʻāina* and *kūpuna*, that we are able to better understand the past and plan for our future. With the goal to identify and understand the importance of, and potential impacts to, traditional Hawaiian and/or historic cultural resources and traditional cultural practices of Waikīkī, ethnographic interviews were conducted with community members who are knowledgeable about the project area.

Methods

This cultural impact assessment was conducted through a multi-phase process between August and November 2014. Guiding documents for this work include The Hawaiʻi Environmental Council's Guidelines for Assessing Cultural Impacts, A Bill for Environmental Impact Statements, and Act 50 (State of Hawaiʻi). Personnel involved with this study include Windy McElroy, PhD, Principal Investigator of Keala Pono Archaeological Consulting, and Dietrix Duhaylonsod, BA, Ethnographer and Archival Researcher.

Consultants were selected because they met one or more of the following criteria: 1) was referred by Keala Pono Archaeological Consulting or Group 70; 2) had/has ties to the project area or vicinity; 3) is a known Hawaiian cultural resource person; 4) is a known Hawaiian traditional practitioner; or 5) was referred by other cultural resource professionals. Four individuals participated in the current study (Table 3). *Manaʻo* and *ʻike* shared during these interviews are included in this report.

Interviews were taped using a digital MP3 recorder. During the interviews, consultants were provided with a map or aerial photograph of the subject property, the Agreement to Participate (Appendix A), and Consent Form (Appendix B), and briefed on the purpose of the Cultural Impact Assessment. Research categories were addressed in the form of open questions which allowed the consultant to answer in the manner that he/she was most comfortable. Follow-up questions were asked based on the consultantʻs responses or to clarify what was said.

Transcripts were produced by listening to recordings and typing what was said. A copy of the edited transcript was sent to each consultant for review, along with the Transcript Release Form. The Transcript Release Form provided space for clarifications, corrections, additions, or deletions to the transcript, as well as an opportunity to address any objections to the release of the document (Appendix C). When the forms were returned, transcripts were corrected to reflect any changes made by the consultant.

The ethnographic analysis process consisted of examining each transcript and organizing information into research themes, or categories. Research topics include traditional land use and archaeological sites, connections to Waikīkī, reminiscences, change through time, cultural practices and gathering, effects on cultural resources, and concerns and recommendations. Edited transcripts are presented in Appendices D–G.

Consultant Background

The following section includes background information obtained from each consultant during the interviews. This includes information on the consultant's *ʻohana* and where the consultant was born and raised, in their own words. Consultants include Mana Cáceres, Willie Hoʻohuli, Paulette Kaleikini, and Didi Robello.

Table 3. Individuals/ Families Contacted

Name	Affiliation/Expertise	Result
Didi Robello	Waikīkī Beach Boy	Interview Completed
Keohokalole ʻOhana	Waikīkī Descendant Family	No Reply
Malia Nobrega	Waikīkī Hawaiian Civic Club	No Reply
Mana Caceres	Waikīkī Descendant Family	Email Interview Completed
Manu Boyd	Kumu Hula, Cultural Director at Royal Hawaiian Center-Helumoa	No Reply
Paulette Kaleikini	Waikīkī Descendant Family	Email Interview Completed
Tom Shirai	Waikīkī Descendant Family	No Reply
Willie Hoʻohuli ʻOhana	Waikīkī Descendant Family	Interview Completed

Mana Cáceres

[My name is] Norman "MANA" Kaleilani Cáceres. My parents moved away from Hawaii right before I was born (10/7/1976). I was born in Orange County California and lived most of my pre-adult years in Washington state where I graduated from Clover Park High School. After graduation, I relocated to Hilo, Hawaii where I attended the University of Hawaii at Hilo. My original goal was to double major with a BA in Hawaiian Studies/Anthropology and a BA in Communication but after we found out that we were expecting our first child, I finished with a BA in Communication.

Willie Hoʻohuli

My name is William Aweau Hoʻohuli or Willie, and I was born in Nanakuli, and we also lived out in Kakaʻako by the fire station, and a few buildings behind of us was the makers Kona Coffee and across HRT Bus terminal, the bus ran by electrical overhead cables and spring rods part way end of the bus roof, and we go back and forth from Nanakuli. Our dad worked for Lewers and Cooke Honolulu. He had a huge car and on his way home he would bring home wooden crates to build house with. Some of the Nanaikapono homesteaders would ask him to transport them to and from work at Pearl Harbor Hickam, down town Honolulu which he did. He started with two taxis then some second hand buses. Named Nanakuli Bus line bus stations were at Kakaako Nanakuli lot 60, and Haleakala Ave. Bus Schedule 4:00am at Tamura store the bus route was Kakaako, Nimitz, and River Street to Dillingham, Pearl City, Waipahu, Nanakuli, Maili, and Waianae on old gov't road fronting old 1st Tamura Store and Teramoto Barber Shop. The last bus left Kakaako at 8:00pm. Our mother was a mail carrier pick-up mail, deliver mail to and from Waipahu Post Office by old Waipahu movie house, and old fire station and between Kawano Store. Ewa, post office in old quonset hut across store and business building and ewa sugar plantation factory. Nanakuli post office corner of Nanakuli Ave. and Farrington Hwy. and between Mahilona Soda Fountain and Kalito Barbar-Shop and Waianae post office. Where Oritas Bldg. is at now presently a surf shop. Bus line started early 1930–ceased 1958.

I also lived in Waianae Valley. I helped my sister Pauline Sweetie, she worked at Barber Point NAS and my brother in law Ah Ching Poe. He worked for Hawaiian Dredging at Mt. Kaala Water tunnel to help with the farm and animals. She would pick me up where I was born after work. I would also help another Sister, Rose Pua, and my brother in law, David Kauwa Poe. He was in the Air Force to help my sister with their peanut farming. I also help tutu Harry G. Poe and tutu Emily Dung Poe with tutu-ma the Hoohuli Kaahaaina, Poe ʻOhana every two weeks we all pull taro, clean the *loʻi* of roots and weeds. Pulling cleaning

roots off taro, set up taro for wheel barrel to load, take to preparation area dump taro, cut off *luau*-leaf *ha-ha* [stem] and *huli*. Good *luau* leaf will cook for lunch or Ohana to take home, or rest for pigs, cut *huli* and sort for replanting. Leave out to dry one or two days, bunch up and set in a corner of *lo'i* to root, plant taro during day of the full moon. Preparation set up and cooking set up four (4) 55 gallon drums. Set wire basket bottom of drum set some burlap bags for taro to cook on fill with water to wire basket. Fill with taro cover top with burlap bags, and cover. Cook over night. Early the next morning all the Ohana would gather to dump taro on cleaning area. Fill half drums with water and fill drum with taro as need while removing skins, root eyes, etc. Keep scraps and skin for ducks, chicken or pigs. Ready to grinding trough. Fill Ohana big pot with *poi*, when *pau* clean up and a big lunch. Lunch was a mixture of dry salted salmon, *aku*, *palu*, *pulehu*, *bakalau*, stew *luau*, *pipikaula*, salt pork, sweet potatoes, taro, *ulu*, *ulu poi*, fresh taro *poi*, *kulolo*, sugar cane. Swim in the Water Concrete Flume or water ditch that fed sugar cane fields in lower Waianae Valley, Waianae dump, and Kamaile area. These were the days, here time passed us by again.

I am the 12th of 13 children and my one half sister of our father. That makes 7 boys and 7 girls. I went to Nanaikapono [Elementary], and I went to Wai'anae High. My Ohana, My wife Kim and children, lived in Makaha Lahana and Jade. Then Waianae Kawili St. next to Charles and Madge Orita family and below water tank sold both homes, then rented a home on Makau St., Makaha, ocean side, the papa held *limu kohu*, *limu pepe'e*, *he'e*, *kala*, *manini*, lobsters, *a'ama* that was our ice box when we lived there while our new home in Waipio By Gentry was being built. I worked for Kaiser Cement in Nanakuli as a maintenance mechanical superintendent. Kaiser Cement ceased operations summer of 1985. I was transferred to California Apple Valley, then San Jose. I retired from San Jose, California summer of 1986. I am very blessed from *Akua* to have granted 28 years of retirement and looking for more. [Willie Ho'ohuli]

Paulette Kaleikini

[My name is] Paulette Kaanohiokalani Keaweamahi Kawainui Kaleikini. Keaweamahi is my mother's family name; Kawainui is my father's family name; Kaleikini is my husband's family name. I was born, primarily raised and grew-up on Oahu.

Both my mother's and father's *kupuna* are from Hawaii Island. My father is from Ka'u; the Kekuhaupio lineage. My mother is of the Keawe clan of Kona Keawemoku and the Mahi lineage of Kohala.

My *'ohana* were of this area; lived and died there. My mother's uncle is buried on lands there. My grandfather's ashes and his brothers were scattered on the ocean outside of the Halekulani like that of their cousins, the Kahanamokus. My knowledge of this area are from her.

Didi Robello

My name's Didi Robello. That's my nickname. My first name is Harry, 52 years old, born in 1962. My father was Harry S. Robello. My mother was Barbara Kahanamoku. I grew up in Kuli'ou'ou Valley and in Waikīkī. My dad started Aloha Beach Services back in 1959. We've been here the longest. All I know is Waikīkī. I do know more of my information is from the Royal Hawaiian [side] towards Diamond Head to the police station.

Kuli'ou'ou is the area I grew up, Kuli'ou'ou Valley. I went to Hahaione School, and then Niu Valley Intermediate. And I graduated from Kaiser High School in 1980.

My mom was Bill Kahanmoku's daughter. He's one of the Duke's brothers, one of only three that had any children. I've got a brother and a sister. I also have two first cousins from my mom's brother, Billy Kahanamoku, who also passed away. They both passed away already. My dad passed away in 2004 in April, and my mom passed away in 2004 in August.

My great-grandmother was a Paoa, and my great-grandfather was Halapu Kahanamoku. They actually named the police station after him because he was a captain of the police. And then, from them came the six brothers and two sisters. So I come from the Kahanamoku side.

Topical Breakouts

A wealth of information was obtained through the oral interviews. Quotes from the interviews are organized in the following sections by topic. Topical breakouts include traditional land use and archaeological sites, connections to Waikīkī, reminiscences, change through time, cultural practices and gathering, effects on cultural resources, and concerns and recommendations.

Traditional Land Use, Archaeological Sites

There were a lot of fish ponds and *lo'i*. My *kupuna* had special traditional and cultural uses of the ponds that were on the lands belonging to them. One pond was used for raising the favorite fish of the *ali'i*; the *moi*. She talked of her father's *'ohana* who lived in the area; Kahanamoku, Harbottle, Alapai, Naihe, Kalehua, Umiumi. [Paulette Kaleikini]

There were ponds in this area; some were used for raising fish (like the one on my *'ohana's* property) and some were used to irrigate *lo'i*. Surveying the bottom of these *lo'i* might provide some answers. In another area of Kou, the sides of a pond that belonged to another of my *kupuna* revealed *iwi* in the sidewalls of the pond. The only ongoing practice today is tourists walking throughout the street and people living in apartment buildings; nothing native Hawaiian, traditional or cultural about that. [Paulette Kaleikini]

Yes, some burials were found in close proximity to the project site; it's been recorded at the SHPD. The whole area is an historic site. Many natives lived there and many were killed during the invasion of Kahahana, Kahekili and again by Kamehameha. Where they died is where they were buried. [Paulette Kaleikini]

Currently, I am involved with the cultural monitoring work for the Hilton's wastewater project and their Grand Islander project. There were burials found in this area. We are monitoring in case more burials are impacted or cultural layers, historic properties are located. [Paulette Kaleikini]

Well, I've seen them move bones around. That would be at the Moana Hotel. I've had friends give me things that they've found in the waters out here, kinda neat, you know. Other than that, my stuff would be more from the '60s. [Didi Robello]

No, I haven't [heard of *iwi* in the Outrigger area]. I'm almost sure that there's some in the Royal too, but I couldn't tell you exactly. [Didi Robello]

Connections to Waikīkī

My dad was the last of the original [Waikīkī] beach boys. He grew up working with Duke Kahanamoku. Pua Kealoha is the one who brought 'em on the beach and introduced him to the boys. I grew up being what you call a *gadut* [a word in the Pidgin language meaning

"gopher"] for most of them. And fortunately, I got to meet 'em all and see them all before they passed by [died]. [Didi Robello]

Yeah, with Chick Daniels, Tom Fittera, Joe Wright, all these guys at the Royal [Hawaiian Hotel]. I spent a lot of time in front of the Royal, as a little kid, and the Moana Hotel….I would say [my knowledge is] just from being down here my whole life, hearing the stories from all the old guys, from my parents, from my families, my mom, dad—actually just watching a whole lot of the changes go on down here. [Didi Robello]

Although majority of my genealogy comes out of the Big Island, my wife and I both do have familial ties to Waikiki. Which we can go over at a later time…The knowledge I possess, that specifically deals with this area in particular are of the burial practices, ceremonies and other *mea* of that nature. [Mana Cáceres]

My mother's *kupuna* were with the entourage of the chiefs who traveled to Oahu from Keawemoku. Some *kupuna* traveled to Oahu to log the sandalwood for the king. It was very hard work and most of those *kupuna* never made it back to Keawemoku and Kohala. Other *kupuna* members were of the *kauhale* of the chief and king, became part of the land, living and farming the land like on the subject property. Of course, these *kupuna* were all related to Kamehameha and is why one of his favorite *lo'i* on Oahu was in Kalia Waikiki. [Paulette Kaleikini]

When the lands were issued at the time of the Mahele, *kupuna* who were already on the lands received them as Land Commission Awards (LCA) which eventually became Royal Patents. Not all LCAs became Royal Patents. The king issued lands to his *'ohana* first making sure they were taken care of. After that is written history. We know what happened to the lands, the LCAs, the RP. But the real truth is not written. Royal Patented lands could not be sold; as is noted on the bottom of each document. The lands were quiet titled. The real meaning of the process of quiet title is to "steal;" simple as that. [Paulette Kaleikini]

The lands of my *kupuna* belonged to William Luther Moehonua. The RP stretched from the location of the Ilikai to Kalakaua Ave, from Atkinson Drive to Ala Moana Blvd. My grandfather was born on that property, my mother and her siblings were born on that property, my siblings were born on that property. As the youngest, I was the only one of my siblings not born on that property and yet I feel the strongest ties. Long story short, the occupier of the land gratefully helped my *'ohana* to relocate elsewhere. My mother loved that land. She did not like talking about it, but I saw it in her eyes and felt her heartache. I carry her *kaumaha*. [Paulette Kaleikini]

Anyways, the area of the project was not always under Kekuanaoa. He was the father of Kamamalu; granddaughter of Kamehameha I. After her death, he inherited the lands that were given to her at the Mahele. Before the Mahele, the lands were primarily occupied by the Keawe, Kekaulike and Mahi *'ohana* who were already here; and had come over with Kahahana, Kahekili or Kamehameha. When the lands were issued by the Mahele, the *'ohana* were allowed to remain and farm the land as most or all were relatives to the awardee; in the case of this project area, it was Kamamalu and Kekuanaoa. The families living in the area before the Mahele would have been of the Kahekili and Kamehameha lineage. Very little families of the Oahu chiefs lived in these areas by then. [Paulette Kaleikini]

…An *'ohana* by the name of Kupuna M. Kekuanaoa…he is a *poolua* child of two fathers. This *poolua* father named Kupuna Kiilaweau (our *tutu*) and Kupuna Wahine are half sibling, same father Kupuna Kanaina-nui, but different mothers. Kekaunaoa is in one of the books I read, it mentioned *tutu wahine* is his older sister. Sometimes I question that to

my wife about it. He comes from a lower generation, from my *tutu*, but he calls her his older sister. He is also the father of Kamehameha IV and V. There's other names that it's not on this map, but [it's] on the map that we're working with, Fort DeRussy. It has names of our ancestor. There were people that was brought over from Kona, Kohalo and left to *malama* the island Kupuna Kuihelani, and their name was Kupuna Kamakahono, and Kaukaumakea and others. Kupuna Kamakahono is a son of Kupuna Kaiakoili I, Sister Kupuna Walawala and Kupuna Kapalalaole of Kohala. Kupuna Kuihelan is *'ohana* to Kupuna Tutu Kailihao and Kupuna Kaukaumakea is brother to Tutu Kailihao, they are descendants of Kupuna Kekaulike of Maui. [Willie Ho'ohuli]

Because at this point the question to the past you mentioned special things, remember in your experiences, the changes, personal stories, *mo'olelo*, songs anything to Waikiki project and yes we will open this door for you. Yes there is a link to the past of these Kupuna and their descendants in this 21st century. This Hoohuli Ohana and Hoohuli Ohana genealogist will share this shared ancient Kupuna like others of Waikiki and the island of Oahu, Molokai, Lanai, Maui, Hawaii, and Kauai. [Willie Ho'ohuli]

One must know the *kupuna* that are mentioned the island that they descended from and how they intertwined with each other. Beginning with this lineal, Kupuna Kukaniloko of Oahu and Kupuna Luaia, of Maui. With this great grandson of their Kupuna Kakuhihewa, whom was said to have been born at Kukaniloko, Oahu, with forty-eight chiefs of the highest rank being present. At the ceremony of cutting the naval cord of the new born chief and the two sacred drums names "Opuku" and "Hawea" Fornanders Ancient History of the Hawaiian People to the time of Kamehameha I again Kupuna Kakuhihewa and Kupuna Kahaianui-a-Kahuailana, daughter of his first cousin Kupuna Napulahumahiki, and their aunt Kupuna Kekela, Kupuna Kekela is a younger sister to Kupuna Napulanahumahiki's father, Kupuna Hao, both of them are siblings to Kupuna Kakuhihewa's father Kupuna Kaihi-kapu-a-manuia. They are children of Kupuna Kaleimanuia of Oahu and Kupuna Lupekapukeahemakalii of Maui. Again Kupuna Kakuhihewa's great, great-grandson Kupuna Kualii of Oahu and Kauai and Kupuna Kalanikahimakeialii daughter of Kupuna Kaulahea II and his sister Kupuna Kalaniomaiheuila of Maui. Again Kupuna Kualii granddaughter Kupuna Kuwalu of Oahu and Hilo Hawaii and Kupuna I-Kanaka, son of Kupuna Makua and Kupuna Kapohelemai of Hilo Hawaii. Again Kupuna Kuwalu is a daughter of Kupuna Peleioholani of Kauai, Oahu, and Lonokahikini. Again Kupuna Kuwalu's great, great, great granddaughter Kupuna Hakau and Kupuna Kanaina-nui A.K.A Kupuna Kalaimanokahoowaha, a story with Captain James Cook at Kealakekua Bay. Again Kupuna Kanaina-nui is a son of Kupuna Keaweikekahialiiokamoko A.K.A Keawe II with Kupuna Moana. Again Kupuna Moana and Kupuna Heulu, is the parents of Kupuna Hakau. Both having the same mother. They being half siblings, Kupuna Heulu is a son of Kupuna Umiulaa Kaahumanu and Kupuna Kapaihia-ahu, again Kupuna Umiulaa Kaahumanu is a daughter of Kupuna Mahiolole and Kupuna Kanekukaailani these Kupunas mentioned here is also *'ohana* to Kupuna Kamehamehas, Kupuna Kalakaua, Kupuna Liliuokalani, Kupuna Kaoanaeha wife of Kupuna John Young the chief of Kamehameha I. And again these Kupuna mentioned below have also shared the same Kupuna as the Kamehameha and Kalakaua Dynasty. Again Kupuna Kanaina-nui and Kupuna Hakaus their great grandson Kupuna Naeole of Kohala Hawaii and Kupuna Kauko. Again Kupuna Naeole, the story of the child Kupuna Kamehameha, with the help of the people of Kohala. Again their son Kupuna Kaiakoili I A.K.A Hulikoa of Kohala, Kona, Kau and Kailihao. Again Kaiakoili I was sent to Oahu to Konohiki Koolaupoko to assist Kupuna Kuini Lihiha. Again Kupuna Kaiakoili II Stayed back to *malama* Kohala, Kona, Kau, with his uncle Kupuna Manuhoa II. Eventually Kupuna Manohoa was sent to Honolulu. Kupuna Kaiakoili II remained in Kona. Again Kupuna Kaiakoili II aka Hulikoa and his aunt Kupuna Maiau his mother Kupuna Kailihao's younger half-sister. Their granddaughter Kulani Lima II is a great, great, great granddaughter of Kupuna Alapai-nui-a-mahi and Kupuna Keakokalani Puou Kupuna Keaka is a great granddaughter of Kupuna

Holoae, again Kupuna Kaiakoili, A.K.A Hulikoa, and Kupuna Maiau, their granddaughter Kulani Lima II, our mother, her older sibling Joeseph Hulikoa Lima and his Wife Rebbeca Likua. Again Joseph Kahapea Hoohuli, a descendant of Kupuna Kanoenoe of Kauai, our father. Their 14 children Hoohuli Ohana and Lima Ohana. [Willie Ho'ohuli]

The Ho'ohuli 'Ohana asked that the following engraving (Figure 20) and newspaper article accompany their interview, to better understand their genealogical history. The engraving of Chief Kanaina-nui is a reproduction of a painting by John Webber, the artist aboard Captain Cook's first expedition to Hawai'i. The newspaper article is reproduced in full below:

Voyaging with Captain Cook

BY Mike Gordon
Advertiser Staff Writer

It's hard to imagine a time when there were still mysteries just beyond the blue horizon, even as Eleanor Nordyke holds the proof in her hands — a weathered journal from one of history's most celebrated explorers, Capt. James Cook.

When Cook sailed into the Pacific in 1776, he and his crew encountered people and places previously unknown to Europeans, including Hawai'i. Cook's descriptions of the cultures he found were first published in 1784 and thrilled readers, as did the drawings of expedition artist John Webber.

But the exotic eventually gave way to the commonplace and then to the realm of the forgotten. When Nordyke first saw one of Cook's original published journals in the 1970s, the three-volume set was in a rare bookstore in San Francisco.

For the Manoa grandmother, Cook's descriptions loomed fresh and large and would launch her on her own voyage of discovery. A career demographer, Nordyke wanted to rekindle the wonder of the original expedition. After years of painstaking effort, the result was "Pacific Images," a book published in 1999 that paired Cook's journal entries with Webber's drawings.

"What right did I have to have these wonderful books and not share them broadly?" Nordyke said, as she sat in her living room with one of Cook's original published journals in her lap.

"Pacific Images" took almost two decades to create and just four years to go out of print. In the years since, it has become a coveted collector's edition in its own right — a $45 book that has sold for up to $1,500.

Still driven to share, Nordyke has now produced a second edition, paying for the $60,000 printing cost out of her own pocket. It's been in bookstores since February.

"I'm providing it for a different generation," she said.

Cook's original work, "A Voyage to the Pacific Ocean," is one of Nordyke's most beloved treasures, but she treats it as casually as an old friend. The pages that inspired "Pacific Images" are more than 200 years old, have brown spots, and sticky notes. The worn covers are sheathed in plastic, but Nordyke turns its pages with ungloved fingers.

Two years after Nordyke bought Cook's journal, the San Francisco bookstore called — it also had a copy of the original engravings made from Webber's drawings. The 61 drawings in the Cook expedition's official atlas folio were large and beautiful, but each one bore only the briefest description, and nothing to link it to the well-detailed journals.

More troubling was the rarity of the published volumes. Owning a complete set of original journals and engravings could cost as much as $30,000, while their age meant no library could ever loan them to the public.

"I thought, I really need to write about these engravings," Nordyke said. "I felt by making a book, the world would have a chance to see the entire collection. You will see these pictures in many books, but never together."

Coincidence stepped in to help Nordyke in 1981, when a friend of her husband came to visit from the Mainland. Not only was James Mattison Jr. a huge fan of Cook's explorations and Webber's drawings, he was also a photographer who had once studied with Ansel Adams.

They became partners in the effort: Mattison would photograph the original engravings and Nordyke would comb the detailed journal entries to find a passage that best described the print.

The demographer, whose job as a research fellow at the East-West Center kept her busy all day, would wake up at 1 a.m. to work on the project. At times, she thought it might never get done.

"Any writing is a lonely process," said Nordyke, who also published "The Peopling of Hawai'i" in 1977. "You have to push yourself to do that instead of something else that would be more fun."

She organized the journal entries chronologically and included a passage about Cook's death on the Big Island in 1779 that was written by one of the other expedition captains.

"You are just riding along with Cook on the trip and seeing what he saw," she said.

Photographing the engravings became an obsession for Mattison, a surgeon from Salinas, Calif. Initially, he made several trips to Honolulu and would set up cameras on Nordyke's dining room table.

"He was so interested he went out and found another set of three books and a folio, and he used his own picture sometimes," Nordyke said. "He was a perfectionist."

Mattison died last November from Alzheimer's. He was 82. His fascination with Cook spanned four decades.

His family takes pride in the photos he took of Webber's drawings. He even took his family on vacations mirroring the explorer's travels.

"My dad was so enthralled with the images that he wanted to get them out and have greater detail available," said his son, Richard Mattison, of Elk Horn, Calif. "He wanted to share these with the world."

The elder Mattison tried several cameras before settling on a Graflex that produced an 8-by-10-inch negative. It provided images with enormous detail.

"The process of getting those prints was very long-winded," said the 57-year-old younger Mattison, who is also a photographer. "It took years to find the right combination."

ON AN EXPLORATION

The first printing of "Pacific Images" was done by the Hawaiian Historical Society. Barbara Dunn, administrative director of the organization, said it is a unique book because Nordyke put the engravings in context.

The end product transports the reader to the moment of first contact.

"I think there is always an interest in the moment of a discovery formerly unknown to you," Dunn said. "The Pacific islanders and the Alaskan tribes, they didn't need to be discovered. They knew they were there all the time. But for the voyagers in this time period, they had the thrill of discovery of new worlds."

The second edition of "Pacific Images" will fill a void.

"The book is a magnificent publication and will be greatly welcomed by those who missed the first edition, which now commands a high price," said Alwyn Peel, secretary of the Captain Cook Society, an international organization with 500 members. He called the book "magnificent."

"As the early editions of Cook's journals of his third voyage are well beyond the pocket of most and are only available in major libraries, Ellie Nordyke's book gives Cook enthusiasts and others the opportunity to have the engravings, to view them in their own homes," he said.

Nordyke grew up in Hawai'i, just a few doors away from the home where she has lived since 1960. Her parents collected books about Hawai'i, a habit that Nordyke has also maintained throughout her adult life. Every time she traveled with her husband, physician Robert Nordyke, who died in 1997, she would visit rare bookstores.

Now she has a small library, although it's somewhat hidden. In her cluttered home, her love of history outweighs more domestic details.

Nordyke's hope for "Pacific Images" was always to recreate the experience of discovery. To her surprise it reminded her of her own adventure. From 1952 to 1953, Nordyke and her husband traveled around the world.

"I was impressed that we were all alike," she said. "We love. We eat. We have families. Cultures impose some differences, but the basic elements of all people are love, kindness and goodness. In seeing the many different cultures Cook was able to visit, you find basically the same things." (Gordon 2009)

Nordyke notes that Chief Kanaina-nui "was one of the first chiefs to greet and help Captain Cook upon his arrival at Kealakekua Bay on the island of Hawai'i on January 17, 1779" (1998:228). She goes on to say that the chief stood out for his sharp intellect and was described as follows:

> …Kaneena, possessed a degree of judicious curiosity, and a quickness of conception, which was rarely met with amongst these people. He was very inquisitive after our customs and manners; asked after our King; the nature of our government; our numbers; the method of building our ships; our houses; the produce of our country; whether we had wars; with whom; and on what occasions; and in what mnner they were carrie don; who was our God; many other questions of the same nature, which indicated an understanding of great comprehension. (Captain James King 1779 in Nordyke 1998:229–230)

Figure 20. Engraving of Chief Kanaina-nui.

Reminiscences

I frequented this area with my mother as a young child. We went to the beach known as Gray's beach (whea da hell did that name Gray come from; I used to ask my mother; doesn't sound Hawaiian to me). My mom and aunt went to gather *limu* that only grew near the flow of water coming from a stream; not sure what the name of that stream was; didn't pay attention. It was a special *limu* that grew at a certain time of the year. Finally, my mom said that the water was getting too *pilau* and she could taste it in the *limu*. The healing qualities of the *limu* were gone. Not much water flow. [Paulette Kaleikini]

When our *'ohana* had luau, the whole street was shut down; like for my sister's 1st birthday luau; Hobron Lane was closed off. All of Waikiki would be there and *kanikapila* all nite. Errol Flynn, who was a movie star at the time, attended that luau. [Paulette Kaleikini]

I do remember lots of trees, and a huge fortress with big guns [at Fort DeRussy]. While we are on Fort DeRussy subject. December 7, 1941 Waianae, our parent on their way to church to Puea, Waianae Valley T.H. they heard the news that Pearl Harbor being attacked upon entering Ziona Hou church yard they turned around in the church yard and headed back to Nanakuli, to our home and Nanakuli bus line station to round up three busses. Our mom, dad, and their Ohana Kupuna Henry Alo, he was at our home waiting for our parents. They knew the soldiers needed transportation from R+R camp in Nanakuli A.K.A Camp Andrews, because the soldiers caught the bus, train, or hitchhike. The three *kupunas* filled the buses and took them to Pearl City. [Willie Ho‘ohuli]

When I was growing up in Nanakuli, our dad had an old canoe with outriggers which he used to launch at Zablan beach to go to the shores of Ko‘olina, Nanakuli, Ulehawa and Maili Pt. to fish and bring home fish. We all surf and body surf while growing up at black rocks Keaulana Kalaniaole Beach Park, names after Buffalo’s *‘ohana*. All of the *‘ohana* attended church at Buff’s house. We did a lot of net laying in Nanakuli, Maili, Waianae, Makaha, and Makua, our *‘ohana* feed on turtle, pig, cow, goat, chicken, and duck, etc. [Willie Ho‘ohuli]

When we were younger and the train was still operating, they would come with loads of pineapples or sugar cane. We used to pile small rocks and hit the pineapples over and long bamboo for the sugar cane. An era of the past to remember is President Eisenhower who touring from Schofield, passed our house in Nanakuli in his limo with his entourage. [Willie Ho‘ohuli]

So long ago to remember. We lived at Kaka‘ako. It was short to walk to Ala Moana Park, Waikiki Zoo past the hotels through the back roads… We just saw them as a place for tourist. But today we stay at the hotels. [Willie Ho‘ohuli]

I remember sitting down on the beach, down here with the beach boys, as a small young kid, now you gotta figure elementary school age, watching those big hammers pounding down the cement in for the Surfrider hotel and a lot of ‘em, Sheraton Waikīkī. I remember seeing the Royal Hawaiian Tower [being built]. I know what was there before the Royal Hawaiian Tower. That I remember because there was a grass shack over there with a snack bar. They had the best ice cream. [laughs] That’s how I remember, as a little kid running down, “I wanna go buy ice cream!” [Didi Robello]

Change through Time

Waikiki has changed a lot. Even from the ‘50s I remember it changed a lot. When you talk about the area, for instance the area leading up to it, Ala Moana wasn’t there. I mean, driving through the area, it’s just like time went pass by so fast, yeah? Also a lot of concrete structures and more jobs for people. [Willie Ho‘ohuli]

Within the wink of the eye, the thing went by. Changes went by. [Willie Ho‘ohuli]

When I was born, everything was already changed. I really don’t know. That would’ve been my parents. And I’m sure people on the Paoa side would know a lot about that side. You better go find ‘em because they’re going fast. [Didi Robello]

Well I know as far as the beach boys are, we used to be the only ones who would be fishing out here mostly. There’s not a lot of fish now. Why? I don’t know. In my area, I couldn’t say exactly for the reason, but I have seen the reef deteriorate drastically out here, from the overuse, and a lot of it in my opinion has to do with the catamaran...In the nearshore waters

of Waikīkī, nearshore being the first, say 200 yards. Out in the deep, I don’t know, but nearshore, it’s not like it used to be. [Didi Robello]

I remember there being traffic, a lot of cars because my mom complained about it. We parked the car on Hobron Lane then walked over to the beach. She enjoyed doing that because she got to feel the *aina* (I think). She missed it and this was her way of returning. There’s more traffic now. I think I could find the area of Gray’s beach we used to frequent if I wanted to; don’t want to; reminds me of my mom. [Paulette Kaleikini]

My mom and siblings spoke of date trees. There were a lot of them in the project area; all over that area actually. There were a few mango trees in the area of the project; the common mango, what we call the #9s. Gabby Pahinui grew up in that area. He and my uncles used to entertain in Waikiki in the 1930–40s. [Paulette Kaleikini]

Cultural Practices, Gathering

As far as cultural, I would guess that surfing is part of the culture. And everywhere people try to go surf, there’s no parking. There’s no access. “Oh, sorry you cannot park here, it’s hotel guests only.” Or it costs an arm and a leg. So if there’s a token 33 parking stalls, is there any way they’re gonna do that? Because they’re building in front, again, there’s lots of very good surf spots out there that locals can’t have access to. [Didi Robello]

Well there used to be a lot of *limu* out here. My dad used to tell me that the most expensive *limu* came out of Waikīkī back in his day. When people got *limu* in Waikīkī, that was the top dog. Because of the fresh water streams we used to have, all the *limu* was really good. And you know, this place was *kapu* to *ali‘i* only, so they had to have the best stuff. Now, it’s hard to find the *limu*. One reason again, you got your over usage and your fuel [leaks]. There’s not much fresh water seeping although there is. It does come from underground. There are spots out here that you can still go and gather the *limu*. So it’s whether they know where it is or not. That’s the thing, you know? [Didi Robello]

Other than that [cultural monitoring mentioned earlier], I do not know of many or any Hawaiian cultural practices within the project site. There is contemporary Hawaiian music played at the hotel on Kalia Rd; that’s about it. [Paulette Kaleikini]

…About gathering? No. I really don’t know. I think gathering is more today than years before, because most of the people, I think, was trying to survive, to find a good job so they can feed their family. There was nothing, no talk about gathering rights or gathering laws at the time. Everybody knew, you just go get. Family that you knew, you go ask permission and help yourself. But today, everything is different. [Willie Ho‘ohuli]

Effects on Cultural Resources

The development could impact a cultural layer; not all of Waikiki was totally dug-up and filled. There may be some hot-spots; like we are finding today. [Paulette Kaleikini]

Is there any way it’s gonna affect the surf? What other walls and stuff are they gonna be putting up? I don’t know. Do they have those in their plans? You know, just because they have the hotel going up, next question is gonna be, how do we make our beach better? And what are they gonna do then, you know? Is that gonna come out and bite me in the butt later? You wanna get all that up front. And if there’s gonna be any effect to what the surf conditions are gonna be like. [Didi Robello]

On your end of the beach [the Outrigger side of Waikīkī] you know, a lot of the reef seems to be more alive. There's not as much activity as there is on this side being that this is the main area, Waikīkī. I think you guys oughtta, or whoever oughtta, keep an eye on how the reef is because as much as they deny it, they [the catamarans] leak fuel. I've smelled leakages off the catamarans before. It was that bad that it seeps all over. Nothing's gonna grow. We used to get schools of *manini,* schools of *āholehole*, *palani*, *pualu*, *uhu*, everything would all come in. And we would go lay net, and take what we need, and leave it. Now, there's just nothing here, there's nothing to eat. It's just dead. It's just flat out here, especially behind the boats. So behind there is dead. There's been a lot of damage, I would say, from fuel leaks off the catamarans. If you don't have to have it over there [by the Outrigger], don't do it. [Didi Robello]

You want to see the damage underwater? Go get some environmentalist or something, go for a dive out here and see what kind of *'opala* you going find under the water. Nobody knows what's in the water over here. It's dirty. There's some places, that it's just disgusting. [Didi Robello]

Well, if they do affect anything, there's always ways and things that can help them move forward. [Willie Ho'ohuli]

Concerns and Recommendations

As the project continues I would like to see a cultural monitoring plan to be implemented alongside the archaeological monitoring plan. On my current project, where I assist as a cultural monitor as well as a consultant, we have been able to identify and save five *in situ* burials as well as recover numerous disarticulated *iwi kupuna* for later reinternment. Being on this project we have figured out ways to minimize cultural impact to the land and our *mea kapu* all the while keeping the project on schedule. [Mana Cáceres]

You know, it's good what the hotel wants to do. Think about history and let people know about the island and what happened out in Waikiki. We don't know too much about [Waikiki] history because the timeline is different from us. We don't know many good things that happened, and my wife was just mentioning that she really would like to see that pictures of the monarchy be shown like at Kona, Kamehameha Hotel. Whatever good would come out of it. [Willie Ho'ohuli]

I don't believe there are any current cultural practices going on in the area. I would love to have something going, but currently, there is nothing native Hawaiian about that area. But perhaps this is something that can be explored with the developer; to include native Hawaiian cultural traditions and practices in whatever the project is going to be; by way of landscaping, naming, workshops at the development, on-site cultural resource person; endless ways to involve the native Hawaiian community. Cyril Pahinui plays at the Outrigger at times and there are hula dancers. [Paulette Kaleikini]

Well, you know right now, everything is money and project improvement to survive. So I think the hotel is looking how they can better their position, and at the same time, bring forward the history of the area, and serve the public even better, or even the tourists, and not only tourists, the Local [people]. Then the Local can know the history behind the area. [Willie Ho'ohuli]

So I think there's a multipurpose of learning. One, the developer going learn the area. Two, the community [will learn]. Three, the people themselves, to recap history, and also the tourists. So whatever the hotel do going benefit. [Willie Ho'ohuli]

If it's possible Outrigger Reef can check on old ground and its building site maps that may have been documented during the early ground and footing work. The area shows ponds and perhaps fill in from Ala Wai Canal dredge. Fragment of Kupuna Iwi possibly from dredge. I really don't know how we can get around that. We just need to follow whatever the law is today, and from there, we can work with the descendant, whoever the descendants are. Then you can work with them to try push forward the project. Right now, we have descendants working on the Fort DeRussy project. I'm pretty sure any adversity that was presented is well-taken care of. So with the hotel one, the same can be done. [Willie Ho'ohuli]

…You have to work with the descendants. You know, that's the way things fall. We're willing to work, and we look for good outcome, whereas everybody going benefit from learning, and what the corporations can offer, in terms of learning, and that the hotel will still be there for generations, for people to enjoy. [Willie Ho'ohuli]

Well, I don't know of a concern right now. We just have to look when you do your project, what comes out. I think that's where concerns will come from. A lot of the concerns will present themselves, and from there, we work together. [Willie Ho'ohuli]

Well, Waikīkī is culturally significant. So if they're gonna do something to it, they should do it the right way and make sure that it's gonna be done the right way. The whole Waikīkī area is culturally significant. So they should take a lot of care into what they're gonna do. [Didi Robello]

I mean, you know you could landscape stuff not to look so mainland-ish. You could landscape it to look more local, which would probably be more culturally significant. People may like the fact that, oh you know, the stage kind of resembles rock formations, the plants are all native, mostly native. You know, you don't want to be bringing in bougainvillea like that anymore. We have our natural stuff we could use. I'd like to see more of that around…All the grounds, you know. Put some ponds. Put something instead of just straight up cement. [Didi Robello]

Yeah, I mean the people came here because of how beautiful this place was, what Waikīkī looked like. You know, don't forget that. It looks like it's been forgotten for a while. But it's time to make changes, let's make changes in the right way, make it look almost like how it used to be, why they came here in the first place. [Didi Robello]

I think they should manage the beach a lot more. They should be working with the way the ocean works instead of trying to beat it or go against it. The sand replenishment, in my opinion, wasn't done right. But no one asked. Everybody went by [talking to] the college people, what it's supposed to be like, but not what it [the natural sand movement] actually is, and how it [sand replenishment] is done. Nobody came around asking us how does the sand work. Everybody just assumed that their way is the way, and that's how it got done, and as of now, it ain't working. So you're gonna lose a lot of sand, possibly. [Didi Robello]

Accessibility. Parking. You know, you gotta be *kama'āina* friendly also. I mean, after surfing, can we come in with our shorts and t-shirt and get something to eat? Like Duke's, you can go out, come right back in soaking wet, but they're all good to go. Is there someplace that's gonna be, you know, as long as it's not all exclusive. Is it *kama'āina* friendly also? [Didi Robello]

Summary of Ethnographic Survey

A total of four ethnographic interviews were conducted with individuals knowledgeable about Waikīkī: Mana Cáceres, Willie Ho'ohuli, Paulette Kaleikini, and Didi Robello. The consultants are descendants of Waikīkī families and are knowledgeable of cultural resources as well as traditional practices and beliefs associated with the area. They continue to actively work toward preservation and perpetuation of Hawaiian practices and/or resources in Waikīkī.

The interviewees discussed the traditional use of the region, which includes *lo'i* agriculture, fishing, gathering of resources such as *limu*, surfing, and human burial. They reminisced of times past and shared their *'ohana* background and connections to Waikīkī. They noted that the region has changed significantly over time, with increased development and changes to the ocean ecosystem and beach.

The consultants were generally supportive of the Outrigger Reef on the Beach Revisioning Project but shared several concerns and recommendations. Most of these centered around incorporating Hawaiian elements and themes into designs, keeping the community involved in plans, and identifying and caring for historic properties, such as human burials and cultural layers. Another important consideration is access and parking so that today's *kama'āina* can enjoy the beach and amenities.

CONCLUSIONS AND RECOMMENDATIONS

Waikīkī is an important place in Hawai'i in both the past and present. A rich corpus of background information was found for the region, including *oli* and *mele*, *'ōlelo no'eau*, *mo'olelo*, information on land use in traditional and historic times, and data from archaeological work. Adding significantly to this is the information shared during oral history interviews. The consultants for this project all have strong family ties to the region, and Waikīkī is a cherished place for their *'ohana*.

Cultural Resources, Practices, and Beliefs Identified

Research and ethnographic survey compiled for the current study revealed that Waikīkī was a culturally significant area with many of the natural resources which supported traditional subsistence activities. These included fishing, the gathering of plants, and collecting various shellfish and *limu*. Traditionally, the region was a marshland with abundant springs and supported *lo'i* agriculture and fishponds.

Community members who are knowledgeable of the cultural resources of Waikīkī provided their *'ike* which identified important cultural practices that continue to today, including surfing, fishing, and gathering *limu*. Consultants report a significant decline in ocean life, which affects these activities. Interviewees generously shared their personal and *'ohana* connections to this *'āina* as well as their *mana'o* of the importance of preserving our cultural heritage. It was noted that although the area has been significantly modified by modern development, human burials, subsurface cultural layers, and other historic properties may still be found.

Potential Effects of the Proposed Project

Consultants mentioned concern over several resources that may be affected by the Outrigger Reef on the Beach Revisioning Project. Resources that might be affected include human burials, cultural layers, the surf, and the beach itself.

Confidential Information Withheld

During the course of researching the present report and conducting the ethnographic survey program, no sensitive or confidential information was discovered or revealed, therefore, no confidential information was withheld.

Conflicting Information

No conflicting information was obvious in analyzing the gathered sources. On the contrary, a number of themes were repeated and information was generally confirmed by independent sources.

Recommendations/Mitigations

The consultants are generally supportive of the Outrigger Reef on the Beach Revisioning Project. They would like to have Hawaiian traditions and practices incorporated into the plans and have the Hawaiian community more involved. They proposed specific ways to do this:

- developing a cultural monitoring plan and implementing cultural monitoring during construction
- displaying pictures of the Hawaiian monarchy
- utilizing natural landscaping to include native plants, ponds, etc.

- considering Hawaiian traditions in naming
- offering workshops
- hiring an on-site cultural resource person
- working more with the descendant families
- managing the beach more efficiently (e.g., with sand replenishment strategies)
- improving accessibility and parking to make the area more *kamaʻāina* friendly

One consultant summed it up as follows:

> Waikīkī is culturally significant. So if they're gonna do something to it, they should do it the right way and make sure that it's gonna be done the right way. The whole Waikīkī area is culturally significant. So they should take a lot of care into what they're gonna do.

GLOSSARY

ʻāholehole	Young stage of the Hawaiian flagtail fish.
ahupuaʻa	Traditional Hawaiian land division usually extending from the uplands to the sea.
ʻāina	Land.
aliʻi	Chief, chiefess, monarch.
ʻamaʻama	The mullet, or *Mugil cephalus*, a prized indigenous fish.
ʻauwai	Ditch, often for irrigated agriculture.
awa	The milkfish, or *Chanos chanos*, often raised in fishponds in ancient times.
gadut	A word in pidgin meaning "gopher." Used to refer to a subordinate or someone who performs miscellaneous tasks for a superior.
hāhā	To grope or feel; trap made of small branches for catching fresh-water fish. Also same as hā, stalk; striped taro leaves baked or boiled for consumption.
hālau	Meeting house or long house for canoes.
hapa haole	A person who is of diverse ethnic makeup; often part Caucasian.
hāpuʻu	*Cibotium splendens,* a fern endemic to Hawaiʻi; a forest fern to 5 m high.
hau	The indigenous tree *Hibiscus tiliaceous,* which had many uses in traditional Hawaiʻi. Sandals were fashioned from the bark and cordage was made from fibers. Wood was shaped into net floats, canoe booms, and various sports equipment and flowers were used medicinally.
heiau	Place of worship and ritual in traditional Hawaiʻi.
huli	The top of the *kalo* used for planting; shoot, as of the *wauke*.
iʻa Pākē	The introduced fish *Ophiocephalus striatus* found in rice and taro patches or in streams.
ʻieʻie	The vine *Freycinetia arborea*, an endemic, woody branching climber that grows at altitudes of 300–600m. In ancient Hawaiʻi, vines were considered sacred and used in basketry and for ceremonial purposes.
ʻike	To see, know, feel; knowledge, awareness, understanding.
ipu	General name for a vessel or container. Also the bottle gourd *Lagenaria siceraria* or *L. vulgaris*, which was used traditionally for containers, hula instruments, and for medicine.
iwi	Bone.
kahuna	An expert in any profession, often referring to a priest, sorcerer, or magician.
kalo	The Polynesian-introduced *Colocasia esculenta*, or taro, the staple of the traditional Hawaiian diet.
kamaʻāina	Native-born.
kanikapila	A style of Hawaiian music produced in an impromptu gathering of musicians.
kapu	Taboo, prohibited, forbidden.

kauhale A group of houses that comprise the traditional Hawaiian homestead. Often included are a sleeping house, men's eating house, women's eating house, cooking house, and canoe house.

kaumaha Heavy, heaviness. Fig., sad, troubled.

kī The plant *Cordyline terminalis*, whose leaves were traditionally used in house thatching, raincoats, sandals, whistles, and as a wrapping for food.

konohiki The overseer of an *ahupuaʻa* ranked below a chief; land or fishing rights under control of the *konohiki*; such rights are sometimes called *konohiki* rights.

kukui The candlenut tree, or *Aleurites moluccana*, the nuts of which were eaten as a relish and used for lamp fuel in traditional times.

kupuna Grandparent, ancestor; *kūpuna* is the plural form.

lama The native tree, *Diospyros sandwicensis*, that had many uses in traditional Hawaiʻi. Fruit was eaten, wood was fashioned into fish traps and sacred structures within *heiau*. *Lama* wood was also crushed and used for medicinal purposes.

limu Refers to all sea plants, such as algae and edible seaweed.

līpoa The brown seaweeds (*Dictyopteris plagiogramma* and *D. australis*), highly prized as a delicacy.

loʻi, loʻi kalo An irrigated terrace or set of terraces for the cultivation of taro.

loko, loko iʻa Pond, lake, pool, fishpond.

luakini Large *heiau* of human sacrifice.

lūʻau Young taro tops, often refers to a dish of taro leaves baked with coconut cream and chicken or octopus.

mahalo Thank you.

Māhele The 1848 division of land.

mahiʻai Farmer.

māhū Homosexual, of either sex.

maiʻa The banana, or *Musa sp*, whose fruit was eaten and leaves used traditionally as a wrapping for cooking food in earth ovens.

makaʻāinana Common people, or populace; translates to "people that attend the land."

makai Toward the sea.

mālama To care for, preserve, or protect.

malihini Foreigner, stranger, newcomer, guest.

māmaki *Piptarus spp.*, a small native tree. Fiber from its bark was used to make a kind of coarse tapa. Sometimes spelled *mamake* in old texts.

mana Divine power.

manaʻo Thoughts, opinions, ideas.

manini The surgeonfish *Acanthurus triostegus*, common in Hawaiian waters.

mauka Inland, upland, toward the mountain.

mea Thing, object, person.

mele Song, chant, or poem.

menehune Small people of legend who worked at night to build structures such as fishponds, roads, and *heiau*.

moi The threadfish *Polydactylus sexfilis*, a highly prized food item.

moʻolelo A story, myth, history, tradition, legend, or record.

naio *Myoporum sandwicense,* the bastard sandalwood native to Hawaiʻi.

niu The Polynesian-introduced tree *Cocos nucifera*, or coconut.

niuhi Man-eating shark; any shark more than 3.5 m long is probably a *niuhi*. Catching the *niuhi* was a sport of chiefs.

ʻohana Family.

ʻōhelo *Vaccinium reticulatum*, a native shrub with small edible berries. Found in higher altitudes.

ʻōhiʻa ʻai The mountain apple tree, *Eugenia malaccensis*, a forest tree that grows to 50 ft.high.

ʻōhiʻa lehua The native tree *Metrosideros polymorpha*, the wood of which was utilized for carving images, as temple posts and palisades, for canoe spreaders and gunwales, and in musical instruments.

ʻōlelo noʻeau Proverb, wise saying, traditional saying.

oli Chant.

olonā The native plant *Touchardia latifolia*, traditionally used for making cordage.

ʻopala Rubbish, trash, garbage, junk.

palani The surgeonfish *Acanthurus dussumieri*, known for its strong odor.

pau Finished.

pilau Rotten, foul.

pili A native grass, *Heteropogon contortus*.

pōhaku Rock, stone.

poi A staple of traditional Hawaiʻi, made of cooked and pounded taro mixed with water to form a paste.

pualu The surgeonfish *Acanthurus xanthopterus* and *A. mata*, similar to *palani* but with a blue line that extends through the fin.

tutu Grandmother or grandfather.

tutu wahine Grandmother.

ʻuala The sweet potato, or *Ipomoea batatas*, a Polynesian introduction.

uhiuhi The endemic tree *Mezoneuron kauaiense*, a legume with pink or red flowers and winged pods. It produces a hard, heavy wood that was used for *hōlua* sleds, spears, digging sticks, and house posts in ancient times.

uhu An adult parrot fish, one of two genera of the *Scaridae* family known to occur in Hawai‘i.

wauke The paper mulberry, or *Broussonetia papyrifera*, which was made into tapa cloth in traditional Hawai‘i.

REFERENCES

Akana, C.L.
2004 *The O‘ahu Exploits of Kamapua‘a: The Hawaiian Pig-god*. Bishop Museum Press, Honolulu.

Armstong, R.W. (editor)
1973 *Atlas of Hawaii* (Second ed.). University of Hawaii Press, Honolulu.

Bacon, P.N. and N. Napoka (editors)
1995 *Na Mele Welo: Songs of Our Heritage*. Translated by M. K. Pukui. Bishop Museum Press, Honolulu.

Barrere, D.B., M.K. Pukui and M. Kelly
1980 *Hula: Historical Perspectives*. Bernice P. Bishop Museum, Honolulu.

Beckwith, M.
1970 *Hawaiian Mythology*. University of Hawaii Press, Honolulu.

Brown, J.F.
1879 *Waikiki Branch Road, plan of proposed improvement, showing titles*. Nov. 1879. Scale 100 feet = 1 inch. Register No. 414.

Bush, A., J.P. Winieski, and H.H. Hammatt
2002 *Archaeological Monitoring Report for the Waikīkī Anticrime Lighting Improvement Project Phase II (TMK 2-6-1, 2-6-2, 2-6-3, 2-6-5, 2-6-6, 2-6-15, 2-6-16, 2-6-18, 2-6-19, 2-6-22, 2-6-23, 2-6-26, 2-6-27)*. . Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

2003 *Archaeological Monitoring Report for the Excavations for the New International Market Place Sign Project, Waikiki, O‘ahu (TMK: 2-6-022:038)*. Cultural Surveys Hawaii, Inc., Kailua, Hawai‘i.

Carlson, I. K., S. Collins, and P.L. Cleghorn
1994 *Report on Human Remains Found During the Realignment of Kālia Road, Fort DeRussy, Waikīkī, O‘ahu*. BioSystems Analysis, Inc., Kailua, Hawai‘i

Chiogioji, R. and H.H. Hammatt
2004 *Archaeological Assessment for the Royal Hawaiian Shopping Center Parcel, Waikīkī Ahupua‘a, Kona District, O‘ahu*. Cultural Surveys Hawai‘i, Inc., Kailua, Hawai‘i.

Cleghorn, P.
1996 *The Results of an Archaeological Inventory Survey at the Proposed Kalākaua Plaza, Waikīkī, O‘ahu, Hawai‘i (TMK: 2-6-16:23, 25–26, 28, 61, and 69)*. Pacific Legacy, Inc., Kailua, Hawai‘i.

Davis, B.D.
1984 *The Halekūlani Hotel Site: Archaeological and Historical Investigations in Waikīkī, O‘ahu, Hawai‘i*. Anthropology Department, B. P. Bishop Museum, Honolulu.

1989 *Subsurface Archaeological Reconnaissance Survey and Historical Research at Fort DeRussy, Waikiki, Island of O‘ahu, Hawai‘i*. International Archaeological Research Institute, Inc., Honolulu.

Denham, T.P. and J. Pantaleo
1997 *Archaeological Data Recovery Excavations at the Fort DeRussy Military Reservation, Waikīkī, Island of Oʻahu, State of Hawaiʻi*. Garcia and Associates, Kailua, Hawaiʻi.

Dye, T.S.
2007 *Archaeological Inventory Survey for New Utility Connections, Waikiki Beach Walk Project, Waikīkī Ahupuaʻa, Kona District, Island of Oʻahu (TMK:2-6-002, 003, 004)*. T.S. Dye & Colleagues, Honolulu.

Emerson, N.B.
1902 "A Preliminary Report on a Find of Human Bones Exhumed in the Sands of Waikiki." In *Tenth Annual Report of the Hawaiian Historical Society*, pp. 18–20. Hawaiian Historical Society, Honolulu.

Esh, K.S. and H.H. Hammatt
2006 *An Archaeological Monitoring Report for Kūhiō Avenue (Kaʻiulani to Kapahulu) Waikīkī Ahupuaʻa, Honolulu District, Oʻahu Island, Hawaiʻi*. Cultural Surveys Hawaiʻi, Inc., Kailua, Hawaiʻi.

Feeser, A.
2006 *Waikiki: A History of Forgetting & Remembering*. University of Hawaiʻi Press, Honolulu.

Foote, D., E. Hill, S. Nakamura, and F. Stephens
1972 *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii*. United States Department of Agriculture, Soil Conservation Service. Published in cooperation with the University of Hawaii Agricultural Experiment Station, Washington, D.C.

Fujikane, C.
2008 Introduction: Asian Settler Colonialism in the U.S. Colony of Hawaiʻi. In *Asian Settler Colonialism*. Ed. by Candace Fujikane and Jonathan Y. Okamura. University of Hawaiʻi Press, Honolulu.

Gordon, M.
2009 "Voyaging with Captain Cook." *The Honolulu Advertiser*. May 31, 2009. http://the.honoluluadvertiser.com/article/2009/May/31/il/hawaii905310326.html.

Hammatt, H.H. and D.W. Shideler
2014 *Archaeological Monitoring Plan for the International Market Place Re-Development Project, Waikīkī Ahupuaʻa, Honolulu (Kona) District, Island of Oʻahu*. Cultural Surveys Hawaiʻi, Inc., Kailua, Hawaiʻi.

Hazlett, A., R. Chiogioji, D.F. Borthwick, and H.H. Hammatt
2008 *Archaeological Monitoring Report for a 1-Acre Parcel, 2284 Kalākaua Avenue Waikīkī Ahupuaʻa, Honolulu District, Island of Oʻahu TMK: [1] 2-6-22:009*. Cultural Surveys Hawaiʻi, Inc., Kailua, Hawaiʻi.

Hazlett, A., K.S. Esh, and H.H. Hammatt
2008 *Archaeological Monitoring Report for the Royal Hawaiian Shopping Center Parcel, Waikīkī Ahupuaʻa, Kona District, Oʻahu TMK [1] 2-6-002:018*. Cultural Surveys Hawaiʻi, Inc., Kailua, Hawaiʻi.

Hurlbett, R., L. Carter, and S. Goodfellow
1992 *Archaeological Monitoring of Mechanical Loop Excavations at Hilton Hawaiian Village*. Paul H. Rosendahl, Ph.D., Inc., Hilo, Hawaiʻi.

Ii, J.P.
1959 *Fragments of Hawaiian History*. Translated by M. K. Pukui. Ed. by Dorothy B. Barrere. Bishop Museum Press, Honolulu.

Juvik, S.P. and J.O. Juvik, eds.
1998 *Atlas of Hawaiʻi*. University of Hawaiʻi Press, Honolulu.

Kalilihiwa, S.H. and P.L. Cleghorn
2003 *Archaeological Monitoring of Waikīkī Water System Improvements, (Part IV, Units 1 and 2) on Portions of Lauʻula Street, Waikolu Way, and Royal Hawaiian Avenue, Waikīkī Island of Oʻahu (TMK: 2-6-018, 019, 022)*. Pacific Legacy, Inc., Kailua, Hawaiʻi.

Kamakau, S.M.
1976 *The Works of the People of Old: Na Hana a ka Poʻe Kahiko*. Translated by Mary Kawena Pukui. Ed. by Dorothy B. Barrere. Bishop Museum Press, Honolulu.

1991 *Tales and Traditions of the People of Old: Na Moʻolelo a ka Poʻe Kahiko*. Translated by Mary Kawena Pukui. Ed. by Dorothy B. Barrere. Bishop Museum Press, Honolulu.

Kanahele, F.H.
1928 *Waikiki Beach from Ala Wai (Canal) to Kalakaua Avenue Opposite Ohua Avenue Waikiki, Honolulu, Oahu*. Hawaii Territory Survey. March and April 1928. Scale 100 feet = 1 inch. Register No. 2800.

Kanahele, G.S.
1995 *Waikiki 100 B.C. To 1900 A.D.: An Untold Story*. The Queen Emma Foundation, Honolulu.

Kanakanui, S.M.
1897 *Waikiki Beach from Kalia–Hamohamo*. Surveyed by Walter E. Wall and S.M. Kanakanui. May 1897. Scale 1:1200. Register No. 1793.

Kanoa-Martin, K.
2012 Huapala: Hawaiian Music and Hula Archives. www.huapala.org, accessed July 28, 2014.

Kennedy, J.
1991 *Archaeological Monitoring Report for the Proposed IMAX Theater Project*. Archaeological Consultants of the Pacific, Haleʻiwa, Hawaiʻi.

Kimble, R.
1976 Memo for the record regarding the burials found during construction of the Hale Koa Hotel. Memorandum on file at the State Historic Preservation Division, Kapolei, Hawaiʻi.

LeSuer, C., M. McDermott, R. Chiogioji, and H. Hammatt
2000 *An Archaeological Inventory Survey of King Kalakaua Plaza Phase II, Waikiki, Island of Oʻahu, Hawaiʻi*. Cultural Surveys Hawaii, Kailua, Hawaiʻi.

Malden, Lieutenant C.R.
1825 *South Coast of Woahoo and Honoruru Harbour*. Register No. 437.

McAllister, J. G.
1933 *Archaeology of Oahu*. Bulletin of the Bernice P. Bishop Museum Number 104. Bishop Museum Press, Honolulu.

Moffat, R.M. and G.L. Fitzpatrick
1995 *Palapala'āina: Surveying the Mahele*. Editions Limited, Honolulu.

Monsarrat, M.D.
1909 *No. 6 Oahu Fisheries Waikiki Section Harbor–Diamond Head*. Compiled by M.D. Monsarrat Surveyor, June 1909. Scale 500 feet = 1 inch. Register No. 2848.

Neller, B.
1980 *The Kalia burial site No. 50–OA–2870: Rescue archaeology in Waikiki, Hawaii*. Typescript on file at the State Historic Preservation Division, Kapolei, Hawai'i.

1981 *An archaeological reconnaissance of the new construction at the Halekulani Hotel, Waikiki*. Typescript on file at the State Historic Preservation Division, Kapolei, Hawai'i.

Nordyke, E.C.
1998 "Kana'ina and Ka'iana, Two Chiefs of Early Hawai'i" in "Notes & Querries," *The Hawaiian Journal of History*, Vol. 23 pp. 228–231.

O'Hare, C.R., D.W. Shideler, and H.H. Hammatt
2005 *Archaeological Literature Review and Field Inspection for the Waikiki Beach Walk II Project Area, Kona District, Waikīkī Ahupua'a, 'Ili of Kalia, O'ahu, Hawai'i.* Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

O'Leary, O., R. Chiogioji, A. Bush, D.F. Borthwick, and H.H. Hammatt
2006 *Archaeological Inventory Survey of 0.5-Acres of the Royal Kāhili Condo Property, Waikīkī, Kona District, Island of O'ahu.* Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Oral History Project, University of Hawai'i
1985 *Waikiki 1900–1985*, 4 vols. Social Science Research Institute, University of Hawai'i at Mānoa, Honolulu.

Outrigger Enterprises Group
2011 "The Outrigger Story." Updated August 2011. the-outrigger-story-timeline.pdf

Pietrusewski, M.
1992 *A Mandible Fragment found at the Sheraton Moana Surfrider Hotel, Waikiki.* State Historic Preservation Division, Honolulu.

Pukui, M.K.
1983 *'Ōlelo No'eau: Hawaiian Proverbs & Poetical Sayings*. Bishop Museum Press, Honolulu.

Pukui, M.K. and A.L. Korn (editors and translators)
1973 *The Echo of Our Song: Chants & Poems of the Hawaiians*. University of Hawaii Press, Honolulu.

Putzi, J. L. and P. L. Cleghorn
2002 *Archaeological Monitoring of Trench Excavations for Sewer Connections Associated with the Hilton Hawaiian Village Improvements*. Pacific Legacy, Inc., Kailua, Hawai'i.

Rosendahl, P.H.
2001 *Archaeological Assessment Study Waikiki Beach Walk Project Redevelopment of Outrigger Enterprises, Inc. Properties in the Lewers-Kalia Area Land of Waikiki, Honolulu (Kona) District Island of O'ahu Technical Report for Environmental Impact Study.* Paul H. Rosendahl, PhD, Inc., Hilo, Hawai'i.

Runyon, R., C.R. O'Hare, D.W. Shideler, and H.H. Hammatt
2008 *Archaeological Assessment Report for Improvements to the Royal Hawaiian and Sheraton Hotels Waikīkī, Kona District, O'ahu TMK: [1] 2-6-002:005 & 006*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Runyon, R., D.W. Shideler, and H.H. Hammatt
2010 *Burial Site Component of an Archaeological Data Recovery Plan for the Sheraton Waikiki Hotel Renovation Project, Waikīkī Ahupua'a, Kona District, O'ahu TMK: [1]2-6-002:005, 006 & 026*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Simmons, J., P. Cleghorn, R. Jackson, and T. Jackson
1995 *Archaeological Data Recovery Excavations at Fort DeRussy,Waikiki, O'ahu, Hawai'i.* BioSystems Analysis, Inc., Kailua, Hawai'i.

Simons, J.A., S. Antonio-Miller, D. Trembly, and L. Somer
1991 *Archaeological Monitoring and Data Recovery at the Moana Hotel Historical Rehabilitation Project, O'ahu, Waikīkī*. Applied Research Group, Bishop Museum, Honolulu.

Sroat, E., D.F. Borthwick, and H.H. Hammatt
2011 *Archaeological Monitoring Report for the Waikīkī Shopping Plaza Redevelopment Project, Waikīkī, Kona District, O'ahu TMK: [1] 2-6-019:056, 061*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Thrum, F.W.
1892 *Map of Honolulu and Pearl River Oahu*. March 1892. Scale 1:2400. Register No. 1612.

Thurman, D., C.R. O'Hare, R. Runyon, D.W. Shideler, and H.H. Hammatt
2009 *Archaeological Inventory Survey Report for the Proposed Diamond Head Tower Redevelopment Project Waikīkī Ahupua'a, Kona District, O'ahu TMK: [1] 2-6-001:012, por*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Thurman, D., D.W. Shideler, and H.H. Hammatt
2012 *Addendum Archaeological Monitoring Report for Site Improvements to the Royal Hawaiian Hotel Waikīkī, Kona District, O'ahu TMK: [1] 2-6-002:005*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Tulchin, J., T. Yucha, D.W. Shideler, and H.H. Hammatt
2011 *Archaeological Inventory Survey for the Hilton Hawaiian Village Master Plan Improvements Project, Waikīkī Ahupua'a, Kona District, O'ahu Island TMK: [1] 2-6-008:001-003, 005, 007, 012, 019–021, 023, 024, 027, 034, 038 & [1] 2-6-009:001–007, 009–013*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Yucha, T.M., D.F. Borthwick, and H.H. Hammatt
2009 *Archaeological Inventory Survey Report for the Proposed Waikīkī Shopping Plaza Redevelopment Project, Waikīkī, Kona District, O'ahu TMK: [1] 2-6-019:056, 061*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

APPENDIX A: AGREEMENT TO PARTICIPATE

Agreement to Participate in the Outrigger Reef on the Beach Revisioning Cultural Impact Assessment

Dietrix J. U. Duhaylonsod, Ethnographer, Keala Pono Archaeological Consulting

You are invited to participate in a Cultural Impact Assessment (CIA) of the Outrigger Reef on the Beach Revisioning in Waikiki, on the island of O‘ahu (herein referred to as “the Project”). The Project is being conducted by Keala Pono Archaeological Consulting (Keala Pono), a cultural resource management firm, on behalf of Group 70 International. The ethnographer will explain the purpose of the Project, the procedures that will be followed, and the potential benefits and risks of participating. A brief description of the Project is written below. Feel free to ask the ethnographer questions if the Project or procedures need further clarification. If you decide to participate in the Project, please sign the attached Consent Form. A copy of this form will be provided for you to keep.

Description of the Project

This CIA is being conducted to collect information about Waikiki and the subject property in the Kona District of the island of O‘ahu, through interviews with individuals who are knowledgeable about this area, and/or about information including (but not limited to) cultural practices and beliefs, *mo‘olelo*, *mele*, or *oli* associated with this area. The goal of this Project is to identify and understand the importance of any traditional Hawaiian and/or historic cultural resources, or traditional cultural practices in properties on the current subject property. This Assessment will also attempt to identify any affects that the proposed development may have on cultural resources present, or once present within the Project area.

Procedures

After agreeing to participate in the Project and signing the Consent Form, the ethnographer will digitally record your interview and it may be transcribed in part or in full. The transcript may be sent to you for editing and final approval. Data from the interview will be used as part of the ethno-historical report for this project and transcripts may be included in part or in full as an appendix to the report. The ethnographer may take notes and photographs and ask you to spell out names or unfamiliar words.

Discomforts and Risks

Possible risks and/or discomforts resulting from participation in this Project may include, but are not limited to the following: being interviewed and recorded; having to speak loudly for the recorder; providing information for reports which may be used in the future as a public reference; your uncompensated dedication of time; possible misunderstanding in the transcribing of information; loss of privacy; and worry that your comments may not be understood in the same way you understand them. It is not possible to identify all potential risks, although reasonable safeguards have been taken to minimize them.

Benefits

This Project will give you the opportunity to express your thoughts and opinions and share your knowledge, which will be considered, shared, and documented for future generations. Your

sharing of knowledge may be instrumental in the preservation of cultural resources, practices, and information.

Confidentiality

Your rights of privacy, confidentiality and/or anonymity will be protected upon request. You may request, for example, that your name and/or sex not be mentioned in Project material, such as in written notes, on tape, and in reports; or you may request that some of the information you provide remain off-the-record and not be recorded in any way. To ensure protection of your privacy, confidentiality and/or anonymity, you should immediately inform the ethnographer of your requests. The ethnographer will ask you to specify the method of protection, and note it on the attached Consent Form.

Refusal/Withdrawal

At any time during the interview process, you may choose to not participate any further and ask the ethnographer for the tape and/or notes. If the transcription of your interview is to be included in the report, you will be given an opportunity to review your transcript, and to revise or delete any part of the interview.

APPENDIX B: CONSENT FORM

Consent Form

I, _____, am a participant in the Outrigger Reef on the Beach Revisioning Cultural Impact Assessment (herein referred to as "Project"). I understand that the purpose of the Project is to conduct oral history interviews with individuals knowledgeable about the subject property and Waikiki, in the Kona District of the island of O'ahu. I understand that Keala Pono Archaeological Consulting and/or Group 70 International will retain the product of my participation (digital recording, transcripts of interviews, etc.) as part of their permanent collection and that the materials may be used for scholarly, educational, land management, and other purposes.

_____ I hereby grant to Keala Pono and Group 70 International ownership of the physical property delivered to the institution and the right to use the property that is the product of my participation (e.g., my interview, photographs, and written materials) as stated above. By giving permission, I understand that I do not give up any copyright or performance rights that I may hold.

_____ I also grant to Keala Pono and Group 70 International my consent for any photographs provided by me or taken of me in the course of my participation in the Project to be used, published, and copied by Keala Pono and Group 70 International and its assignees in any medium for purposes of the Project.

_____ I agree that Keala Pono and Group 70 International may use my name, photographic image, biographical information, statements, and voice reproduction for this Project without further approval on my part.

_____ If transcriptions are to be included in the report, I understand that I will have the opportunity to review my transcripts to ensure that they accurately depict what I meant to convey. I also understand that if I do not return the revised transcripts after two weeks from the date of receipt, my signature below will indicate my release of information for the draft report, although I will still have the opportunity to make revisions during the draft review process.

By signing this permission form, I am acknowledging that I have been informed about the purpose of this Project, the procedure, how the data will be gathered, and how the data will be analyzed. I understand that my participation is strictly voluntary, and that I may withdraw from participation at any time without consequence.

_____

Consultant Signature **Date**

_____

Print Name **Phone**

_____

Address

Thank you for participating in this valuable study.

APPENDIX C: TRANSCRIPT RELEASE

Transcript Release

I, _____, am a participant in the Outrigger Reef on the Beach Revisioning Cultural Impact Assessment (herein referred to as "Project") and was interviewed for the Project. I have reviewed the transcripts of the interview and agree that the transcript is complete and accurate except for those matters delineated below under the heading "CLARIFICATION, CORRECTIONS, ADDITIONS, DELETIONS."

I agree that Keala Pono Archaeological Consulting and/or Group 70 International may use and release my identity, biographical information, and other interview information, for the purpose of including such information in a report to be made public, subject to my specific objections, to release as set forth below under the heading "OBJECTIONS TO RELEASE OF INTERVIEW MATERIALS."

CLARIFICATION, CORRECTIONS, ADDITIONS, DELETIONS:

OBJECTIONS TO RELEASE OF INTERVIEW MATERIALS:

_____

Consultant Signature **Date**

_____

Print Name **Phone**

_____

Address

APPENDIX D: INTERVIEW WITH MANA CACERES

TALKING STORY WITH

MANA CACERES (MC)

Oral History for the Outrigger Reef on the Beach Revisioning project area by Dietrix Duhaylonsod (DD)

For Keala Pono 11/14/2014

Note: Mana apologized that he is too busy to meet in person, but he graciously agreed to share his *mana'o* by answering our questions via email. This transcript is the result of that email correspondence.

MC: Once again, *mahalo nui* for reaching out to my *'ohana* as a consulting party for this project. Being that I am extremely busy as of late, I will apologize for not being able to go over every question and answer each one fully. I hope that as the project progresses I will be able to offer more *mana'o* and provide more feedback. Here are the ones that I can address at this particular time:

DD: To start please tell us about yourself…Name? Where/When you were born? Where you grew up? Where you went to school?

MC: Norman "MANA" Kaleilani Cáceres. My parents moved away from Hawaii right before I was born (10/7/1976). I was born in Orange County California and lived most of my pre - adult years in Washington state where I graduated from Clover Park High School. After graduation, I relocated to Hilo, Hawaii where I attended the University of Hawaii at Hilo. My original goal was to double major with a BA in Hawaiian Studies/Anthropology and a BA in Communication but after we found out that we were expecting our first child, I finished with a BA in Communication.

DD: What is your association to the subject property (family land, work place, etc.)?

MC: Although majority of my genealogy comes out of the Big Island, my wife and I both do have familial ties to Waikiki. Which we can go over at a later time.

DD: What are the ways you have acquired special knowledge of this area (from your *'ohana*, personal research, specific sources)?

MC: The knowledge I possess, that specifically deals with this area in particular are of the burial practices, ceremonies and other *mea* of that nature.

DD: While development of the area continues, what could be done to lessen the adverse effects on any current cultural practices in the area?

MC: As the project continues I would like to see a cultural monitoring plan to be implemented alongside the archaeological monitoring plan. On my current project, where I assist as a cultural monitor as well as a consultant, we have been able to identify and save five *in situ* burials as well as recover numerous disarticulated *iwi kupuna* for later reinternment. Being on this project we have figured out ways to minimize cultural impact to the land and our *mea kapu* all the while keeping the project on schedule.

I would be more than happy to sit down and discuss these things further as the planning and consulting phase progresses. Once again, *mahalo* for taking the time to seek my humble *mana'o*. If you should have any further questions, please feel free to contact me.

APPENDIX E: INTERVIEW WITH WILLIE HO'OHULI

TALKING STORY WITH

WILLIE HO'OHULI (WH)

Oral History for the Outrigger Reef on the Beach Revisioning Project by Dietrix Duhaylonsod (DD) For Keala Pono 8/25/2014

Also present was Uncle's wife Kim Ho'ohuli (KH), Uncle's brother Blackie Ho'ohuli (BH), and Uncle's niece Garnet Clark (GC).

DD: Aloha. Today is Thursday, the 21st of August, and we're talking story with Uncle Willie-them, and first of all, I'd just like to say, "Thank you so much for spending time out of your busy day talking story with us. I appreciate it." We're going to be talking about the Outrigger Reef on the Beach Revisioning Project, and we'll see if Uncle-folks have any thoughts that they'd like to share. So we'll begin by Uncle, if you could, please tell us your name, where/when you were born, where you grew up, where you went to school and such?

WH: My name is William Aweau Ho'ohuli or Willie, and I was born in Nanakuli, and we also lived out in Kaka'ako by the fire station, and a few buildings behind of us was the makers Kona Coffee and across HRT Bus terminal, the bus ran by electrical overhead cables and spring rods part way end of the bus roof, and we go back and forth from Nanakuli. Our dad worked for Lewers and Cooke Honolulu. He had a huge car and on his way home he would bring home wooden crates to build house with. Some of the Nanaikapono homesteaders would ask him to transport them to and from work at Pearl Harbor Hickam, down town Honolulu which he did. He started with two taxis then some second hand buses. Named Nanakuli Bus line bus stations were at Kakaako Nanakuli lot 60, and Haleakala Ave. Bus Schedule 4:00am at Tamura store the bus route was Kakaako, Nimitz, and River Street to Dillingham, Pearl City, Waipahu, Nanakuli, Maili, and Waianae on old gov't road fronting old 1st Tamura Store and Teramoto Barber Shop. The last bus left Kakaako at 8:00pm. Our mother was a mail carrier pick-up mail, deliver mail to and from Waipahu Post Office by old Waipahu movie house, and old fire station and between Kawano Store. Ewa, post office in old quonset hut across store and business building and ewa sugar plantation factory. Nanakuli post office corner of Nanakuli Ave. and Farrington Hwy. and between Mahilona Soda Fountain and Kalito Barbar-Shop and Waianae post office. Where Oritas Bldg. is at now presently a surf shop. Bus line started early 1930–ceased 1958.

I also lived in Waianae Valley. I helped my sister Pauline Sweetie, she worked at Barber Point NAS and my brother in law Ah Ching Poe. He worked for Hawaiian Dredging at Mt. Kaala Water tunnel to help with the farm and animals. She would pick me up where I was born after work. I would also help another Sister, Rose Pua, and my brother in law, David Kauwa Poe. He was in the Air Force to help my sister with their peanut farming. I also help tutu Harry G. Poe and tutu Emily Dung Poe with tutu-ma the Hoohuli Kaahaaina, Poe 'Ohana every two weeks we all pull taro, clean the *lo'i* of roots and weeds. Pulling cleaning roots off taro, set up taro for wheel barrel to load, take to preparation area dump taro, cut off *luau*-leaf *ha-ha* [stem] and *huli*. Good *luau* leaf will cook for lunch or Ohana to take home, or rest for pigs, cut *huli* and sort for replanting. Leave out to dry one or two days, bunch up and set in a corner of *lo'i* to root, plant taro during day of the full moon. Preparation set up and cooking set up four (4) 55 gallon drums. Set wire basket bottom of drum set some burlap bags for taro to cook on fill with water to wire basket. Fill with taro cover top with burlap bags, and cover. Cook over night. Early the next morning all the Ohana would gather to dump taro on cleaning area. Fill half drums with water and fill drum with taro as need while removing skins, root eyes, etc. Keep scraps and skin for ducks, chicken or pigs. Ready to grinding trough. Fill Ohana big pot with *poi*, when *pau* clean up and a big lunch. Lunch was a mixture of dry salted salmon, *aku*, *palu*, *pulehu*, *bakalau*, stew *luau*, *pipikaula*, salt pork, sweet potatoes, taro, *ulu*, *ulu*

poi, fresh taro *poi*, *kulolo*, sugar cane. Swim in the Water Concrete Flume or water ditch that fed sugar cane fields in lower Waianae Valley, Waianae dump, and Kamaile area. These were the days, here time passed us by again.

I am the 12th of 13 children and my one half sister of our father. That makes 7 boys and 7 girls. I went to Nanaikapono [Elementary], and I went to Wai'anae High. My Ohana, My wife Kim and children, lived in Makaha Lahana and Jade. Then Waianae Kawili St. next to Charles and Madge Orita family and below water tank sold both homes, then rented a home on Makau St., Makaha, ocean side, the papa held *limu kohu*, *limu pepe'e*, *he'e*, *kala*, *manini*, lobsters, *a'ama* that was our ice box when we lived there while our new home in Waipio By Gentry was being built. I worked for Kaiser Cement in Nanakuli as a maintenance mechanical superintendent. Kaiser Cement ceased operations summer of 1985. I was transferred to California Apple Valley, then San Jose. I retired from San Jose, California summer of 1986. I am very blessed from *Akua* to have granted 28 years of retirement and looking for more. You mentioned about the hotel project, what hotel was that?

DD: Outrigger. Outrigger Reef.

WH: Outrigger hotel. You know, it's good what the hotel wants to do. Think about history and let people know about the island and what happened out in Waikiki. We don't know too much about [Waikiki] history because the timeline is different from us. We don't know many good things that happened, and my wife was just mentioning that she really would like to see that pictures of the monarchy be shown like at Kona, Kamehameha Hotel. Whatever good would come out of it. Garnet you got anything to say?

GC: Introduce the people here.

WH: Sorry. Myself (Willie) my brother Black, my wife Kim, and our niece Garnet Clark, Garnet is my older sister, Stella Keala the eighth child, and Clifford D. Enos. Clifford like his siblings were all born at the Makua ranch house, Oahu. His father John Enos was Ranch foreman for L.L. McCandless, they resided at the ranch house. Clifford moved with his sister Hattie Kalama and Noah Kalama Sr. to the Enos estate in Waianae Valley when the ranch was closing down.

DD: [pause] Ok, thank you, Uncle. Yes, it's a different timeline. Could you please tell us about your *'ohana* background?

WH: When you say *'ohana*, what *'ohana* you asking?

DD: I don't know if you want to share about your *'ohana* in Nanakuli, or maybe any connections back to Waikiki, or Kaka'ako time. It's up to you.

WH: Our parent Joseph Kahapea Hoohuli, born in Kohala, raised in Kohala, Kohanaiki Ke'ei, Honaunau, Hawaii. Kulani Lima, born in Kohanaiki and raised in Kohanaiki, Honokohau, Koloko, Ooma, Hawaii. They are one of the first settlers to settle in Nanaikapono Hawaiian Homestead in Nanakuli.

When I was growing up in Nanakuli, our dad had an old canoe with outriggers which he used to launch at Zablan beach to go to the shores of Ko'olina, Nanakuli, Ulehawa and Maili Pt. to fish and bring home fish. We all surf and body surf while growing up at black rocks Keaulana Kalaniaole Beach Park, names after Buffalo's *'ohana*. All of the *'ohana* attended church at Buff's house. We did a lot of net laying in Nanakuli, Maili, Waianae, Makaha, and Makua, our *'ohana* feed on turtle, pig, cow, goat, chicken, and duck, etc. When we were younger and the train was still operating, they would come with loads of pineapples or sugar cane. We used to pile small rocks and hit the

pineapples over and long bamboo for the sugar cane. An era of the past to remember is President Eisenhower who touring from Schofield, passed our house in Nanakuli in his limo with his entourage.

With this information and map you e-mailed to me for outrigger Project. An *'ohana* by the name of Kupuna M. Kekuanaoa…he is a *poolua* child of two fathers. This *poolua* father named Kupuna Kiilaweau (our *tutu*) and Kupuna Wahine are half sibling, same father Kupuna Kanaina-nui, but different mothers. Kekaunaoa is in one of the books I read, it mentioned *tutu wahine* is his older sister. Sometimes I question that to my wife about it. He comes from a lower generation, from my *tutu*, but he calls her his older sister. He is also the father of Kamehameha IV and V. There's other names that it's not on this map, but [it's] on the map that we're working with, Fort DeRussy. It has names of our ancestor. There were people that was brought over from Kona, Kohalo and left to *malama* the island Kupuna Kuihelani, and their name was Kupuna Kamakahono, and Kaukaumakea and others. Kupuna Kamakahono is a son of Kupuna Kaiakoili I, Sister Kupuna Walawala and Kupuna Kapalalaole of Kohala. Kupuna Kuihelan is *'ohana* to Kupuna Tutu Kailihao and Kupuna Kaukaumakea is brother to Tutu Kailihao, they are descendants of Kupuna Kekaulike of Maui.

DD: Thank you Uncle. Thank you for sharing your relationship to the place we are talking about, this project area. Are there any other associations that you'd like to share about being connected to that area in Waikiki?

WH: No. I don't have anything to share because the timeline to my timeline is different.

DD: Ok, thank you.

KH: That was not their playground. They lived in Kaka'ako and Nanakuli.

DD: Right.

WH: So long ago to remember. We lived at Kaka'ako. It was short to walk to Ala Moana Park, Waikiki Zoo past the hotels through the back roads.

DD: Right. So are there any special things to know about Waikiki that you'd like to share? And what are some ways that you've learned about Waikiki or the project area?

WH: [thinking] We just saw them as a place for tourist. But today we stay at the hotels.

DD: Ok. So as far as you remember in your experiences, how has this area changed?

WH: A lot. Waikiki has changed a lot. Even from the '50s I remember it changed a lot. When you talk about the area, for instance the area leading up to it, Ala Moana wasn't there. I mean, driving through the area, it's just like time went pass by so fast, yeah? Also a lot of concrete structures and more jobs for people.

DD: Right.

WH: Within the wink of the eye, the thing went by. Changes went by.

KH: [talking softly but it can't be made out on the recording]

DD: Right. Aunty was saying that at the same time of all these changes, Uncle-them was concentrating on providing for the family and going on with daily life. Thank you for that, Aunty.

So, regarding that Outrigger area of Waikiki, that Fort DeRussy area of Waikiki, do you have any personal stories, or *mo'olelo*, or songs, or anything that's connected there that come up to mind?

WH: No.

DD: Okay, *mahalo* Uncle. Do you know of any traditional sites, or cultural sites, from the past, that may have been there in that area?

BH: Talking about Waikiki ah?

DD: Mm-hmm [yes].

WH: Because at this point the question to the past you mentioned special things, remember in your experiences, the changes, personal stories, *mo'olelo*, songs anything to Waikiki project and yes we will open this door for you. Yes there is a link to the past of these Kupuna and their descendants in this 21st century. This Hoohuli Ohana and Hoohuli Ohana genealogist will share this shared ancient Kupuna like others of Waikiki and the island of Oahu, Molokai, Lanai, Maui, Hawaii, and Kauai.

One must know the *kupuna* that are mentioned the island that they descended from and how they intertwined with each other. Beginning with this lineal, Kupuna Kukaniloko of Oahu and Kupuna Luaia, of Maui. With this great grandson of their Kupuna Kakuhihewa, whom was said to have been born at Kukaniloko, Oahu, with forty-eight chiefs of the highest rank being present. At the ceremony of cutting the naval cord of the new born chief and the two sacred drums names "Opuku" and "Hawea" Fornanders Ancient History of the Hawaiian People to the time of Kamehameha I again Kupuna Kakuhihewa and Kupuna Kahaianui-a-Kahuailana, daughter of his first cousin Kupuna Napulahumahiki, and their aunt Kupuna Kekela, Kupuna Kekela is a younger sister to Kupuna Napulanahumahiki's father, Kupuna Hao, both of them are siblings to Kupuna Kakuhihewa's father Kupuna Kaihi-kapu-a-manuia. They are children of Kupuna Kaleimanuia of Oahu and Kupuna Lupekapukeahemakalii of Maui. Again Kupuna Kakuhihewa's great, great-grandson Kupuna Kualii of Oahu and Kauai and Kupuna Kalanikahimakeialii daughter of Kupuna Kaulahea II and his sister Kupuna Kalaniomaiheuila of Maui. Again Kupuna Kualii granddaughter Kupuna Kuwalu of Oahu and Hilo Hawaii and Kupuna I-Kanaka, son of Kupuna Makua and Kupuna Kapohelemai of Hilo Hawaii. Again Kupuna Kuwalu is a daughter of Kupuna Peleioholani of Kauai, Oahu, and Lonokahikini. Again Kupuna Kuwalu's great, great, great granddaughter Kupuna Hakau and Kupuna Kanaina-nui A.K.A Kupuna Kalaimanokahoowaha, a story with Captain James Cook at Kealakekua Bay. Again Kupuna Kanaina-nui is a son of Kupuna Keaweikekahialiokamoko A.K.A Keawe II with Kupuna Moana. Again Kupuna Moana and Kupuna Heulu, is the parents of Kupuna Hakau. Both having the same mother. They being half siblings, Kupuna Heulu is a son of Kupuna Umiulaa Kaahumanu and Kupuna Kapaihia-ahu, again Kupuna Umiulaa Kaahumanu is a daughter of Kupuna Mahiolole and Kupuna Kanekukaailani these Kupunas mentioned here is also *'ohana* to Kupuna Kamehamehas, Kupuna Kalakaua, Kupuna Liliuokalani, Kupuna Kaoanaeha wife of Kupuna John Young the chief of Kamehameha I. And again these Kupuna mentioned below have also shared the same Kupuna as the Kamehameha and Kalakaua Dynasty. Again Kupuna Kanaina-nui and Kupuna Hakaus their great grandson Kupuna Naeole of Kohala Hawaii and Kupuna Kauko. Again Kupuna Naeole, the story of the child Kupuna Kamehameha, with the help of the people of Kohala. Again their son Kupuna Kaiakoili I A.K.A Hulikoa of Kohala, Kona, Kau and Kailihao. Again Kaiakoili I was sent to Oahu to Konohiki Koolaupoko to assist Kupuna Kuini Lihiha. Again Kupuna Kaiakoili II Stayed back to *malama* Kohala, Kona, Kau, with his uncle Kupuna Manuhoa II. Eventually Kupuna Manohoa was sent to Honolulu. Kupuna Kaiakoili II remained in Kona. Again Kupuna Kaiakoili II aka Hulikoa and his aunt Kupuna Maiau his mother Kupuna Kailihao's younger half-sister. Their granddaughter Kulani Lima II is a great, great, great granddaughter of Kupuna Alapai-nui-a-mahi and Kupuna Keakokalani Puou Kupuna Keaka is a great granddaughter of

Kupuna Holoae, again Kupuna Kaiakoili, A.K.A Hulikoa, and Kupuna Maiau, their granddaughter Kulani Lima II, our mother, her older sibling Joeseph Hulikoa Lima and his Wife Rebbeca Likua. Again Joseph Kahapea Hoohuli, a descendant of Kupuna Kanoenoe of Kauai, our father. Their 14 children Hoohuli Ohana and Lima Ohana.

KH: [asking Uncle Willie] Do you remember Fort DeRussy? Or you too young for that yeah?

WH: Oh yes. I do remember lots of trees, and a huge fortress with big guns. While we are on Fort DeRussy subject. December 7, 1941 Waianae, our parent on their way to church to Puea, Waianae Valley T.H. they heard the news that Pearl Harbor being attacked upon entering Ziona Hou church yard they turned around in the church yard and headed back to Nanakuli, to our home and Nanakuli bus line station to round up three busses. Our mom, dad, and their Ohana Kupuna Henry Alo, he was at our home waiting for our parents. They knew the soldiers needed transportation from R+R camp in Nanakuli A.K.A Camp Andrews, because the soldiers caught the bus, train, or hitchhike. The three *kupunas* filled the buses and took them to Pearl City.

Camp Andrews was located *makai* Waianae side of gated driveway and parking area of Kawai Hona O Ka Na'au Ao to Depots Park Shower Vicinity and across Farrington Hwy. *mauka* of gated roadway to present day Nanaikapono Elem. School on Hawaii Homestead Land.

DD: Right, so this proposal they have to develop the property, do you think that it would affect any culturally significant place? What do you think of that?

WH: Well, if they do affect anything, there's always ways and things that can help them move forward.

DD: What would you like to see?

WH: Well, you know right now, everything is money and project improvement to survive. So I think the hotel is looking how they can better their position, and at the same time, bring forward the history of the area, and serve the public even better, or even the tourists, and not only tourists, the Local [people]. Then the Local can know the history behind the area.

So I think there's a multipurpose of learning. One, the developer going learn the area. Two, the community [will learn]. Three, the people themselves, to recap history, and also the tourists. So whatever the hotel do going benefit.

DD: Yeah, that topic of history keeps coming back, and that's important like you said. It's good for everyone to know, both the tourists and the Locals, and the hotel. *Mahalo*.

KH: Do you know when the hotel was built?

DD: Oh, I don't know. I go find out, Aunty, and I go let you know.

KH: Thank you.

DD: What about any traditional gathering practices? Are you familiar if anyone still does any gathering out there or fishing out there or anything?

WH: As far as the area, I don't know, but you know, like I mentioned earlier, we stay more towards Kaka'ako side. Our stomping grounds was all over, but about gathering? No. I really don't know. I think gathering is more today than years before, because most of the people, I think, was trying to

survive, to find a good job so they can feed their family. There was nothing, no talk about gathering rights or gathering laws at the time. Everybody knew, you just go get. Family that you knew, you go ask permission and help yourself. But today, everything is different.

DD: Right, good point Uncle, thank you for that.

So when they develop this area, this site, do you have any thoughts on what could be done to lessen any kind of potential bad effects on the area, as they develop, do you have any thoughts on that?

WH: Good point. If it's possible Outrigger Reef can check on old ground and its building site maps that may have been documented during the early ground and footing work. The area shows ponds and perhaps fill in from Ala Wai Canal dredge. Fragment of Kupuna Iwi possibly from dredge. I really don't know how we can get around that. We just need to follow whatever the law is today, and from there, we can work with the descendant, whoever the descendants are. Then you can work with them to try push forward the project. Right now, we have descendants working on the Fort DeRussy project. I'm pretty sure any adversity that was presented is well-taken care of. So with the hotel one, the same can be done.

DD: So you'd like to see little more partnership working with descendants as we move forward with this project?

WH: I think, for my part, yeah, and to say, I think you cannot get away from that. You have to work with the descendants. You know, that's the way things fall. We're willing to work, and we look for good outcome, whereas everybody going benefit from learning, and what the corporations can offer, in terms of learning, and that the hotel will still be there for generations, for people to enjoy.

DD: Mahalo Uncle, yes *he mea pono.*

So are there any other concerns that we didn't bring up that you'd like to bring up?

WH: Well, I don't know of a concern right now. We just have to look when you do your project, what comes out. I think that's where concerns will come from. A lot of the concerns will present themselves, and from there, we work together.

DD: Right, we'll make sure to keep you in the loop. The last thing is: Is there anyone else that we should be talking to?

WH: Well, there is other descendants that I know of that's on with Fort DeRussy. I think you should get together with Group 70. They can help you out much more than me. They have names of people.

DD: Okay. Well that's it then. So *mahalo* again, on behalf of Keala Pono. Thank you so much for spending your time and talking story. We really appreciate it, Uncle. I'll be keeping in touch.

WH: Thank you for inviting us. And I'm sorry, like I said, because of the timeline and our age, we can't give you any more. But I'm pretty sure with your setting up the program, [and] everything, we all going learn more.

DD: I learned more in this little talk story today. Thank you.

WH: Thank you. I learned too [laughing].

DD: It was a good time [laughing].

WH: Thank you.

DD: Thank you, Uncle. Okay, so we signing off. Alooooha.

APPENDIX F: INTERVIEW WITH PAULETTE KALEIKINI

TALKING STORY WITH

PAULETTE KALEIKINI (PK)

Oral History for the Outrigger Reef on the Beach Revisioning Project by Dietrix Duhaylonsod (DD) For Keala Pono 8/26/2014

Note: Aunty Paulette apologized that she is too busy to meet in person, but she graciously agreed to share her *mana'o* by answering our questions via email. This transcript is the result of that email correspondence.

DD: Do you have any questions before we begin?

PK: No.

DD: To start please tell us about yourself…Name? Where/When you were born? Where you grew up? Where you went to school?

PK: Paulette Kaanohiokalani Keaweamahi Kawainui Kaleikini. Keaweamahi is my mother's family name; Kawainui is my father's family name; Kaleikini is my husband's family name. I was born, primarily raised and grew-up on Oahu.

DD: Could you tell us about your *'ohana*/family background?

PK: Both my mother's and father's *kupuna* are from Hawaii Island. My father is from Ka'u; the Kekuhaupio lineage. My mother is of the Keawe clan of Kona Keawemoku and the Mahi lineage of Kohala.

DD: What is your association to the subject property (family land, work place, etc.)?

PK: My mother's *kupuna* were with the entourage of the chiefs who traveled to Oahu from Keawemoku. Some *kupuna* traveled to Oahu to log the sandalwood for the king. It was very hard work and most of those *kupuna* never made it back to Keawemoku and Kohala. Other *kupuna* members were of the *kauhale* of the chief and king, became part of the land, living and farming the land like on the subject property. Of course, these *kupuna* were all related to Kamehameha and is why one of his favorite *lo'i* on Oahu was in Kalia Waikiki.

When the lands were issued at the time of the Mahele, *kupuna* who were already on the lands received them as Land Commission Awards (LCA) which eventually became Royal Patents. Not all LCAs became Royal Patents. The king issued lands to his *'ohana* first making sure they were taken care of. After that is written history. We know what happened to the lands, the LCAs, the RP. But the real truth is not written. Royal Patented lands could not be sold; as is noted on the bottom of each document. The lands were quiet titled. The real meaning of the process of quiet title is to "steal;" simple as that.

The lands of my *kupuna* belonged to William Luther Moehonua. The RP stretched from the location of the Ilikai to Kalakaua Ave, from Atkinson Drive to Ala Moana Blvd. My grandfather was born on that property, my mother and her siblings were born on that property, my siblings were born on that property. As the youngest, I was the only one of my siblings not born on that property and yet I feel the strongest ties. Long story short, the occupier of the land gratefully helped my *'ohana* to relocate elsewhere. My mother loved that land. She did not like talking about it, but I saw it in her eyes and felt her heartache. I carry her *kaumaha*.

Anyways, the area of the project was not always under Kekuanaoa. He was the father of Kamamalu; granddaughter of Kamehameha I. After her death, he inherited the lands that were given to her at the Mahele. Before the Mahele, the lands were primarily occupied by the Keawe, Kekaulike and Mahi *'ohana* who were already here; and had come over with Kahahana, Kahekili or Kamehameha. When the lands were issued by the Mahele, the *'ohana* were allowed to remain and farm the land as most or all were relatives to the awardee; in the case of this project area, it was Kamamalu and Kekuanaoa. The families living in the area before the Mahele would have been of the Kahekili and Kamehameha lineage. Very little families of the Oahu chiefs lived in these areas by then.

I frequented this area with my mother as a young child. We went to the beach known as Gray's beach (whea da hell did that name Gray come from; I used to ask my mother; doesn't sound Hawaiian to me). My mom and aunt went to gather *limu* that only grew near the flow of water coming from a stream; not sure what the name of that stream was; didn't pay attention. It was a special *limu* that grew at a certain time of the year. Finally, my mom said that the water was getting too *pilau* and she could taste it in the *limu*. The healing qualities of the *limu* were gone. Not much water flow.

There were a lot of fish ponds and *lo'i*. My *kupuna* had special traditional and cultural uses of the ponds that were on the lands belonging to them. One pond was used for raising the favorite fish of the *ali'i*; the *moi*. She talked of her father's *'ohana* who lived in the area; Kahanamoku, Harbottle, Alapai, Naihe, Kalehua, Umiumi.

DD: What are the ways you have acquired special knowledge of this area (from your *'ohana*, personal research, specific sources)?

PK: My *'ohana* were of this area; lived and died there. My mother's uncle is buried on lands there. My grandfather's ashes and his brothers were scattered on the ocean outside of the Halekulani like that of their cousins, the Kahanamokus. My knowledge of this area are from her.

DD: As far as you remember and your experiences, how has the area changed? Could you share how it was when you were young and how it's different now?

PK: I remember there being traffic, a lot of cars because my mom complained about it. We parked the car on Hobron Lane then walked over to the beach. She enjoyed doing that because she got to feel the *aina* (I think). She missed it and this was her way of returning. There's more traffic now. I think I could find the area of Gray's beach we used to frequent if I wanted to; don't want to; reminds me of my mom.

DD: Could you share your *mana'o* relevant to the area around the Outrigger Reef and the surrounding Waikiki area (personal anecdotes, *mo'olelo*, *mele*, *oli*, place names, etc.)?

PK: My mom and siblings spoke of date trees. There were a lot of them in the project area; all over that area actually. There were a few mango trees in the area of the project; the common mango, what we call the #9s. Gabby Pahinui grew up in that area. He and my uncles used to entertain in Waikiki in the 1930–40s.

When our *'ohana* had luau, the whole street was shut down; like for my sister's 1st birthday luau; Hobron Lane was closed off. All of Waikiki would be there and *kanikapila* all nite. Errol Flynn, who was a movie star at the time, attended that luau.

DD: Do you know of any traditional sites which are or were located on the Project site--for example: historic sites, archaeological sites and/or burials? Please elaborate.

PK: Yes, some burials were found in close proximity to the project site; it's been recorded at the SHPD. The whole area is an historic site. Many natives lived there and many were killed during the invasion of Kahahana, Kahekili and again by Kamehameha. Where they died is where they were buried.

DD: Do you think the proposed development would affect any place of cultural significance or access to a place of cultural significance? Please elaborate.

PK: The development could impact a cultural layer; not all of Waikiki was totally dug-up and filled. There may be some hot-spots; like we are finding today.

DD: Are you aware of any traditional gathering practices at the Project area and within the surrounding area of Waikiki, both past and ongoing?

PK: There were ponds in this area; some were used for raising fish (like the one on my *'ohana's* property) and some were used to irrigate *lo'i*. Surveying the bottom of these *lo'i* might provide some answers. In another area of Kou, the sides of a pond that belonged to another of my *kupuna* revealed *iwi* in the sidewalls of the pond. The only ongoing practice today is tourists walking throughout the street and people living in apartment buildings; nothing native Hawaiian, traditional or cultural about that.

DD: While development of the area continues, what could be done to lessen the adverse effects on any current cultural practices in the area?

PK: I don't believe there are any current cultural practices going on in the area. I would love to have something going, but currently, there is nothing native Hawaiian about that area. But perhaps this is something that can be explored with the developer; to include native Hawaiian cultural traditions and practices in whatever the project is going to be; by way of landscaping, naming, workshops at the development, on-site cultural resource person; endless ways to involve the native Hawaiian community. Cyril Pahinui plays at the Outrigger at times and there are hula dancers.

DD: Are you aware of any other cultural concerns the community might have related to Hawaiian cultural practices within or in the vicinity of the Project site and surrounding Waikiki area?

PK: Currently, I am involved with the cultural monitoring work for the Hilton's wastewater project and their Grand Islander project. There were burials found in this area. We are monitoring in case more burials are impacted or cultural layers, historic properties are located. Other than that, I do not know of many or any Hawaiian cultural practices within the project site. There is contemporary Hawaiian music played at the hotel on Kalia Rd; that's about it.

DD: Do you know of any other *kupuna*, *kama'āina* or cultural/lineal descendants who might be willing to share their *mana'o* of the Project area and of the surrounding Waikiki area?

PK: No.

APPENDIX G: INTERVIEW WITH DIDI ROBELLO

TALKING STORY WITH

DIDI ROBELLO (DR)

Oral History for the Outrigger Reef on the Beach Revisioning project area by Dietrix Duhaylonsod (DD)

For Keala Pono 9/22/2014

DD: Aloha. Today is Monday, September 22, 2014. We're at the Hula Grill. *Mahalo* to Didi Robello for talking story with us. We're gonna talk story about some of the areas here in Waikīkī and any thoughts he has on the area, trying to focus toward the Outrigger project. We'd just like to *mahalo* Didi for taking the time to talk story with us. If you could start, Didi, by telling us your name, where you were born, when you were born, where you grew up, where you went to school, like that?

DR: My name's Didi Robello. That's my nickname. My first name is Harry, 52 years old, born in 1962. My father was Harry S. Robello. My mother was Barbara Kahanamoku. I grew up in Kuli'ou'ou Valley and in Waikīkī. My dad started Aloha Beach Services back in 1959. We've been here the longest. All I know is Waikīkī. I do know more of my information is from the Royal Hawaiian [side] towards Diamond Head to the police station. I admit I don't know very much about the [Outrigger] Reef Hotel side. As far as on the business side of it, it is a lot slower than our side, like that. That's it, I don't know, shoot your questions.

DD: Ok, you said Kuli'ou'ou, what school was that?

DR: Kuli'ou'ou is the area I grew up, Kuli'ou'ou Valley. I went to Hahaione School, and then Niu Valley Intermediate. And I graduated from Kaiser High School in 1980.

DD: *Mahalo*. Could you tell us a little bit of your *'ohana* background please?

DR: My dad was the last of the original [Waikīkī] beach boys. He grew up working with Duke Kahanamoku. Pua Kealoha is the one who brought 'em on the beach and introduced him to the boys. I grew up being what you call a *gadut* [a word in the Pidgin language meaning "gopher"] for most of them. And fortunately, I got to meet 'em all and see them all before they passed by [died]. My mom was Bill Kahanmoku's daughter. He's one of the Duke's brothers, one of only three that had any children. I've got a brother and a sister. I also have two first cousins from my mom's brother, Billy Kahanamoku, who also passed away. They both passed away already. My dad passed away in 2004 in April, and my mom passed away in 2004 in August.

DD: *Mahalo* for sharing. So you said you were a *gadut*, was that because you were the young boy around them?

DR: Yeah, with Chick Daniels, Tom Fittera, Joe Wright, all these guys at the Royal [Hawaiian Hotel]. I spent a lot of time in front of the Royal, as a little kid, and the Moana Hotel.

DD: So that kind of leads into the next question. Could you tell a little more about your association to this area, like family land or work place, anything else you can tell us about your association?

DR: Well, one thing I know is that at least down by the Hilton Hawaiian Village, everybody knows that Kālia was, I don't know if it is anymore, was Paoa land. I'm not sure what it is now. That's where the Kahanamoku side of the family grew up. That's what I was told by my parents, you know, unfortunately by the time I was around, it's all built. I don't know anything about it down there. You

know, as a kid, like I said, my parents wouldn't allow me [quick laugh] to pass the Royal Hawaiian wall. I was too small. And that way they could keep an eye on us.

DD: Could you explain Kālia, in your mind, what would be like the boundaries of Kālia? Where are we talking about, Kālia?

DR: I'm gonna say that the entire Hilton Hawaiian Village part, especially where the dome used to be. That's what I was told. Other than that you'll have to check with my other cousins on that one. The older ones, they would know. Patty [Kahanamoku Teruya] might know. Her sister might know.

DD: And then you're saying that was Paoa family land, and just for clarification, that is your *'ohana*, the Paoas, could you explain how Paoa is related?

DR: My great-grandmother was a Paoa. That's who married Kahanamoku. [phone rings] Excuse me.

DD: All good, all good.

DR: Sorry. My great-grandmother was a Paoa, and my great-grandfather was Halapu Kahanamoku. They actually named the police station after him because he was a captain of the police. And then, from them came the six brothers and two sisters. So I come from the Kahanamoku side.

DD: You said "Kalapu?"

DR: Ha – lapu.

DD: Oh, Ha – lapu, ok *mahalo*. So you have some special thoughts and knowledge of this area. Could you tell what are some of the ways you acquired this knowledge, whether it's from your own *'ohana*, your experiences, your personal research, like how would you say you got most of your knowledge of this area?

DR: I would say just from being down here my whole life, hearing the stories from all the old guys, from my parents, from my families, my mom, dad—actually just watching a whole lot of the changes go on down here.

I remember sitting down on the beach, down here with the beach boys, as a small young kid, now you gotta figure elementary school age, watching those big hammers pounding down the cement in for the Surfrider hotel and a lot of 'em, Sheraton Waikīkī. I remember seeing the Royal Hawaiian Tower [being built]. I know what was there before the Royal Hawaiian Tower. That I remember because there was a grass shack over there with a snack bar. They had the best ice cream. [laughs] That's how I remember, as a little kid running down, "I wanna go buy ice cream!"

DD: [laughs] Wow, you remember all the changes being done, yeah?

DR: I saw a lot on my side.

DD: You were saying that you weren't allowed to go past the Royal Hawaiian. Is there a reason for that?

DR: That's so my parents could keep an eye on us. All the beach boys knew where we were. Once we passed the Royal Hawaiian, nobody would let us know. And then we weren't allowed to go [in the opposite direction] toward where the police station is now, because that's where it was a little more outlawish, let's say.

DD: The people hanging out over there?

DR: Yeah. I had to stay down this side.

DD: Ha, it was its little own society over here, ah?

DR: Yeah. A lot of them weren't allowed down this side.

DD: Oh wow, territories.

DR: Mm-hmm. Well this side, you had to be down the 'straight' because you're dealing with tourists, dealing with the hotels and stuff.

DD: Oh right. I see.

DR: Anything bad reflect on everybody. So they just kept the bad out of there.

DD: Was that enforced by the police? Or enforced just by the community?

DR: It's more like, [enforced] from the beach boys.

DD: Ah, I see, so the beach boys were kind of like looking out for the interest of everybody?

DR: Yup.

DD: And everybody respected that.

DR: Yeah.

DD: Ok, I got it. So you mention Kālia. Do you have any other place names, maybe a song or two, or a chant, you know, specific personal anecdotes you can talk about that would be connected?

DR: No I don't. When I was born, everything was already changed. I really don't know. That would've been my parents. And I'm sure people on the Paoa side would know a lot about that side. You better go find 'em because they're going fast.

DD: Yeah, you bring up a good point that everything has changed here in Waikīkī drastically since the early 1900s. Do you know of any traditional sites which are or were located in the Waikīkī area, whether it's historic sites from modern times or ancient sites or burials? Anything come to mind?

DR: Well, I've seen them move bones around. That would be at the Moana Hotel. I've had friends give me things that they've found in the waters out here, kinda neat, you know. Other than that, my stuff would be more from the '60s.

DD: When you say your friends gave you stuff, that's like artifacts?

DR: Yup.

DD: And then, you heard of *iwi* in the Moana area, but you never heard of any *iwi* in the Outrigger area?

DR: No, I haven't. I haven't.

DD: Ok, *mahalo*.

DR: I'm almost sure that there's some in the Royal too, but I couldn't tell you exactly.

DD: Ok, this development that we're talking about at the Outrigger, do you think that it would affect any place that's culturally significant, or do you think it would affect any kind of access to a culturally significant place?

DR: Well, Waikīkī is culturally significant. So if they're gonna do something to it, they should do it the right way and make sure that it's gonna be done the right way. The whole Waikīkī area is culturally significant. So they should take a lot of care into what they're gonna do.

DD: That's a real good point. It's not just that one area.

DR: It's not just one area, it's all of Waikīkī. It's all significant, so make sure it's done nicely, done right.

DD: What would you say would be a way to do things right, or to keep in mind, as we move forward?

DR: Well, it may be off the wall, but landscaping.

DD: Landscaping.

DR: I mean, you know you could landscape stuff not to look so mainland-ish. You could landscape it to look more local, which would probably be more culturally significant. People may like the fact that, oh you know, the stage kind of resembles rock formations, the plants are all native, mostly native. You know, you don't want to be bringing in bougainvillea like that anymore. We have our natural stuff we could use. I'd like to see more of that around.

DD: Yeah, that's a good thing to keep in mind as they're renovating the area.

DR: All the grounds, you know. Put some ponds. Put something instead of just straight up cement.

DD: Right, and like you say, make it look like Hawai'i instead of a mainland landscape.

DR: Yeah, I mean the people came here because of how beautiful this place was, what Waikīkī looked like. You know, don't forget that. It looks like it's been forgotten for a while. But it's time to make changes, let's make changes in the right way, make it look almost like how it used to be, why they came here in the first place.

DD: Right. Ok, so are you aware of any traditional gathering practices, whether it's fishing, *limu*, crabbing, anything in the area, either in the past or ongoing?

DR: Well I know as far as the beach boys are, we used to be the only ones who would be fishing out here mostly. There's not a lot of fish now. Why? I don't know. In my area, I couldn't say exactly for the reason, but I have seen the reef deteriorate drastically out here, from the overuse, and a lot of it in my opinion has to do with the catamaran.

On your end of the beach [the Outrigger side of Waikīkī] you know, a lot of the reef seems to be more alive. There's not as much activity as there is on this side being that this is the main area, Waikīkī. I think you guys oughtta, or whoever oughtta, keep an eye on how the reef is because as much as they deny it, they [the catamarans] leak fuel. I've smelled leakages off the catamarans before. It was that bad that it seeps all over. Nothing's gonna grow. We used to get schools of *manini*, schools of *āholehole*, *palani*, *pualu*, *uhu*, everything would all come in. And we would go lay net, and take what we need, and leave it. Now, there's just nothing here, there's nothing to eat. It's just dead. It's just flat out here, especially behind the boats. So behind there is dead. There's been a lot of damage, I would say, from fuel leaks off the catamarans. If you don't have to have it over there [by the Outrigger], don't do it.

DD: Ok, wow, I'm sure a lot of people don't realize that.

DR: Mm-mm [No] they don't. You want to see the damage underwater? Go get some environmentalist or something, go for a dive out here and see what kind of *'opala* you going find under the water. Nobody knows what's in the water over here. It's dirty. There's some places, that it's just disgusting.

DD: So catamarans, fuel leaks, so that has affected fishing.

DR: In my opinion, it's affected the sea life.

DD: The sea life.

DR: In the nearshore waters of Waikīkī, nearshore being the first, say 200 yards. Out in the deep, I don't know, but nearshore, it's not like it used to be.

DD: Any other gathering of *limu*, crabbing, lobsters, you can tell us?

DR: Well there used to be a lot of *limu* out here. My dad used to tell me that the most expensive *limu* came out of Waikīkī back in his day. When people got *limu* in Waikīkī, that was the top dog. Because of the fresh water streams we used to have, all the *limu* was really good. And you know, this place was *kapu* to *ali'i* only, so they had to have the best stuff. Now, it's hard to find the *limu*. One reason again, you got your over usage and your fuel [leaks]. There's not much fresh water seeping although there is. It does come from underground. There are spots out here that you can still go and gather the *limu*. So it's whether they know where it is or not. That's the thing, you know?

DD: Ok, *mahalo*. So while the development of this area continues, what do you think could be done to lessen the adverse effects on any cultural practices? What precautions?

DR: [thinking] I don't know. [pause] I think they should manage the beach a lot more. They should be working with the way the ocean works instead of trying to beat it or go against it. The sand replenishment, in my opinion, wasn't done right. But no one asked. Everybody went by [talking to] the college people, what it's supposed to be like, but not what it [the natural sand movement] actually is, and how it [sand replenishment] is done. Nobody came around asking us how does the sand work. Everybody just assumed that their way is the way, and that's how it got done, and as of now, it ain't working. So you're gonna lose a lot of sand, possibly.

DD: Yeah, I know before we started this tape recorder, you were explaining about how the sand and the current move. That's local knowledge.

DR: Yeah, some of the people they have doing it, I mean, they're younger. So they're gonna say, "Oh I remember growing up in Waikīkī." No, they didn't go as far back as we did. So you know, we've got 20, 30 years over most of the people who are saying that they know everything already, but they don't. They don't know everything unless they come talk to us, then they'll be that much closer to knowing everything. You gotta keep asking, keep asking, keep learning.

DD: So, you're saying better management of the beach, consult with the old-timers regarding the sand replenishment, any other things that they should consider to lessen adverse effects?

DR: I guess they could consider the growth. I mean, you can only handle so much growth, and that's island wide. You can keep going up, up, up, up. The island is only so big. The beaches can only hold so much. The sewers can only hold so much. You only have so much water, you know, conserve, conserve, conserve, but build, build, build.

DD: Good point. Are you aware of any other cultural concerns the community might have related to the cultural practices here or anything else that we haven't covered?

DR: Is there any way it's gonna affect the surf? What other walls and stuff are they gonna be putting up? I don't know. Do they have those in their plans? You know, just because they have the hotel going up, next question is gonna be, how do we make our beach better? And what are they gonna do then, you know? Is that gonna come out and bite me in the butt later? You wanna get all that up front. And if there's gonna be any effect to what the surf conditions are gonna be like.

DD: I'll make sure to ask that.

DR: As far as cultural, I would guess that surfing is part of the culture. And everywhere people try to go surf, there's no parking. There's no access. "Oh, sorry you cannot park here, it's hotel guests only." Or it costs an arm and a leg. So if there's a token 33 parking stalls, is there any way they're gonna do that? Because they're building in front, again, there's lots of very good surf spots out there that locals can't have access to.

DD: Access.

DR: Accessibility. Parking. You know, you gotta be *kamaʻāina* friendly also. I mean, after surfing, can we come in with our shorts and t-shirt and get something to eat? Like Duke's, you can go out, come right back in soaking wet, but they're all good to go. Is there someplace that's gonna be, you know, as long as it's not all exclusive. Is it *kamaʻāina* friendly also?

DD: Good point. Ok, lastly, do you know of any other *kupuna* or *kamaʻāina* or any other descendants who might be willing to share their *manaʻo* of this area? Anyone you suggest?

DR: You might wanna go and talk with Ted Bush. He has the other concession stand near the Royal. He also used to have one and worked for the lady who had one in front of the Reef Hotel. He may have some information for that side, definitely more than I would have. As far as family, I would get in touch with any of the Paoas or even some of the Harbottles might know. The Harbottles are all family. Maybe Nainoa Thomspon, he may be able to tell you who to see about it. I mean, he might not know, I don't know, but he might tell you, "Oh, go see my Aunty So-and-so or my Uncle So-and-so."

DD: Is he a Harbottle?

DR: No, he's a Paoa.

DD: Oh, I didn't know that. You know, we had Harbottles grew up next to us, Clyde Harbottle-them, in Honokai Hale on the west side, then they moved out, I don't know where they moved to.

DR: I don't know, but I know that's one of the names. Harbottles, Paoas, there's a whole bunch that we're all related to. [laughs] My parents

DD: [laughs] Big family.

DR: Yeah. Uncle Pinky was a Paoa.

DD: Pinky? Oh. Ok, so I just want to say *mahalo* again for spending time, and I'll be getting back with you.

DR: Yeah. Anything I can do, let me know.

DD: Ok, *mahaaalo nui* and *aloha.*

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APPENDIX K

Acoustic Study for the Waikiki Beach Walk – Outrigger Reef Waikiki Beach Resort Project, Waikiki, Oahu, Hawaii

Y. Ebisu & Associates

March 2016

ACOUSTIC STUDY FOR THE OUTRIGGER REEF WAIKIKI BEACH RESORT PROJECT WAIKIKI, OAHU, HAWAII

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GROUP 70 INTERNATIONAL

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MARCH 2016

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CHAPTER I. SUMMARY

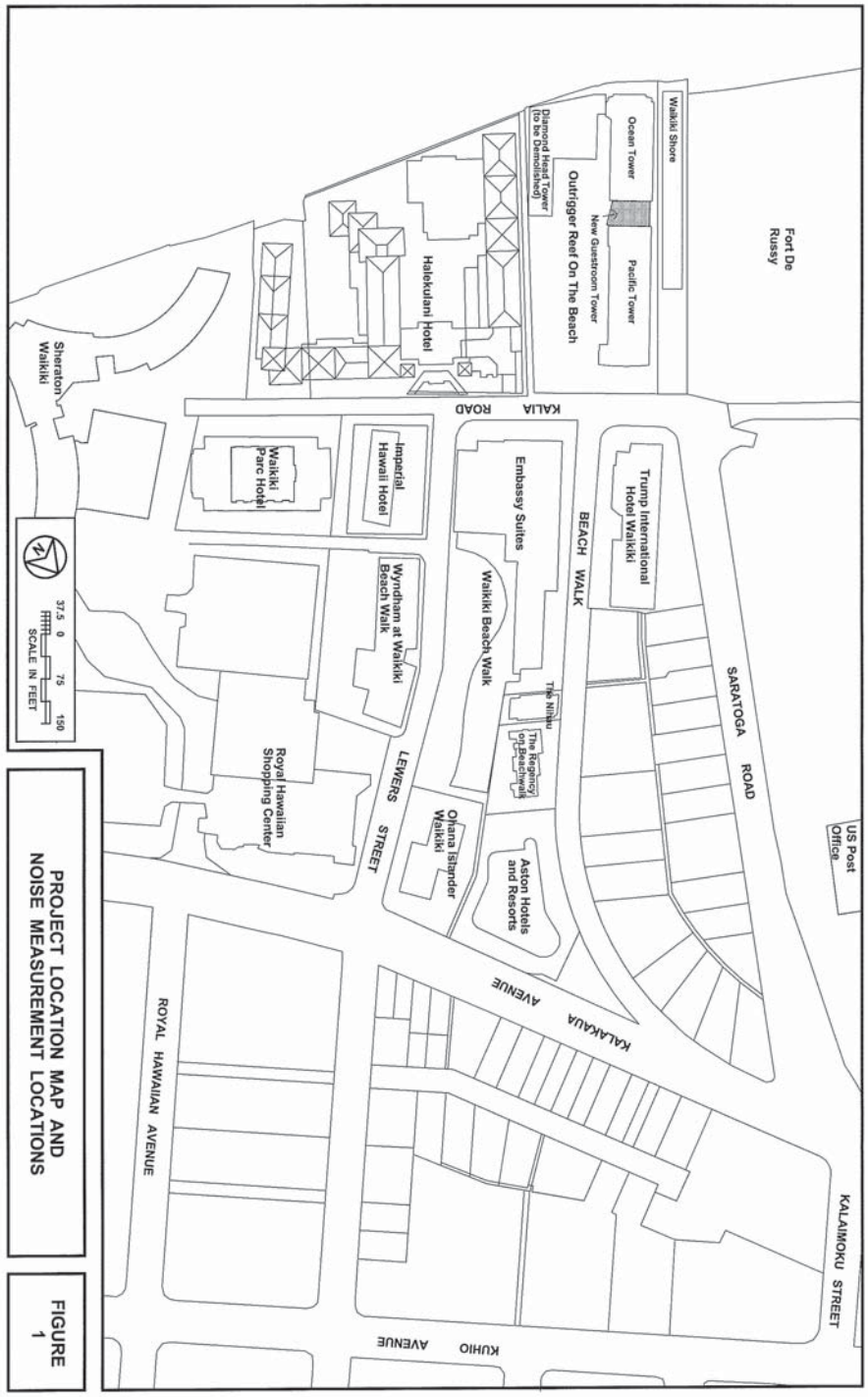
The existing and future traffic noise levels in the vicinity of the Outrigger Reef Waikiki Beach Resort Project in Waikiki (see Figure 1) were evaluated for their potential impacts and their relationship to current FHA/HUD noise standard. The traffic noise level increases along the access roadways to and from the project site were calculated. No significant increases in traffic noise are predicted to occur along Kalakaua Avenue, Saratoga Road, Kalia Road, Beach Walk, and Lewers Street as a result of project plus non-project traffic following project build-out by CY 2020. This conclusion applies to both a typical day as well as to a day with a project event. Traffic noise from Kalakaua Avenue to Kalia Road and from Saratoga Road to Lewers Street will continue to control background ambient noise levels in the project environs, with traffic noise levels exceeding 70 DNL at existing and future resort units which front Kalakaua Avenue, Saratoga Road, Lewers Street, and Kalia Road. Mitigation of the high traffic noise levels will be required at all new resort units, and will be available in the form of closure and air conditioning of the existing and future units within the Outrigger Reef Waikiki Beach Resort.

Project traffic will add no more than 0.5 DNL additional units of noise along the high noise roadways such as Kalakaua Avenue, Saratoga Road, Lewers Street, and Kalia Road. The increases in future traffic noise levels resulting from project generated traffic are not considered to be significant for both a typical day and a project event day.

The steady background noise levels associated with non-traffic noise sources, such as mechanical equipment (fans, chillers, and air conditioning condensers) control the minimum background noise levels at both street side and interior locations in the project environs. These steady background noise levels are typically higher than the 50 dBA limit for nighttime noise levels used by the Hawaii State Department of Health (DOH) for resort, commercial, and multifamily residential properties. Along Kalia Road fronting the project site, measured minimum background noise levels were approximately 59 to 60 dBA, or 65 to 66 DNL, and were controlled by mechanical equipment noise.

The aircraft noise component should not exceed the Hawaii State Department of Transportation, Airports Division, recommended planning level of 60 DNL for residences and resort units. Mitigation of aircraft noise levels is not required for the existing and planned resort units within the Outrigger Reef Waikiki Beach Resort Project, but will be available in the form of closure and air conditioning of these resort units.

Unavoidable, but temporary, noise impacts may occur during the demolition and construction activities within the project area, and particularly during the demolition and excavation activities on the project site. Because construction activities are predicted to be audible within the project site and at adjoining properties, the quality of the acoustic environment may be degraded to unacceptable levels during periods of construction.



PROJECT LOCATION MAP AND NOISE MEASUREMENT LOCATIONS

FIGURE 1

Mitigation measures to reduce construction noise to inaudible levels will not be practical in all cases, but the use of quiet equipment is recommended as a standard mitigation measure. Because casted-in-place piles are planned to be used as foundations for the new tower building and parking structure, high noise and vibration levels at adjacent receptors and buildings will be avoided. The implementation of Hawaii State Department of Health permit procedures and curfew periods for construction activities is also expected for this project.

CHAPTER II. PURPOSE

The primary objective of this study was to describe the existing and future noise environment in the environs of the proposed Outrigger Reef Waikiki Beach Resort Project in Waikiki on the island of Oahu. Traffic noise level increases and impacts associated with the proposed development were to be determined along the public roadways which are expected to service the project related traffic. A specific objective was to determine future traffic noise level increases associated with both project and non-project traffic, and the potential noise impacts associated with these increases.

Potential noise impacts at adjacent properties from the reconfigured lower level parking garage and Loading Dock, and emergency generator were evaluated. Minimizing risks of adverse noise impacts from these noise sources as well as from the hotel's mechanical equipment were discussed. Assessments of possible future impacts from short term construction noise and vibration at the project site were also included as noise study objectives. Recommendations for minimizing identified noise and vibration impacts were also to be provided as required.

CHAPTER III. NOISE DESCRIPTORS AND THEIR RELATIONSHIP TO LAND USE COMPATIBILITY

The noise descriptor currently used by federal agencies (such as FHA/HUD) to assess environmental noise is the Day-Night Average Sound Level (Ldn or DNL). This descriptor incorporates a 24-hour average of instantaneous A-Weighted Sound Levels as read on a standard Sound Level Meter. By definition, the minimum averaging period for the DNL descriptor is 24 hours. Additionally, sound levels which occur during the nighttime hours of 10:00 pm to 7:00 am are increased by 10 decibels (dB) prior to computing the 24-hour average by the DNL descriptor. A more complete list of noise descriptors is provided in Appendix B to this report.

Table 1, derived from Reference 1, presents current federal noise standards and acceptability criteria for residential land uses. Land use compatibility guidelines for various levels of environmental noise as measured by the DNL descriptor system are shown in Figure 2. As a general rule, noise levels of 55 DNL or less occur in rural areas, or in areas which are removed from high volume roadways. In urbanized areas which are shielded from high volume streets, DNL levels generally range from 55 to 65 DNL, and are usually controlled by motor vehicle traffic noise. Residences which front major roadways are generally exposed to levels of 65 DNL, and as high as 75 DNL when the roadway is a high speed freeway.

In the project area, traffic noise levels associated with Kalakaua Avenue, Kalia Road, and Saratoga Road are greater than 70 DNL along their Rights-of-Way due to the large volumes of traffic and heavy vehicles (trucks and buses) on those major thoroughfares. Adding to the traffic noise from the roadways are the relatively high noise levels of tour buses idling at curbside, sirens on police and emergency vehicles, outdoor mechanical equipment (fans and air conditioning equipment) at the commercial and resort buildings, maintenance activities, and garbage and delivery truck operations.

For purposes of determining noise acceptability for funding assistance from federal agencies (FHA/HUD and VA), an exterior noise level of 65 DNL or less is considered acceptable for residences. This standard is applied nationally (Reference 2), including Hawaii. Because of our open-living conditions, the predominant use of naturally ventilated dwellings, and the relatively low exterior-to-interior sound attenuation afforded by these naturally ventilated structures, an exterior noise level of 65 DNL does not eliminate all risks of noise impacts. Because of these factors, and as recommended in Reference 3, a lower level of 55 DNL is considered as the "Unconditionally Acceptable" (or "Near-Zero Risk") level of exterior noise. However, after considering the cost and feasibility of applying the lower level of 55 DNL, government agencies such as FHA/HUD and VA have selected 65 DNL as a more appropriate regulatory standard.

Hotel units can be considered to be similar to residential units, but with slightly higher levels of noise considered acceptable (see Figure 2). Because air conditioning

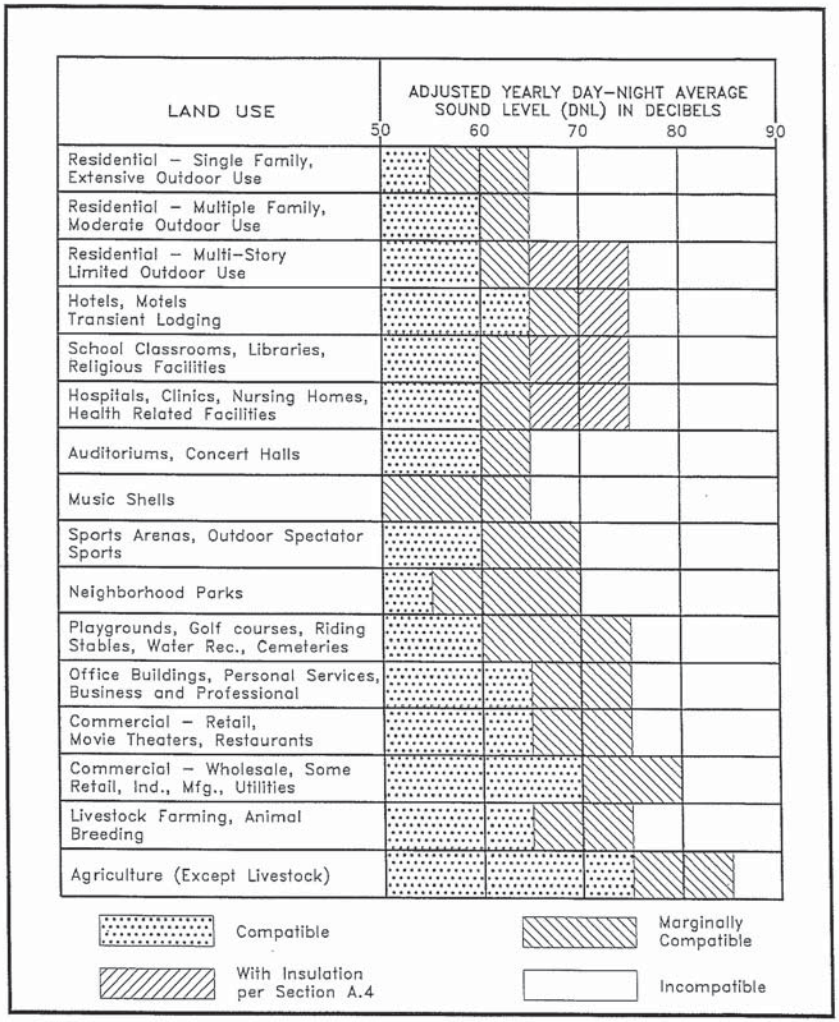
TABLE 1

EXTERIOR NOISE EXPOSURE CLASSIFICATION (RESIDENTIAL LAND USE)

NOISE EXPOSURE CLASS	DAY–NIGHT SOUND LEVEL	EQUIVALENT SOUND LEVEL	FEDERAL (1) STANDARD
Minimal Exposure	Not Exceeding 55 DNL	Not Exceeding 55 Leq	Unconditionally Acceptable
Moderate Exposure	Above 55 DNL But Not Above 65 DNL	Above 55 Leq But Not Above 65 Leq	Acceptable(2)
Significant Exposure	Above 65 DNL But Not Above 75 DNL	Above 65 Leq But Not Above 75 Leq	Normally Unacceptable
Severe Exposure	Above 75 DNL	Above 75 Leq	Unacceptable

Notes: (1) Federal Housing Administration, Veterans Administration, Department of Defense, and Department of Transportation.

(2) FHWA uses the Leq instead of the Ldn descriptor. For planning purposes, both are equivalent if: (a) heavy trucks do not exceed 10 percent of total traffic flow in vehicles per 24 hours, and (b) traffic between 10:00 PM and 7:00 AM does not exceed 15 percent of average daily traffic flow in vehicles per 24 hours. The noise mitigation threshold used by FHWA for residences is 67 Leq.



LAND USE COMPATIBILITY WITH YEARLY AVERAGE DAY-NIGHT AVERAGE SOUND LEVEL (DNL) AT A SITE FOR BUILDINGS AS COMMONLY CONSTRUCTED.
(Source: American National Standards Institute S12.9-1998/Part 5)

FIGURE 2

is typically available in hotel units, noise mitigation measures in the form of closure of the hotel units to attenuate outside noises are also typically available to hotel guests. This, and the transient and temporary nature of the hotel guest occupancies, tend to make hotel guests more tolerant of the higher background noise levels in the project area.

For commercial, industrial, and other non-noise sensitive land uses, exterior noise levels as high as 75 DNL are generally considered acceptable. Exceptions to this occur when naturally ventilated office and other commercial establishments are exposed to exterior levels which exceed 65 DNL.

On the island of Oahu, the State Department of Health (DOH) regulates noise from fixed mechanical equipment and construction activities. The noise from project air conditioning and ventilation equipment would be regulated by the DOH, with a daytime noise limit of 60 dBA applicable during the hours of 7:00 am to 10:00 pm, and with a nighttime limit of 50 dBA applicable during the hours of 10:00 pm to 7:00 am. State DOH noise regulations are expressed in maximum allowable noise limits rather than DNL (see Reference 4). Although they are not directly comparable to noise criteria expressed in DNL, State DOH noise limits for single family residential lands equate to approximately 55 DNL. For multifamily residential, commercial, and resort lands, the State DOH noise limits equate to approximately 60 DNL. For light and heavy industrial lands, the State DOH noise limits equate to approximately 76 DNL. Construction activities, which are typically noisier than the State DOH noise limits, are regulated through the issuance of permits for allowing excessive construction noise during limited time periods.

CHAPTER IV. GENERAL STUDY METHODOLOGY

Existing traffic and background ambient noise levels were measured at 9 locations (A, B, C, D, E, F, G, H, and I) in the project environs to provide a basis for describing the existing noise environment in the project environs. These traffic and background ambient noise measurements were performed during 2013 and 2014, and those results are summarized in Table 2. The locations of these measurement sites are shown in Figure 1. Location D was on the mauka lanai of a 9th floor guest room in the Pacific Tower of the Outrigger Reef On The Beach Hotel; and Location I was on the mauka lanai of a 14th floor guest room at the Sheraton Waikiki Hotel. The rest of the measurement locations shown in Figure 1 were at ground level.

Traffic noise calculations for the existing conditions as well as noise predictions for CY 2020 were performed using the Federal Highway Administration (FHWA) Traffic Noise Model Version 2.5 (Reference 5). Traffic data entered into the noise prediction model were: roadway and receiver locations; hourly traffic volumes, average vehicle speeds; estimates of traffic mix; and "Pavement" propagation loss factor. The traffic data and forecasts for the project traffic through 2020 (Reference 6) and the use of prior 2019 forecasts for non-project traffic (Reference 7) were the primary sources of data inputs to the model. Appendices C and D summarize the am and pm peak hour traffic volumes for CY 2014, 2019, and 2020, which were used to model existing and future traffic noise along the streets surrounding the project site for a typical day and for a project event day. In both Appendices C and D, background traffic forecasts for 2019 were used for representing future non-project traffic in 2020. For existing and future traffic along the streets surrounding the project site, it was assumed that the average noise levels, or Leq(h), during the pm peak traffic hour were approximately 2 dB less than the 24-hour DNL along those roadways. This assumption was based on historical hourly traffic counts in Waikiki.

Traffic noise calculations for both the existing and future conditions in the project environs were developed for ground level and elevated receptors. Traffic noise levels were also calculated for future conditions with (Build Alternative) and without (No Build Alternative) the proposed project. The forecasted changes in traffic noise levels over existing levels were calculated with and without the project, and noise impact risks evaluated. The relative contributions of non-project and project traffic to the total noise levels were also calculated, and an evaluation of possible traffic noise impacts was made.

In addition to the traffic noise measurements, background ambient noise measurements were obtained at Locations D and I, where other noise sources (refuse collection, idling delivery trucks and buses, fixed machinery, live music performances, etc.) made significant contributions to the total noise environment. The results of these measurements plus the results of the traffic noise measurements and predictions were used to describe the existing and future noise levels in the project environs.

TABLE 2

TRAFFIC AND BACKGROUND NOISE MEASUREMENT RESULTS

LOCATION	Time of Day (HRS)	Ave. Speed (MPH)	Hourly Traffic Volume AUTO	M.TRUCK	H.TRUCK	Measured Leq (dB)	Predicted Leq (dB)
A. 57 FT from the center-line of Lewers Street (9/27/13)	1509 TO 1609	32	213	8	0	64.6	64.5
B. 42 FT from the center-line of Kalia Road (9/27/13)	1617 TO 1717	32	253	27	23	67.6	67.5
C. 50 FT from the center-line of Saratoga Road (12/09/13)	1600 TO 1700	25	642	28	125	66.4	66.4
D. 100 FT slant distance from the centerline of Kalia Roac (11/11/14)	0700 TO 0800	32	368	44	22	67.0	64.6
D. 100 FT slant distance from the centerline of Kalia Roac (11/10/14)	1430 TO 1530	32	547	67	49	66.1	66.9
D. 100 FT slant distance from the centerline of Kalia Roac (11/10/14)	1600 TO 1700	32	490	45	42	66.1	66.0

TABLE 2 (CONTINUED)

TRAFFIC AND BACKGROUND NOISE MEASUREMENT RESULTS

LOCATION	Time of Day (HRS)	Ave. Speed (MPH)	Hourly Traffic Volume AUTO	M.TRUCK	H.TRUCK	Measured Leq (dB)	Predicted Leq (dB)
G. 42 FT from the center-line of Beach Walk (09/25/14)	1500 TO 1600	30	182	9	8	62.6	61.8
H. 50 FT from the center-line of Kalakaua Ave. (09/25/14)	0910 TO 1010	30	930	60	118	67.1	67.5
H. 50 FT from the center-line of Kalakaua Ave. (09/25/14)	1240 TO 1340	30	1,143	57	79	66.5	66.7
H. 50 FT from the center-line of Kalakaua Ave. (09/25/14)	1610 TO 1710	30	1,328	48	49	67.2	66.8

TABLE 2 (CONTINUED)

TRAFFIC AND BACKGROUND NOISE MEASUREMENT RESULTS

LOCATION	Time of Day (HRS)	Ave. Speed (MPH)	Hourly Traffic Volume AUTO	M.TRUCK	H.TRUCK	Measured Leq (dB)	Predicted Leq (dB)
E. 50 FT from the center-line of Kalia Road (12/09/13)	1430 TO 1530	25	484	38	144	64.6	64.9
F. 50 FT from the center-line of Kalia Road (09/24/14)	0915 TO 1015	32	442	69	64	67.9	67.8
F. 50 FT from the center-line of Kalia Road (09/24/14)	1215 TO 1315	32	419	41	94	67.9	68.0
F. 50 FT from the center-line of Kalia Road (09/24/14)	1611 TO 1711	32	645	28	53	67.7	66.9
G. 42 FT from the center-line of Beach Walk (09/25/14)	0800 TO 0900	30	116	11	27	63.8	64.6
G. 42 FT from the center-line of Beach Walk (09/25/14)	1130 TO 1230	30	137	12	20	63.9	63.8

Calculations of average exterior and interior noise levels from construction activities were performed for typical naturally ventilated and air conditioned dwellings. or resort units. Predicted noise levels were compared with existing background ambient noise levels, and the potential for noise impacts was assessed. Potential noise impacts from construction operations were discussed, and mitigation measures recommended.

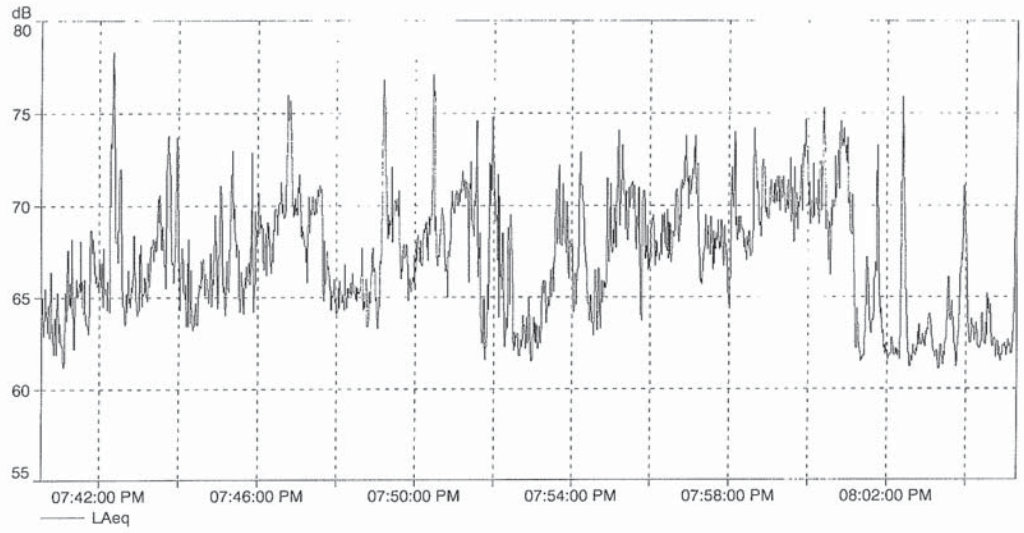
V. EXISTING ACOUSTICAL ENVIRONMENT

Major contributors to the existing background ambient noise levels within the project area are: traffic along Kalakaua Avenue, Saratoga Road, Beach Walk, Lewers Street, and Kalia Road; garbage collection trucks; tour buses and delivery trucks which are idling or positioning at curbside; loud motorcycles; the sirens of emergency and police vehicles; and nearby construction activities. Sample strip charts of the louder noise events which were recorded at the noise measurement locations are shown in Figures 3 through 6. The louder noise events can range from 80 to 90 dBA, and are clearly audible above the other background ambient noise sources, and tend to distort the hourly average [or Leq(h)] and 24-hour average (or DNL) noise levels.

The hourly variations in noise levels within the project area are controlled by both motor vehicle traffic along the high volume roadways such as Kalakaua Avenue, Saratoga Road, and Kalia Road, as well as by the louder non-traffic noise sources, such as refuse and delivery trucks, live music, and sirens. Traffic noise levels tend to be lowest during the early morning hours between 3:00 and 5:00 am, and tend to be highest during the daytime and evening hours when tour buses and trolleys operate. The measured variations in average hourly noise levels at measurement Locations I and D are shown in Figures 7 through 9. Superimposed on the hourly variations associated with traffic noise are the large increases in average hourly noise levels caused by the loud noise sources described previously.

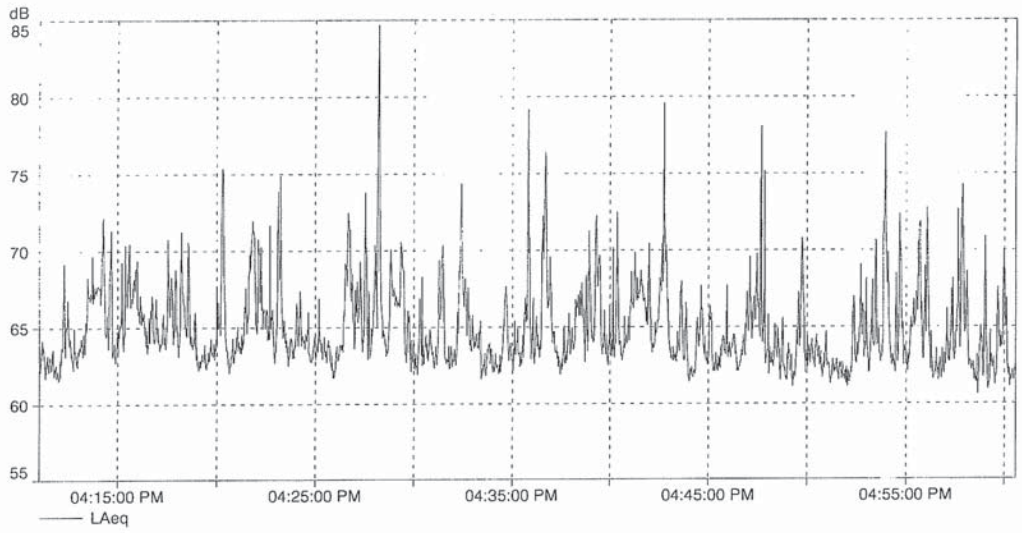
The existing traffic volumes and their noise contributions at 50, 75, and 100 feet setback distances from the centerlines of the roadways servicing the project are shown in Appendix C and Table 3. The corresponding setback distances from the roadways' centerlines to their corresponding 65, 70, and 75 DNL traffic noise contours for ground level receptors are shown in Tables 4A and 4B. Based on the results shown in Tables 3, 4A, and 4B, as well as the measured sound levels at the various locations (see Figures 3 through 9), it was concluded that existing background noise levels in the project environs currently exceed 65 DNL at essentially all buildings which front Kalakaua Avenue, Saratoga Road, Lewers Street, and Kalia Road. In addition, at the upper floors of buildings which front the lower volume streets such as Beach Walk, distant traffic noise plus the other non-traffic noise sources in the area cause ambient noise levels to exceed 65 DNL. At those receptor locations which front Kalakaua Avenue, Saratoga Road, and Kalia Road, existing background ambient noise levels exceed 70 DNL. As indicated in Tables 3, 4A, and 4B, the existing noise levels in the project environs are highest along Saratoga Road and Kalakaua Avenue, and lowest along Beach Walk Street and Kalia Road east of Lewers Street.

Existing noise levels on the mauka face of the Pacific Tower at Outrigger On The Beach range from 70 to 71 DNL. At receptor locations which are shielded from traffic noise, such as within the interior of Outrigger On The Beach, existing background ambient noise levels are lower due to the noise shielding effects of the surrounding buildings. Noise reductions of 5 to 20 dBA can be expected from these noise shielding



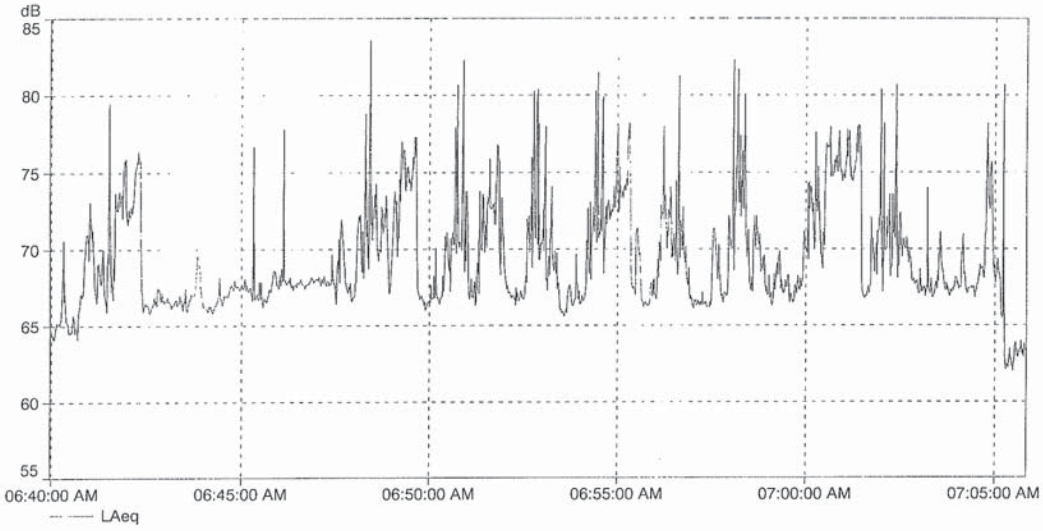
LIVE MUSIC SOUND LEVEL VS. TIME MEASURED AT LOCATION "D" (11/10/14; 7:50 PM)

FIGURE 4



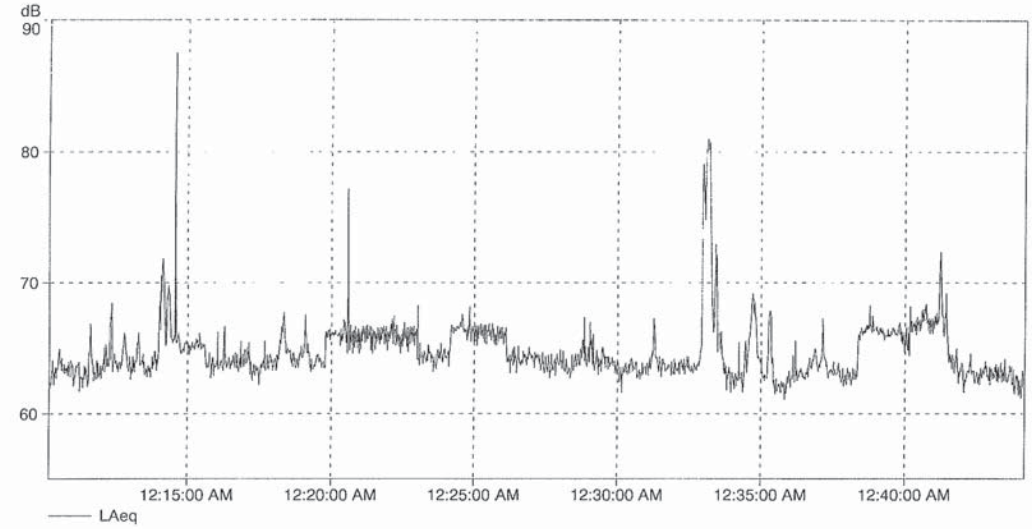
TYPICAL TRAFFIC NOISE LEVEL VS. TIME MEASURED AT LOCATION "D" (11/10/14; 4:35 PM)

FIGURE 3



REFUSE TRUCK SOUND LEVEL VS. TIME MEASURED AT LOCATION "D" (11/11/14; 6:50 AM)

FIGURE 6



REFRIGERATION TRUCK SOUND LEVEL VS. TIME MEASURED AT LOCATION "D" (11/11/14; 12:25 AM)

FIGURE 5

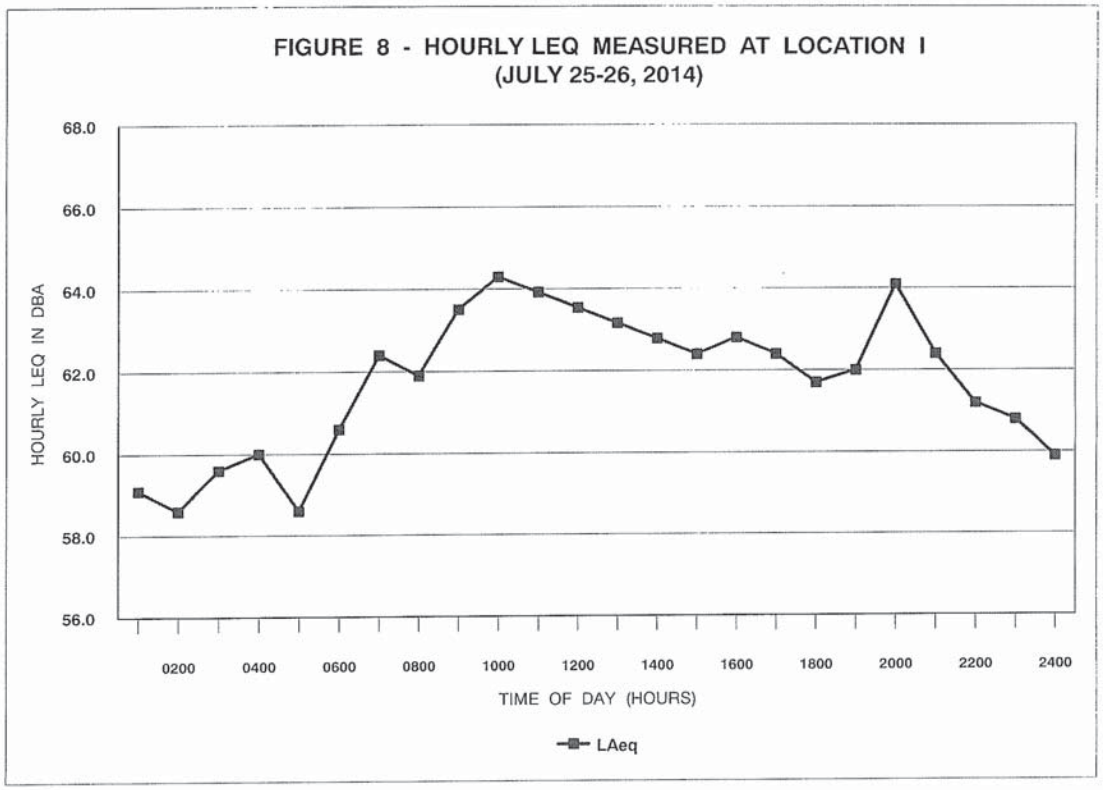


FIGURE 8 - HOURLY LEQ MEASURED AT LOCATION I
(JULY 25-26, 2014)
HOURLY LEQ IN DBA
68.0
66.0
64.0
62.0
60.0
58.0
56.0
0200
0400
0600
0800
1000
1200
1400
1600
1800
2000
2200
2400
TIME OF DAY (HOURS)
LAeq

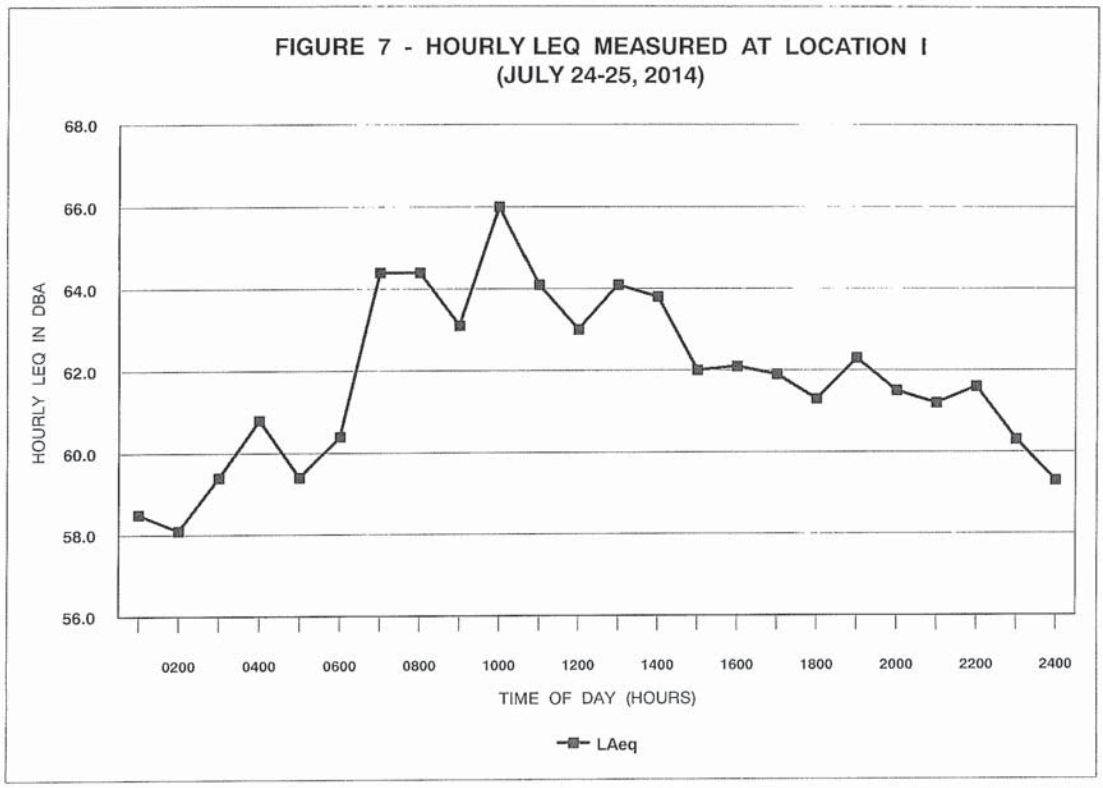


FIGURE 7 - HOURLY LEQ MEASURED AT LOCATION I
(JULY 24-25, 2014)
HOURLY LEQ IN DBA
68.0
66.0
64.0
62.0
60.0
58.0
56.0
0200
0400
0600
0800
1000
1200
1400
1600
1800
2000
2200
2400
TIME OF DAY (HOURS)
LAeq

TABLE 3

EXISTING (CY 2014) TRAFFIC VOLUMES AND NOISE LEVELS ALONG ROADWAYS IN PROJECT AREA (PM PEAK HOUR)

LOCATION	SPEED (MPH)	TOTAL VPH	********** VOLUMES (VPH) ********** AUTOS	M TRUCKS	H TRUCKS	50' Leq	75' Leq	100' Leq
Kalakaua Ave. W. of Saratoga Rd.	30	1,842	1,716	63	63	67.9	65.9	64.9
Kalakaua Ave. Btwn. Saratoga & Lewers	30	1,781	1,659	61	61	67.8	65.8	64.5
Kalakaua Ave. E. of Lewers St.	30	1,346	1,254	46	46	66.5	64.6	63.3
Kalaimoku St. N. of Kalakaua Ave.	25	338	307	14	17	59.2	57.4	56.2
Saratoga Rd. S. of Kalakaua Ave.	25	850	680	34	136	66.5	64.8	63.5
Lewers St. N. of Kalakaua Ave.	32	315	304	11	0	66.6	64.9	63.7
Lewers St. S. of Kalakaua Ave.	32	406	391	15	0	67.8	66.0	64.8
Kalia Rd. W. of Saratoga Rd.	25	731	531	42	158	65.1	63.3	62.1
Kalia Rd. Btwn. Saratoga & Beach Walk	32	686	528	82	76	69.1	67.3	66.1
Kalia Rd. Btwn. Beach Walk & Lewers St.	32	477	367	57	53	67.5	65.7	64.5
Kalia Rd. E. of Lewers St.	32	307	280	12	15	63.0	61.2	60.0
Saratoga Rd. N. of Kalia Rd.	25	803	643	32	128	66.3	64.5	63.3
Beach Walk N. of Kalia Rd.	30	213	194	10	9	61.4	59.6	58.4
Lewers St. N. of Kalia Rd.	32	268	258	10	0	66.0	64.3	63.0

FIGURE 9 - HOURLY LEQ MEASURED AT LOCATION D (NOVEMBER 10-11, 2014)

TABLE 4B

EXISTING AND CY 2020 DISTANCES TO 65, 70, AND 75 DNL CONTOURS DURING PROJECT EVENT DAY

STREET SECTION	65 DNL SETBACK (FT)		70 DNL SETBACK (FT)		75 DNL SETBACK (FT)	
	EXISTING	CY 2020	EXISTING	CY 2020	EXISTING	CY 2020
Kalakaua Ave. W. of Saratoga Rd.	173	163	49	54	18	19
Kalakaua Ave. Btwn. Saratoga & Lewers	139	149	48	50	17	17
Kalakaua Ave. E. of Lewers St.	107	114	36	39	12	13
Kalaimoku St. N. of Kalakaua Ave.	21	33	< 12	< 12	< 12	< 12
Saratoga Rd. S. of Kalakaua Ave.	112	130	35	41	< 12	13
Lewers St. N. of Kalakaua Ave.	118	122	36	38	< 12	12
Lewers St. S. of Kalakaua Ave.	154	162	48	50	15	16
Kalia Rd. W. of Saratoga Rd.	81	91	26	29	< 12	< 12
Kalia Rd. Btwn. Saratoga & Beach Walk	210	222	64	73	21	22
Kalia Rd. Btwn. Beach Walk & Lewers St.	143	169	45	52	14	17
Kalia Rd. E. of Lewers St.	50	53	16	17	< 12	< 12
Saratoga Rd. N. of Kalia Rd.	107	124	34	39	< 12	13
Beach Walk N. of Kalia Rd.	35	36	< 12	12	< 12	< 12
Lewers St. N. of Kalia Rd.	100	105	31	22	< 12	< 12

Notes:

(1) All setback distances are from the roadways' centerlines.
(2) See Tables 3 and 5B for traffic volume, speed, and mix assumptions.
(3) Setback distances are for ground level receptors.
(4) "Pavement" conditions assumed along all roadways.

TABLE 4A

EXISTING AND CY 2020 DISTANCES TO 65, 70, AND 75 DNL CONTOURS DURING TYPICAL DAY

STREET SECTION	65 DNL SETBACK (FT)		70 DNL SETBACK (FT)		75 DNL SETBACK (FT)	
	EXISTING	CY 2020	EXISTING	CY 2020	EXISTING	CY 2020
Kalakaua Ave. W. of Saratoga Rd.	173	163	49	54	18	19
Kalakaua Ave. Btwn. Saratoga & Lewers	139	146	48	50	17	18
Kalakaua Ave. E. of Lewers St.	107	112	36	39	12	14
Kalaimoku St. N. of Kalakaua Ave.	21	33	< 12	< 12	< 12	< 12
Saratoga Rd. S. of Kalakaua Ave.	112	122	35	38	< 12	12
Lewers St. N. of Kalakaua Ave.	118	124	36	39	< 12	13
Lewers St. S. of Kalakaua Ave.	154	162	48	50	15	16
Kalia Rd. W. of Saratoga Rd.	81	89	26	28	< 12	< 12
Kalia Rd. Btwn. Saratoga & Beach Walk	210	210	64	69	21	21
Kalia Rd. Btwn. Beach Walk & Lewers St.	143	146	45	47	14	14
Kalia Rd. E. of Lewers St.	50	53	16	17	< 12	< 12
Saratoga Rd. N. of Kalia Rd.	107	118	34	37	< 12	12
Beach Walk N. of Kalia Rd.	35	36	< 12	12	< 12	< 12
Lewers St. N. of Kalia Rd.	100	105	31	22	< 12	< 12

Notes:

(1) All setback distances are from the roadways' centerlines.
(2) See Tables 3 and 5A for traffic volume, speed, and mix assumptions.
(3) Setback distances are for ground level receptors.
(4) "Pavement" conditions assumed along all roadways.

effects. Background ambient noise levels at these locations range from 65 to 70 DNL, and are controlled by the surf or pool side activities on the grounds of Outrigger On The Beach rather than by traffic noise.

The maximum noise levels from offshore aircraft range between 70 and 75. The loudest aircraft noise events were typically associated with departures by interisland cargo or military jet aircraft. Aircraft noise events are audible above the background ambient noise at the quieter receptor locations. However, aircraft noise levels at the project site do not exceed 60 DNL, which is the level above which the Hawaii State Department of Transportation, Airports Division, considers to be unacceptable for residences and resorts. The most recently published airport noise contours for Honolulu International Airport indicate that the project site is located beyond (or outside) the 55 DNL contour for the Year 2007. This correlates with the measured aircraft noise data and the Year 2014 estimate of 45 to 50 DNL for aircraft noise at the project site.

CHAPTER VI. FUTURE NOISE ENVIRONMENT

Predictions of future traffic noise levels for CY 2020 were made using the traffic volume assignments of References 6 and 7 without the proposed project, with the project for a typical day, and with the project on a day with a project event. The future projections of non-project and project traffic volumes for the No Build and Build Alternatives are shown in Apendices C (for typical day) and D (for project event day).

Tables 5A and 5B contain the CY 2020 traffic volumes and noise levels at 50, 75, and 100 feet from the roadways' centerlines for the Build Alternative. Tables 4A and 4B contain the setback distances to the 65, 70, and 75 DNL contours for CY 2020 for a typical day and for a project event day, respectively. Future average vehicle speeds along all roadways were assumed to be identical to those used for CY 2014 (see Table 3).

In CY 2020, the dominant traffic noise sources in the project area will continue to be traffic noise from Kalakaua Avenue, Saratoga Road, Kalia Road, and Lewers Street. Tables 6A and 6B present the calculated increases in future traffic noise levels attributable to non-project and project traffic for a typical day and for a project event day, respectively. As indicated in both Tables 6A and 6B, both non-project and project related traffic noise increases are predicted to be very small by CY 2020, and will be difficult to perceive.

Essentially all locations which front Kalakaua Avenue, Saratoga Road, Kalia Road, and Lewers Street will continue to experience relatively high noise levels above 65 DNL. Lower elevation receptors which benefit from the noise shielding from existing and new buildings may experience traffic noise levels less than 65 DNL. In addition, those receptor locations (such as those locations on the project site at the Pool Deck Level), which are also removed from the major roadways as well as shielded by existing and new buildings, should experience traffic noise levels less than 65 DNL. The relatively high noise levels within the project area are characteristic of Waikiki, and will remain high through CY 2020, with or without the project.

On the mauka face of the existing Pacific Tower Building, future noise levels are predicted to range from 70 to 71 DNL on a typical day, and be similar to existing noise levels. On a project event day, future noise levels are predicted to be slightly higher but continue to range from 70 to 71 DNL on the mauka face of the Pacific Tower Building.

On the Ewa and Diamond Head faces of the project's new guestrooms located between the existing Pacific and Ocean Towers, future noise levels are predicted to range from 62 to 63 DNL on a typical day. On a project event day, future noise levels are predicted to be slightly higher but continue to range from 62 to 63 DNL on the Ewa and Diamond Head faces of the project's new guestroom suites. The noise levels at the new guestrooms are predicted to be much lower than those at the existing Pacific Tower's mauka guestrooms due to the larger setback of the new guestrooms from Kalia Road.

TABLE 5B

FUTURE (CY 2020) TRAFFIC VOLUMES AND NOISE LEVELS ALONG ROADWAYS IN PROJECT AREA (PROJECT EVENT DAY, PM PEAK HOUR, BUILD)

LOCATION	SPEED (MPH)	TOTAL VPH	********* VOLUMES (VPH) ********** AUTOS	M TRUCKS	H TRUCKS	50' Leq	75' Leq	100' Leq
Kalakaua Ave. W. of Saratoga Rd.	30	2,096	1,954	71	71	68.4	66.5	65.2
Kalakaua Ave. Btwn. Saratoga & Lewers	30	1,904	1,774	65	65	68.0	66.1	64.8
Kalakaua Ave. E. of Lewers St.	30	1,445	1,347	49	49	66.8	64.9	63.6
Kalaimoku St. N. of Kalakaua Ave.	25	547	498	22	27	61.2	59.4	58.2
Saratoga Rd. S. of Kalakaua Ave.	25	966	772	39	155	67.1	65.3	64.1
Lewers St. N. of Kalakaua Ave.	32	333	321	12	0	66.9	65.2	63.9
Lewers St. S. of Kalakaua Ave.	32	427	412	15	0	68.0	66.2	65.0
Kalia Rd. W. of Saratoga Rd.	25	829	603	47	179	65.6	63.8	62.6
Kalia Rd. Btwn. Saratoga & Beach Walk	32	780	599	94	87	69.6	67.9	66.6
Kalia Rd. Btwn. Beach Walk & Lewers St.	32	556	427	67	62	68.2	66.4	65.2
Kalia Rd. E. of Lewers St.	32	322	293	13	16	63.3	61.5	60.2
Saratoga Rd. N. of Kalia Rd.	25	915	732	37	146	66.9	65.1	63.9
Beach Walk N. of Kalia Rd.	30	225	206	10	9	61.5	59.7	58.5
Lewers St. N. of Kalia Rd.	32	281	271	10	0	66.2	64.4	63.2

TABLE 5A

FUTURE (CY 2020) TRAFFIC VOLUMES AND NOISE LEVELS ALONG ROADWAYS IN PROJECT AREA (TYPICAL DAY, PM PEAK HOUR, BUILD)

LOCATION	SPEED (MPH)	TOTAL VPH	********* VOLUMES (VPH) ********** AUTOS	M TRUCKS	H TRUCKS	50' Leq	75' Leq	100' Leq
Kalakaua Ave. W. of Saratoga Rd.	30	2,092	1,950	71	71	68.4	66.5	65.2
Kalakaua Ave. Btwn. Saratoga & Lewers	30	1,888	1,760	64	64	68.0	66.0	64.7
Kalakaua Ave. E. of Lewers St.	30	1,431	1,333	49	49	66.8	64.8	63.5
Kalaimoku St. N. of Kalakaua Ave.	25	532	484	21	27	61.1	59.3	58.1
Saratoga Rd. S. of Kalakaua Ave.	25	933	747	37	149	66.9	65.2	63.9
Lewers St. N. of Kalakaua Ave.	32	331	319	12	0	66.9	65.1	63.9
Lewers St. S. of Kalakaua Ave.	32	427	412	15	0	68.0	66.2	65.0
Kalia Rd. W. of Saratoga Rd.	25	807	587	46	174	65.5	63.7	62.5
Kalia Rd. Btwn. Saratoga & Beach Walk	32	727	559	87	81	69.3	67.6	66.3
Kalia Rd. Btwn. Beach Walk & Lewers St.	32	503	387	60	56	67.7	66.0	64.7
Kalia Rd. E. of Lewers St.	32	322	293	13	16	63.3	61.5	60.2
Saratoga Rd. N. of Kalia Rd.	25	882	706	35	141	66.7	64.9	63.7
Beach Walk N. of Kalia Rd.	30	224	205	10	9	61.5	59.7	58.5
Lewers St. N. of Kalia Rd.	32	281	271	10	0	66.2	64.4	63.2

TABLE 6A

CALCULATIONS OF PROJECT AND NON-PROJECT TRAFFIC NOISE CONTRIBUTIONS (CY 2020) (TYPICAL DAY, PEAK HOUR LEQ OR DNL)

STREET SECTION	NOISE LEVEL INCREASE DUE TO: NON-PROJECT TRAFFIC	PROJECT TRAFFIC
Kalakaua Ave. W. of Saratoga Rd.	0.5	0.0
Kalakaua Ave. Btwn. Saratoga & Lewers	0.2	0.0
Kalakaua Ave. E. of Lewers St.	0.3	0.0
Kalaimoku St. N. of Kalakaua Ave.	1.9	0.0
Saratoga Rd. S. of Kalakaua Ave.	0.4	0.0
Lewers St. N. of Kalakaua Ave.	0.3	0.0
Lewers St. S. of Kalakaua Ave.	0.2	0.0
Kalia Rd. W. of Saratoga Rd.	0.4	0.0
Kalia Rd. Btwn. Saratoga & Beach Walk	0.2	0.0
Kalia Rd. Btwn. Beach Walk & Lewers St.	0.2	0.0
Kalia Rd. E. of Lewers St.	0.3	0.0
Saratoga Rd. N. of Kalia Rd.	0.4	0.0
Beach Walk N. of Kalia Rd.	0.1	0.0
Lewers St. N. of Kalia Rd.	0.2	0.0

TABLE 6B

CALCULATIONS OF PROJECT AND NON-PROJECT TRAFFIC NOISE CONTRIBUTIONS (CY 2020) (PROJECT EVENT DAY, PEAK HOUR LEQ OR DNL)

STREET SECTION	NOISE LEVEL INCREASE DUE TO: NON-PROJECT TRAFFIC	PROJECT TRAFFIC
Kalakaua Ave. W. of Saratoga Rd.	0.5	0.0
Kalakaua Ave. Btwn. Saratoga & Lewers	0.2	0.0
Kalakaua Ave. E. of Lewers St.	0.3	0.0
Kalaimoku St. N. of Kalakaua Ave.	1.9	0.1
Saratoga Rd. S. of Kalakaua Ave.	0.4	0.2
Lewers St. N. of Kalakaua Ave.	0.3	0.0
Lewers St. S. of Kalakaua Ave.	0.2	0.0
Kalia Rd. W. of Saratoga Rd.	0.4	0.1
Kalia Rd. Btwn. Saratoga & Beach Walk	0.2	0.3
Kalia Rd. Btwn. Beach Walk & Lewers St.	0.2	0.5
Kalia Rd. E. of Lewers St.	0.3	0.0
Saratoga Rd. N. of Kalia Rd.	0.4	0.2
Beach Walk N. of Kalia Rd.	0.1	0.0
Lewers St. N. of Kalia Rd.	0.2	0.0

Aircraft noise levels over the project site should not change significantly between CY 2014 and 2020, and should remain at or below the current levels of 45 to 50 DNL.

CHAPTER VII. DISCUSSION OF PROJECT-RELATED NOISE IMPACTS AND POSSIBLE MITIGATION MEASURES

Traffic Noise. For the guest units in the proposed new guestroom tower, as well as all of the existing guest units which are planned for renovations, noise mitigation measures are recommended. Closure and air conditioning of the guest units is an effective noise mitigation measure for this project. Approximately 30 to 35 dB of exterior-to-interior noise reduction is recommended for those units which have unobstructed lines-of-sight to Kalia Road, Saratoga Road, Lewers Street, and Kalakaua Avenue. Noise impacts from project related traffic along the roadways which are expected to service the project are not expected due to the relatively low levels of project related traffic noise when compared to the noise levels of non-project related traffic and other noise sources. In addition, the existing resort units which are located in the immediate vicinity of the project are currently provided with air conditioning.

Parking Garage and Other On-Site Sources. The lower level parking area's ventilation openings are expected to be adjacent to existing hotel and condominium units along the west property boundary. Along the east property boundary, the solid face of the adjacent hotel building should reduce risks of adverse impacts from noise emanating from the proposed project's parking areas. Audible tire squeal noise from the circulation and parking areas of the project are possible. Tire squeal noise can usually be controlled though the use of a brushed or other coarse finish on the circulation driveways, and this type of treatment is recommended as a mitigation measure. Closure of the west sides of the proposed parking areas which face adjoining hotel or dwelling units through the use of solid walls should not be required, since the two upper level parking areas on the west side are planned for Valet Parking.

The project's emergency generator is planned to be located near the west property boundary of the project site, and will probably require sound attenuation treatments to minimize risks of potential noise impacts at the adjacent Waikiki Shore. The emergency generator will probably be operated during monthly testing operations and during utility power outages. Sound attenuation treatments applied to the generator could include the use of insulation within the generator room, sound attenuation treatments to the room's ventilation openings, the use of sound rated doors, the use of generator exhaust silencers with high insertion loss values, and the use of vibration isolation mounts at the generator. The State DOH noise regulations (Reference 4) require that best available noise control technology be applied to the emergency generator installation.

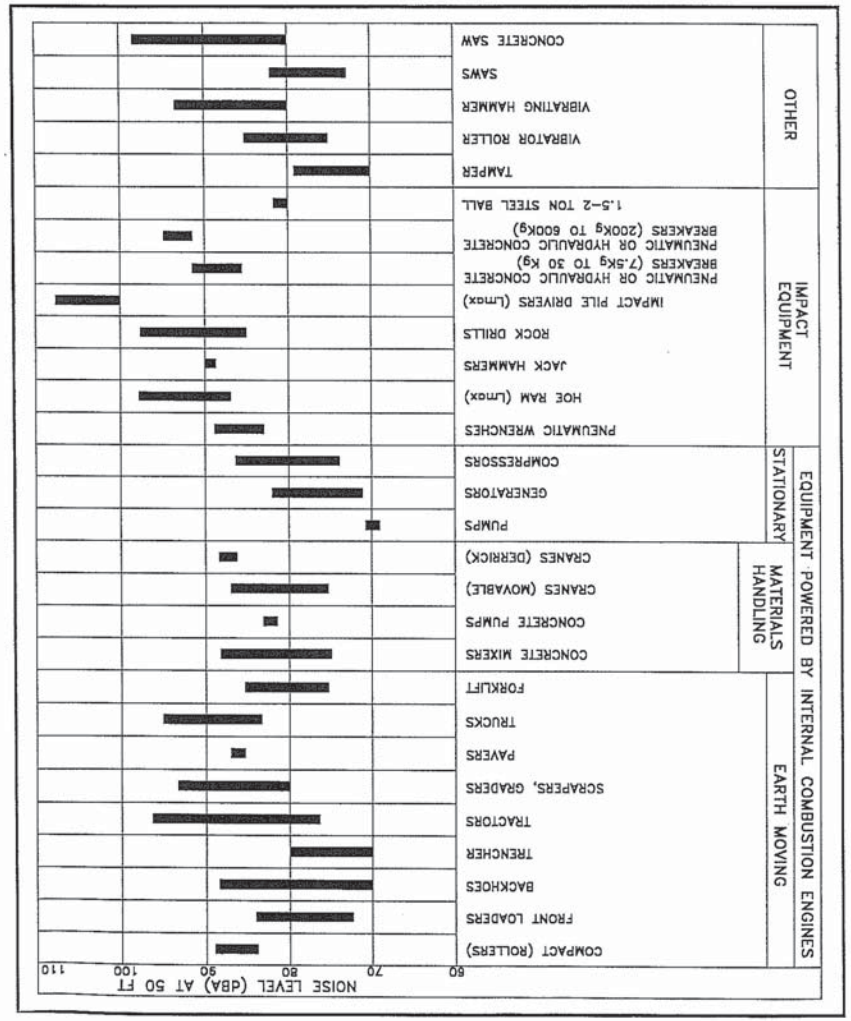
Mechanical equipment, such as air conditioning chillers or cooling towers, and garage and kitchen ventilation fans are the primary on-site noise sources expected to be located on the project site. These equipment, singly or together, have the potential of exceeding the allowable property line noise limits of the State DOH noise regulations (Reference 4). The State DOH noise limits which apply along the property boundaries of resort districts are 60 dBA and 50 dBA during the daytime and nighttime periods, respectively, where the daytime period is from 7:00 am to 10:00 pm, and the nighttime

period is from 10:00 pm to 7:00 am. Typical noise levels of untreated mechanical equipment are significantly higher (by at least 15 dBA) than the allowable DOH noise limits, such that sound attenuation treatment of the mechanical equipment will probably be required for compliance with DOH regulations. Because the residual background ambient noise levels in the project area are similar to or even higher than the State DOH noise limits, compliance with the DOH noise limits should minimize risks of adverse noise impacts on neighboring properties and within the project area.

General Construction Noise. Audible construction noise will probably be unavoidable during the entire project construction period. The total time period for construction of the project is not known. It is expected that actual construction work will be moving from one location on the project site to another during that period. Actual length of exposure to construction noise at any receptor location will probably be less than the total construction period for the entire project. Figure 10 depicts the range of noise levels of various types of construction equipment when measured at 50 feet distance from the equipment.

Typical levels of exterior noise from construction activity (excluding pile driving activity) at various distances from the job sites are shown in Figure 11. Micropiles and auger cast piles are planned to be used for the foundations of the new guestroom tower, so very high impulse noise and vibration levels should be avoidable at nearby receptors and buildings. Figure 11 is useful for predicting exterior noise levels at short distances (within 100 feet) from the work when visual line of sight exists between the construction equipment and the receptor. Direct line-of-sight distances from the construction equipment to existing resort, residential, and commercial buildings could range from 20 feet to 600+ feet, with corresponding average noise levels of 94 to 62 dBA (plus or minus 5 dBA). For receptors along a cross-street, the construction noise level vs. distance curve of Figure 11 should be reduced by approximately 8 dBA when the work is occurring at the intersection with the cross street, and should be reduced by 15 dBA when work is occurring at least 100 feet from the intersection (and the visual line-of-sight is blocked by intervening buildings). Typical levels of construction noise inside naturally ventilated and air conditioned structures are approximately 10 and 20 dB less, respectively, than the levels shown in Figure 11.

Noise sensitive receptors who are predicted to experience the highest noise levels during construction activities are located at the Waikiki Shore, Halekulani, Trump International Hotel Waikiki, and Embassy Suites. Predicted construction noise levels at these buildings during the demolition of the Diamond Head Tower and site preparation phase of the work at the new guestroom tower ranged from 70 to 97 dBA (plus or minus 5 dBA). The highest noise levels during construction are expected to occur at the Halekulani east of the project site during demolition of the Diamond Head Tower and at the Waikiki Shore during foundation work at the new guestroom tower, where buffer distances are relatively small (in the order of 20 to 50 feet). Across Kalia Road at the Trump International Hotel Waikiki and Embassy Suites, construction noise levels during demolition and site preparation are predicted to range from 70 to 75 dBA. Units at the Waikiki Shore should be shielded from some construction noise from the pool deck



RANGES OF CONSTRUCTION EQUIPMENT NOISE LEVELS

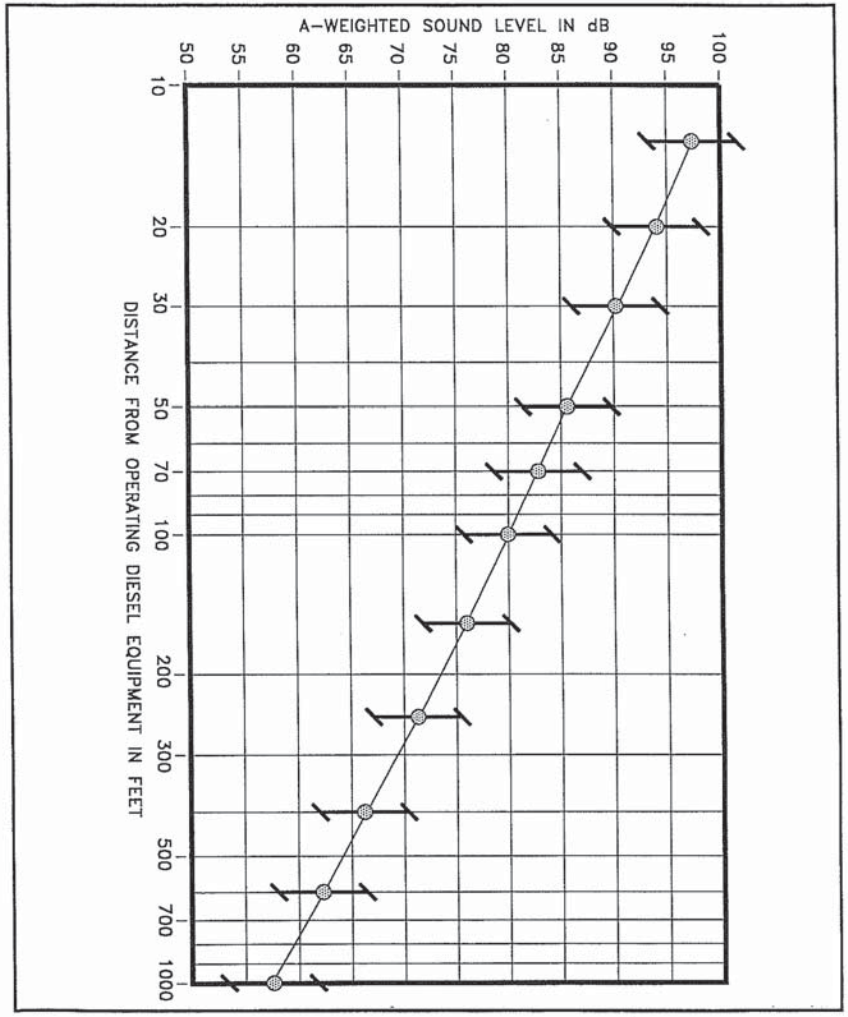
FIGURE 10

area by the existing Pacific Tower Building. Adverse impacts from construction noise are not expected to be in the "public health and welfare" category due to the temporary nature of the work, and due to the administrative controls available for regulation of construction noise. Instead, these impacts will probably be limited to the temporary degradation of the quality of the acoustic environment in the immediate vicinity of the project site.

Mitigation of construction noise to inaudible levels will not be practical in all cases due to the intensity of construction noise sources (80 to 90+ dB at 50 feet distance), and due to the exterior nature of the work (excavation, grading, trenching, concrete pouring, hammering, etc.). The use of properly muffled construction equipment should be required on the job site.

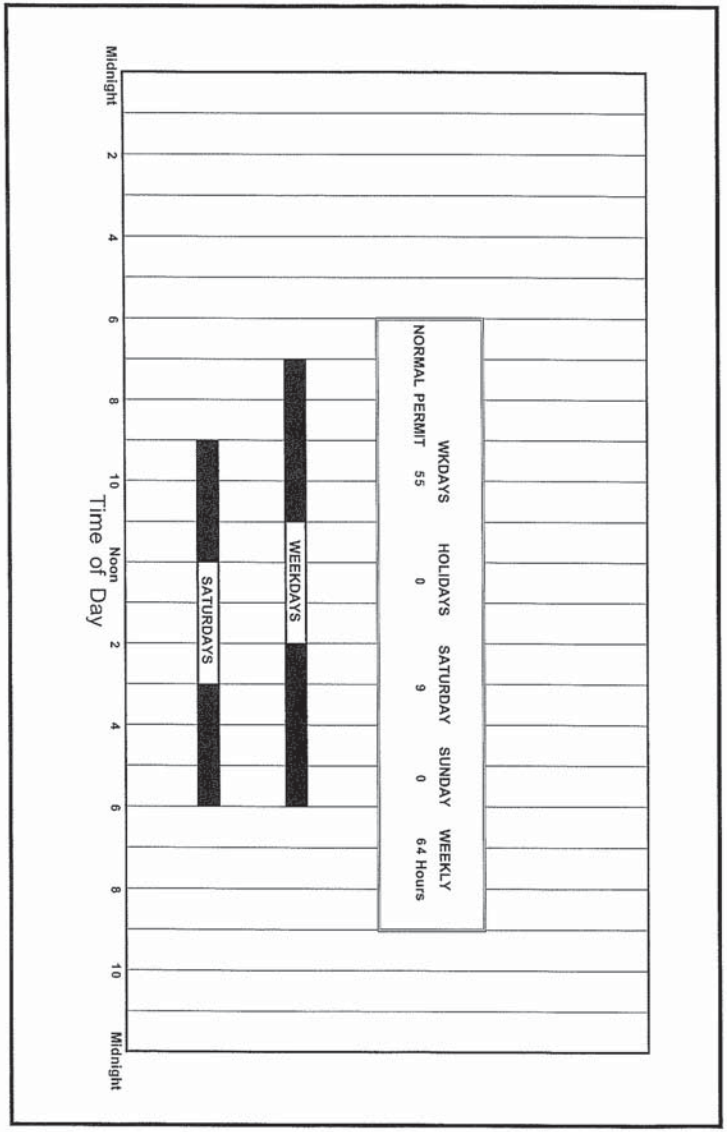
Severe noise impacts are not expected to occur inside air conditioned structures which are beyond 70 to 450 feet from the project construction sites. Inside naturally ventilated structures, interior noise levels (with windows or doors opened) are estimated to range between 73 to 55 dBA at 70 feet to 450 feet distances from the construction site. Closure of all doors and windows facing the construction site would generally reduce interior noise levels by an additional 5 to 10 dBA.

The incorporation of State Department of Health construction noise limits and curfew times, which are applicable throughout the State of Hawaii (Reference 4), is another noise mitigation measure which is normally applied to construction activities. Figure 12 depicts the normally permitted hours of construction. Noisy construction activities are not allowed on Sundays and holidays, during the early morning, and during the late evening and nighttime periods under the DOH permit procedures.



ANTICIPATED RANGE OF CONSTRUCTION NOISE LEVELS VS. DISTANCE

FIGURE 11



AVAILABLE WORK HOURS UNDER DOH PERMIT PROCEDURES FOR CONSTRUCTION NOISE

FIGURE 12

APPENDIX A. REFERENCES

(1) "Guidelines for Considering Noise in Land Use Planning and Control;" Federal Interagency Committee on Urban Noise; June 1980.

(2) "Environmental Criteria and Standards, Noise Abatement and Control, 24 FR, Part 51, Subpart B;" U.S. Department of Housing and Urban Development; July 12, l979.

(3) "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety;" Environmental Protection Agency (EPA 550/9-74-004); March 1974.

(4) "Title 11, Administrative Rules, Chapter 46, Community Noise Control;" Hawaii State Department of Health; September 23, 1996.

(5) "FHWA Traffic Noise Model User's Guide;" FHWA-PD-96-009, DOT-VNTSC-FHWA-98-1, Federal Highway Administration; Washington, D.C.; January 1998 and Version 1.1 Addendum dated September 2000.

(6) Transportation Assessment for the Outrigger Reef Waikiki Beach Resort Revisioning; Fehr & Peers; February 29, 2016.

(7) Additional Forecasts of 2020 Project Traffic Volumes and Turning Movements from 2019 Baseline Data; Fehr & Peers; March 7, 2016.

APPENDIX B

EXCERPTS FROM EPA'S ACOUSTIC TERMINOLOGY GUIDE

Descriptor Symbol Usage

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

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

Although not included in the tables, it is also recommended that "Lpn" and "LepN" be used as symbols for perceived noise levels and effective perceived noise levels, respectively.

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

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

Descriptor Nomenclature

With regard to energy averaging over time, the term "average" should be discouraged in favor of the term "equivalent". Hence, Leq, is designated the "equivalent sound level". For Ld, Ln, and Ldn, "equivalent" need not be stated since the concept of day, night, or day-night averaging is by definition understood. Therefore, the designations are "day sound level", "night sound level", and "day-night sound level", respectively.

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

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

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

Noise Impact

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

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

APPENDIX B (CONTINUED)

TABLE I

A-WEIGHTED RECOMMENDED DESCRIPTOR LIST

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

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

SOURCE: EPA ACOUSTIC TERMINOLOGY GUIDE, BNA 8-14-78,

APPENDIX B (CONTINUED)

TABLE II

RECOMMENDED DESCRIPTOR LIST

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

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

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

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

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

APPENDIX C

SUMMARY OF BASE YEAR AND YEAR 2020 TYPICAL DAY TRAFFIC VOLUMES DURING AM AND PM PEAK HOURS

ROADWAY LANES	******** CY 2014 ****** AM	PM	CY 2019 (NO BUILD) AM	PM	*** CY 2020 (BUILD) **** AM	PM
Kalakaua Ave. W. of Saratoga (EB)	1775	1842	2009	2090	2,011	2,092
Kalakaua Ave. Btwn. Saratoga & Lewers (E	1699	1781	1794	1886	1,796	1,888
Kalakaua Ave. E. of Lewers (EB)	1169	1346	1237	1430	1,238	1,431
Kalaimoku St. N. of Kalakaua (NB)	201	338	379	530	380	532
Saratoga Rd. S. of Kalakaua (NB)	427	627	482	694	484	698
Saratoga Rd. S. of Kalakaua (SB)	197	223	207	234	208	235
Two-Way	624	850	689	928	692	933
Lewers St. N. of Kalakaua (NB)	228	315	240	331	240	331
Lewers St. S. of Kalakaua (NB)	62	207	65	218	65	218
Lewers St. S. of Kalakaua (SB)	258	199	271	209	271	209
Two-Way	320	406	336	427	336	427
Kalia Rd. W. of Saratoga (EB)	208	345	253	398	255	400
Kalia Rd. W. of Saratoga (WB)	316	386	333	405	335	407
Two-Way	524	731	586	803	590	807
Kalia Rd. Btwn. Saratoga & Beach Walk (EI	79	105	83	110	84	111
Kalia Rd. Btwn. Saratoga & Beach Walk (W	410	582	431	611	436	616
Two-Way	489	686	514	720	520	727
Kalia Rd. Btwn. Beach Walk & Lewers (EB)	70	108	74	113	74	113
Kalia Rd. Btwn. Beach Walk & Lewers (WB	245	370	258	388	260	391
Two-Way	315	477	332	501	334	503
Kalia Rd. E. of Lewers (EB)	109	150	116	157	116	157
Kalia Rd. E. of Lewers (WB)	81	157	85	165	85	165
Two-Way	190	307	201	322	201	322
Saratoga Rd. N. of Kalia (NB)	411	627	466	694	468	697
Saratoga Rd. N. of Kalia (SB)	176	176	185	184	186	185
Two-Way	587	803	651	878	654	882
Beach Walk N. of Kalia (SB)	151	213	159	223	160	224
Lewers St. N. of Kalia (SB)	210	268	221	281	221	281

APPENDIX D

SUMMARY OF BASE YEAR AND YEAR 2020 PROJECT EVENT DAY
TRAFFIC VOLUMES DURING AM AND PM PEAK HOURS

ROADWAY LANES	******** CY 2014 ******		CY 2019 (NO BUILD)		*** CY 2020(BUILD) ****	
	AM	PM	AM	PM	AM	PM
Kalakaua Ave. W. of Saratoga (EB)	1,775	1,842	2,009	2,090	2,041	2,096
Kalakaua Ave. Btwn. Saratoga & Lewers (E	1,729	1,751	1,794	1,886	1,804	1,904
Kalakaua Ave. E. of Lewers (EB)	1,169	1,346	1,237	1,430	1,240	1,445
Kalaimoku St. N. of Kalakaua (NB)	201	338	379	530	382	547
Saratoga Rd. S. of Kalakaua (NB)	427	627	482	694	488	728
Saratoga Rd. S. of Kalakaua (SB)	197	223	207	234	226	238
Two-Way	624	850	689	928	714	966
Lewers St. N. of Kalakaua (NB)	228	315	240	331	240	333
Lewers St. S. of Kalakaua (NB)	62	207	65	218	65	218
Lewers St. S. of Kalakaua (SB)	258	199	271	209	271	209
Two-Way	320	406	336	427	336	427
Kalia Rd. W. of Saratoga (EB)	208	345	253	398		402
Kalia Rd. W. of Saratoga (WB)	316	386	333	405	337	427
Two-Way	524	731	586	803	337	829
Kalia Rd. Btwn. Saratoga & Beach Walk (EI	79	105	83	110	103	114
Kalia Rd. Btwn. Saratoga & Beach Walk (W	410	582	431	611	448	667
Two-Way	489	686	514	720	551	780
Kalia Rd. Btwn. Beach Walk & Lewers (EB)	70	108	74	113	74	113
Kalia Rd. Btwn. Beach Walk & Lewers (WB	245	370	258	388	268	443
Two-Way	315	477	332	501	342	556
Kalia Rd. E. of Lewers (EB)	109	150	116	157	116	157
Kalia Rd. E. of Lewers (WB)	81	157	85	165	85	165
Two-Way	190	307	201	322	201	322
Saratoga Rd. N. of Kalia (NB)	411	627	466	694	472	727
Saratoga Rd. N. of Kalia (SB)	176	176	185	184	204	188
Two-Way	587	803	651	878	676	915
Beach Walk N. of Kalia (SB)	151	213	159	223	172	225
Lewers St. N. of Kalia (SB)	210	268	221	281	221	281