

DEPARTMENT OF PLANNING AND PERMITTING
KA 'OIHANA HO'OLĀLĀ A ME NĀ PALAPALA 'AE
CITY AND COUNTY OF HONOLULU

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August 9, 2024

2024/ELOG-1317
2023/ED-12(ST)

Ms. Mary Alice Evans
Director
Office of Planning and Sustainable Development
Environmental Review Program
State of Hawai'i
235 South Beretania Street, Room 702
Honolulu, Hawai'i 96813

Dear Director Evans:

SUBJECT: Chapter 25, Revised Ordinances of Honolulu
Final Environmental Assessment (FEA)
Project: Hale O Līpoa Affordable Housing Project
Applicant: Līpoa Development LLC
Agent: Environmental Planning & Assessments, LLC (Alicia Ruelke)
Location: 98-150 Līpoa Place – 'Aiea
Tax Map Key: 9-8-014: 021
Determination: Finding of No Significant Impact (FONSI)

With this letter, the Department of Planning and Permitting (DPP) hereby transmits the FEA and FONSI for the above referenced Project, which is located in the Special Management Area in the Honolulu District, on the island of O'ahu. Please publish this finding in the next edition of *The Environmental Notice*.

Based on the significant criteria outlined in Title 11, Chapter 200.1, Hawai'i Administrative Rules, the DPP has determined that the preparation of an Environmental Impact Statement is not required. The FEA adequately discloses and describes relevant environmental impacts and responds to comments received during the required public comment period for the Draft Environmental Assessment.

2023/ED-12
August 9, 2024
Page 2

We have uploaded an electronic copy of this letter, a complete Environmental Review Program electronic publication form, the FEA, and the FONSI to your online submittal site.

Should you have any questions, please contact Steve Tagawa, of our Land Use Approval Branch, at (808) 768-8024 or via email stagawa@honolulu.gov.

Very truly yours,



Dawn Takeuchi Apuna
Director

cc: Office of Planning, Shichao Li (via email)
Office of Planning, Lisa Webster (via email)
Office of Planning, Rachel Beasley (via email)

From: webmaster@hawaii.gov
To: [DBEDT OPD Environmental Review Program](#)
Subject: New online submission for The Environmental Notice
Date: Friday, August 30, 2024 12:01:39 PM

Action Name

Hale O Lipoa Affordable Housing Project

Type of Document/Determination

ROH Ch 25 Final EA and FONSI

Judicial district

O'ahu - multiple districts

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

(1)9-8-014:0021

Action type

Applicant

Other required permits and approvals

HRS, 201H; grading, stockpiling, trenching, and building permits

Discretionary consent required

Special Management Area Permit Major

Approving agency

Department of Planning and Permitting

Agency contact name

Steven H. Tagawa

Agency contact email (for info about the action)

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Email address for receiving comments

DPP@honolulu.gov

Agency contact phone

(808) 768-8024

Agency address

650 South King Street
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[Map It](#)

Applicant

Lipoa Development LLC

Applicant contact name

Keegan Flaherty

Applicant contact email

keegan.flaherty@ikenakea.com

Applicant contact phone

(209) 244-8544

Applicant address

1188 Bishop Street, Suite 907
Honolulu, Hawaii 96813
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[Map It](#)

Is there a consultant for this action?

Yes

Consultant

Environmental Planning & Assessments LLC

Consultant contact name

Alicia Ruelke

Consultant contact email

epa.hawaii@gmail.com

Consultant contact phone

(808) 387-8188

Consultant address

P.O. Box 3442
Honolulu, Hawaii 96801
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[Map It](#)

Action summary

The 6 existing apartment buildings on the 0.964 acre site, built in the 1970s, will be replaced with a 8-story, 153-unit affordable rental housing project with parking on two levels, a community center, and exercise room. The project is designed as workforce housing, with studios, 1-bedroom, 2-bedroom, and 3-bedroom units, including a managers unit. The affordability levels have not been finalized, but are intended to meet the City and County of Honolulu 201H Hawaii Revised Statutes, affordable housing guidelines. The priority scenario 1 is for 100 percent affordability for households earning 60% or below the area median income (AMI) utilizing Low-Income Housing Tax Credits (LIHTC). The BMX-3 parcel has a 90-foot height limit and is in the Pearl Ridge Transit Oriented Development Area. The site is in the Special Management Area (SMA) pursuant to Chapter 25, Revised Ordinances of Honolulu, and requires approval by the Honolulu City Council.

Attached documents (signed agency letter & EA/EIS)

- [LipoaFONSI.pdf](#)
- [FEALipoa.pdf](#)

Action location map

- [HaleOLipoa.zip](#)

Authorized individual

steven tagawa

Authorization

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

FINAL DRAFT ENVIRONMENTAL ASSESSMENT

Hale O Lipoa

TMK: (1) 9-8-014:021

Aiea, O'ahu, Hawai'i



This document is prepared pursuant to Chapter 343, Hawai'i Revised Statutes and Chapter 25 Revised Ordinance of Honolulu

Applicant:

Lipoa Development LLC
1188 Bishop Street, Suite 907
Honolulu, Hawaii 96813

Approving Agency:

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

May 2024 ~~November 2023~~

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Appendices

(Under Separate Cover)

- A. Phase I Environmental Site Assessment 98-150 Lipoa Place, Aiea, Hawaii 96701, TMK (1) 9-8-014:021. (Environmental Risk Analysis, February 2022).
- B. ~~DRAFT~~—Final - Archaeological Literature Review and Field Inspection for the Proposed Hale O Lipoa Development, Kalauao Ahupua‘a, ‘Ewa District, Island of O‘ahu, TMK: (1) 9-8-014:021. (Keala Pono Archaeological Consulting, LLC, ~~June 2023~~ April 2024).
- C. ~~DRAFT~~—Final Cultural Impact Assessment for the Proposed Hale O Lipoa Development, Kalauao Ahupua‘a, ‘Ewa District, Island of O‘ahu, TMK: (1) 9-8-014:021. (Keala Pono Archaeological Consulting, LLC, ~~September 2023~~ April 2024).
- D. Hale O Lipoa Affordable Housing: Transportation Impact Analysis Report (TIAR) - Draft. (Fehr & Peers, ~~September 2023~~ May 2024).
- E. Preliminary Engineering Report -Lipoa Development. (Construction Management & Engineering, ~~September 2023~~ May 2024).
- F. Hale O Lipoa Design Package. (Architects Hawai‘i Ltd, April 2024).
- G. Hale O Lipoa Hydrogeology Concerns. (INTERA, Inc., May 2024).
- H. Sewer Connection Application. (Hawaiian Electric, April 2024).

List of Acronyms

ADA	Americans with Disabilities Act
AMI	Area Median Income
BMP	Best Management Practices
BWS	Board of Water Supply
DCAB	Disability and Communications Access Board
DEA	Draft Environmental Assessment
DOE	Department of Education
DPP	Department of Planning and Permitting
ENV	Department of Environmental Services
ESA	Environmental Site Assessment
EV	Electric Vehicle
FAR	Floor Area Ratio
FONSI	Finding of No Significant Impact
HAR	Hawaii Administrative Rules
HFD	Honolulu Fire Department
HPD	Honolulu Police Department
HRS	Hawaii Revised Statutes
LUO	Land Use Ordinance
MSL	Mean Sea Level
NFPA	National Fire Protection Association
NOAA	National Ocean and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
PSI	Per Square Inch
ROH	Revised Ordinances of Honolulu
SHPD	State Historic Preservation Division
SLR	Sea Level Rise
SMA	Special Management Area
TDM	Transportation Demand Management
TIAR	Traffic Impact Analysis Report
TOD	Transit Oriented Development
UIC	Underground Injection Control
USDA	United States Department of Agriculture
USGS	United States Geological Survey

Section 1.0

PROJECT SUMMARY

1.0 PROJECT SUMMARY

Table 1-0: Project Summary	
Applicant	Lipoa Development LLC 1188 Bishop St., Suite 907 Honolulu, HI 96813
Approving Agency	Department of Planning and Permitting City and County of Honolulu C/O Liz Krueger 650 S King Street, 7th Floor Honolulu, HI 96813
Agent	Environmental Planning & Assessments LLC PO Box 3442 Honolulu, HI 96801
Project Name	Hale O Lipoa
Project Location	98-150 Lipoa Place Aiea, HI 96701
Tax Map Key	9-8-014:021
Lot Area	0.96 acres (42,001 SF)
Zoning	BMX-3 Community Business District
Special District	TOD Special District
Special Management Area	Located in SMA
State Land Use	Urban

Existing Land Use	<p>The project site consists of six, two-story buildings constructed in 1970 for rental housing and is presently known as PepperTree Apartments. There is also a pool and a surface parking lot.</p> <p>Pearl Kai Shopping Center is located to the east, multifamily apartment buildings are located to the west, Pearl Harbor sits to the south, and commercial buildings are situated to the north of the project site.</p> <p>In general, the project site and surrounding area is largely developed with a mix of medium-density residential, commercial, and institutional uses. The Pearlridge TOD Station is located less than 1/2 mile from the project.</p>
Type of Document	<u>Final</u> Draft Environmental Assessment
Legal Authority	Chapter 343, Hawai'i Revised Statutes and Chapter 25, Revised Ordinance of Honolulu
Anticipated Determination	Anticipated Finding of No Significant Impact (FONSI)
Applicable Environmental Assessment review "Trigger"	Located in SMA

<p>Nature of the Development</p>	<p>Lipoa Development is proposing to build 153 units of affordable multi-family housing on an existing apartment complex down the street from the Pearlridge TOD Station. The property, currently known as PepperTree Apartments, was built in 1970 and contains 58 48 units of market rate housing. Our plan is to more than double this unit count and add new inventory of affordable rental housing to the City and County of Honolulu’s housing stock.</p> <p>The first floor will contain reduced parking for automobiles, electric vehicle parking stalls, and bicycle storage. There will also be a management office along the street frontage to facilitate pedestrian accessibility. The five stories above will contain 153 units of studios, one-, two-, and three-bedroom units. Additionally, there will be an open-air courtyard on the third floor for residents to enjoy the fresh air, mountain views, and recreation activities. Furthermore, Hale O Lipoa will contain a community resource center, exercise room, a computer and multi-purpose room. The project will be built to LEED Gold standards and will be an all-electric building.</p> <p>The development will also conform to the principles established in the Aiea-Pearl City TOD Plan as it will create views to the water and Pearl Harbor Historic Trail, increase the overall quality of the existing housing stock, and helps activate a community centered on a multimodal transportation network. The redevelopment will require certain waivers and exemptions through the 201H process allowable from the provision of affordable rental housing and will require the processing of a Special Management Area (SMA) Permit.</p>
<p>Total Project Cost</p>	<p>Approximately \$90,000,000</p>
<p>Project Schedule</p>	<p>The project is anticipated to begin construction in the first quarter of 2026 with its completion in the middle of 2027.</p>

<p>Permits Required</p>	<p>Chapter 201H Approval Dept. of Planning and Permitting</p> <p>Building Permits Dept. of Planning and Permitting</p> <p>Grading Permit Dept. of Planning and Permitting</p> <p>Sewer Connection Permit Dept. of Environmental Services</p> <p>Special Management Area Major Permit Dept. of Planning and Permitting</p> <p>Certificate of Occupancy Dept. of Planning and Permitting</p>
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Section 2.0

PROPOSED PROJECT & STATEMENT OF OBJECTIVES

2.0 PROPOSED PROJECT AND STATEMENT OF OBJECTIVES

2.1 Project Location

The Project is located on a 42,000 square foot property in Aiea within a highly developed surrounding neighborhood. The site currently contains 6, two-story apartment buildings providing a total of ~~48~~ 58 residential rental units, a surface parking lot and a pool. This complex was constructed in 1970, therefore it is over 50 years old. The name of this residential community is PepperTree Apartments. It has a street address of 98-150 Lipoa Place, Aiea, Hawaii. The site is also identified as TMK: 1-9-8-014: 021. See *Figure 2-1* for Site Map and *Figure 2-2* for TMK.

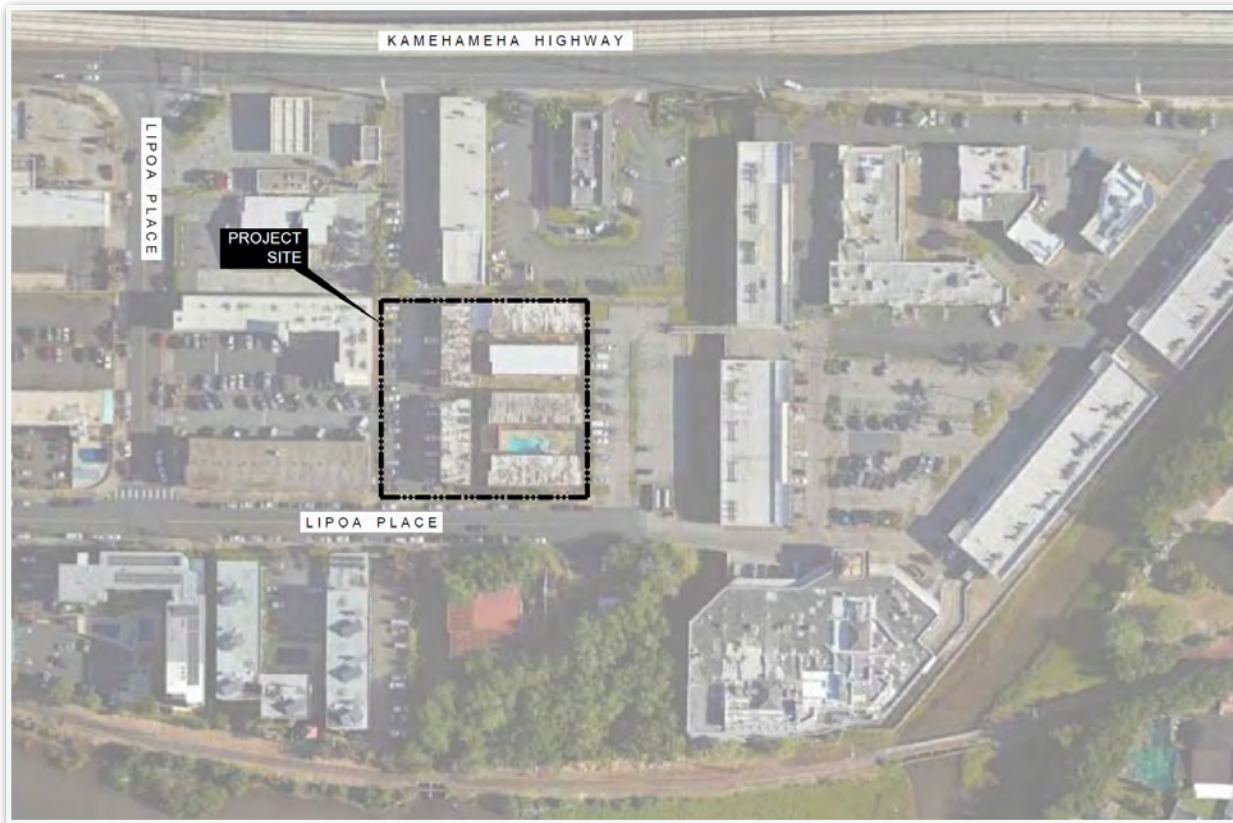


Figure 2-1: Site Map

Source: Architects Hawaii Ltd.

The property neighbors the Pearl Kai Shopping Center to the East and Pearl Harbor to the south. There are several low- to mid-rise apartment buildings to the west that date back to before 1970. A mix of commercial uses sits along Kamehameha Highway to the north, as well as the newly constructed elevated guideway for the rapid transit line.

Overall, the surrounding area is widely considered as a major urban center and regional destination with opportunities for new development. It is a centrally located area within the island's existing and planned urban areas. With the addition of the Honolulu Rail Transit Project and its Pearlridge Station less than a half mile away from the project site, the area is poised to see an influx of new infill development near the station that will create a compact, walkable neighborhood with a mix of housing, commercial, travel and lifestyle opportunities.

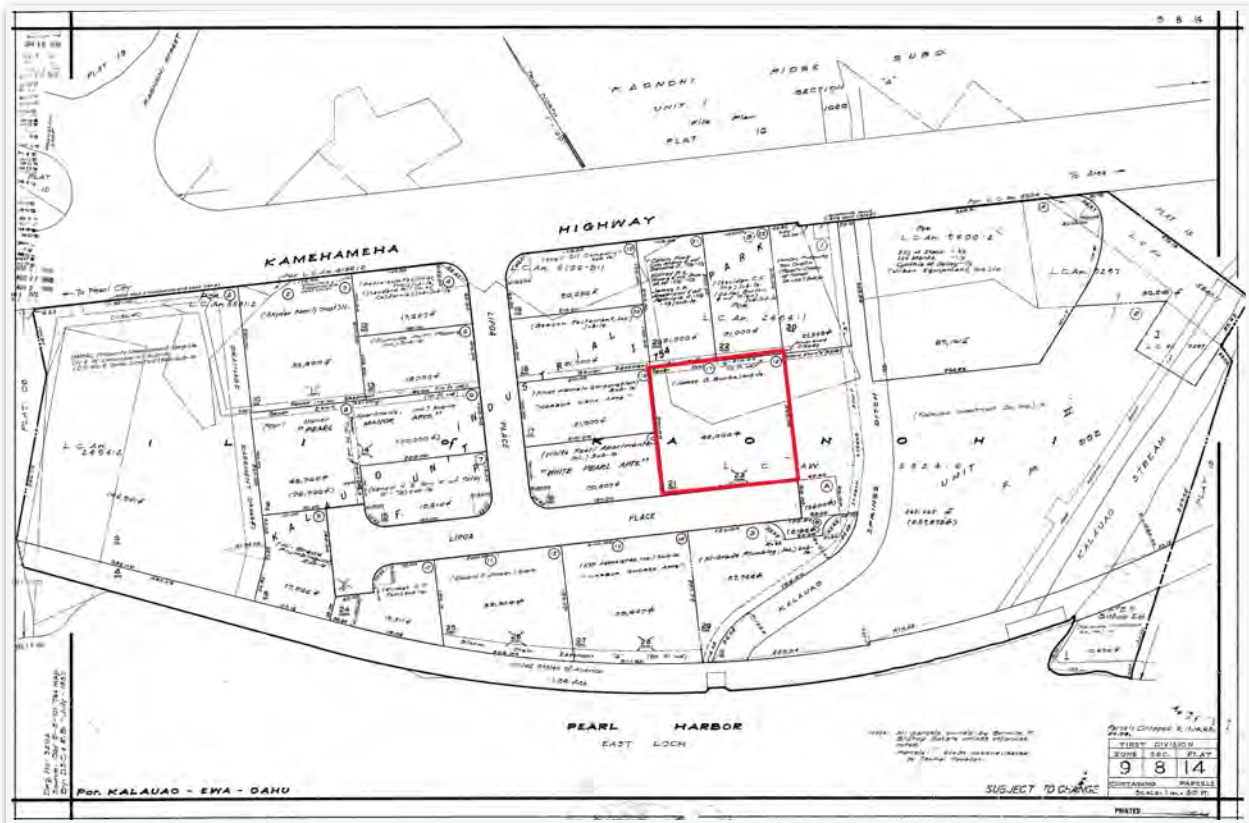


Figure 2-2: Tax Map Key

Source: City and County of Honolulu

2.2 Project Description

2.2.1 Project Need

The proposed project will provide affordable rental housing options in a highly sought-after location conducive to residents working in Aiea and Pearl City (as well as those commuting to jobs in Honolulu, Ewa and Central Oahu), students attending Leeward Community College and UH West Oahu, and military personnel and civilian defense workers wanting to live near their military facilities. The development will also conform to the principles established in the Aiea-Pearl City TOD Plan as it will create views to the water and Pearl Harbor Historic Trail, increase the overall quality of the existing housing stock, and helps activate a community centered on a multi-modal transportation network.

2.2.2 Project Design

The Hale O Lipoa project is conceptually designed as a new, eight-story medium-density building. The design contemplates a surface parking lot on the ground floor for bicycle and vehicular parking and an entrance/lobby area. There will be a ramp up to the second floor where there will be space for additional vehicular and bicycle parking and storage. Beginning at the third floor, there will be six floors of residential apartments, a community resource center, and an open-air courtyard. The project will also contain two elevators, an exercise room, and a resource center. The project will be built to LEED standards and will be an all-electric building. The height of the building will sit at 80' at the eaves, while the top of the roof will be at 89'. Appendix F contains the full preliminary design package of the proposed project.

2.2.3 Residential Units

The proposed project will consist of 152 affordable rental, or a mixture of affordable and market for-sale housing units (depending on the source of financing). One of the units will be reserved for an onsite manager. units and 1 on-site manager's unit. As a project designed for workforce individuals and families, there will be 18 studios, 51 one-bedroom, 72 two-bedroom, and 12 three-bedroom units. The project will be entitled with options to pursue three financing alternatives that include different affordability levels. The specific affordability levels have not yet been determined, but the project will stay within the City and County of Honolulu's 201H Program guidelines in each alternative. The units will be distributed with at least 51% affordable to low- and moderate-income households. More specifically, at least 20% of the units will be set aside for households earning annual incomes less than 80% of the area median income (AMI), and 31% of the total number of units will be set aside for households earning 120% of the AMI or lower. These units will be affordable for a period of at least 61 years. A discussion explaining the three financing scenarios is included in Section 2.4.

2.2.4 Common Areas

There will be multiple common areas for the residents to experience and enjoy. The ground floor will contain a welcome lobby along the street frontage to facilitate pedestrian accessibility. This entrance area will include an administrative office for property management personnel and a mail room for the residents. The third floor will contain much of the common space provided on the property. There will be an open-air courtyard for residents to enjoy the fresh air, mountain views and recreation activities. See *Figure 2-13 2-14* for rendering of the courtyard. A community resource center will also be included, which will have space for an exercise room, a computer room and multi-purpose room.

2.2.5 Parking, Vehicular and Bicycle Access, Public Transportation

On-site parking will be provided on the first and second floors of the proposed project. Hale O Lipoa's site frontage along Lipoa Place is 210'. The site design is proposing two vehicular entrances, one at the Diamond Head end and the other at the Ewa end of the site. Ingress and egress will be accessible from both one entrances on Lipoa Place. There will be a total of 150 residential stalls and four of which will be reserved for Hui Car Share. Residents will also have access to 30 15 short term and 62 78 long term bicycle spaces. The ground floor area will have three two stalls inside the parking area set aside for loading activities. Ride share traffic will be directed into the parking garage away from the public sidewalk through the Ewa end entrance to the loading and unloading area with access to the residential lobby. This is a high headroom area for large truck pick-ups/deliveries as well as refuse truck maneuvering. The surrounding area is very walkable and public transportation can be found within close proximity of the project site. There are four major bus stops within 0.4 miles of the project site on Kamehameha Highway. Additionally, the new Pearlridge Station is 0.4 miles away.

The applicant feverishly studied off-street parking and site generated parking demand for the project. The applicant initially considered reducing the amount of parking provided on-site, but is limited in doing so. The surrounding area has a lower density, fewer versatile mixed-use properties, and a pedestrian atmosphere that is notably less conducive to low-stress walkability options, especially when juxtaposed with the thriving districts neighboring high-quality transit stops. This promotes the need for more parking at the site. The calculation from the 5th Edition of the Institute of Transportation Engineers' Parking Generation Manual, that shares an approximate average parking demand of 109 spaces for a multifamily housing mid-rise near rail transit, aligns more harmoniously with the project as the surrounding locale and market conditions are not as accommodating when it comes to minimizing parking demands.

In addition, another compelling reason for providing 150 vehicular parking stalls is that maintaining an almost 1-to-1 parking ratio can help ensure the long-term viability and marketability of the affordable housing project, which in turn will benefit the community and the project's financial sustainability as properties with insufficient parking may often be less attractive to potential tenants. Many residents rely on their vehicles for employment and a lack of parking could jeopardize their ability to maintain their jobs and financial stability. In addition, in areas with insufficient parking, residents often resort to parking on the streets, which can lead to congestion and safety issues. With the site generated parking demand where it is at, the applicant will incorporate multi-modal mitigation measures within the project.

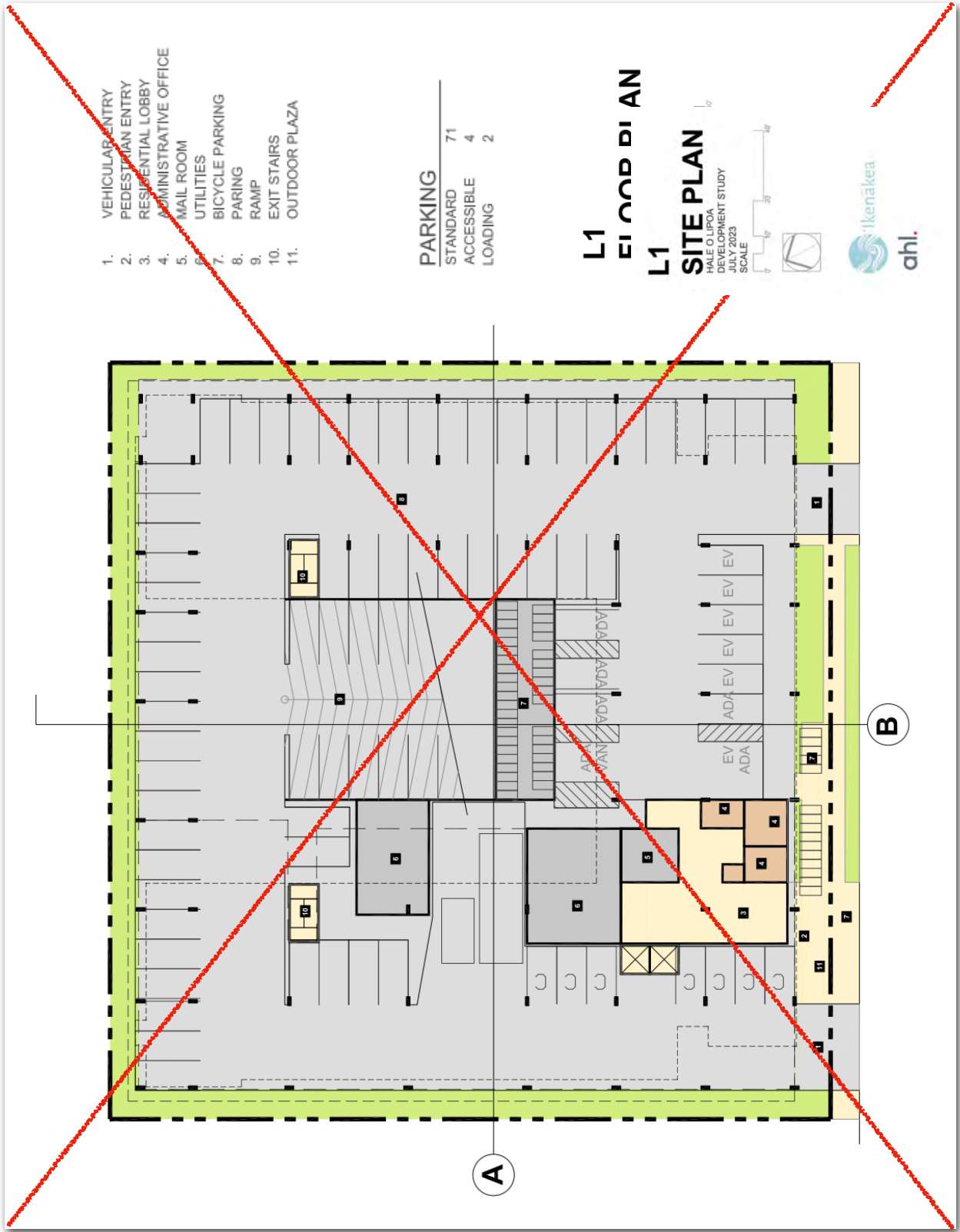


Figure 2-3: Level 1



Figure 2-3: Level 1

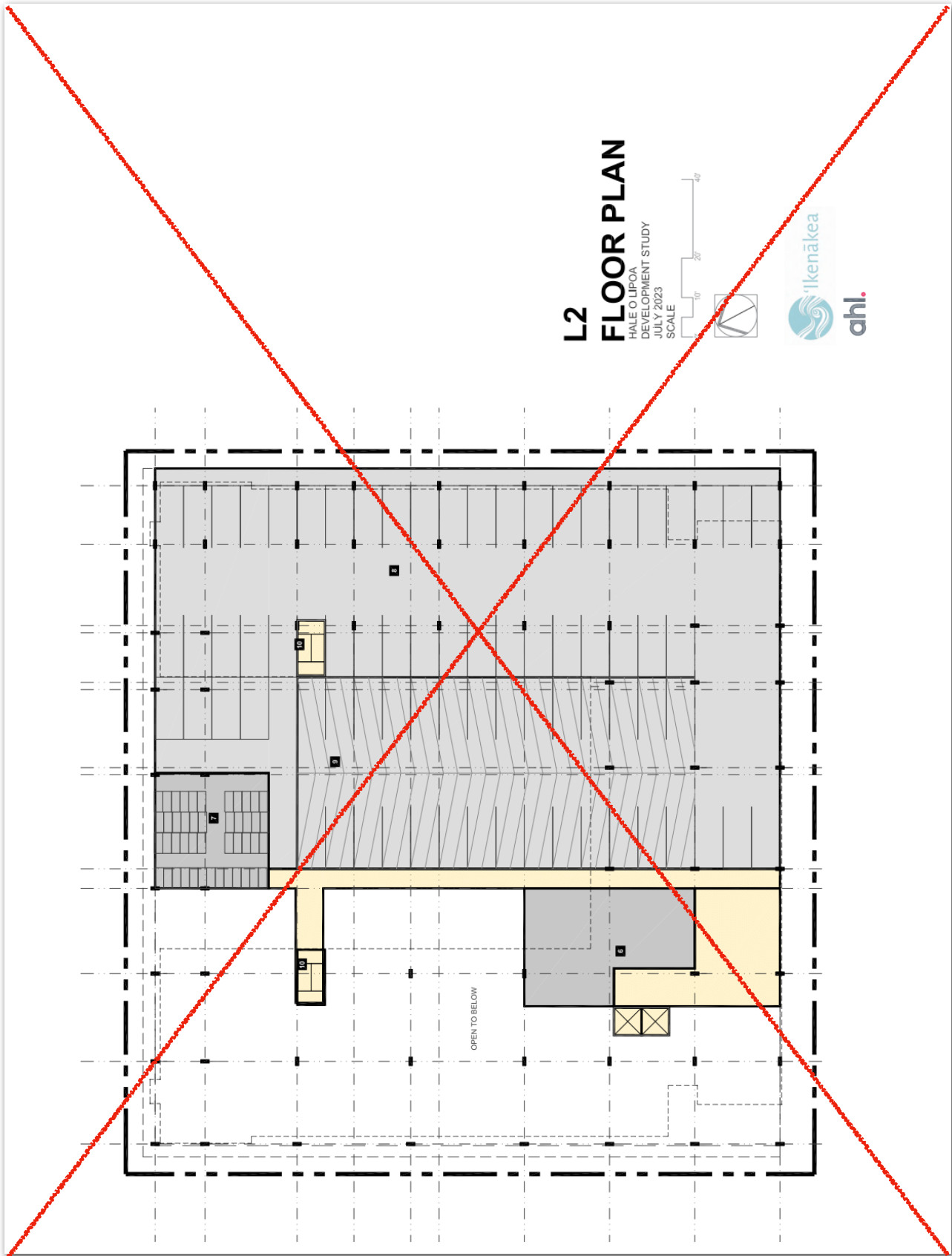


Figure 2-4: Level 2

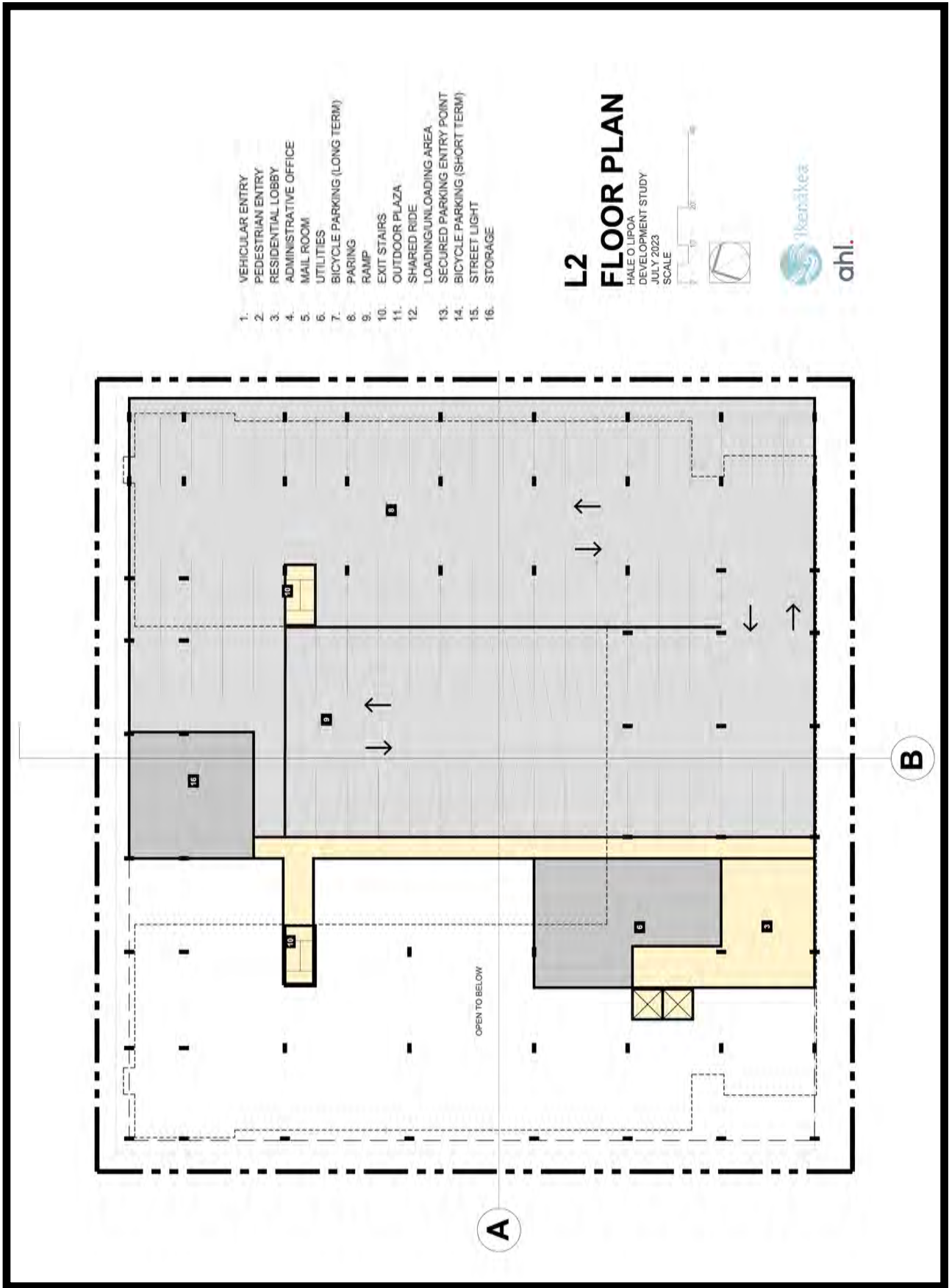


Figure 2-4: Level 2

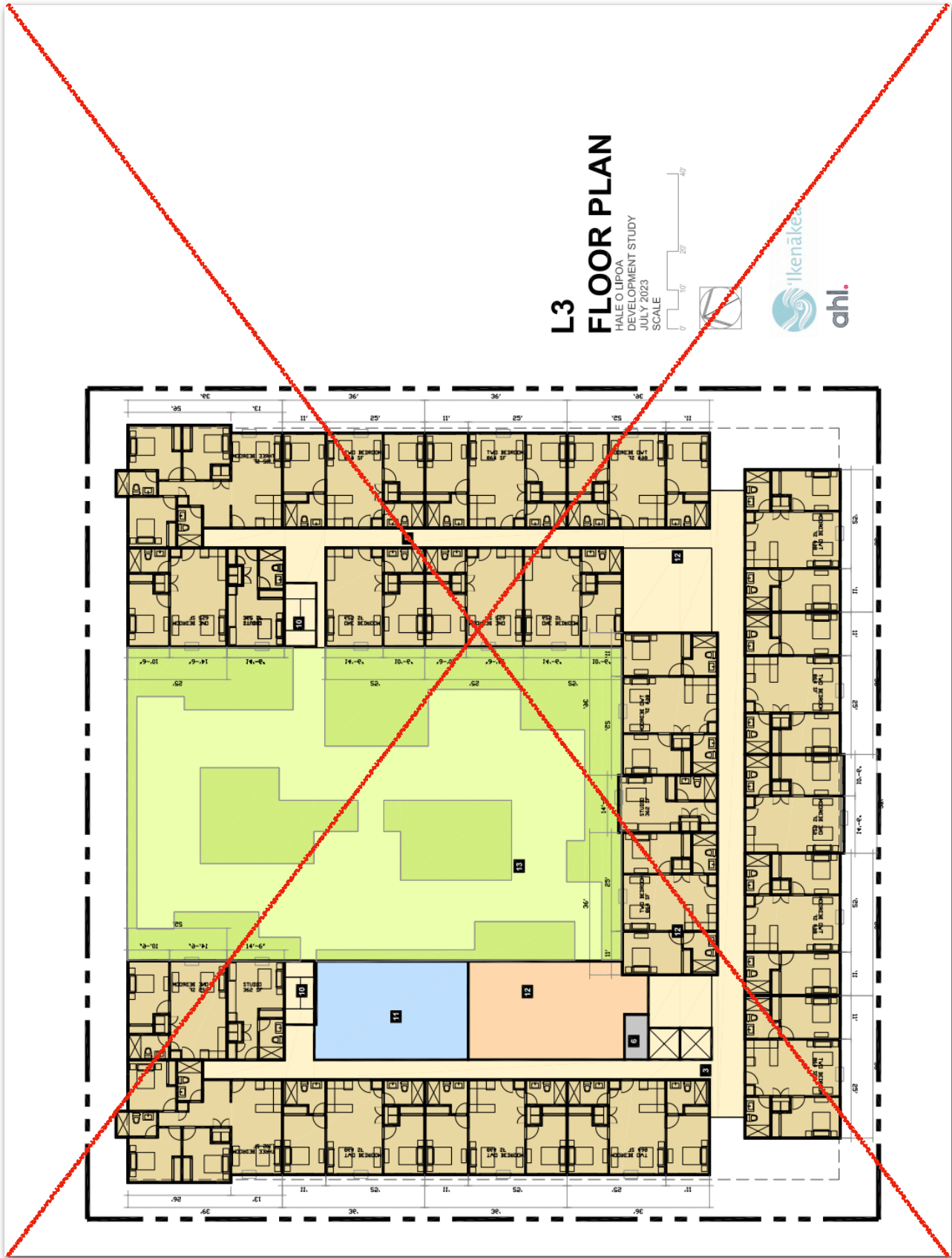


Figure 2-5: Level 3



Figure 2-5: Level 3

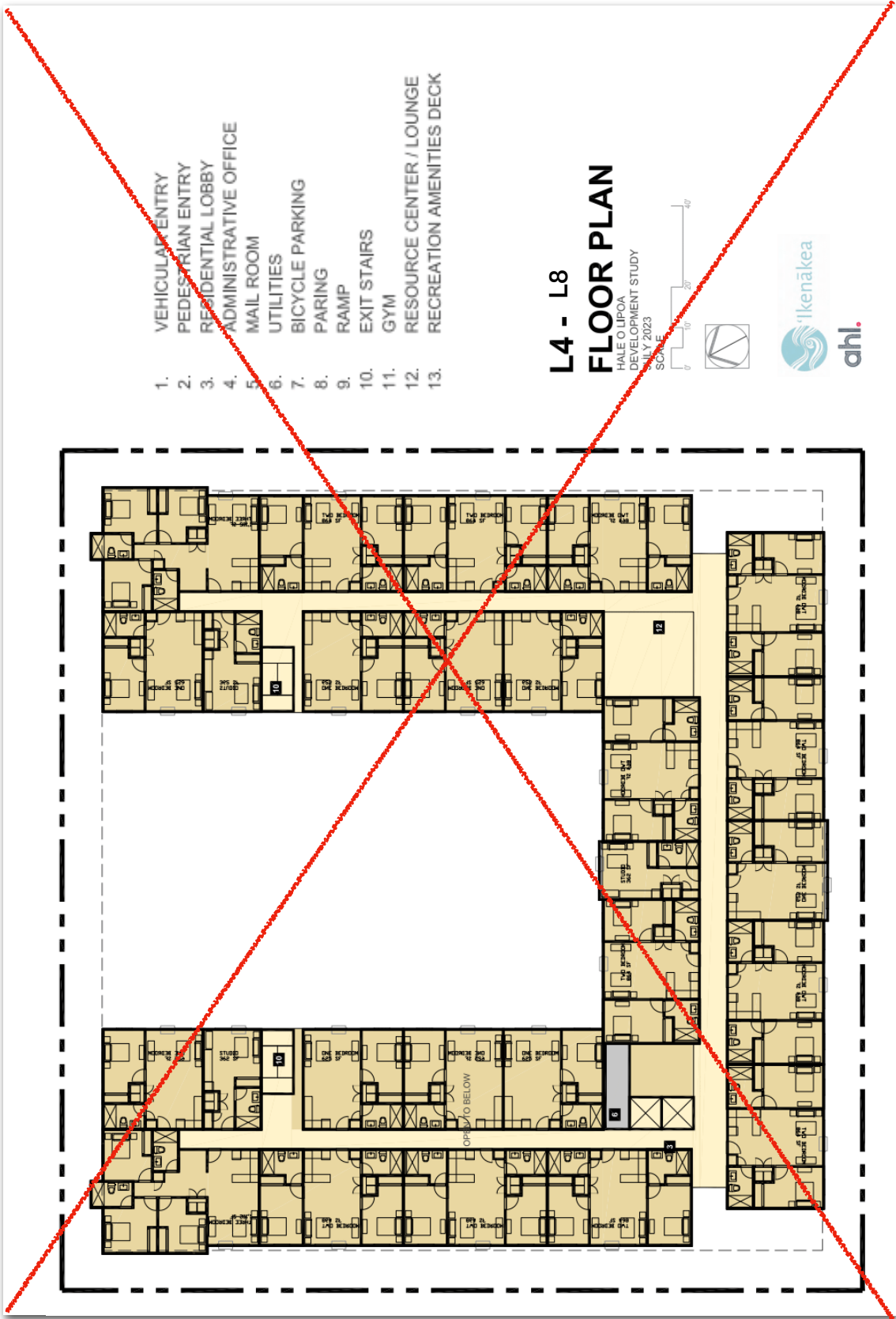


Figure 2-6: Level 4-8



Figure 2-6: Level 4-8

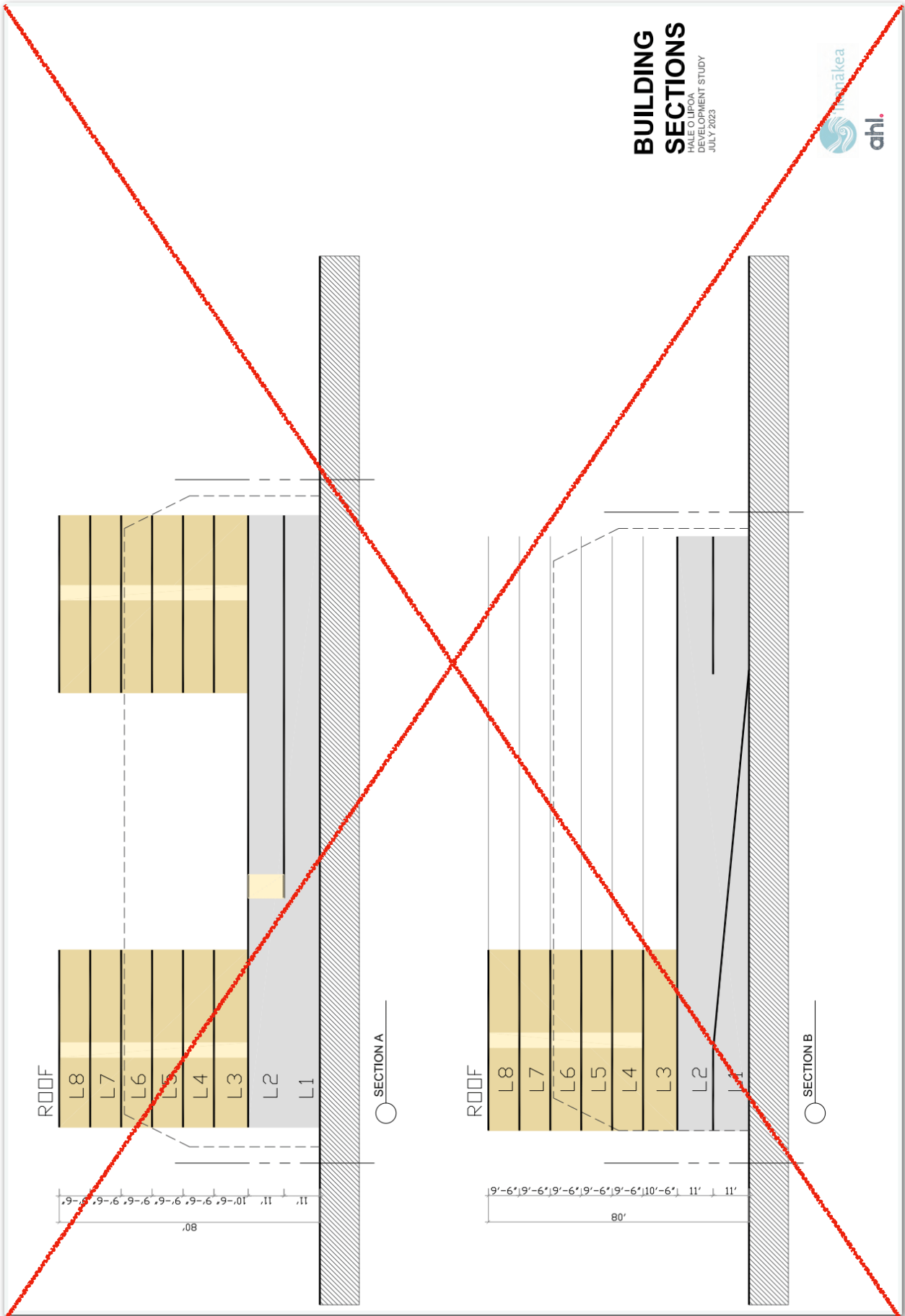


Figure 2-7: Building Sections

Figure 2-7: Building Sections

Figure 2-7: Building Sections

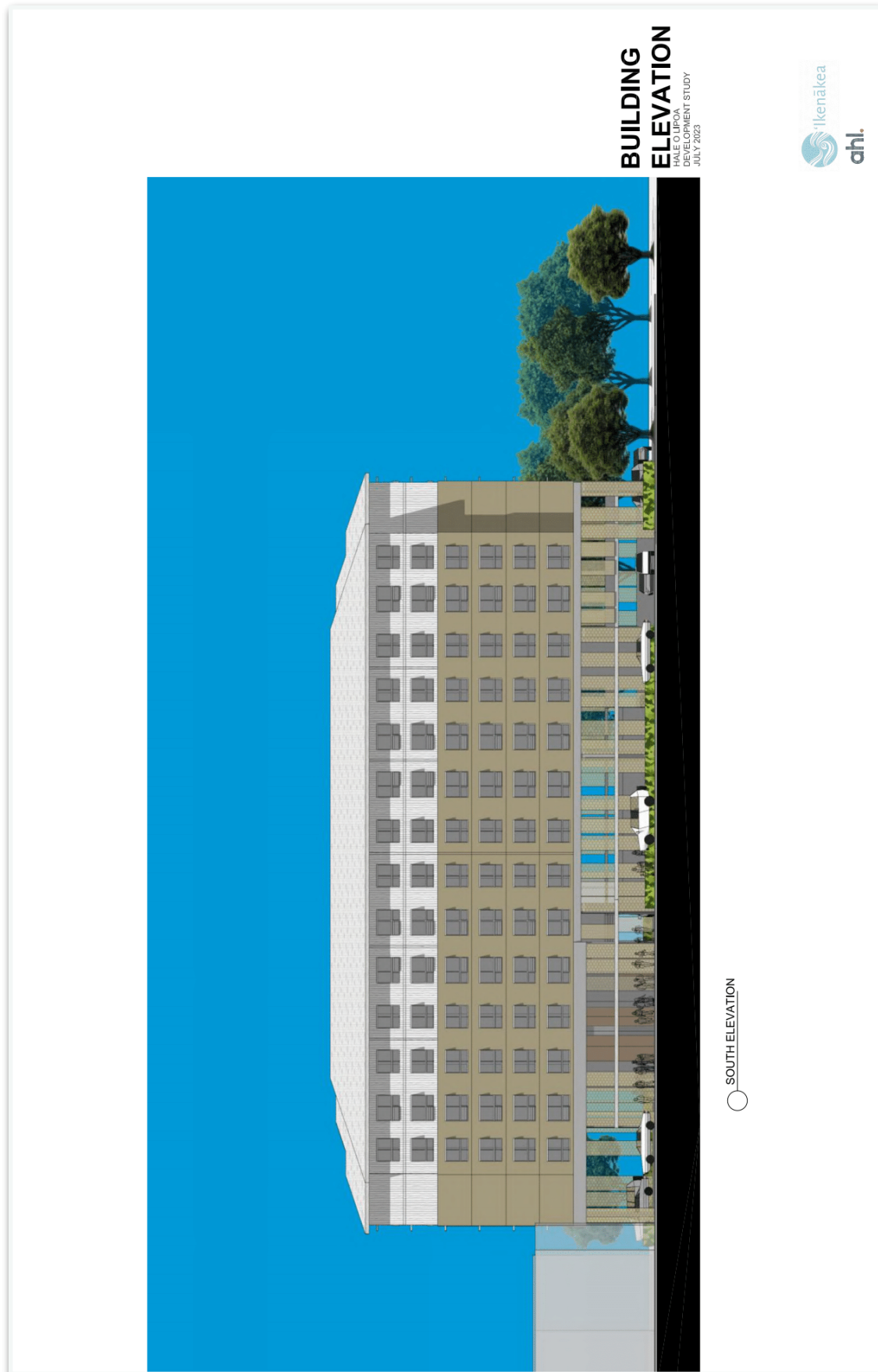


Figure 2-8: South Elevation



Figure 2-9: West Elevation



**BUILDING
ELEVATION**
HALE O LIPOA
DEVELOPMENT STUDY
JULY 2023



○ NORTH ELEVATION

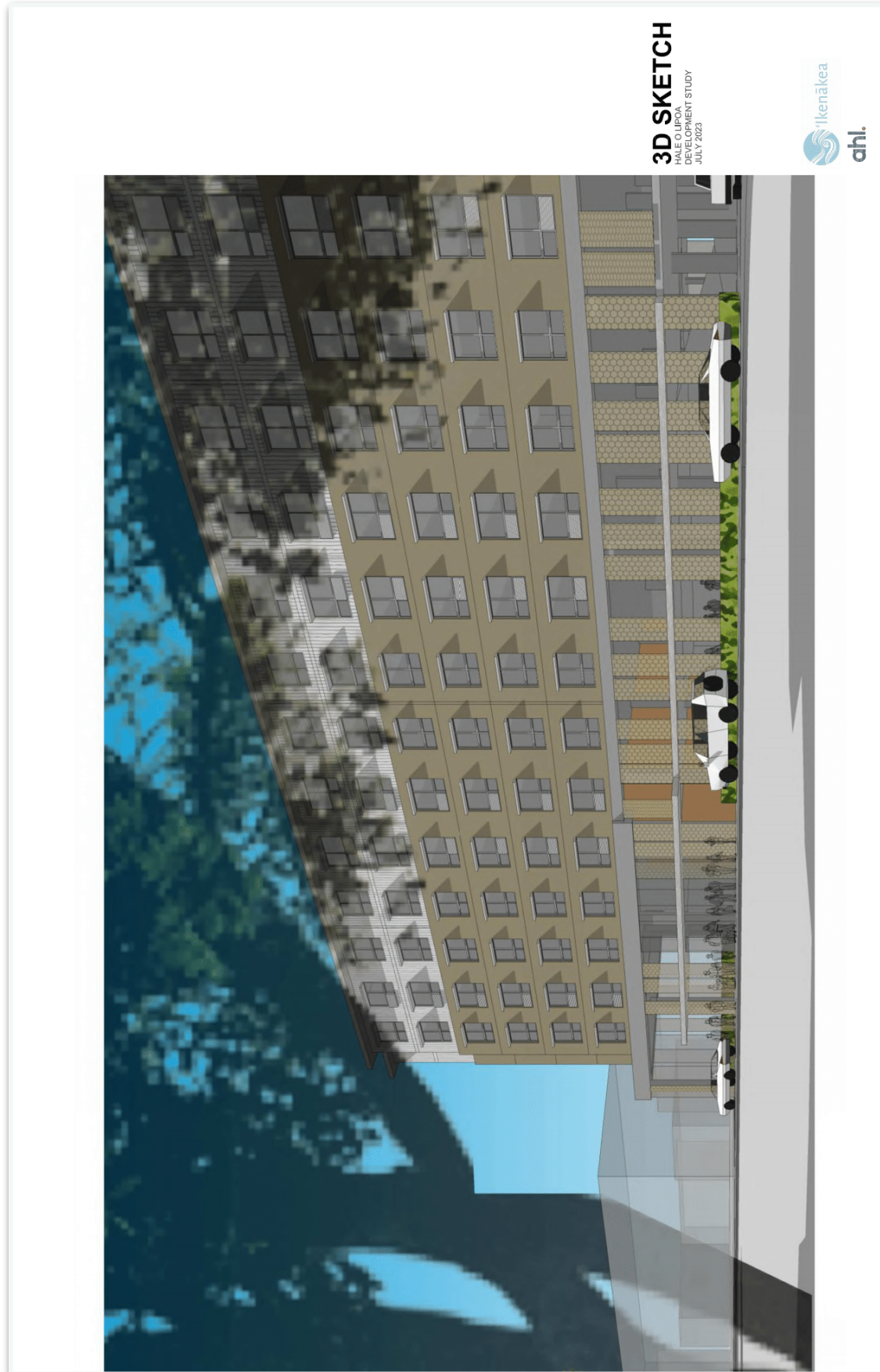
Figure 2-10: North Elevation



3D SKETCH
HALE O LIPOA
DEVELOPMENT STUDY
JULY 2023



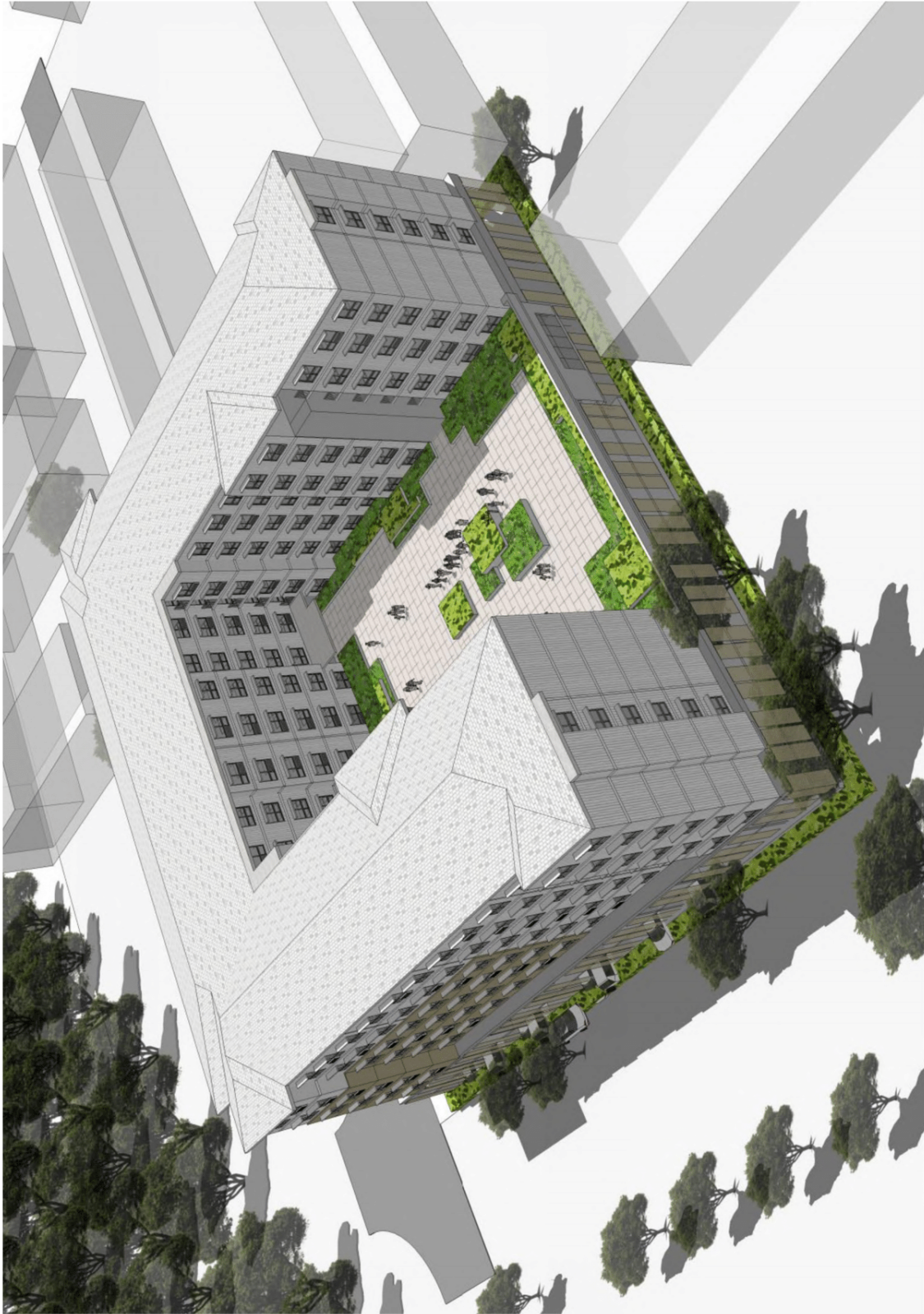
Figure 2-11: Ewa Perspective



3D SKETCH
HALE O LIPOA
DEVELOPMENT STUDY
JULY 2023



Figure 2-12: Makai Perspective



3D SKETCH
HALE O LIPOA
ENVIRONMENTAL STUDY
JULY 2023



Figure 2-13: Mauka Perspective



3D SKETCH
HALE O LIPOA
DEVELOPMENT STUDY
JULY 2023



Figure 2-14: Open Air Courtyard

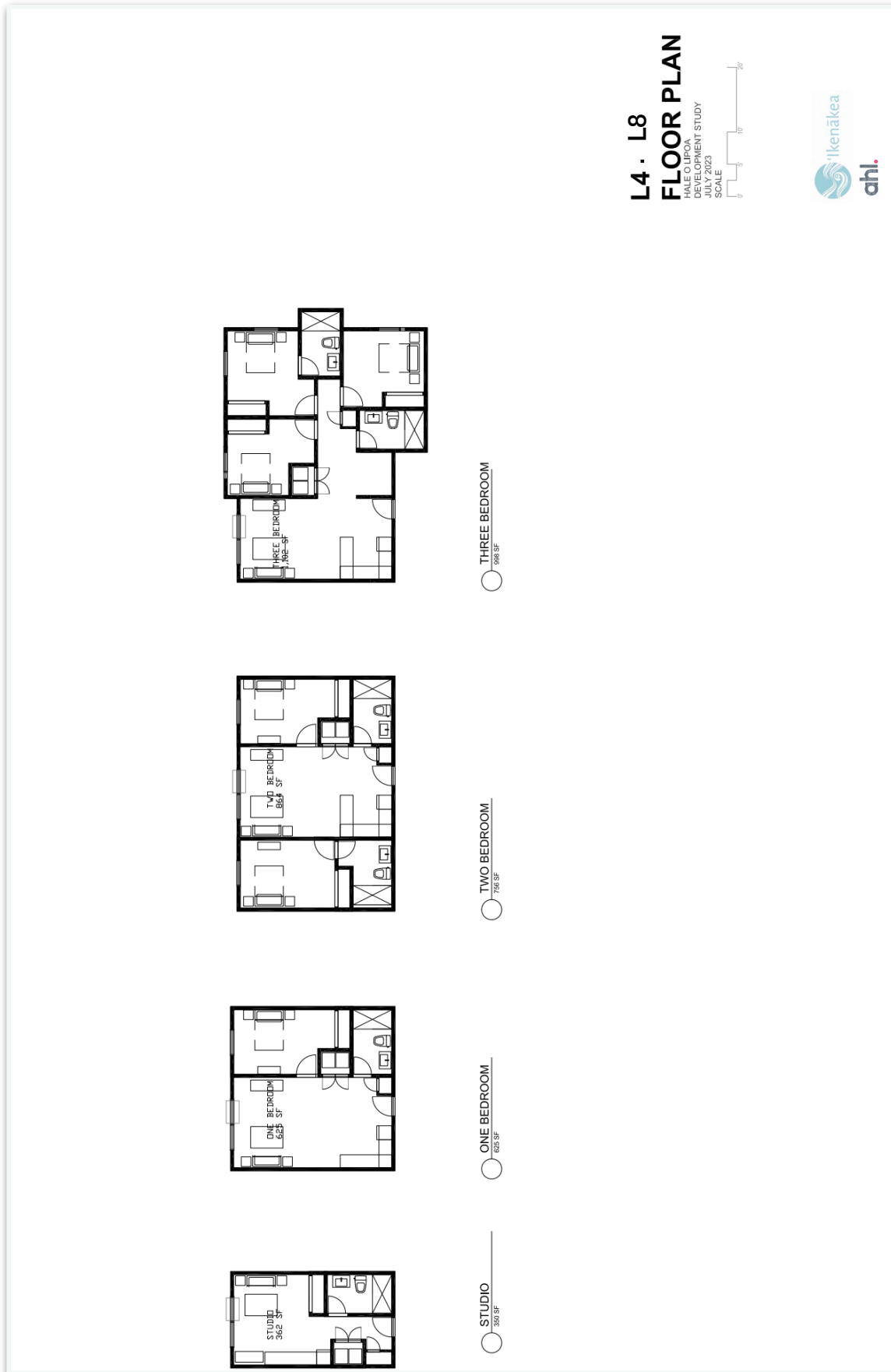


Figure 2-15: Floor Plans

Lipoo

Site Area #####
 Zone A-1
 Flood Zone X
 Tsunami Evacuation Zone No

	Residential Units				Areas										Parking											
	Studio	1 Bdrm	2 Bdrm	3 Bdrm	Lounge	Utilities	Circ	Res Unit	Typ Floor	Lobby	Admin Office	Resource Center	Exercise Rm	Storage	Mail Rm	Utility	Rec Deck	Bicycle Parking	Vehicular Parking	Bicycle	Standard Compact	Tandem	ADA	EV	Loading	
Level 1	382	625	864	1,102			330			1,210	480					240	2,540	900	31,060	40	57		4	7	2	
Level 2					475	70	1,105	20,945	23,500	950								1,105	20,220	54	71					
Level 3	3	6	12	2	475	130	2,925	22,795	23,500	215		1,040	970	1,450		240	2,540	900	31,060	40	57		4	7	2	
Level 4	3	9	12	2	475	130	2,925	22,795	23,500	215								1,105	20,220	54	71					
Level 5	3	9	12	2	475	130	2,925	22,895	23,500	215								1,105	20,220	54	71					
Level 6	3	9	12	2	475	130	2,925	22,895	23,500	215								1,105	20,220	54	71					
Level 7	3	9	12	2	475	130	2,925	22,895	23,500	215								1,105	20,220	54	71					
Level 8	3	9	12	2	475	130	2,925	22,895	23,500	215								1,105	20,220	54	71					
Total Residential Units	18	51	72	12	2,850	720	19,000	135,420	141,000	3,450	480	1,040	970	1,450	240	2,540	9,875	2,005	51,280	94*	128	7	4	4	7	2

*Per LUO Requirement
 15 Short Term
 71 Long Term

Total Residential Units 153
 Studio 18 12%
 1 Bedroom 51 33%
 2 Bedroom 72 47%
 3 Bedroom 12 8%

Total Parking Required 115
 Total Parking Provided 150

AREA / UNIT SUMMARY
 HALE O LIPOA DEVELOPMENT STUDY
 JULY 2023



 

Figure 2-16: Area Summary

TRM: 9-8-04-0021
 Lot Area: 42,000 SF
 Max Density (2.5 of Lot Area): 105,000 SF
 Zone: BMX-3
 Floor Zone: K
 Tsunami Evacuation Zone: No

Level	Residential Units			Areas										Parking														
	Studio	1 Bedrm	2 Bedrm	3 Bedrm	Lounges	Unit/ies	Circ	Res Unit	Typ Floor	Lobby	Admin	Office	Resource Center	Exercise Room	Storage	Mail Rm	Utility	Rec Deck	Bicycle Parking	Vehicle Parking	Signage	Stairwell	Compost	Abn	EV	Jacking		
Level 1	79	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	0	0
Level 2	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	0	0	0
Level 3	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	0	0	0
Level 4	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	0	0	0
Level 5	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	0	0	0
Level 6	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	0	0	0
Level 7	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	0	0	0
Level 8	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	0	0	0
Total	79	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	0	0
Total Residential Units	153																											
Studio	128																											
1 Bedroom	51																											
2 Bedroom	72																											
3 Bedroom	12																											
Total Parking Required	153																											
Total Parking Provided	150																											
Total Bicycle Parking Required	92																											
Sign Team	15																											
Long Term	77																											
Total Bicycle Parking Provided	92																											
Short Term	30																											
Long Term	62																											
Total Development Area	141,000 SF																											
Total Density	3.38																											

One stall per 1,000 sq ft of private dwelling area.

AREA / UNIT SUMMARY

HALE O LIPOA
 ENVIRONMENTAL STUDY
 JULY 2023



Figure 2-16: Area Summary

The proposed Project is committed to incorporating multi-modal mitigation measures as a key component of its design and planning. These measures aim to provide a range of transportation options and reduce reliance on single-occupancy vehicles, promoting sustainability and enhancing accessibility. Some of the key strategies include:

1. Proximity to Transit: The project is strategically located near public transit hubs, such as bus stops and rail stations. This ensures that residents have easy access to convenient and cost-effective transportation options and alternatives.
2. Bicycle Infrastructure: The development will feature secure bike storage and maintenance facilities to encourage cycling as a viable mode of transportation. This promotes a healthier and eco-friendly alternative for residents. These features will encourage the residents' use of the bicycle path on the Pearl Harbor Historic Trail.
3. Pedestrian-Friendly Design: The project will be designed with a focus on pedestrian safety and comfort. Sidewalks, crosswalks, and pedestrian pathways will be well-lit and easily accessible, creating a welcoming environment for walking.
4. Ride share and Carpooling Initiatives: The project will support ride sharing and carpooling by providing designated pick-up and drop-off areas and facilitating carpool formation among residents. This helps reduce the number of vehicles on the road. Additionally, there will be four parking stalls within the project designated for Hui Car Share, which allows tenants to utilize vehicular travel when necessary without the need to own a car.
5. Electric Vehicle Charging Stations: To encourage the use of electric vehicles and reduce emissions, the housing project will install electric vehicle charging stations for residents who own electric cars, promoting sustainable transportation choices.
6. Transportation Information: The project will offer information and resources about available transportation options, including public transit schedules, carpooling platforms, and local ride share services, making it easier for residents to explore alternatives to single-occupancy vehicles. Maps to the bus stops, Pearlridge transit station, and to access the Pearl Harbor Historic Trail will be provided in various common area locations within the building to provide for safe movement and convenience for residents.
7. Community Engagement: Residents will be actively engaged in promoting multi-modal transportation choices through educational programs, incentives for using public transit, and awareness campaigns about the environmental and cost benefits of alternative transportation.

By integrating these multi-modal mitigation measures into the project, the development not only addresses the need for accessible and sustainable transportation options but also contributes to a more vibrant, eco-friendly, and connected community.

2.2.6 Landscaping and Street Frontage

The project site will incorporate landscape planting wherever possible and may include native and low water use plantings. The perimeter of the ground floor will include landscaping, which comprises of approximately 10% of the ground floor space. The open-air courtyard will also contain landscaping and gardens. The landscaping plan will generally follow the recommendations for landscaping and street trees as indicated in the TOD Street Tree Plan and the TOD Special District. The project will include providing shade street trees along Lipoa Place. Street trees will provide protection for pedestrians, make walking comfortable, and significantly reduce ambient temperatures. Street trees are also effective at dispersing road traffic emissions as they increase air turbulence and produce oxygen. Beach Heliotrope trees will be placed 25' apart in the ground cover planting strip positioned between the sidewalk of the project and Lipoa Place, creating a safety buffer zone for pedestrians from vehicular traffic. To the sides and rear of Hale O

Lipoa, the ground will be fully covered with pervious groundcover to mitigate stormwater runoff. Along the perimeter of the parking garage, there will be Texas Privet, Ligustrum Japonicum & Kokio Keo Keo shrubs sprinkled throughout with the occasional Hao & Rauvolfia Sandwicensis trees.

The street frontage on Lipoa Place has been designed to incorporate the standards from the Honolulu Complete Streets Design Manual. The sidewalk meets these standards as it includes a pedestrian clear zone of 6 feet, adequate lighting, benches, trash receptacles, landscaping and street trees, which all contribute to enhancing pedestrian comfortability and protection.

Additionally, perforated metal screens will be installed with 55% coverage to allow for a naturally ventilated parking garage to minimize power consumption. The residential lobby will utilize a storefront glazing system for maximum transparency to Lipoa Place. In addition, short term bicycle parking near the residential lobby along Lipoa Place will activate the sidewalk with both residential and public activities to provide “eyes on the street”.

Please refer to Figure 2-17 for the ground level landscaping plan and street frontage illustration.

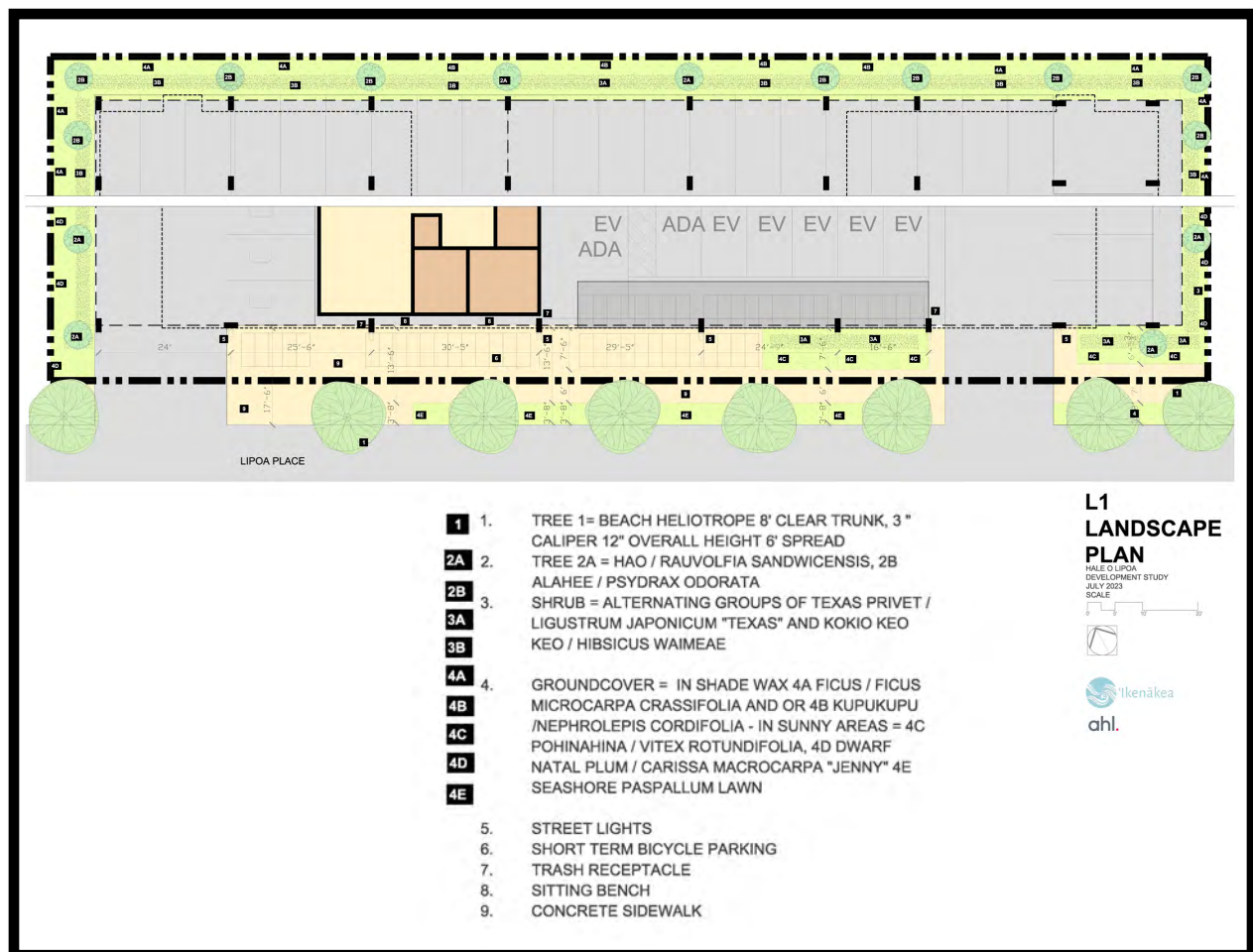


Figure 2-17: Landscaping Plan

2.2.7 Green Building and Sustainability

The applicant is focused around the principles of malama 'aina (environmental stewardship) and effective and efficient resource use. In designing and constructing Hale O Lipoa, the applicant is committed to pursuing LEED Gold certification and will analyze and adopt green building practices and materials that are practical and sustainable. Examples include adopting landscape irrigation conservation best management practices endorsed by the Landscape Industry Council of Hawaii. To further decrease the energy consumed by the Project, Photovoltaic is being installed as an alternative energy source for the Project.

2.3 Project Objective

The envisioned development aims to address the pressing need for affordable rental housing units in the City and County of Honolulu, catering to the unmet demand for affordable and workforce housing options. Currently, there is a scarcity of housing choices for low- to moderate-income households, emphasizing the significance of this initiative. Notably, this location offers an ideal setting for housing, boasting exceptional walkability to numerous community amenities, convenient proximity to various modes of transportation, and falls within a Transit-Oriented Development (TOD) planned area committed to fostering new development.

2.4 Funding and Scheduling

The Applicant is committed to providing affordable housing for Oahu's residents the City and County of Honolulu's workforce, and as such, they are exploring various funding options to ensure that their vision becomes a reality. The Applicant's priority is to house individuals and families at or below 60% AMI. The financing approach for this type of housing utilizes a combination of Low-Income Housing Tax Credits, Hula Mae Multi-Family Bonds, and Rental Housing Revolving Funds as part of its capital stack. This approach would entail setting 100% of the units dedicated as rental housing for income levels at and below 60% AMI. This is the only available financing approach to be used to build this specific housing type, which is very competitive and unfortunately oversubscribed. The challenge in providing affordable housing is the availability of financing options, therefore the Applicant is considering alternative financing options to build housing units that are desperately needed.

In 2022, the State of Hawaii recognized workforce housing as a need being unmet, so a gap financing program called the Rental Housing Revolving Fund Tier II Program was introduced to build affordable rental housing units serving working families between 60% to 100% of the AMI. This is a demographic of the population termed the 'missing middle' because it is a large segment of the population that has historically been left out of the housing solution. Utilizing this funding would be the Applicant's second option to finance the project, however it is also a highly competitive and oversubscribed financing resource.

The Applicant is committed to submitting applications to obtain the financing to build affordable rental apartments. Only to the extent that the Applicant is unsuccessful in their attempt to secure the financing options mentioned above, a for-sale option to build affordable for-sale housing would be considered. The determination of whether the project will be developed as a rental or for-sale project will be made after the 201H resolution is adopted and will depend on the sources of financing able to be obtained by the Applicant. A recently added requirement for a project to submit applications for financing is the completion and approval of all of its required entitlements.

including, but not limited to, the 201H. As a result of this new rule, the Applicant is including the three funding options in its 201H application for City and County of Honolulu approval to provide transparency and for the flexibility to pursue the various financing options to build housing choices that are all severely needed. The project is designed so that it may be developed as any one of the following scenarios, which are listed out below as the proposed preference order of the developer:

- Scenario 1: A 100% affordable rental apartment project for households earning 60% or below of the AMI and one manager's unit, utilizing Low-Income Housing Tax Credits (LIHTC) and other HHFDC financing. These units will be affordable for a minimum of 61 years;
- Scenario 2: A 100% affordable rental apartment project for households earning 80% and 100% of the AMI and one manager's unit, utilizing the Rental Housing Revolving Fund (RHRF). These units will be affordable for a minimum of 61 years; or
- Scenario 3: An affordable and market-for-sale project with at least 51% of the units to be sold at affordable prices to residents earning between 80% and 120% of the AMI, and the balance of units sold at market prices. This may potentially be funded with the Dwelling Unit Revolving Fund (DURF). The affordable units will be subject to a 10-year Buyback Restriction.

Figure 2-18 denotes the affordability levels across the three financing scenarios.

FOR RENT		FOR SALE
Priority 1: LIHTC	Priority 2: RHRF Tier II	Last Option: Workforce Housing
Serves: 30-60% AMI Homes: 16 units at 30% AMI 16 units at <40% AMI 120 units at <60% AMI 1 unit for manager <u>Financing Round</u> HHFDC Application: February 2025 HHFDC Award: Q3 2025	Serves: 80-100% AMI Homes: 32 units at 80% AMI 120 units at <100% AMI 1 unit for manager <u>Financing Round</u> HHFDC Application: Q3 2024 HHFDC Award: Q4 2024	Serves: 80-120% AMI Homes: 32 units at 80% AMI 6 units at <90% AMI 12 units at <100% AMI 16 units at <110% AMI 26 units at <120% AMI 60 units at market 1 unit for manager This option will only occur if HHFDC financing cannot be secured for either Priority 1 and/or Priority 2. Developer will submit one application to HHFDC for financing for both LIHTC & Tier II before considering the for-sale option.

Figure 2-18: Project Affordability Levels

The team is carefully considering the results of a market analysis and is contemplating several financing plans to determine the best course of action for the project. In the event the results of the analysis do not support the proposed development concept with regards to unit and affordability mix, the team is prepared to make necessary adjustments to remain committed to providing affordable housing. Hale O Lipoa may seek a combination of Low Income Housing Tax Credits, Hula Mae Multi Family Bonds and Rental Housing Revolving Funds as part of its capital stack, which would entail setting 100% of the units dedicated to income levels at and below 60% AMI.

Upon completion of the Environmental Assessment process, the project will be reviewed and processed through a Special Management Area (SMA) major permit process. The project will also submit an 201H application through the City and County of Honolulu’s Department of Planning and Permitting (DPP). Construction is anticipated to begin in the first quarter of 2026 with a



completion date in the middle of 2027. Figures 2-19 through 2-22 include project renderings and visual simulations of the project relative to the surrounding area.

2.5 201H Exemptions

Hawaii Revised Statutes (HRS) Chapter 201H provides the flexibility to expedite the development of affordable housing project. This chapter allows for exemptions from certain land use and zoning regulations, which can typically hinder the swift construction of affordable units. The proposed Project is zoned BMX-3 Community Business Mixed-Use. This zoning is intended to include residential uses, however the applicant will submit an application to the City and County of Honolulu for certain exemptions to allow for design flexibility and cost savings through the 201H program. An affordable ~~rental~~ housing project in a BMX-3 zone aligns with HRS Chapter 201H by streamlining the development process, potentially qualifying for expedited permitting and reduced fees, as well as creative financing options, which are pivotal in overcoming economic barriers often associated with affordable housing developments. In addition to the fee waivers, the project's financial feasibility relies on some design related exemptions through the 201H Program including, but not limited to, maximum density or (FAR), side yard encroachment, and transitional height set back encroachment.

Figure 2-19: Project Rendering showing visual simulation on Lipoa Place toward Diamond Head



Figure 2-20: Project Rendering showing visual simulation from shoreline toward Diamond Head



Figure 2-21: Project Rendering showing visual simulation from shoreline toward Ewa



Figure 2-22: Project Rendering showing visual simulation from Kamehameha Highway toward Pearl Harbor

Section 3.0

DESCRIPTION OF ENVIRONMENT, ANTICIPATED IMPACTS & MITIGATION

3.0 DESCRIPTION OF ENVIRONMENT, ANTICIPATED IMPACTS & MITIGATION

This section discusses existing conditions, potential impacts and proposed mitigation measures for the physical and natural environment, natural hazards, ecological resources, and public services and facilities.

3.1 Environmental Setting

The project site is located in an area of active medium-density development. As the subject property is entirely developed, containing an apartment complex and associated parking lot, the topography is relatively flat and contains sparse vegetation primarily comprised of landscaped ornamentals.

3.2 Surrounding Uses

Apartment complexes, residences, businesses, and parking lots surround the subject property on the north, east, and west boundaries. The parcel is situated approximately 0.1 mi.(0.11km) south of Kamehameha Highway and roughly the same distance north of the Pacific Ocean and the Pearl Harbor Historic Trail. In addition, the Pearlridge Transit-Oriented Development (TOD) Station and the Department of Transportation Service bus transit center facility is located nearby.

Transit-oriented development (TOD) is a planning and urban design strategy that focuses on creating vibrant, sustainable communities around public transportation hubs, such as train stations, bus stops, or subway stations. TOD can have both benefits and adverse impacts, depending on how it's implemented and the specific context. Here are some of the key advantages and disadvantages of transit-oriented development:

Benefits of Transit-Oriented Development:

- **Reduced Automobile Dependency:** TOD encourages people to use public transportation, walk, or bike instead of relying on private cars, which can help reduce traffic congestion, lower air pollution, and decrease greenhouse gas emissions.
- **Improved Access to Transportation:** TOD increases access to public transit services, making it easier for people to reach their destinations, which can be particularly beneficial for those who don't own cars, including low-income individuals and seniors.
- **Economic Development:** Well-planned TOD can stimulate local economies by attracting businesses, increasing property values, and creating jobs. This, in turn, can generate more tax revenue for municipalities.
- **Higher Land Use Efficiency:** TOD promotes higher-density development around transit hubs, which makes more efficient use of land, reducing urban sprawl and preserving open spaces.
- **Walkability and Livability:** TOD designs often prioritize pedestrian-friendly environments with a mix of land uses, such as housing, retail, and public spaces, making neighborhoods more attractive and livable.
- **Reduced Infrastructure Costs:** Concentrating development around existing transportation infrastructure can reduce the need for additional road construction and maintenance, saving taxpayer money.
- **Social Equity:** TOD can improve access to jobs, education, and services for underserved communities, promoting social equity and inclusion.

Adverse Impacts of Transit-Oriented Development:

- **Gentrification and Displacement:** A potential downside of TOD is that it can lead to rising property values and rents, displacing long-time residents and small businesses. This can result in the loss of community character and the exclusion of lower-income individuals.
- **Affordability Challenges:** As property values increase in TOD areas, affordable housing may become scarcer, making it difficult for low- and moderate-income residents to live near transit options.
- **Initial Implementation Costs:** Building and improving transit infrastructure and promoting TOD can be expensive, and the initial investment may not yield immediate returns.
- **Inadequate Planning:** Poorly planned TOD can lead to congestion, inadequate parking, or other infrastructure challenges, which may discourage transit use and lead to adverse effects on local businesses.
- **Community Resistance:** Some communities may resist the density associated with TOD, which can lead to opposition and political challenges in implementing these projects.
- **Limited Applicability:** TOD is more effective in areas with existing or planned public transportation options. In areas without robust transit systems, the benefits may be limited.
- **Environmental Concerns:** In some cases, development around transit hubs may lead to environmental degradation, particularly if there's inadequate attention to sustainability and green building practices.

To maximize the benefits of transit-oriented development and mitigate its adverse impacts, careful planning, community engagement, affordable housing strategies, and effective policies are crucial. It's essential to strike a balance between promoting public transportation and maintaining affordability and community character.

3.3 Environmental Considerations

3.3.1 Geological Characteristics

Topography

Existing Conditions

According to the USGS, Honolulu, Hawaii, 7.5-minute topographic quadrangle map, the subject property elevation is approximately 4.5-feet above mean sea level (msl).

Potential Impacts and Mitigation

The proposed project will not impact the topography in the area and no mitigation is required.

Climate

Existing Conditions

The geography of Aiea is typically warm and dry in climate. Prevailing trade winds arrive from the northeast. According to the National Weather Service Honolulu Office, over a period of 30 years, normal monthly high temperatures range from 80 degrees in January to a high of 89 degrees in August for an average of 84 degrees. Normal month low temperatures range from a low of 65 degrees in February and a high of 74 degrees in August for a monthly average of 70 degrees.

Precipitation typically ranges from 0.44 inches in August to a high of 3.8 inches in December. Rainfall in the area averages approximately 30 in. (75cm) per year (Giambellucaetal. 2013).

Potential Impacts and Mitigation

The proposed project will not impact climate in the area and no mitigation is required.

USDA Soil Survey Report and Detailed Land Classification–Island of Oahu

Existing Conditions

The United States Department of Agriculture (USDA) Soil Conservation Service classifies the soil within the Site as Keaau clay, saline (KmbA), moderately shallow, with slopes ranging from 0 to 2percent. KmbA is described as poorly drained with negligible runoff, not prime for farmland. KmbA belongs to hydrologic soil group C. The typical soil profile is clay between 0 and 34 inches below ground surface (bgs), cemented material from 34 to 39 inches, and sand from 39 to 57 inches it becomes bedrock with a depth to water table about 24 to 48 inches (USDA, 2022).

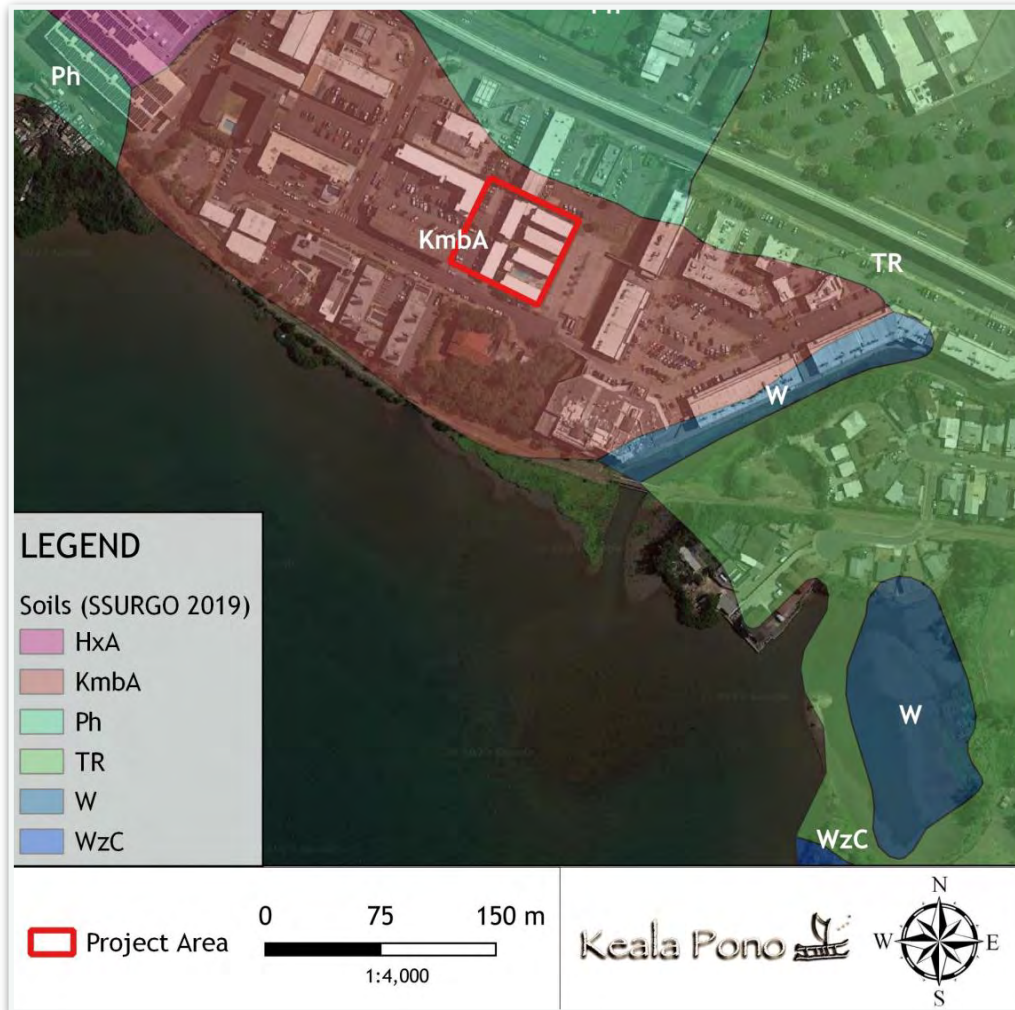


Figure 3-1: Soil Map

Source: Keala Pono Archaeology

Potential Impacts and Mitigation

The proposed project will not adversely impact climate in the area and no mitigation is required.

Potential Impacts and Mitigation Measures:

The proposed project will not adversely impact geology or soil conditions. The anticipated soils are typically soft and compressible, and are not suitable to support the magnitude of loads from an 8 story building on a shallow spread footing foundation. Therefore, a pile foundation is anticipated for the building foundation. A geotechnical study conducted with test borings will be done prior to finalization of the foundation design to be submitted for permit approval to confirm this.

The piles are anticipated to consist of 24" auger cast-in-place (ACIP) end bearing piles embedded 50 to over 100 feet deep to reach good bearing soil material. The pile foundation will contain cast in place concrete pilecaps at the top of the top of the piles with tie beams and grade beams connecting the pilecaps. Unlike precast-prestressed concrete piles, which are driven, the ACIP piles are installed with minimal vibration and noise.

The design and construction of this type of foundation will consider the following:

- a) Groundwater is likely to be encountered at depths of 2 to 6 feet below the existing grade. Dewatering may be required for excavations at or below groundwater.
- b) The underlying soils are likely to be soft at or near groundwater level and incapable of supporting heavy construction equipment. Any dewatering will require special permits.
- c) Excavated on-site soil will not be suitable for reuse as fill and backfill.
- d) Placement of concrete for the ACIP piles will require containment and disposal of any groundwater displaced during the placement of the concrete for the ACIP piles.

3.3.2 Water Resources

There is no surface water, such as streams, lakes ponds, open bodies of water or wetlands, on the premises. See *Figure 3-2* for a map of wetlands in the area. The closest sources of fresh water are Kalauao Springs Stream, a non-perennial watercourse located approximately 100 feet east of the site, Kalauao Stream, a non-perennial watercourse drainage located roughly 450 feet 0.5 mi.(0.90 km) north east of the study area, and Waimalu Stream, a perennial intermittent watercourse that drains into the Pacific Ocean approximately 0.6 mi.(1.0 km) to the west.

Hydrologic Hazards and Resources

Existing Conditions

Environmental Risk & Assessments conducted a Phase I ESA for the property in April 2022 and the full report can be found in *Appendix A*. According to the Phase I ESA, the Project overlies the Waimalu aquifer system of the Pearl Harbor aquifer sector. The site lies on top of two aquifers. The upper aquifer is a basal (fresh water in contact with seawater), unconfined (where water table is upper surface of saturated aquifer), sedimentary (nonvolcanic lithology) aquifer. It is classified as a currently used, irreplaceable, and highly vulnerable to contamination, with a low salinity (250-1000 milligrams per liter [mg/l] chloride [Cl-]). It is considered an ecologically important water source (Mink and Lau, 1990).

The lower aquifer is a basal (fresh water in contact with seawater), confined (aquifer bounded by impermeable or poorly permeable formations, and top of saturated aquifer is below ground water

surface), flank (horizontally extensive lavas) aquifer. It is classified as a currently used, irreplaceable, and moderately vulnerable to contamination, with a low salinity (250-1000 milligrams per liter [mg/l] chloride [Cl-]). It is considered an ecologically important water source (Mink and Lau, 1990).

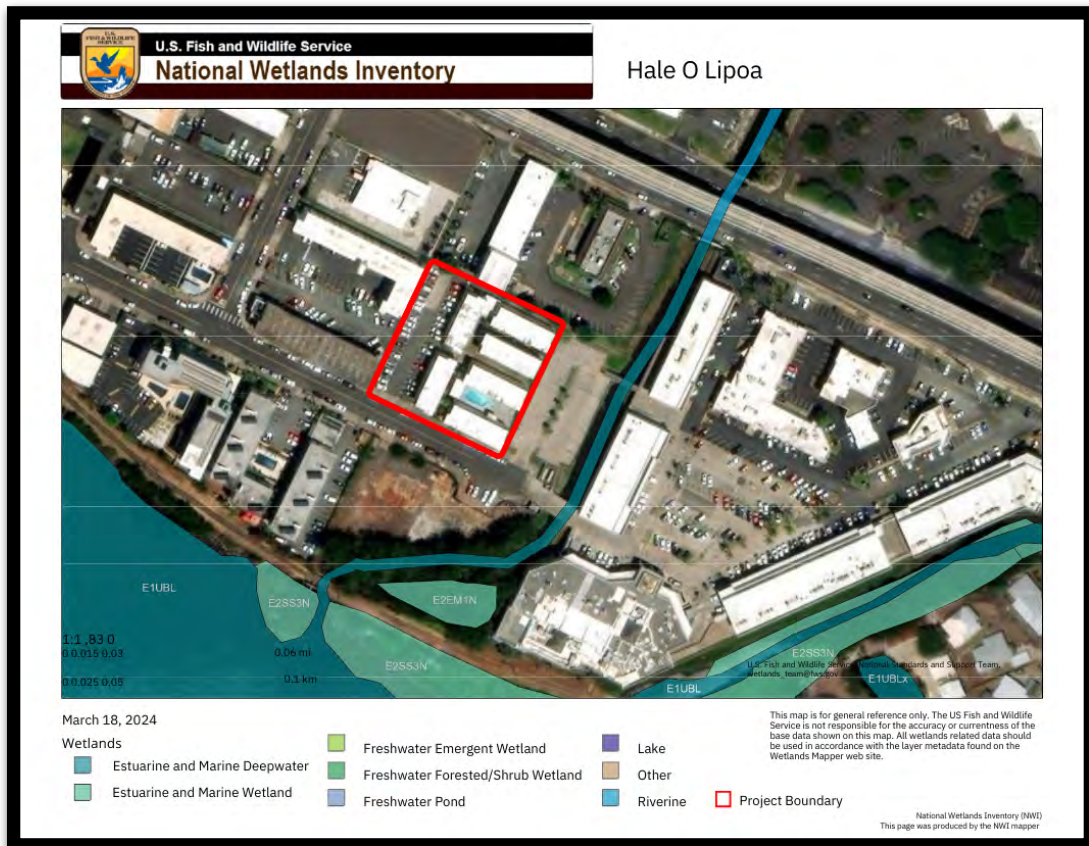


Figure 3-2: Wetlands Map

Source: U.S Fish and Wildlife Service

According to the EDR report in the Phase I ESA, there are sixty-nine (69) United States Geological Survey (USGS) wells within a 1-mile radius of the Site. In addition, there are sixty-one (61) water wells were identified in the State Database Well Information located within a 1-mile radius of the subject property (EDR, 2022e). The Site is up gradient of the Underground Injection Control (UIC) line (Figure 3-3) as such; the underlying aquifer is considered a potable drinking water source and permit limitations governing the use of these waters are more stringent than for non-drinking water aquifers.

Potential Impacts and Mitigation

The proposed project will not adversely impact hydrologic hazards and resources in the area and no mitigation is required. The proposed project will be built upon graded land where an apartment complex currently exists. By replacing the apartment complex, the new development will have a negligible effect on the hydrology of the area. Incorporating Low-Impact Development (LID) features will reduce the volume of surface water runoff and improve water quality by decreasing the amount of sedimentation and pollutants.

During construction, all activities will comply with all applicable federal, state, and county regulations and rules related to protecting water resources. The anticipated pile foundation

referenced above is not expected to reach the depth of the lower aquifer. It is anticipated that the bedrock capping the top of the lower aquifer will be located about 90 to 100 feet below surface level based on prior experience with other projects near the vicinity of the Proposed Project site. The preliminary foundation design includes piles reaching anywhere from 50 to 100 feet in the ground to support the proposed project and is not expected to reach the bedrock top layer of the lower aquifer. If in the unexpected scenario where the pile foundations do reach the bedrock top layer at the lower aquifer, those piles will act as a plug to mitigate any damage and/or negative impact to the lower aquifer water source as they will be filled with concrete.

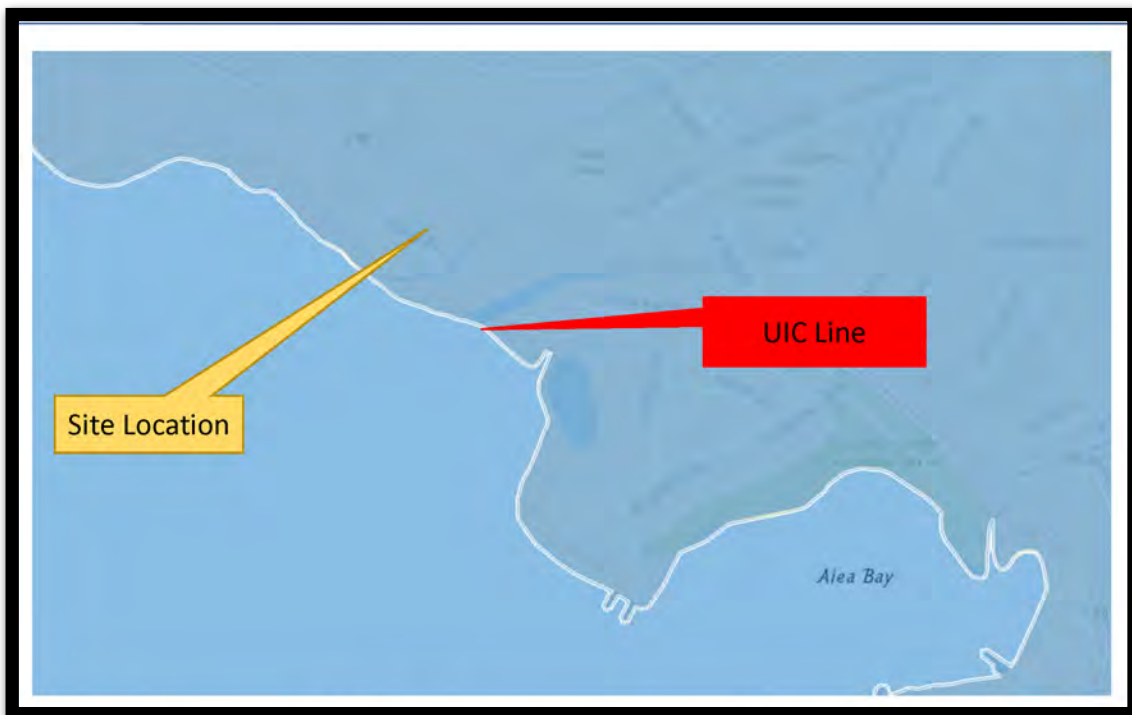


Figure 3-3: Underground Injection Control (UIC) Map

Source: ERA Hawaii

The site is located upgradient of the UIC Line, therefore the underlying aquifer is considered a potable water source. As such, handling of storm water and dewatering fluids will conform to the limitations governing the disposal of such waters over such aquifers. Additionally, injection wells will not be used for this project.

Best Management Practices (BMPs) will be used to prevent and reduce the discharge of pollutants from the project site onto off-site streets, storm drains, streams and the ocean and will be implemented during every phase of construction. These BMPs include maintaining on-site infiltration and preventing polluted runoff from storm events. Some of the BMPs to prevent contamination of water sources that may be incorporated are listed below:

1. Minimize Disturbance: Limiting grading and excavation to only what is necessary and avoiding sensitive areas
2. Implement Erosion Control Measures: Using erosion control blankets, geotextiles, or mulch to protect exposed soil from erosion
3. Install Silt Fencing: Erect silt fences along the perimeter of construction sites to prevent sediment runoff into nearby water bodies

4. Design Stormwater Management Systems: Implement stormwater management practices such as retention ponds, vegetated swales, and permeable surfaces to capture and treat runoff.
5. Utilize Sediment Basins: Construct sediment basins to capture sediment-laden runoff and allow sediment to settle before water is discharged
6. Divert Runoff: Direct runoff away from steep slopes and vulnerable areas towards vegetated swales or infiltration areas
7. Comply with Regulations: Adhere to local regulations and obtain necessary permits for erosion control and stormwater management such as a Stormwater Pollution Prevention Plan (SWPPP).

Once complete, the project will meet the water quality standards for the City and County of Honolulu. Long-term impacts will be mitigated by the installation of LID measures to manage stormwater at this property before it is returned to the natural system. The drainage improvements discussed in Section 3.3.9 are anticipated to minimize stormwater discharge rates and improve stormwater quality from the project site. Such improvements will be designed to manage stormwater in a way that better replicates natural systems, thereby slowing the flow of surface water from the property and reducing pollutants in the process, resulting in improved water quality of the nearby water bodies. Permeable surfaces will reduce runoff and allow for natural filtration of water back into the ground. Other design strategies will be implemented to minimize the overall impervious area of the site and direct stormwater runoff to areas and/or structures designed to remove pollutants such as native landscaping, which will help stabilize the soil and prevent erosion. Additionally, operational and management procedures will help prevent trash, food waste, oil and grease from encountering stormwater runoff, thus preventing harmful substances from entering both the ground water and the nearby water sources. All runoff is expected to remain stable with implementation of the proposed action. As a result of the drainage conditions created by the proposed project, future stormwater will be accommodated more effectively and environmentally friendly than the site's current drainage condition.

No impacts to ground water resources are anticipated. A hydrogeological assessment is included as Appendix G to substantiate this. Construction and permanent post-construction BMPs and LID measures will be designed, implemented, and maintained in compliance with all of the applicable rules and regulations. Onsite drainage system improvements will also be designed in accordance with DPP's Storm Drainage Standards.

The proposed project will utilize the Board of Water Supply Water System for its water consumption. Furthermore, there will not be any wells constructed onsite. The new residential building will utilize the same BWS water meter service and the private water lines from the water meter. Section 3.3.9 contains information confirming the adequacy of the existing water system to accommodate the development. Once completed, several water conservation measures will be implemented to reduce overall water consumption. Examples of these water conservation measures are a rain water catchment system for irrigation and recycled water as well as drought tolerant plants and native landscaping to reduce the amount of water needed through irrigation. Water-efficient practices will be incorporated into the residential community such as using low-flow fixtures and other technologies designed to conserve water. By incorporating these measures into the planning and implementation of the proposed project, it is possible to minimize the impact on the Board of Water Supply's available water source and ensure its long-term sustainability for both current and future generations.

Tsunami Inundation

Existing Conditions

According to the National Ocean and Atmospheric Administration (NOAA), the project site is located in a Extreme Tsunami Evacuation Zone on the Tsunami Hazard Map.

A tsunami is a series of water waves caused by displacement of a large volume of water typically caused by earthquakes, volcanic activity, or landslides. There is no tsunami season. A tsunami is an unpredictable event that can happen at any time. Most tsunamis that strike the Hawaiian Islands are generated in the oceanic trenches around the border of the Pacific Ocean. Additionally, the Central Pacific Hurricane season runs from June 1 to November 30.

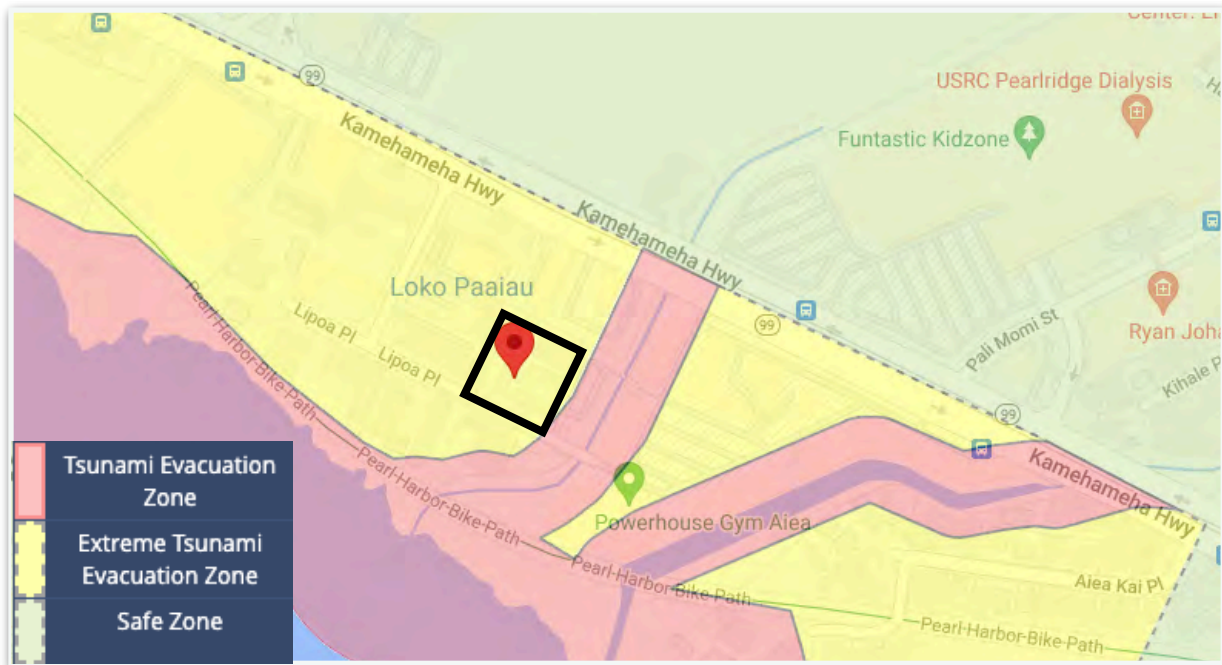


Figure 3-2: Tsunami Hazard Map
Figure 3-4: Tsunami Hazard Map

Source: NOAA

Potential Impacts and Mitigation

The proposed project would not result in any changes to the existing environment that would exacerbate the effects of earthquakes, landslides, flooding, tsunami, therefore, no avoidance, minimization, or mitigation measures are proposed.

Flood Zone

Existing Conditions

The entire project is located entirely in Flood Zone X, as mapped by the Federal Emergency Management Agency. Flood one X corresponds to areas outside the 500-year flood area, and outside of the Special Flood Hazard Area. Chapter 21A, ROH, the Flood Hazard Areas Ordinance is not applicable to properties in Flood Zone X. See *Figure 3-3 3-5* for FEMA map of the project area.

Potential Impacts and Mitigation

The proposed project would not result in any changes to the existing environment that would exacerbate the effects of earthquakes, landslides, flooding, tsunami, therefore, no avoidance, minimization, or mitigation measures are proposed.

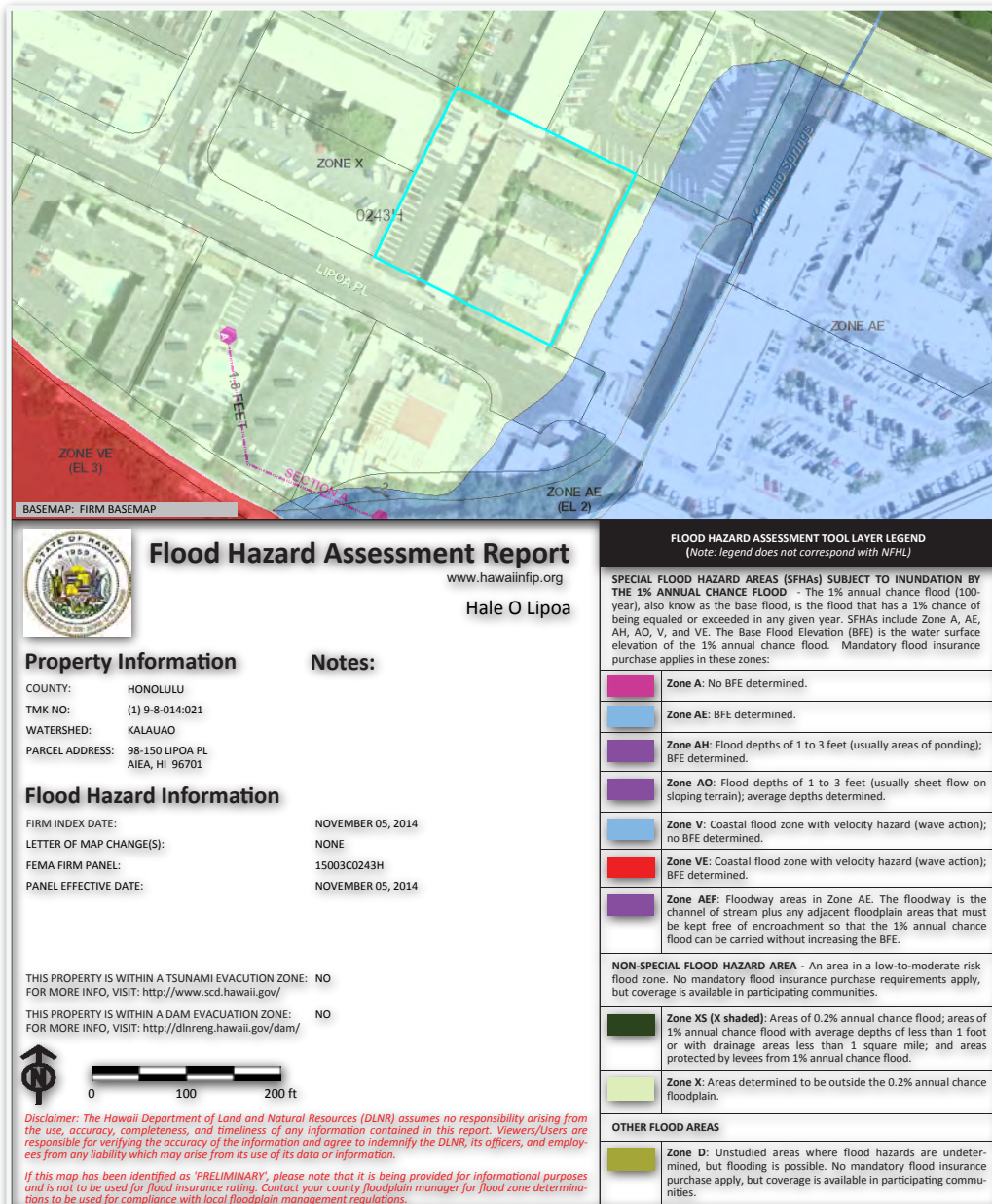


Figure 3-3: Flood Hazard Assessment Report
Figure 3-5: Flood Hazard Assessment Report

Source: FEMA

Special Management Area

Existing Conditions

In Hawaii, the SMA Permit, or Special Management Area Permit, is a requirement for any development activity that falls within the Special Management Area, which is a zone established to protect Hawaii's coastal resources. This area typically extends inland from the shoreline. The SMA

is designated under the Coastal Zone Management Act (CZMA), which is a federal program administered by coastal states.

The Special Management Area Permit process is designed to ensure that any development in the designated area will not have a significant adverse environmental or ecological impact on coastal ecosystems, which include not only the ocean and beaches but also the coral reefs, marine life, and land-based resources like public access and view planes.

The entire project is located within the boundaries of the Special Management Area (SMA) Map. See *Figure 3-4* *3-6*.

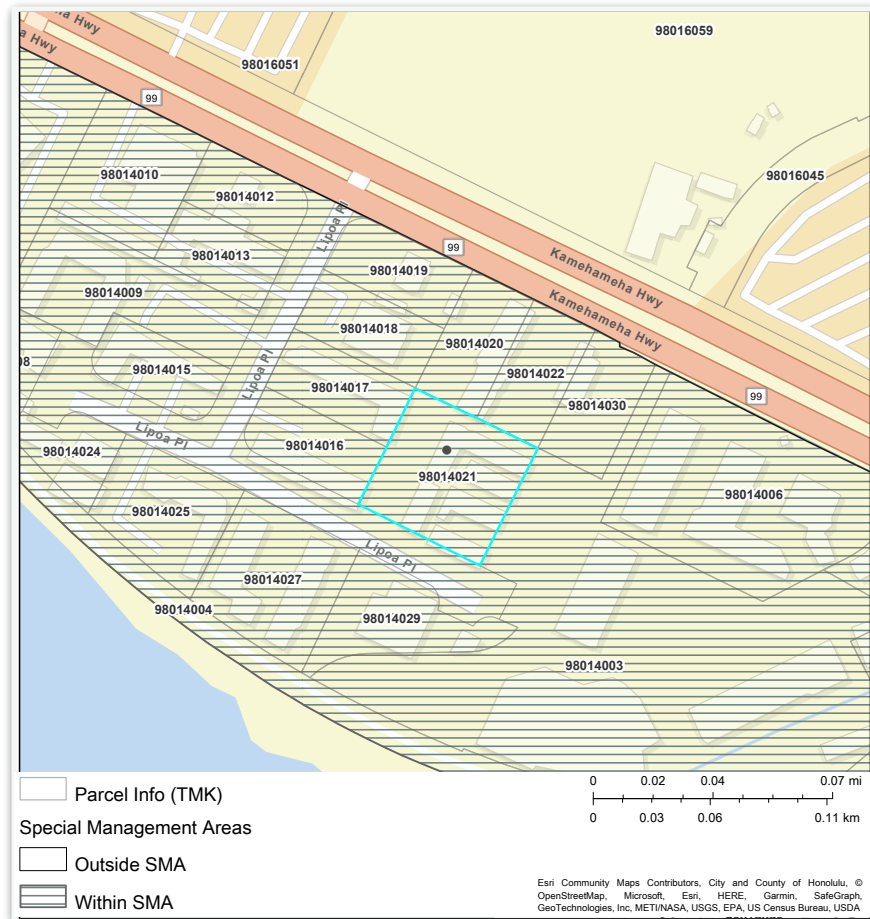


Figure 3-4: Special Management Area Map
Figure 3-6: Special Management Area Map

Source: City & County of Honolulu GIS

Potential Impacts and Mitigation

An SMA permit from the Department of Planning and Permitting (DPP) will be required for the proposed project. For details on how the project is consistent with the Coastal Zone Management Act, see *Section 4.1*.

Sea Level Rise Vulnerability

Existing Conditions

There is a growing awareness as to the impact of sea-level rise (SLR) on Hawaii, particularly in the low-lying coastal areas. According to an article called “Sea Level Rise Hawaii,” the physical effects of SLR may be inundation, erosion, salt intrusion, and drainage problems. The two most significant in terms of potential impacts to the project are inundation and drainage problems. Inundation may cause storm surges, wave over-topping and tsunami inundation resulting in negative impacts for coastal communities and ecosystems. SLR may increase flooding frequency during the life cycle of the proposed project. SLR can create drainage problems if it results in raising the groundwater table and leads to “increased flooding, poor drainage, and storm damage where rainfall and high ocean levels converge.” (Lim and Fletcher 2017).

More recent studies by National Oceanic and Atmospheric Administration (NOAA) suggest that up to 3.2 ft of SLR could occur as early as the year 2060 under extreme scenarios. Under immediate scenarios, however, NOAA predicts 1.5 ft of rise in as early as the 2060s and 3.3 ft of rise by 2100 (Sweet et al. 2017). With uncertainties on the exact projections of SLR associated with greenhouse gas emission trajectories and the behavior of Earth’s cryosphere, the State of Hawai’i Sea Level Rise Report (Hawai’i Climate Change Mitigation and Adaptation Commission, 2017) recommends the State to begin planning now for 3.2 ft of rise.

According to the NOAA Sea Level Rise Viewer, the subject site is located outside of the 3.2-foot SLR inundation area as depicted in *Figure 3-5 3-7*.



Figure 3-5: Sea Level Rise Exposure Map
Figure 3-7: Sea Level Rise Exposure Map

Source: NOAA

Potential Impacts and Mitigation

The proposed project will not impact SLR and no mitigation is required.

3.3.3 Historic and Archaeology Survey

An archaeological review titled Archaeological Literature Review and Field Inspection for the Proposed Hale O Lipoa Development, Kalauao Ahupua'a, 'Ewa District, Island of O'ahu, Hawai'i TMK: (1) 9-8-014:021 was prepared by Keala Pono Archaeological Consulting, LLC in ~~June 2023~~ April 2024.

The study, which covered the project area, is summarized in this section and included in its entirety as *Appendix B*. A summary of the findings of these studies is provided below.

The objectives of this study were to determine the project area's land-use history, to identify any historic properties or component features in the project area, to evaluate the proposed project's potential effect on historic properties, and to make recommendations about mitigation, if applicable. This study is not an archaeological inventory survey (AIS); however, it has been conducted according to standards outlined in Hawai'i Administrative Rules (HAR) § 13-276 for AIS studies, and is intended to assist with the project's compliance with Hawai'i Revised Statutes (HRS) § 6E-8 and consultation with the State Historic Preservation Division (SHPD).

During the pre-contact period, Kalauao Ahupua'a produced valuable resources to sustain its inhabitants. Kalo was cultivated in the marshy coastal lowlands and along major waterways. Three loko were in the project vicinity: Loko Pa'aiau, Loko Opu, and Loko Pa'akea. Historic maps show the project area as located within the boundaries of Loko Opu. These fishponds have long-since been filled-in, along with the surrounding lo'i and ricelands, and developed with modern roads and buildings. A portion of LCA 2494, which was awarded to Julia Kekoa, is shown on historic maps and the Kipuka (n.d.) database, as extending into the northern portion of the current study parcel.

In the post-contact era, sugar cultivation was a driving force for the economy. Extensive cane fields, mills, ditches, the OR&L railroad, and other infrastructure forever changed the 'Ewa landscape. The rice industry also became a profitable endeavor, particularly for Chinese immigrants looking to make their way in Hawai'i. According to historic maps, the vicinity surrounding the current project area was not cultivated in rice until at least the late-19th century. Not much remains in Kalauao of the sugar industry today, but remnants of the OR&L railroad can still be found.

The findings of previous archaeological studies conducted within 1km of the current project support the archival research. The archaeological studies resulted in the identification of three sites in the vicinity of the subject property: SIHP 7150, lo'i deposits; SIHP 9714, an OR&L remnant; and SIHP7567, two historic drainage culverts. Loko Opu (McAllister Site 109/SIHP109) has been shown on historic and modern maps as partially located within the current project area, but has since been filled in. While not in proximity to the current project area, Kuki'iahu (McAllister Site 110), the site of the home of chiefess Kalaimanuia and the site of a famous battle, is of cultural and historical significance to the area in general.

Potential Impacts and Mitigation

The entire subject property is a developed, built environment and has undergone extensive previous disturbance. Thus, it is not likely that any surface archaeological features remain. Nevertheless, archival and previous archaeological research suggest the potential for cultural materials or deposits to be present in subsurface context on the subject property. The cultural

materials and deposits likely to be encountered may include remnants of agricultural activity (e.g., pond field deposits and other features associated with lo'i, rice paddies, and/or sugar cane cultivation and infrastructure), remnants of Loko Opu (e.g., anaerobic deposits and remnants of the fishpond wall), past habitation (e.g., cultural layers and materials associated with LCA 2494), and vestiges of the OR&L railroad.

A program of archaeological monitoring is recommended during ground disturbing construction activities. Specifics of the monitoring program will be delineated in an archeological monitoring plan that will be approved by the SHPD before ground disturbance begins.

3.3.4 Cultural Impact Survey

A Cultural Impact Assessment titled Cultural Impact Assessment for the Proposed Hale O Lipoa Development, Kalauao Ahupua'a, 'Ewa District, Island of O'ahu, Hawai'i TMK: (1) 9-8-014:021 was prepared by Keala Pono Archaeological Consulting, LLC in ~~September 2023~~ April 2024.

The study, which covered the project area, is summarized in this section and included in its entirety as *Appendix C*. A summary of the findings of these studies is provided below.

An examination of traditional and historic land use for Kalauaoas demonstrated in the mo'olelo, historic literature, and archaeological investigations, shows that this area was able to sustain a large population with its plentiful freshwater streams and springs, the harbor rich with marine resources, fishponds lining the coastal region, and cultivated lands just inland. Mo'olelo and 'olelo no'eau also reveal a place abundant in natural resources of both land and sea; a place chosen by ali'i for their residences and seats of government, and where an important battle was fought. As Kalauao was chosen as the primary residence and governing seat of Kalaimanu'ia, the Mō'i Wahine of O'ahu, and the ahupua'a where she commissioned the construction of three large fishponds, this was an ahupua'a of importance in traditional times.

Historically, many of the fishponds along the 'Ewa coast were filled in to make way for commercial endeavors. Sugar cultivation was a driving force for the economy, and cane fields, mills, ditches, the OR&L railroad, and other infrastructure forever changed the landscape. The rice industry also became a profitable endeavor, particularly for Chinese immigrants looking to make their way in Hawai'i. Previous archaeological studies produced limited findings, but provide evidence of the three fishponds, traditional agriculture, and the OR&L railroad in the area.

Cultural Resources, Practices, and Beliefs Identified

Archival research and ethnographic interviews compiled for the current study reveal that Kalauao Ahupua'a and its surroundings were important locations associated with various resources, named people and deities, along with a number of traditional activities. It was a region with a wealth of coastal, marine, and freshwater resources that supported traditional subsistence activities such as aquaculture and traditional agriculture. A number of the named places adjacent to the project were associated with the natural environment, such as plants, trees, streams, and coral beds. Hence, daily life revolved around both the procurement of marine resources, as well as harvesting of kalo, 'uala, and 'ulu from cultivated lands just inland from the coast.

With regard to cultural practices and beliefs, the findings of this study reflect the cultural significance of natural resources, especially clean, freshwater for use in traditional agriculture and aquaculture. The findings of this study also focused on the important role aquaculture played in traditional lifeways, and specifically the three fishponds constructed in Kalauao through the efforts of Kalaimanu'ia to feed her people and to impart cultural values upon them.

Potential Impacts and Mitigation

Although no traditional cultural practices or cultural resources were identified within the project area, traditional cultural practices are currently being conducted on lands immediately adjacent to the project area and in the vicinity. Importantly, interviewees stated that the proposed project area is located within Loko Opu, a filled fishpond and mentioned nearby fishpond reconstruction efforts and a native farm and lo'i kalo.

While the proposed project is not expected to block access to traditional gathering places or fishing grounds, it does have the potential to affect natural and cultural resources located within and adjacent to the project, as well as affect natural and cultural resources in the area. Awareness of this should be at the forefront to prevent any adverse effects from occurring as a result of this development. Impacts identified by interviewees focused on those related to fresh water resources. Impacts to lo'i kalo and farming, limu, and interference with the stream were specific concerns raised by the interviewees. One interviewee voiced concerns regarding the size, nature, and location of the proposed development.

Mitigation to the impacts include implementing native plant landscaping in the project, integrating cultural elements into the project's architecture, and ensuring no adverse impacts to harbor waters and shoreline. Information describing the ways in which the project will demonstrate mitigation of the concerns for impacts to the water sources in the area is contained in Section 3.3.2. The applicant will work with community-based organizations, such as the Aiea Community Association, neighborhood board, Ali'i Hawaiian Civic Club, among others, to facilitate outreach and appropriate incorporation of the significant cultural elements into the design of the proposed project. The goals would be to highlight the historic and cultural significance of the area through certain design elements throughout the project to provide both education and recognition.

3.3.5 Traffic

A Traffic Impact Analysis Report (TIAR) was prepared by Fehr & Peers in ~~September, 2023~~ May 2024. The study, which covered the project area, is summarized in this section and included in its entirety as *Appendix D*. A summary of the findings of these studies is provided below.

Existing Conditions

The project site is located within ½ distance of a major transit stop that serves several bus routes to/from the neighboring communities. Sidewalks, crosswalks, and pedestrian facilities are available connecting the proposed project to the nearby bus/rail stations. While there are no dedicated bike facilities along the Kamehameha Highway, the project residents can travel to nearby destinations using the Pearl Harbor Bike Path.

Intersection operations at Kamehameha Highway and Pearl Harbor were evaluated as part of this report. The intersection was calculated to operate at LOS A during the existing conditions. While the westbound traffic into Lipoa Place was calculated to operate at an undesirable LOS, the queues

on this movement were observed to clear during each cycle. Overall, no significant pedestrian, bike, transit, or auto operation deficiencies were found within the study area.

Future Traffic Conditions Without Project

To evaluate the potential impacts of traffic generated by the proposed project on the surrounding street system, baseline future conditions in the area were developed to reflect traffic increases and network changes due to regional growth and development. Based on the review of several planning documents in the area, no additional changes were identified to be constructed before the implementation of the proposed project. Pedestrian, bicycle, transit, and auto modes were evaluated under the Baseline Year 2027 and all facilities were estimated to continue operating at a similar level under existing conditions

Future Traffic Conditions with Project

The transportation network was evaluated with the addition of the proposed projects. The proposed project is calculated to generate approximately 356 net new trips including 25 trips (8 inbound/ 17outbound) during the morning peak hour and 23 trips (15 inbound / 8 outbound) during the evening peak hour. The findings of this report indicate no significant impact from the implementation of the proposed development. Additionally, the construction of the proposed development should not preclude the implementation of any potential enhancements to walking, biking, transit, or auto facilities.

Recommendations and Conclusions

Site Access & Circulation

Access to the sire will be provided via a new driveway on the east side of the project site and an existing driveway on the west side of the project site on Lipoa Place. Given the relatively low site-generated peak hour traffic volumes, as well as the low volume on Lipoa Place, no need for separate turn lanes on Lipoa Place was identified. The proposed driveway on Lipoa Place is recommended to be operated as a stop-controlled driveway.

Parking

The project proposed to provide 150 parking spaces including accessible parking and reserved parking stalls for car-sharing services. The site will also include 30 short-term bicycle parking off of the sidewalk fronting the building and 62 long-term parking stalls within the parking structure. ~~for short term and long term uses along the southern edge of the site.~~ Considering that the project site is located within the vicinity of a major bus stop and rail station, the proposed number of parking spaces is identified to be sufficient to serve the project site.

Transportation Demand Management (TDM)

The proposed project includes the allocation of designated parking stalls for car-sharing services. It is recommended that the developer provide information in a tenant-accessible common area about the car-sharing program, instructing individuals on how to utilize the service. This information should also include information on available transit options, as well as micro-mobility (e.g., bike and e-bikes). This will serve to encourage people to choose shared transportation

options, thereby reducing the reliance on private vehicles and alleviating congestion on the roads. By facilitating convenient access to car-sharing services, this measure promotes sustainability, enhances efficiency, and contributes to a more streamlined and eco-friendly transportation system within the area.

3.3.6 Noise Environment

Potential Impacts and Mitigation

Operation of construction equipment will temporarily elevate ambient noise and concentrations of exhaust emission in the immediate vicinity of the project site. Appropriate mitigation efforts will occur, including notifying the community of anticipated activities as necessary.

The State DOH administers rules and regulations relating to hours during which construction is permitted and the noise levels permitted during those hours. The contractor will be required to abide by the noise regulations.

Long-term noise impact from the proposed development is expected to be minimal and the minimal increase in traffic projected. Operation of the proposed project will have no significant impact on ambient noise levels in the vicinity.

3.3.7 Air Quality and Hazardous Materials

Potential Impacts and Mitigation

The proposed project will have short-term and long-term effect on ambient air quality. During grading and excavation, dust will be generated however fugitive dust is generally controlled by frequent watering and perimeter screening. Best management practices will be used to ensure that dust control during demolition of the existing paving and during construction of the new building are kept to a minimum. These impacts are typical of any new construction project.

3.3.8 Biological Characteristics

Flora

As the subject property is entirely developed, containing an apartment complex and associated parking lot, the topography is relatively flat and contains sparse vegetation primarily comprised of landscaped ornamentals. No rare or endangered species of flora were identified on the site.

Potential Impacts and Mitigation

The proposed project will not adversely impact flora in the area and no mitigation is required.

Fauna

The site does not serve as a wildlife habitat although avifauna, feral cats, and rodents may be found on-site.

Potential Impacts and Mitigation

According to the US Fish and Wildlife Service, the Hawaiian hoary bat roosts in woody vegetation across all islands and will leave their young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller during the pupping season, June 1 through September 15, there is a risk that young bats could inadvertently be harmed or killed, since they are too young to fly or

move away from disturbance. Hawaiian hoary bats forage for insects from as low as 3 feet to higher than 500 feet above the ground and can become entangled in barbed wire used for fencing.

To avoid and minimize impacts to the endangered Hawaiian hoary bat, the United States Fish and Wildlife Service recommends the developer incorporate the following applicable measures into the project description:

- Do not disturb, remove, or trim woody plants greater than 15 feet tall during the bat birthing and pup rearing season (June 1 through September 15)
- Do not use barbed wire for fencing.

Hawaiian seabirds may traverse the project area at night during the breeding, nesting and fledging seasons (March 1 to December 15). Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality. Seabirds are attracted to lights and after circling the lights they may become exhausted and collide with nearby wires, buildings, or other structures or they may land on the ground. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators. Young birds (fledglings) traversing the project area between September 15 and December 15, in their first flights from their mountain nests to the sea, are particularly vulnerable to light attraction.

To avoid and minimize potential project impacts to seabirds United States Fish and Wildlife Service recommends the developer incorporates the following measures into the project description:

- Fully shield all outdoor lights so the bulb can only be seen from below.
- Install automatic motion sensor switches and controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.
- Avoid nighttime construction during the seabird fledging period, September 15 through December 15.

3.3.9 Infrastructure and Utilities

Construction Management & Engineering completed a Preliminary Engineering report on ~~September 21th, 2023~~ April 23, 2024. The study, which covered the project area is included in its entirety as *Appendix E*.

Water System

Existing Conditions

Water service connections within the project area are provided by the Honolulu Board of Water Supply (BWS). The BWS water system comprises an 8-inch water line extending east to west along Lipoa Place, a 12-inch water line extending north to south along Lipoa Place, and a 12-inch water line extending east to west along Kamehameha Highway. The existing project site connects to the 8-inch water line along Lipoa Place through a water lateral line on the southern portion of the project site, where the water meter servicing the project site is located. The BWS water system is adequate for the project water service and fire protection. The existing water system surrounding the project area is illustrated in *Figure 3-6 3-8*.

The domestic consumption based on the BWS 2022 Water System Standards assumes an average daily demand of 400 gallons per unit for multi-family low rises. The average daily demand for the existing project site, which consists of six (6) two-story apartment buildings with 48 units, is 19,200-gpd. Refer to Table 3-1 to view the domestic consumption for each phase.

Potential Impacts and Mitigation Measures

A pre-consult letter from Ernest Y.W. Lau, P.E., from the Board of Water Supply, dated May 15, 2023, states that the existing water system is adequate to accommodate the proposed affordable housing project. The proposed development will connect to the 8-inch water line extending east to west along Lipoa Place through the existing 6-inch water lateral line and water meter on the southern portion of the project site. The final decision on water supply availability will be confirmed when the building permit application is submitted for approval, pending evaluation of the water system conditions at that time on a first-come, first-served basis.

The domestic consumption based on the BWS 2022 Water System Standards assumes an average daily demand of 300 gallons per unit for multi-family high rises. The estimated average daily demand for the new 153-unit affordable apartment complex is 45,900-gpd. The average daily water demand by phase is summarized in Table 3-1 below.

Table 3-1: Summary of Average Daily Water Demand					
<u>Phase</u>	<u># of Units Existing</u>	<u># of Units Demolished</u>	<u># of Units Added</u>	<u>Total # of Units</u>	<u>Avg. Daily Demand (gpd)</u>
<u>Existing</u>	<u>48</u>	<u>N/A</u>	<u>N/A</u>	<u>48</u>	<u>19,200</u>
<u>New</u>	<u>N/A</u>	<u>48</u>	<u>153</u>	<u>153</u>	<u>45,900</u>

The BWS Aiea-Halawa water system capacity has been reduced due to the shut-down of the Aiea Wells and Halawa Wells pumping station as a proactive measure to prevent fuel contamination from the Navy’s Red Hill Bulk Storage Tank fuel releases. The BWS is drawing water from its other sources to account for this reduction in the water system capacity.

As a result of the reduced BWS Aiea-Halawa water system capacity, BWS requests 10% voluntary water conservation of all customers until new sources are completed and require water conservation measures in all new developments. If water consumption significantly increases, progressively restrictive conservation measures may be required to avoid low water pressures and disruptions of water service. Therefore, the proposed affordable housing development will utilize water conservation measures such as the utilization of non-potable water for irrigation using rain catchment, drought tolerant plants, xeriscape landscaping, efficient irrigation systems, such as a drip system and moisture sensors, and the use of Water Sense labeled ultra-low flow water fixtures and toilets.

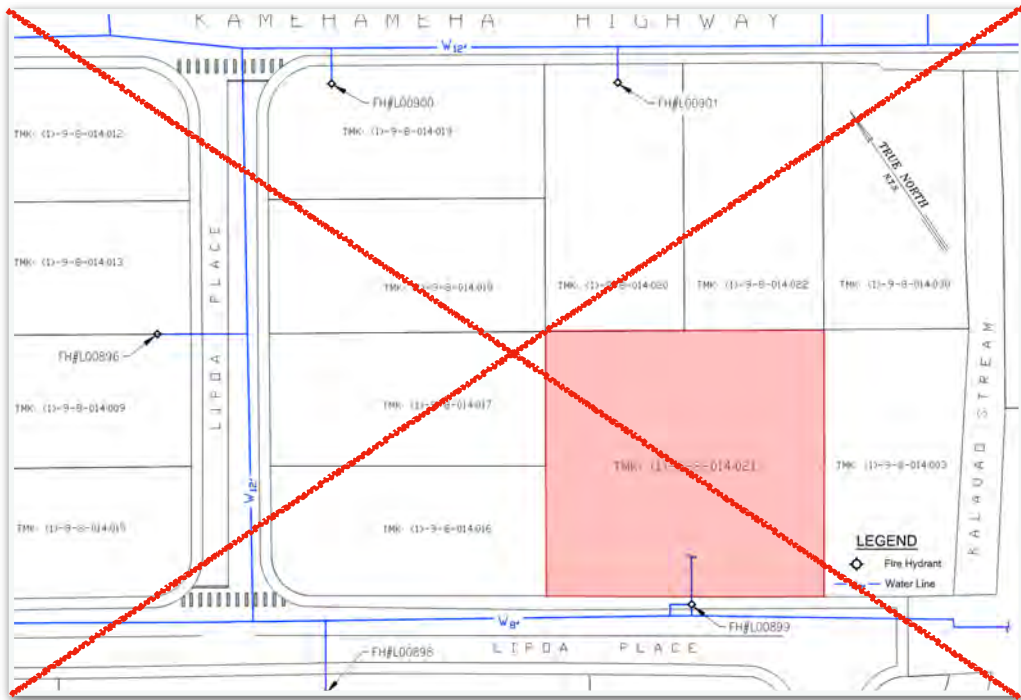


Figure 3-6 Existing Water System

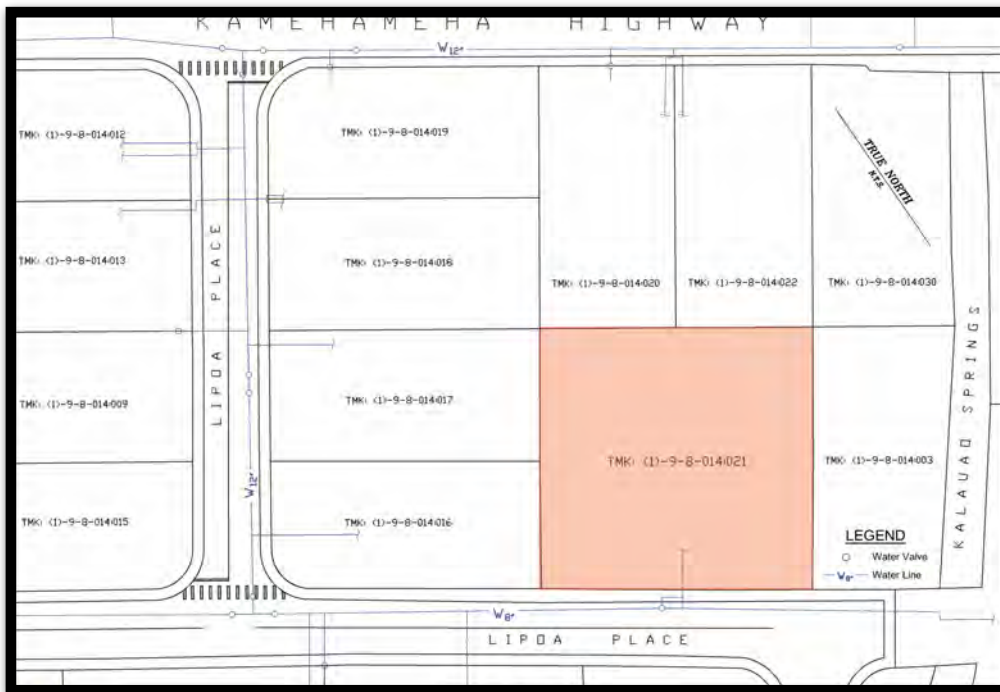


Figure 3-8 Existing Water System

Source: Construction Management & Engineering LLC

Fire Protection

Existing Conditions

The Honolulu Fire Department (HFD) comprises the Administrative Services Bureau, Fire Operations, Planning and Development, and Support Services. The Administrative Services Bureau manages the HFD's operating budget and procurement-related programs. The Fire Operations division is responsible for the majority of the activity in the HFD, including emergency responses for the island of Oahu. The Planning and Development division oversees the Department's strategic planning, emergency communications, public education, and information technology systems. The Support Services division oversees the Fire Prevention Bureau and the Training and Research Bureau under the direction of an Assistant Chief.

The nearest fire station to the project site is the Aiea Station (Fire Station 10), located approximately 1.3 miles north east of the project site on Ulune Street. Approximately 1.9 miles northwest of the project site on the corner of Komo Mai Drive and Ka'ahumanu Street is the Waiiau Station (Fire Station 38), the second closest to the project site. The third nearest fire station to the project site is the Pearl City Station (Fire Station 20), located approximately 2.3 miles northwest of the project site on the corner of Lehua Avenue and 1st Street.

The closest fire hydrant (Fire Hydrant No. L00899) is located on the southern portion of the project site, adjacent to Lipoa Place. Fire Hydrant No. L00899 connects to the existing 8-inch water line along Lipoa Place in the east-to-west direction. An additional fire hydrant (Fire Hydrant No. L00898) is located approximately 180 feet southwest of the project site along Lipoa Place in the east-to-west direction and connects to the same 8-inch water line as Fire Hydrant No. L00899. Three (3) additional fire hydrants are located nearby: Fire Hydrant Nos. L00896, L00900, and L00901. Fire Hydrant No. L00896 is located approximately 265 feet west of the project site along Lipoa Place in the north-to-south direction, while Fire Hydrant Nos. L00900 and L00901 are located approximately 270 feet northwest and 210 feet north of the project site, respectively, along Kamehameha Highway. The locations of the mentioned fire hydrants are shown in *Figure 3-7 3-9*.

According to a pre-consult letter from Ernest Y.W. Lau, P.E. from the Board of Water Supply (BWS) dated May 15, 2023, Fire Hydrant No. L00899 has a static pressure of 116 pounds per square inch (psi), a residual pressure of 74 psi, and a flow rate of 2,000 gallons per minute.

Potential Impacts and Mitigation Measures

~~The proposed affordable housing project is not expected to adversely affect existing or future fire protection services to the public. Design drawings for the new affordable housing development will be submitted to the HFD for review and approval. The development will be designed to conform to the City and State Fire Codes as well as the National Fire Protection Association (NFPA) Fire Code. The required building access, fire access roads, vehicle spacing clearances, fire hydrant location, water supply, and fire sprinkler protection will be provided. During site preparation and construction of the project, emergency vehicle access will be maintained at all times in accordance with Federal, State, and City regulations. The development will be designed to conform to the City and State Fire Codes as well as the National Fire Protection Association (NFPA) 1 Fire Code. The required building access, fire access roads, vehicle spacing clearances, fire hydrant location, water supply, and fire sprinkler protection will be provided.~~

The fire department access road for the proposed project is the Lipoa Place right of way, which meets the required road width, vertical clearance, and turning radius per NFPA 1. The fire

department access road, Lipoa Place, is located less than 20 feet from one (1) exterior door that can be opened from the outside and provides access to the interior of the building, where the subject exterior door is located by the pedestrian entry and residential lobby. The proposed affordable apartment complex will be protected throughout with an approved automatic sprinkler system installed in accordance with the NFPA 13 Fire Code. Therefore, Lipoa Place is located within the required distance 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 450 feet from fire department access roads as measured by an approved route around the exterior of the building. Note that the required distance of 450 feet has been revised from the initial requirement of 150 feet, but it is permitted per NFPA 1 since the building will have an automatic sprinkler system installed throughout. An approved water supply capable of supplying the required fire flow for fire protection will be provided in accordance with NFPA 1. Civil drawings for the new affordable housing development will be submitted to the City and County of Honolulu Department of Planning and Permitting (DPP) and routed to HFD for review and approval. During site preparation and construction of the project, emergency vehicle access will be maintained at all times in accordance with Federal, State, and City regulations.

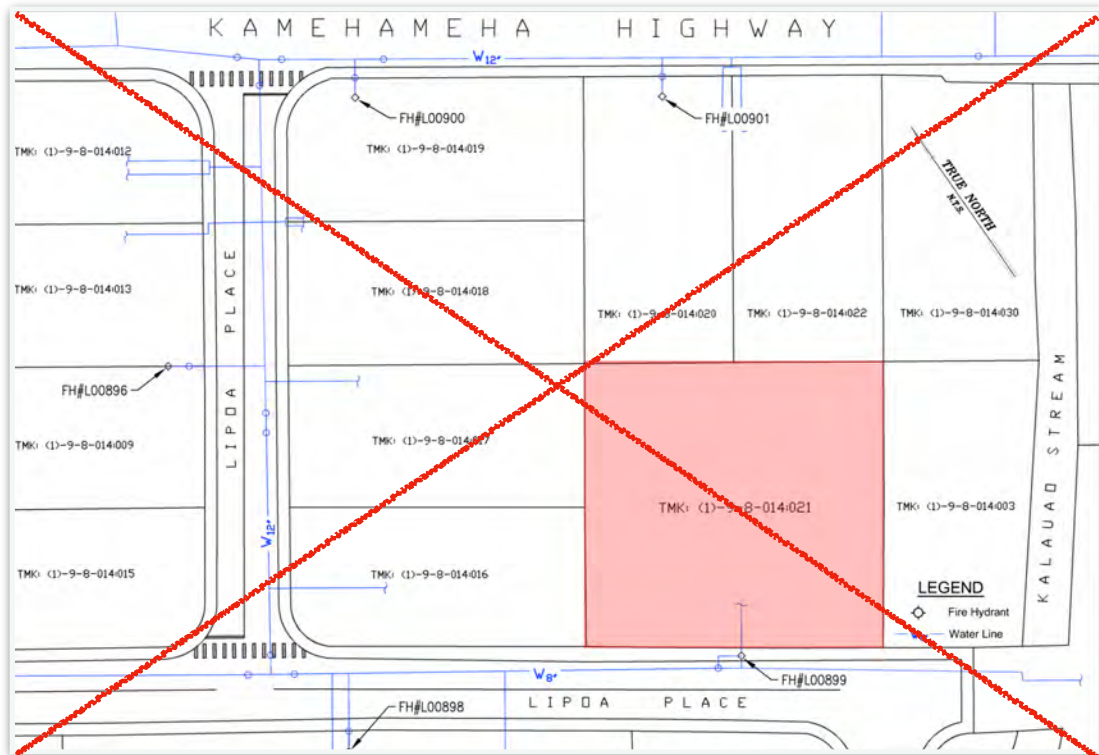


Figure 3-7: Fire Protection

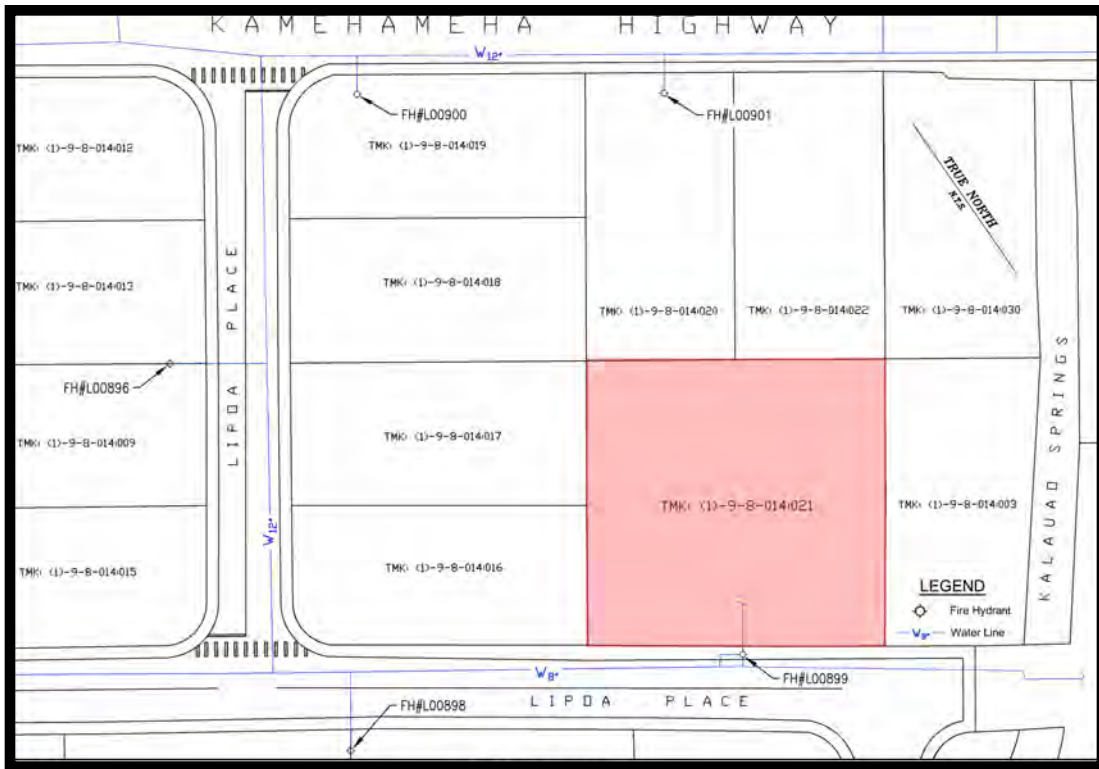


Figure 3-9: Fire Protection

Source: Construction Management & Engineering LLC

Wastewater System

Existing Conditions

The wastewater system within the project area is serviced by the City's wastewater collection system and is within the Honouliuli Wastewater Basin of the West Mamala Region. Sewage from the existing project site, which consists of a forty-six (46) stall parking lot and six (6) two (2) story apartment buildings with a total of 48 units, is conveyed to the Honouliuli Wastewater Treatment Plant, where it is treated. The wastewater system comprises an 8-inch main sewer line extending east to west between the northern portion of the project site and adjacent properties (parcels 9-8-014-020 and 9-8-014-022). The existing project site provides sewer service by connecting to the 8-inch main sewer line through three (3) 6-inch sewer lateral lines on the northern portion of the project site, where one (1) sewer lateral line is located northwest of the project site, one (1) sewer lateral line is located north-northeast of the project site and one (1) sewer lateral line is located northeast of the project site. The existing wastewater system surrounding the project area is illustrated in *Figure 3-8 3-10*.

The base sanitary flow (BSF) for the existing project site is 9,408 gallons per day (gpd). This is based on an average daily per capita wastewater flow of 70 gallons per capita per day (gpcd) and 2.8 persons per apartment unit, as outlined in Section 2.2 – Quantity of Wastewater of City and County of Honolulu Wastewater System Design Standards dated July 2017. Refer to Table 3-2 to view the BSF by phase.

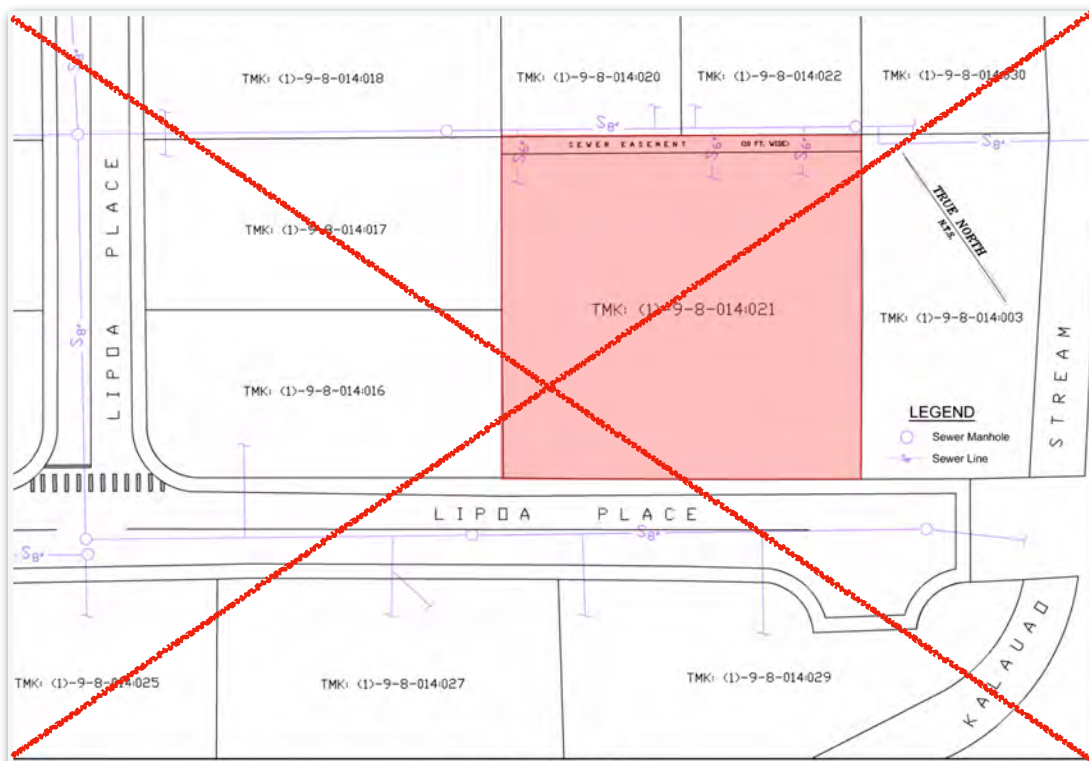


Figure 3-8: Wastewater

Source: Construction Management & Engineering LLC

Potential Impacts and Mitigation Measures

The proposed affordable housing project will increase the wastewater flow from the project site due to the increased number of people that will be occupying the site, where residents will live

within the proposed six (6) floor, 153-unit apartment complex. However, the existing wastewater system will be sufficient in conveying the increased wastewater flow from the proposed apartment complex. The proposed development will connect to the 8-inch main sewer line through the existing three (3) 6-inch sewer lateral lines on the northern portion of the project site. The BSF of the proposed affordable housing project will be 29,988-gpd. The BSF by phase is summarized in Table 3-2 below.

Table 3-2: Summary of Base Sanitary Flows (BSF)					
Phase	# of Units Existing	# of Units Demolished	# of Units Added	Total # of Units	BSF (gpd)
Existing	48	N/A	N/A	48	9,408
New	N/A	48	153	153	29,988

A Sewer Connection Application No. 2023/SCA-0514 was approved by the Wastewater Branch on May 4, 2023. See *Appendix H* for the Sewer Connection Application. The estimated wastewater system facility charge is \$490,907.20, although the City reduces wastewater system facility charges for low-income housing projects. The City shall reduce the charges only for those housing units sold or rented at affordable levels. The proposed affordable housing project will stay within the City's 201H guidelines and affordability restrictions, as 51% of the units will be affordable to low and moderate income households for a period of at least 61 years. However, the final decision on the reduction of wastewater system facility charges will be confirmed when the building permit application is submitted for approval.

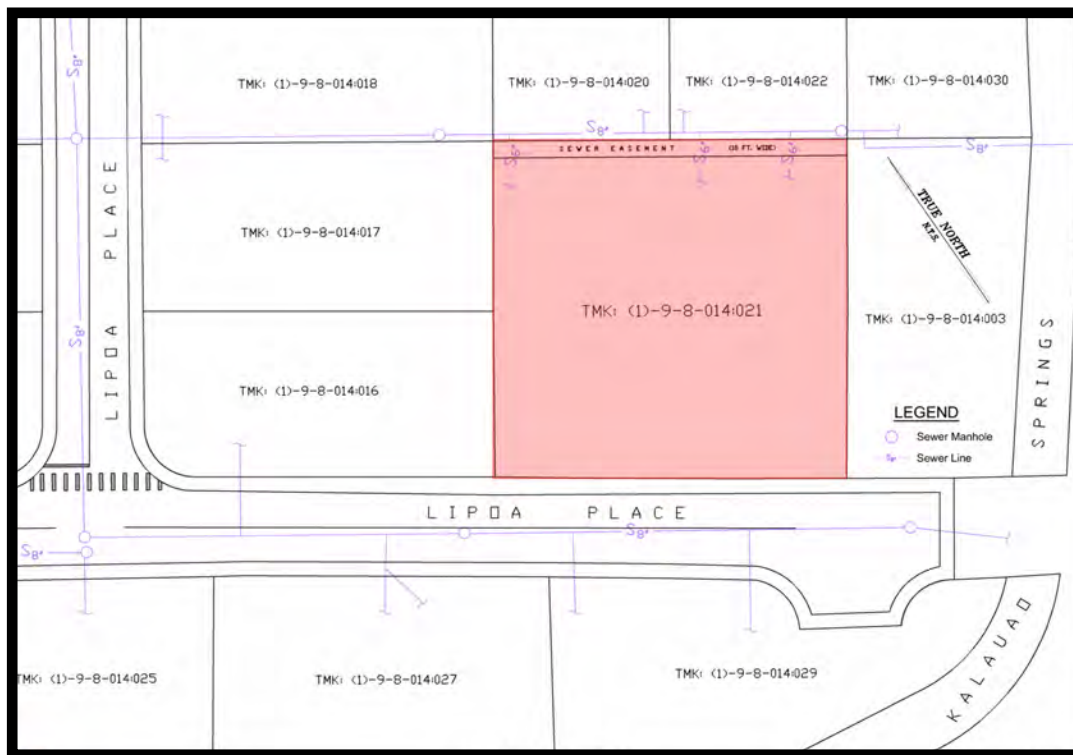


Figure 3-10 Wastewater

Source: Construction Management & Engineering LLC

Gas System

Existing Condition

Hawaii Gas provides gas service within the project area. The existing gas system within the project area comprises a 0.75-inch and 1-inch gas line within the project site and a 2-inch gas line along Lipoa Place in the east-to-west direction. The existing project site provides gas service by connecting to the 2-inch gas line along Lipoa Place through the 0.75-inch gas line on the southern portion of the project site. The 0.75-inch gas line then runs through the center of the project site towards the northern portion of the property to connect to the 1-inch gas line. Refer to *Figure 3-9 3-11* for more detail on the existing gas lines.

Proposed Condition

Gas is not planned to be used in the proposed affordable housing project. Therefore, the proposed development will abandon the active gas lines within the project site by capping off the existing 0.75-inch gas line at the southern portion of the project site for no use.

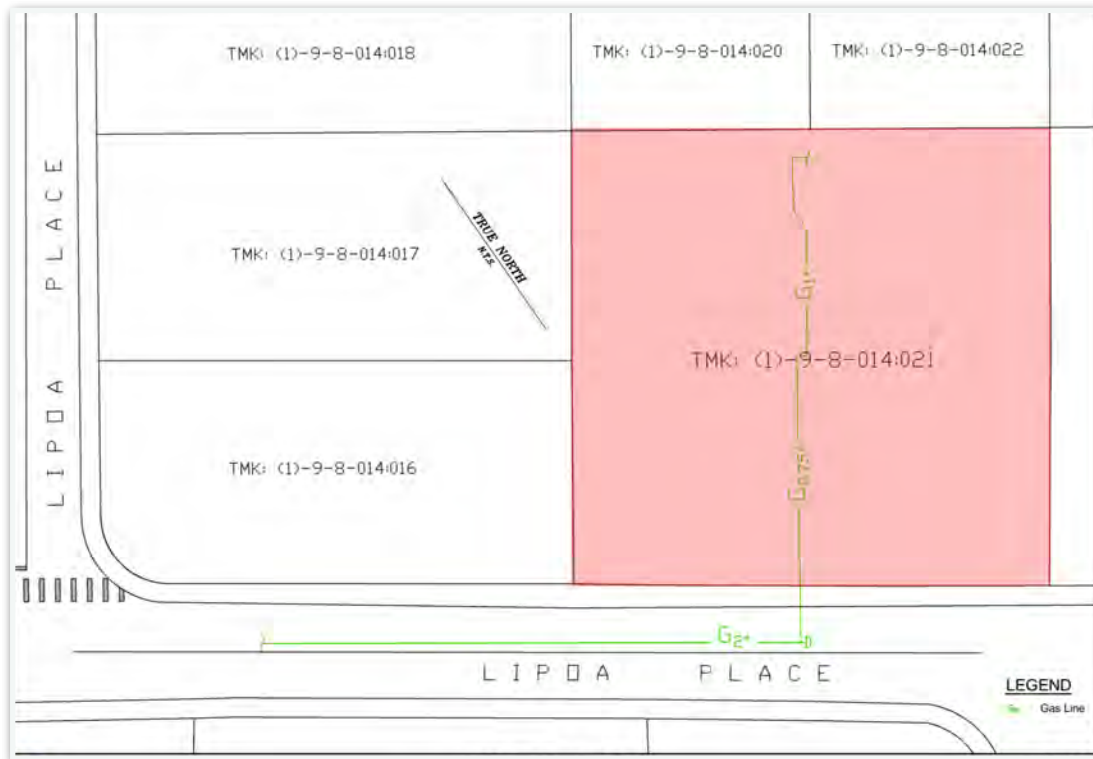


Figure 3-9: Existing Gas Lines
Figure 3-11: Existing Gas Lines

Source: Construction Management & Engineering LLC

Drainage System

Existing Conditions

The drainage system within the project area consists of a drainage ditch extending east to west between the northern portion of the project site and adjacent properties (parcels 9-8-014:020 and 9-8-014:022) and one (1) stormwater catch basin at the intersection of Lipoa Place, along Lipoa Place in the east-to-west direction. Stormwater runoff from the project site either flows north towards the drainage ditch or south towards Lipoa Place.

Stormwater runoff flowing north from the project site is collected within the drainage ditch and flows east toward the channel inlet at Kalauao Stream Springs, where the Kalauao Stream Springs runs in the north-to-south direction. The runoff continues to flow south along the Kalauao Stream Springs until discharged into East Loch Pearl Harbor. Stormwater runoff flowing south from the project site is collected on the concrete gutter along Lipoa Place in the east-to-west direction and flows west toward the drainage catch basin at the intersection of Lipoa Place. The drainage catch basin is connected to an 18-inch drain line that runs east to west under Lipoa Place, which connects to a 24-inch drain line after the intersection at Lipoa Place, heading westbound. Runoff then flows south through a 60-inch drain line located between parcels 9-8-014:005 (west of the stormwater conduit) and 9-8-014:008 (east of the stormwater conduit), to be discharged into East Loch Pearl Harbor. Refer to *Figure 3-10 3-12* for more detail on existing drainage conditions.

Potential Impacts and Mitigation Measures

The proposed affordable housing project will meet the water quality standards for the City and County of Honolulu. The drainage improvements for the proposed Priority Project are anticipated to minimize stormwater discharge rates from the project site. The Priority Project is proposed to include Post-Construction Best Management Practices such as such-surface infiltration, permeable pavements, biofilters, or alternative treatments depending on available infiltration rates. The development is proposed to include site design strategies that will minimize the overall impervious area of the site and direct stormwater runoff to areas and/or structures designed to remove pollutants. The proposed development will include operations and structures that will help to prevent trash, food waste, oil, and grease from encountering stormwater runoff and thus prevent those pollutants from entering East Loch Pearl Harbor. During site preparation and construction of the proposed project, Best Management Practices around the perimeter of the project site, at the drainage ditch, and at the drainage catch basins along Lipoa Place shall be implemented to minimize adverse effects.

Source: Construction Management & Engineering LLC

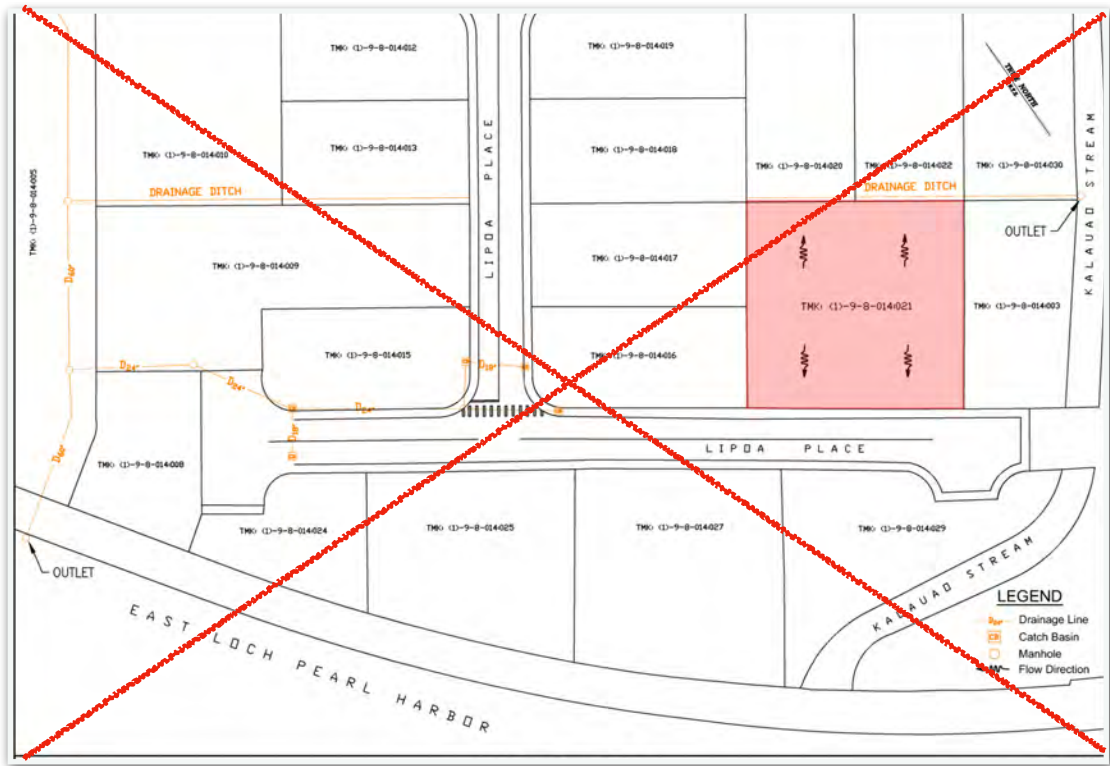


Figure 3-10: Existing Drainage

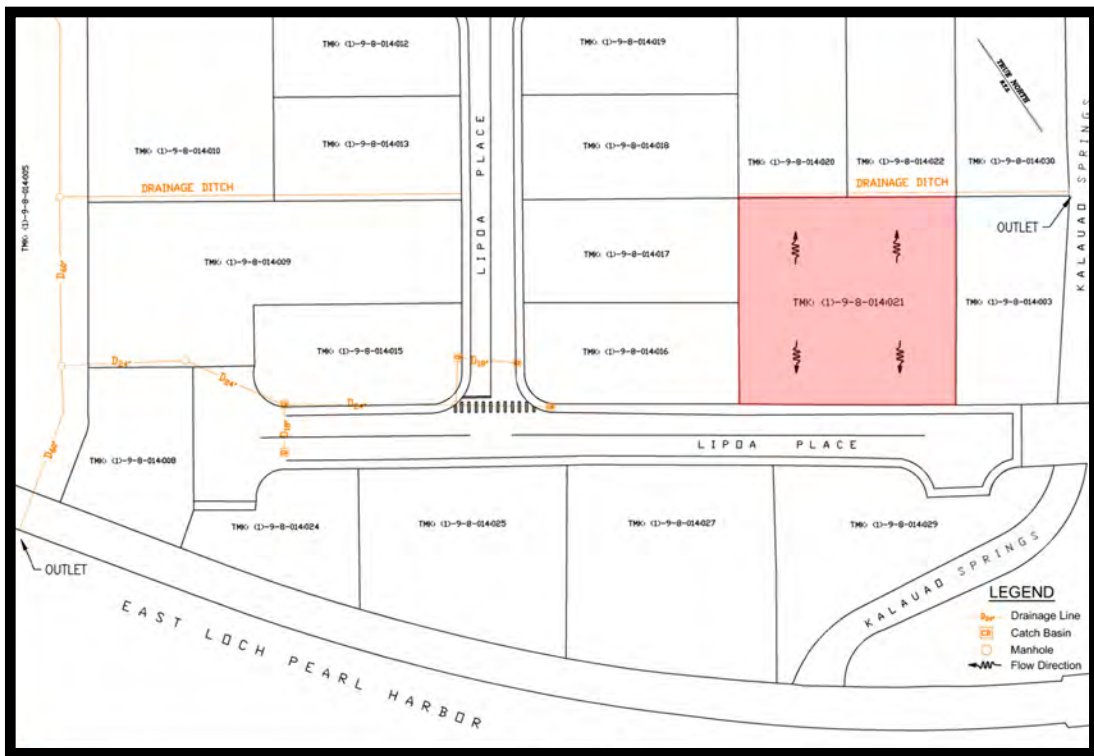


Figure 3-12 Existing Drainage

Source: Construction Management & Engineering LLC

Parking & Loading Activities

Existing Conditions

Fronting the project site is Lipoa Place, a two-way, two-lane City and County of Honolulu right of way. Traffic along Lipoa Place travels in the east-to-west directions near the project site. The existing apartment complex has one (1) entry and exit driveway along Lipoa Place with forty-six (46) on-site standard parking stalls. On-street parking is allowed on both sides of the street along Lipoa Place in east-to-west and north-to-south directions, but no loading zones are indicated. However, approximately sixty (60) feet from the southeast corner of the project site does not allow adjacent on-street parking between 6:00 AM and 6:00 PM. Parking is also unavailable at the intersection of Lipoa Place, which meets east-to-west and north-to-south directions, and in front of property driveway entrances along Lipoa Place.

Proposed Conditions

The proposed affordable housing project will comprise a two-story parking structure for all parking and loading activities. The parking structure will allow two-way traffic for passenger vehicles and small to medium-sized delivery vehicles entering and exiting through either of the two (2) driveways on the first (1st) level along Lipoa Place, where the driveway southwest of the property contains a 24-foot-wide opening, and the driveway southeast of the property contains a 19.67-foot-wide opening.

The first (1st) level, as illustrated in *Figure 3-11 3-13*, will also include 57 standard parking stalls, seven (7) compact parking stalls, six (6) electric vehicle (EV) parking stalls, five (5) Americans with Disabilities Act (ADA) parking stalls, ~~78~~ 62 long-term bicycle parking stalls, ~~45~~ 30 short-term bicycle stalls, a loading area, and a ramp to access the second (2nd) level. Most standard parking stalls will be available along the top-side and right-side perimeter of the property, while the remaining standard parking stalls will be available adjacent to both exit stairs. Compact, ADA, EV, and long-term bicycle stalls will be available adjacent to the residential lobby, utility room, and offices. Of the 62 long-term bicycle stalls, 23 bicycle stalls will be available on the southern portion of the property adjacent to the EV stalls, and the remaining 39 bicycle stalls will be available centrally of the parking structure adjacent to the utility room and ADA stalls. ~~A two-stack bicycle parking system will be utilized for the long-term bicycle stalls.~~ Off the side walk along Lipoa Place and adjacent to the outdoor plaza, ~~45~~ 30 short-term bicycle stalls will be available for guests. Four (4) of the six (6) EV stalls will be common area “EV-ready” stalls, and the remaining two (2) EV stalls will be common area EV stalls with Level Two (2) minimum of 32 Ampere Electric Vehicle Service Equipment (EVSE) installed. “EV-ready” is a parking space served by sufficient wire, conduit, electrical panel capacity, overcurrent protection devices, and suitable termination points to connect to a future EV charging station. EVSE supplies electricity to recharge all-electric vehicles or plug-in hybrid electric vehicles, which are EV charging stations, electric recharging points, or just charging points. Similarly, as illustrated in *Figure 3-12 3-14*, the second (2nd) level will include 71 standard parking stalls and four (4) tandem parking stalls. Tandem parking is when two (2) or more parking spaces are stacked, one (1) in front of the other, where the tandem parking stall is the stall in front of the standard stall. Thus, the car in the tandem parking stall (front) can not get out unless the car in the standard parking stall (behind) moves first. The tandem parking stalls will be available on the top portion of the second (2nd) parking level. Of the 71 standard parking stalls allocated for the second (2nd) level, 28 stalls will be located on the parking structure’s ramp. The remaining standard stalls will be available adjacent to the ramp and along the right-side perimeter of the parking structure.

All parking stalls will be eight (8) feet three (3) inches wide, except for ADA van-accessible and EV-accessible stalls. The ADA van-accessible stall will have a minimum width of 11 feet, and the EV-accessible stall will have a minimum width of 16 feet. Access aisles will be installed adjacent to all ADA stalls and marked with a minimum width of five (5) feet. ~~However, the EV accessible stall will be 16 feet wide to provide a “large stall” that consists of the stall and access aisle combined, and it is recommended that the access aisle not be marked, given that the charging inlet location varies from vehicle to vehicle.~~ Furthermore, all parking stalls will be 18 feet long, except for compact stalls, which will be 16 feet long. All parking stalls will also have an allowable maximum height of 11 feet.

The apartment complex’s 56.5-foot-length by 25.67-foot-width loading area is located on the left side of the property and can be accessed through both driveways. Two (2) loading stalls will be provided for vendors and maintenance personnel, where one stall will be reserved for small-sized delivery vehicles (i.e., 18-foot-length by 7-foot-width passenger cars) and the other will be reserved for medium-sized delivery vehicles (i.e., 30-foot-length by 8-foot-width single-unit trucks). The loading stall for small-sized delivery vehicles will be measured 18-foot-length by 9-foot-width, while the other loading stall for medium-sized delivery vehicles will be measured 36-foot-length by 12-foot-width. An additional 16.5-foot-length by 8.33-foot-width loading stall will be provided adjacent to residential lobby elevators for ride share to drop off and pick up residents and visitors. Vehicles will be able to enter the covered parking lot facing forward and exit onto Lipoa Place in the same orientation through either of the two (2) driveways. Moreover, the loading area will have an increased height of 22 feet to accommodate refuse vehicles to perform their operations of automated cart collection without interruption. ~~These vehicles will be able to enter the covered parking lot facing forward and exit onto Lipoa Place in the same orientation through either of the two (2) driveways. In addition, the loading area will have an increased height of 22 feet to accommodate refuse vehicles to perform their operations of automated cart collection without interruption.~~ However, large-sized delivery vehicles (i.e., 55-foot-length by 8.5-foot-width intermediate semi-trailers) will not be able to enter and exit the covered parking lot the same way small to medium-sized vehicles will be able to. Consequently, large-sized delivery vehicles must utilize the on-street parking areas along Lipoa Place adjacent to the apartment complex to avoid the apartment complex’s structural columns and parking stalls.

Overall, the proposed covered parking lot will have 150 parking stalls for residents: 128 standard parking stalls, seven (7) compact stalls, five (5) ADA stalls, four (4) tandem stalls (also used as the 4 car share stalls), four (4) “EV-ready” stalls, and two (2) EV stalls with EVSE installed. Moreover, the proposed project will have ~~93~~ 92 bicycle parking stalls, with ~~78~~ 62 long-term bicycle stalls for residents and ~~45~~ 30 short-term bicycle stalls for visitors. In addition, three (3) loading stalls will be provided on the first (1st) floor of the proposed project for vendors, maintenance personnel, and ride share personnel. Access to the apartment complex’s parking lot will be provided along Lipoa Place and adjacent to the residential lobby/offices.

Potential Impacts and Mitigation Measures

The proposed affordable housing project will require a new driveway along Lipoa Place; therefore, an update to the City and County of Honolulu map(s) will be required. The update will be conducted and coordinated between the developer’s engineers and the City. The new driveway will be designed to conform with the Standards for Access Driveways into City Streets.

Potential impacts of the affordable housing development and its loading activities will be an increase in the number of vehicles slowing down and/or stopping on Lipoa Place to either enter

the apartment complex or yield to vehicles exiting the covered parking lot. Large-sized delivery vehicles will need to utilize on street parking along Lipoa Place, adjacent to the front of the property, for loading/unloading purposes. As a result, motorists will need to stop temporarily when deliveries are being made. The slowing down and temporary stoppage of vehicles will result in a slight increase in traffic volume and congestion during peak traffic hours. Measures to help mitigate these impacts include:

- Incentivize vendors to conduct deliveries during hours of light vehicular traffic or to conform to any City restrictions that will prevent overflow onto Lipoa Place and adjacent roadways during the peak hours of traffic, and
- Incentivize vendors to use smaller delivery vehicles that can enter and exit through the apartment complex's covered parking lot in a forward-facing direction to utilize the designated loading area.

Overall, if mitigation measures are implemented, the apartment's proposed loading operations and its traffic impacts along Lipoa Place can be minimized.

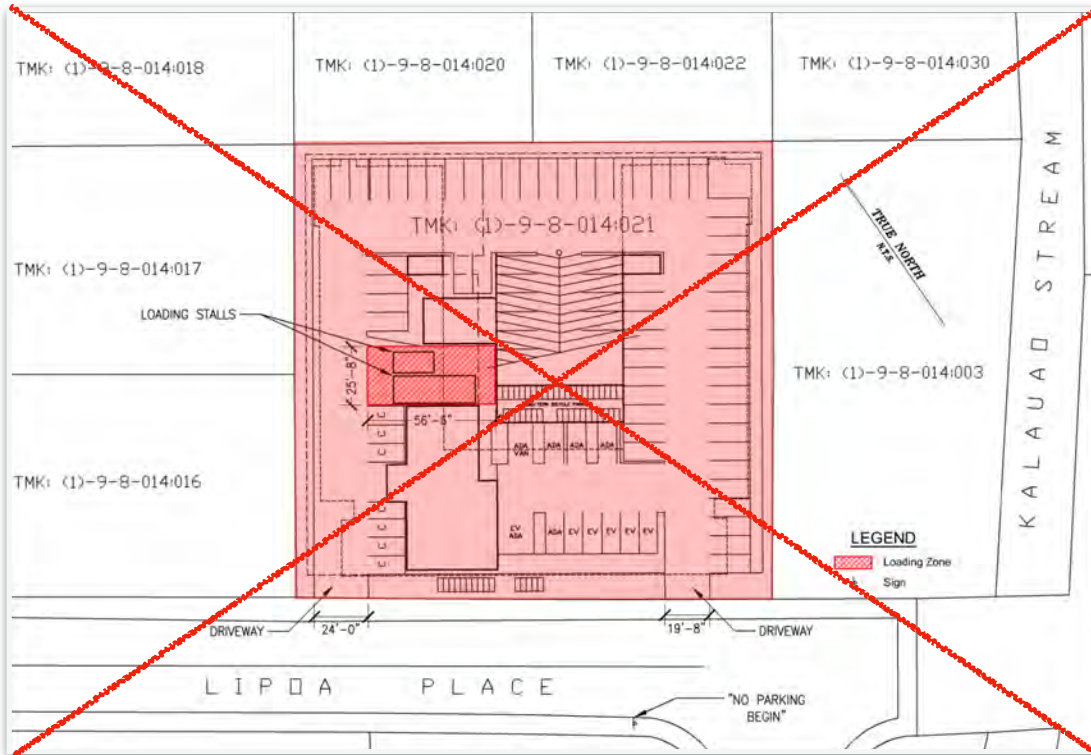


Figure 3-11: Proposed Loading and First Level Parking

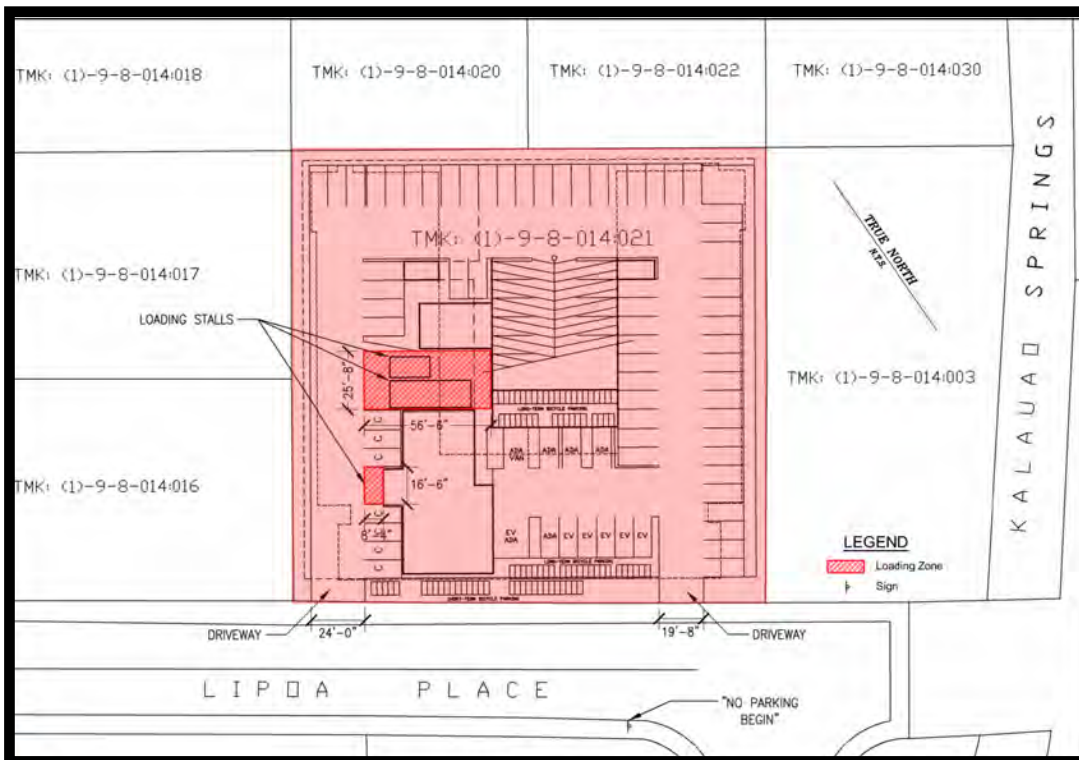


Figure 3-13: Proposed Loading and First Level Parking

Source: Construction Management & Engineering LLC

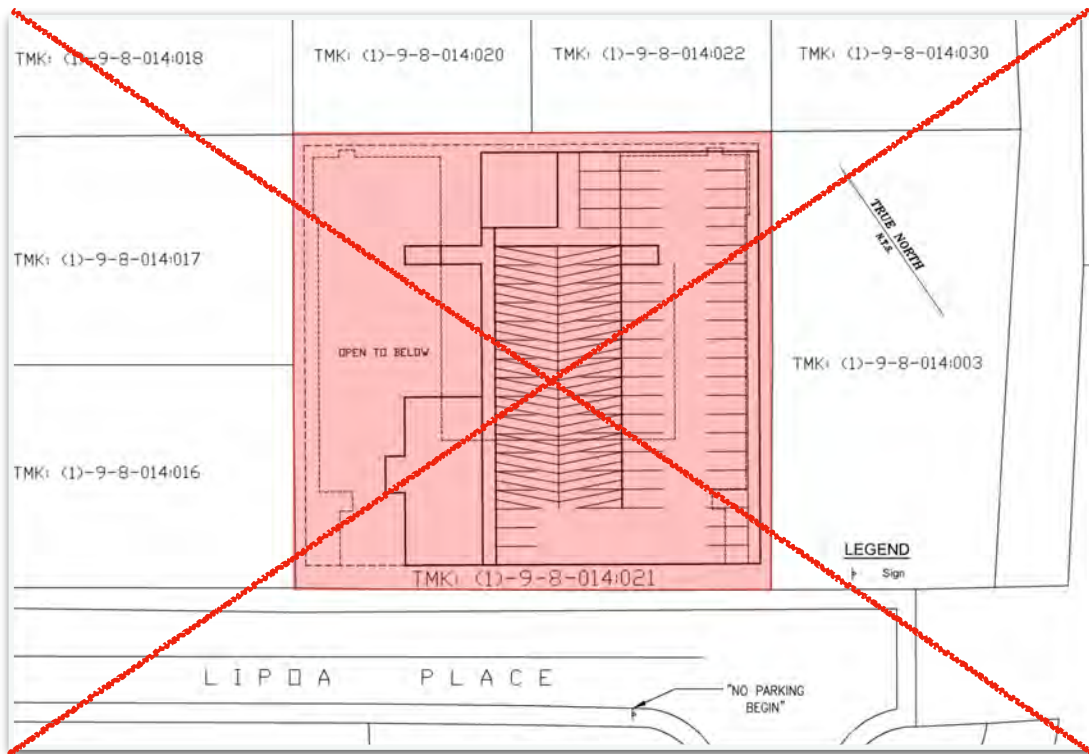


Figure 3-12: Proposed Second Level Parking

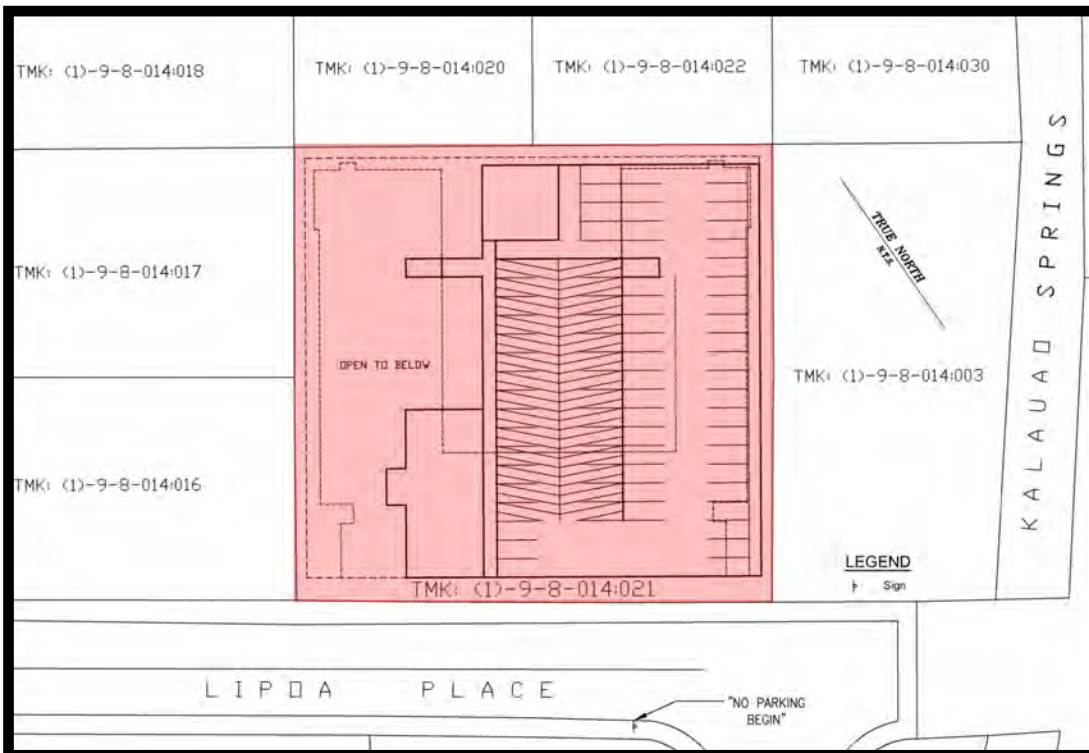


Figure 3-14: Proposed Second Level Parking

Source: Construction Management & Engineering LLC

Solid Waste Disposal

Existing Conditions

The City and County of Honolulu (City) Department of Environmental Services (ENV) Refuse Division conducts all solid waste collection and disposal activities on the island. Residential and commercial waste is collected and disposed of at waste drop-off locations, which include one (1) landfill, six (6) convenience centers, three (3) transfer stations, one (1) waste-to-energy facility, and one (1) green waste composting facility.

The Waimanalo Gulch Sanitary Landfill, located in Kapolei, is the City's primary solid waste disposal facility. The landfill accepts commercial and residential waste (i.e., dirt, gravel, sand, concrete, tile), but not combustible waste, green waste, bulky items, tires, lead acid batteries, appliances, or metal/metal-containing items.

The City's convenience centers are located in Ewa Beach, Waimanalo, Waianae, Waipahu, Wahiawa, and Laie. The transfer stations are located in Kailua (Kapaa), Haleiwa (Kawailoa), and Honolulu (Keehi). Residents are able to dispose of their household trash, bulky items, and lead-acid batteries at these locations.

The City also operates a waste-to-energy plant (H-POWER) at the Campbell Industrial Park located in Kapolei to convert waste into electricity. Approximately 2,000 tons of residential and commercial waste is collected daily and converted into electricity to produce up to 10% of Oahu's power needs. H-POWER allows the City to redirect more than 40,000 tons of bulky wastes, wastewater treatment sludge, septic tank, and cesspool waste per year from its landfill.

Waste generated from construction and demolition activities is sent to the Solid Waste Management Facility in Nanakuli, which is operated by the PVT Land Company, Ltd. Green waste is sent to the Hawaiian Earth Recycling facility in Haleiwa.

Refuse generated by local homes and businesses on Lipoa Place is manually collected by a private company/hauler through appointment. Similarly, bulky item pickup service is permitted by appointment. The collected refuse is disposed of at either the Keehi Transfer Station on Middle Street or the Pearl City Collection Yard. The Keehi Transfer Station accepts household trash, combustible bulky items, metal/metal-containing items, and lead-acid batteries; however, large metal appliances and tires are unacceptable.

Potential Impacts and Mitigation Measures

Impacts from the proposed affordable housing project include solid waste generated within the project site during site preparation and construction activities. The waste may include soil, rocks, dust, and debris. BMPs will be implemented during construction. Construction personnel will manage solid waste by separating concrete, rock, asphalt, metal, cardboard, dirt, green waste, and other construction materials. Materials suitable for reuse on-site will be processed for base material if feasible. Waste that cannot be reused or recycled will be disposed of at the City's appropriate refuse facilities in accordance with the City ENV's policies.

Once the proposed apartment complex is constructed, the apartment complex and adjacent local businesses will continue with their existing procedure for refuse pickup and disposal. Access for authorized refuse vehicles along Lipoa Place will be established to ensure adequate operational

support. Overall, the proposed affordable housing development is not anticipated to adversely affect the City's solid waste collection operations.

3.3.10 Public Facilities

Existing Conditions

The Central Fire Station No. 10 provides fire protection service to the project area. The station is located on 98-1225 Ulune St which is approximately 5 minutes away from the project.

Police service is provided by the Honolulu Police Department (HPD) District 3, which is administratively based in Pearl City. This station is located at 1100 Waimano Home Road, Police services are provided by patrolling officers and response time to the site is 7 minutes.

Public Schools that serve the project site include Alvah Scott Elementary, Aiea Intermediate, and Aiea High Schools. Alvah Scott Elementary, which is less than 1 mile from the project, is currently operating below capacity and will continue to operate at this capacity for the next five years. Both Aiea Intermediate and Aiea High School are less than 2.1 miles from the project and are operating below capacity and will continue to operate below capacity during the next five years.

The Department of Education (DOE) is required to provide education for all school-aged children. When the project is completed the DOE anticipates approximately 45 public school students to reside there.

The nearest hospital to the project site is Pali Momi Medical Center. It's located at 98-1079 Moanalua Rd, Aiea, HI 96701, which is approximately 1 mile from the project site. Pali Momi is a part of the Hawaii Pacific Health network and offers a range of medical services, including emergency care.

The project site is located near several public parks including Aiea District Park, Aiea Bay State Recreation Area, Keaiwa Heiau State Recreation Area, Newtown Neighborhood Park, Pearlridge Community Park, and Neal S. Blaisdell Park.

Potential Impacts and Mitigation

The proposed project would not result in any adverse impacts to surrounding public facilities.

Section 4.0

RELATIONSHIP TO PLANS, CODES & ORDINANCES

4.0 RELATIONSHIPS TO PLANS, CODES AND ORDINANCES

4.1 State of Hawai'i Plans

The State Land Use Commission Boundary Maps identify the project site as being within the Urban area. This is consistent with the surrounding uses that include commercial uses and high-density residential development.



Figure 4-1: State Land Use Boundary Map

Source: City & County of Honolulu

4.1.1 HRS Chapter 205A, Coastal Zone Management Act

Hawaii Revised Statutes (HRS) Chapter 205A, known as the Coastal Zone Management Act, establishes a framework to effectively manage and protect Hawaii's coastal ecosystems while accommodating compatible economic development. HRS § 205A-1 states that the entire State is located within the coastal zone management area. The project is generally consistent with all objectives of the Coastal Zone Management Act. The project does not directly affect coastal

recreational, historic, or coastal ecosystems. Overall, the project should be considered a managed development that provides affordable rental housing.

For a project requiring an SMA Major Permit, adherence to HRS Chapter 205A is crucial as it ensures that development activities within the coastal zone do not compromise the natural or cultural resources of the area. The project aligns with the objectives and policies stated in HRS Chapter § 205A-2 in several key aspects:

1. Recreational Resources

- **Objective:** Provide coastal recreational opportunities accessible to the public.
- **Policies:** The project aligns with the following policies:
 - Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:
 - Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;
 - Adopting water quality standards and regulating point and nonpoint sources of pollution to protect, and where feasible, restore the recreational value of coastal waters.
- **Project Relevance:** While the project does not front the shoreline or directly affect beach access, it will help facilitate convenient access to the waterfront for its residents, offering opportunities for a variety of recreational activities available along the waterfront. The project will include a storage area for residents' surfboards, stand-up paddle boards, and kayaks to encourage recreational activities. There will also be ample bicycle storage so that residents can take full advantage of the Pearl Harbor Historic Trail along the waterfront. The inclusion of a community resource center will also offer educational and recreational programming to enhance the public and residents' engagement with nearby coastal resources. No impacts to coastal waters are anticipated as construction and permanent post-construction BMPs and LID measures will be designed, implemented, and maintained in compliance with all the applicable rules and regulations. Further details are provided in Section 3.3.2.

2. Historic and Cultural Resources

- **Objective:** Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.
- **Policies:** The project aligns with the following policies:
 - Identify and analyze significant archaeological resources;
 - Maximize information retention through preservation of remains and artifacts or salvage operations; and
 - Support state goals for protection, restoration, interpretation, and display of historic resources.
- **Project Relevance:** An Archaeological Review and Cultural Impact Assessment were prepared by Keala Pono Archaeological Consulting, LLC and are discussed in more detail in Section 3.3.3 & 3.3.4 of this Environmental Assessment. Please refer to that

Section for a detailed discussion on the project's potential impacts and mitigation measures to ensure that there are no adverse effects to historic and cultural resources in the project area. A program of archeological monitoring will be implemented during ground disturbing construction activities. The project will integrate cultural elements into the project's architecture to highlight the historic and cultural significance of the area.

3. Scenic and Open Space Resources

- **Objective:** Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.
- **Policies:** The project aligns with the following policies:
 - Identify valued scenic resources in the coastal zone management area;
 - Ensure that new developments are compatible with their visual environment by designing and locating those developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;
 - Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and
 - Encourage those developments that are not coastal dependent to locate inland areas.
- **Project Relevance:** As indicated previously, the project is not on or near the shoreline. The project site is currently being used as an apartment complex, so there is minimal anticipated impact to existing open space resources, if any. The project's architectural design features a landscaped courtyard and other green spaces, which will enhance the scenic quality of the area. Although the project will be taller than the existing buildings located on the site, its design and construction will respect existing visual corridors and public views to the waterfront, adhering to HRS Chapter 205A's objectives to preserve and enhance Hawaii's scenic and open space resources while addressing the community's need for additional affordable housing. The project's height will also be consistent with the intent of the TOD Special District and underlying BMX-3 zoning.

4. Coastal Ecosystems

- **Objective:** Protect valuable coastal ecosystems, including reefs, beaches, and coastal dunes, from disruption and minimize adverse impacts on all coastal ecosystems.
- **Policies:** The project aligns with the following policies:
 - Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;
 - Improve the technical basis for natural resource management;
 - Preserve valuable coastal ecosystems of significant biological or economic importance, including reefs, beaches, and dunes;
 - Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water use, recognizing competing water needs; and
 - 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 nonpoint source water pollution control measures.

- **Project Relevance:** The proposed project is located inland, away from coastal ecosystems and is, therefore, not anticipated to have adverse impacts on coastal/shoreline resources, including reefs, beaches, dunes, and marine resources. The project will minimize environmental impacts on the coastal ecosystem by complying with the water quality standards for the City and County of Honolulu and limiting stormwater discharge from the site. During site preparation and construction of the proposed project, appropriate Best Management Practices around the perimeter of the project site, at the drainage ditch, and at the drainage catch basins along Lipoa Place will be implemented to minimize adverse effects. The wastewater system and drainage improvements for the project are anticipated to minimize stormwater discharge rates from the project site, which are discussed in further detail in Sections 3.3.2 & 3.3.9 of this Environmental Assessment.

5. Economic Uses

- **Objective:** Provide public or private facilities and improvements important to the State's economy in suitable locations.
- **Policies:** The project aligns with the following policies:
 - Concentrate coastal dependent development in appropriate areas;
 - Ensure that coastal dependent development and coastal related development are located, designed, and constructed to minimize exposure to coastal hazards and adverse social, visual, and environmental impacts in the coastal zone management area; and
 - Direct the location and expansion of coastal development to areas designated and used for that development and permit reasonable longterm growth at those areas, and permit coastal development outside of designated areas when: (i) Use of designated locations is not feasible; (ii) Adverse environmental effects and risks from coastal hazards are minimized; and (iii) The development is important to the State's economy.
- **Project Relevance:** The State and the City have long acknowledged a great need for additional affordable housing options, which this project will provide. The project will also support a workforce and customer base for nearby businesses, boosting the local economy while maintaining harmony with environmental conservation practices. The proposed project is not a coastal dependent or related development and is located inland from the shoreline. Furthermore, it does not contravene the objective and policies for economic use.

6. Coastal Hazards

- **Objective:** Reduce hazard to life and property from coastal hazards.
- **Policies:** The project aligns with the following policies:
 - Develop and communicate adequate information about the risks of coastal hazards;
 - Control development, including planning and zoning control, in areas subject to coastal hazards;

- o Ensure that developments comply with requirements of the National Flood Insurance Program; and
 - o Prevent coastal flooding from inland projects.
- o **Project Relevance:** The project is not located in a flood zone and is setback from the waterfront outside of the 3.2-foot sea-level rise exposure area, demonstrating an intent to minimize risk to coastal hazards and sea-level rise, which aligns with the Act's objective and policies to reduce risks to natural resources and human communities. Drainage improvements will be designed in accordance with the Drainage Standards of the City and County of Honolulu to ensure that the project will not adversely affect downstream properties from the effects of flooding and erosion.

7. Managing Development

- o **Objective:** Improve the development review process, communication, and public participation in the management of coastal resources and hazards.
- o **Policies:** The project aligns with the following policies:
 - o Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;
 - o Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and
 - o 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.
- o **Project Relevance:** As part of the SMA Major Permit process, the project will undergo thorough public and agency review, ensuring transparency and community involvement, which is a key tenet of the Act. This will help tailor the project to meet community needs while fostering a collaborative approach to local development.

8. Public Participation

- o **Objective:** Stimulate public awareness, education, and participation in coastal management.
- o **Policies:** The project aligns with the following policies:
 - o Promote public involvement in coastal zone management processes;
 - o 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
 - o Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.
- o **Project Relevance:** In addition to the public participation related to entitling the project, the project also intends to stimulate public awareness, education, and participation in coastal management through programs held at its community resource center.

9. Beach and Coastal Dune Protection

- **Objective:** (A) Protect beaches and coastal dunes for: (i) public use and recreation; (ii) the benefit of coastal ecosystems; and (iii) use as natural buffers against coastal hazards; and (B) Coordinate and fund beach management and protection.
- **Policies:** The project aligns with the following policies:
 - 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;
 - Prohibit construction of private shoreline hardening structures, including seawalls and revetments, at sites having sand beaches and at sites where shoreline hardening structures interfere with existing recreational and waterline activities;
 - Minimize the construction of public shoreline hardening structures, including seawalls and revetments, at sites having sand beaches and at sites where shoreline hardening structures interfere with existing recreational and waterline activities;
 - Minimize grading of and damage to coastal dunes;
 - Prohibit private property owners from creating a public nuisance by inducing or cultivating the private property owner's vegetation in a beach transit corridor; and
 - Prohibit private property owners from creating a public nuisance by allowing the private property owner's unmaintained vegetation to interfere or encroach upon a beach transit corridor.
- **Project Relevance:** Although there is no beach in close proximity to the project site, the project will contribute to the protection of the coastal environment by limiting runoff and other potential pollution. The design ensures that any potential environmental impacts are mitigated, preserving the integrity of distant beaches and coastal ecosystems.

10. Marine and Coastal Resources

- **Objective:** Promote the protection, use, and development of marine and coastal resources to assure their sustainability.
- **Policies:** The project aligns with the following policies:
 - Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;
 - Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;
 - 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;
 - Promote research, study, and understanding of ocean and coastal processes, impacts of climate change and sea level rise, marine life, and other ocean resources to acquire and inventory information necessary to understand how coastal development activities relate to and impact ocean and coastal resources; and
 - Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.
- **Project Relevance:** The project will contribute to the protection of the marine resources by limiting runoff and other potential pollution. The design ensures that

any potential environmental impacts are mitigated, preserving the integrity of marine resources. As noted above, the inclusion of a community resource center will also offer educational and recreational programming to enhance the public and residents' engagement with nearby coastal resources.

1. **Minimization of Environmental Impact:** By being located outside the 3.2-foot sea-level rise exposure area and set back from Pearl Harbor's oceanfront, the project demonstrates an intent to minimize risk to coastal hazards and sea-level rise, aligning with the Act's objective to reduce risks to natural resources and human communities.
2. **Maximization of Public Benefit:** Although the project is not adjacent to a traditional beach, its location near Pearl Harbor still places it within a zone of significant ecological and historical importance. The project's design and planning honor these aspects, aiming to serve the community's housing needs without compromising the area's cultural and environmental values.
3. **Consistency with Land Use:** HRS Chapter 205A calls for development that is consistent with the existing land use plans and community objectives. The project's location in an urban area designated for mixed-use development falls in line with the State's coastal zone management policies that encourage the concentration of development where it is most appropriate.
4. **Public Participation and Transparency:** The Act emphasizes public participation in coastal management decisions. As part of the SMA Major Permit process, the project will undergo thorough public and agency review, ensuring transparency and community involvement, which is a key tenet of the Act.
5. **Compatibility with Scenic and Open Space Resources:** While the project does not directly affect beach access, its design and construction will still respect visual corridors and public views to the waterfront, adhering to HRS Chapter 205A's objectives to preserve and enhance Hawaii's scenic and open space resources.

By meeting the stringent requirements for an SMA Major Permit and upholding the principles laid out in HRS Chapter 205A, the project exemplifies a balanced approach, promoting responsible development while providing for the socioeconomic needs of the community.

4.1.2 Hawaii State Plan, HRS Chapter 226

The project is also consistent with the Hawaii State Plan, HRS Chapter 226. While the project minimally affects the physical environment, the project will not affect the natural beauty and historic resource of Hawaii (12(b)(5) and 12(b)(7)) as the site is currently a multi-family residential housing complex within a highly urban environment. The project does provide significant affordable housing and socio-cultural advancement by providing a housing component in an already fully integrated community that is supportive of general guidelines on sustainability.

HRS § 226-19 elaborates on the State's plan for socio-cultural advancement as it relates to housing. In this regard the Plan states:

(1) Greater opportunities for Hawaii'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 Hawaii's population, (2) the orderly

development of residential areas sensitive to community needs and other land uses, (3) the development and provision of affordable rental housing by the State to meet the housing needs of Hawaii's people.

The project will advance HRS § 226-19 by providing much needed affordable rental housing that balances the market housing found in the project vicinity.

Furthermore, HRS § 226-55, the State functional plan on housing specifies objectives, policies and implementing actions to realize the States objectives for diverse housing types and the intent of the functional plans to work in coordination with other County and regulatory concerns. As stated earlier, the project will expand the diversity of housing found in Aiea-Pearl City area and is clearly supportive of the high demand affordable rental housing market.

The affordable housing provided by the project promotes all the aforementioned State Plan provisions and most significantly addresses HRS § 226-106, which elaborates on the priority guidelines on affordable housing, which is the primary intent of the subject project. The project is not in conflict with any of the State's housing plan objectives.

HRS § 226-108 provides the priority principles and guidelines for sustainability. In this regard, the project is generally consistent with all the principles, but is particularly applicable to subsection (1) Encouraging balanced economic, social, community, and environmental priorities, and (3) Promoting a diversified and dynamic economy. The project will represent a significant component in creating a balanced Aiea-Pearl City district by providing affordable rental housing units within an area that also includes market rate housing projects. By creating affordable housing, the project will support diverse economic opportunity as well as social and community balance.

4.1.3 Use of State of Hawaii Funds

The project will utilize State of Hawaii funds which requires that the project meet the provisions of HRS § 103-50 as follows:

All buildings, facilities, and sites shall conform to applicable federal, state, and county accessibility guidelines and standards. Hawaii Revised Statutes §103-50 requires all State of Hawaii or County government buildings, facilities, and sites to be designated and constructed to conform to the Americans with Disabilities Act Accessibility Guidelines, the Federal Fair Housing Amendments Act, and other applicable design standards as adopted and amended by the Disability and Communications Access Board. The law further requires all plans and specifications prepared for the construction of State of Hawaii or County government buildings, facilities, and sites to be reviewed by the Disability and Communication Access Board (DCAB) for conformance to those guidelines and standards.

4.1.4 Act 127, (Session Laws of Hawaii, 2016), Affordable Rental Housing Report and Ten-Year Plan

The project also aligns with Act 127, (Session Laws of Hawaii, 2016), Affordable Rental Housing Report and Ten-Year Plan, by addressing the critical need for affordable rental housing options in the State. Act 127 underscores the State's commitment to enhance the availability of affordable rental units for low- and moderate-income families by establishing a goal of developing or vesting the development of at least 22,500 affordable rental housing units by the end of 2026. The planned

project contributes to this ten-year plan by increasing the stock of affordable housing on Oahu, where housing prices have traditionally been high and out of reach for many residents. By focusing on creating affordable rental options, the project meets Act 127's objectives to alleviate the housing crisis by providing immediate relief to those in dire need of housing and supporting the overall goal of ensuring that Hawaii's residents have access to safe, decent, and affordable housing.

4.2 City and County of Honolulu Plans

4.2.1 The City and County of Honolulu General Plan

The City and County of Honolulu General Plan provides the overall vision for the island of Oahu and broadly outlines the objectives and policies shaping future growth. While the proposed action is consistent with the Plan overall, it is particularly pertinent to the Section IV, Housing and Communities. It is here where proposed action supports, Policy 1, "Support programs, policies, and strategies that will provide decent and affordable homes for local residents, especially those in the lowest income brackets," and Objective C, "To provide the people of Oahu with a choice of living environments which are reasonably close to employment, schools, recreation, and commercial centers and which are adequately served by transportation networks and public utilities." This project contributes to the Plan's goals by strategically locating affordable units in areas where they can bolster community resilience, support economic development, and enhance quality of life. It upholds principles of smart urban growth by maximizing the use of existing infrastructure, encouraging the use of public transit, and helping to reduce urban sprawl. In essence, the project's commitment to providing accessible housing aligns with the Plan's overarching objectives of fostering a sustainable, liveable, and equitable island community for current and future generations.

4.2.2 Honolulu's Primary Urban Center Development Plan

The project aligns with Honolulu's Primary Urban Center Development Plan by contributing to the sustainable growth and development of Honolulu's most densely populated and developed areas. This Development Plan emphasizes smart growth principles, aiming to concentrate new housing development in urban areas where infrastructure already exists, thereby reducing urban sprawl and preserving open spaces and agricultural land. By situating the affordable housing project within Oahu's Primary Urban Center, it supports the Plan's vision for a walkable, transit-oriented, and resilient community, ensuring that growth is both environmentally sustainable and economically beneficial. The project enhances the availability of housing in close proximity to job centers, public transportation, and essential services, which is a key goal of the Development Plan. This fosters a more inclusive community by providing lower-income families the opportunity to live in areas with better access to amenities, reducing transportation costs and supporting a diverse, vibrant urban core.

4.2.3 Aiea-Pearl City Transit Oriented Development (TOD) Neighborhood Plan

The project is designed to integrate seamlessly with the Aiea-Pearl City Transit Oriented Development (TOD) Neighborhood Plan by contributing to a more diverse housing market within a critical radius of key transit hubs. This proximity to transit stations encourages residents to take advantage of public transportation options, reducing the reliance on personal vehicles and

supporting the TOD's vision for a pedestrian-friendly, transit-connected community. The project's affordability component specifically addresses the Plan's goals to ensure that the economic benefits of living near transit are accessible to a broader demographic, including lower-income households. It also aligns with the Plan's emphasis on mixed-use development, aiming to create a dynamic neighborhood fabric where residential spaces coexist with commercial and public amenities, fostering an active, engaging urban environment. By doing so, the housing project not only meets the housing needs but also contributes to the social and economic vitality envisaged by the Aiea-Pearl City TOD Neighborhood Plan.

4.2.4 City and County of Honolulu Land Use Ordinance

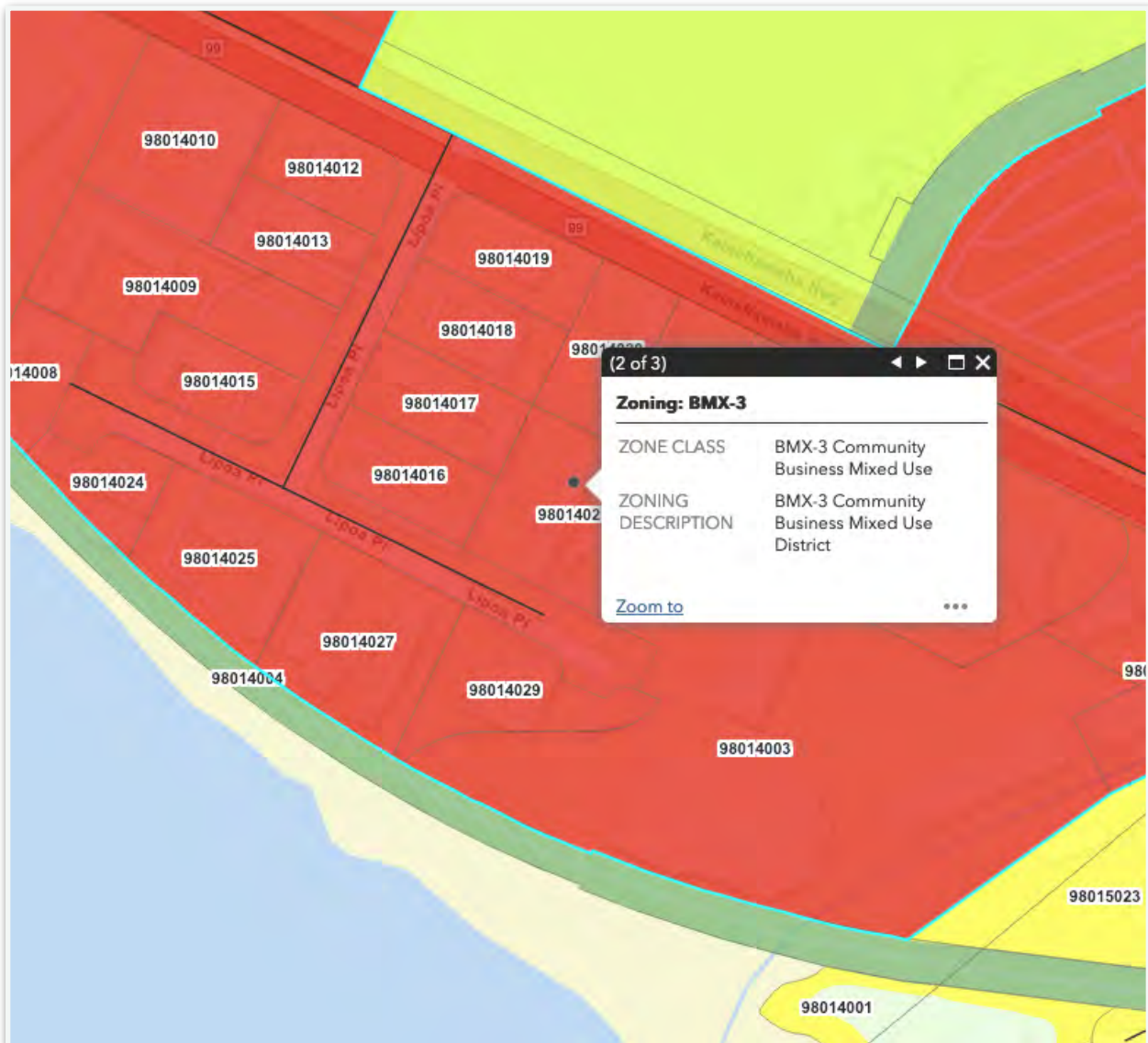


Figure 4-2: Zoning Map

Source: City & County of Honolulu

The project area is designated BMX-3 Business Mixed Use by the City and County of Honolulu Land Use Ordinance (LUO). The project's location in a BMX-3 Business Mixed-Use zone is a strategic alignment with the City and County of Honolulu's Land Use Ordinance, which is

designed to promote orderly urban development. This zone is specifically intended for residential buildings, which allows the project to fit harmoniously within the existing community fabric. By providing affordable housing within this zone, the project responds to pressing urban housing needs while remaining sensitive to the area's established development patterns. The design will incorporate elements that reflect the existing architectural vernacular, and the use of landscaping and community amenities will enhance the overall living environment for residents. The careful planning demonstrates an effort to minimize impact on infrastructure and traffic, which is consistent with the sustainable development goals of the BMX-3 zoning provisions. Through compliance with these regulations, the project contributes to the city's vision for well-planned residential areas that offer a range of housing options to meet diverse needs.

Hawaii Revised Statutes (HRS) Chapter 201H provides the flexibility to expedite the development of affordable housing projects. This chapter allows for exemptions from certain land use and zoning regulations, which can typically hinder the swift construction of affordable units. An affordable housing project in an BMX-3 zone aligns with HRS Chapter 201H by streamlining the development process, potentially qualifying for expedited permitting and reduced fees, as well as creative financing options, which are pivotal in overcoming economic barriers often associated with affordable housing developments. By adhering to the intention of Chapter 201H, the project is poised to more efficiently address the urgent need for affordable housing on Oahu, providing essential housing opportunities for lower-income families in a way that encourages development and supports community growth consistent with the state's objectives for affordable housing expansion.

4.2.5 Revised Ordinances of Honolulu Chapter 25

The project is a well-conceived endeavor that aligns with the sustainability and preparedness goals of Chapter 25 of the Revised Ordinances of Honolulu (ROH), which outlines the criteria for Special Management Area (SMA) Major Permits. Strategically located outside the 3.2-foot sea-level rise exposure area, the project demonstrates environmental prudence and a proactive stance on climate resilience. Its placement, a block inland from oceanfront lots on Pearl Harbor, positions it away from direct shoreline impact zones, alleviating concerns related to coastal erosion and sea-level rise without impinging on beachfront areas.

Given that the waterfront along Pearl Harbor does not offer traditional beach access due to its industrial and military character, the project is not encumbered by the need to provide or maintain public beach pathways, a factor often critical in coastal development areas. This aspect simplifies the project's compliance with public access requirements typically associated with SMA considerations.

The project's inland location further supports a sustainable approach to urban development by optimizing land use within existing infrastructure bounds, reducing potential environmental impacts, and fostering a safe and livable community environment. It underscores a commitment to smart growth principles while also providing much-needed affordable housing options in an area where shoreline conservation is of paramount concern.

Architecturally, the project is designed to integrate respectfully with its surroundings, ensuring that the development is aesthetically congruent with the adjacent built environment and contributing positively to the urban fabric of the area. By proactively addressing the unique environmental and historical aspects of its Pearl Harbor vicinity, the development serves as an

exemplar of how affordable housing can be achieved in sensitive areas, advancing the objectives of Honolulu's SMA guidelines while meeting the housing and resilience needs of the community.

A detailed discussion addressing each of the objectives, policies and guidelines of ROH Section 25-3.1's analogous objectives and policies in HRS § 205A-2 is included in Section 4.1 above. ROH Section 25-3.1 includes two additional objectives, discussed as follows:

1. Cumulative impact or significant effect and compelling public interest

- **Objective:** Development within the SMA should not have any cumulative impact or significant effect, unless minimized to the extent practicable and clearly outweighed by public health, safety, or other compelling public interest.
- **Project Relevance:** The project will implement comprehensive measures to minimize cumulative impacts and significant effects within the SMA. The project has been designed with sustainable features and incorporates environmental mitigation measures such as native landscaping and efficient water management to seamlessly blend into the surrounding environment. Moreover, the project's public health, safety, and compelling public interest benefits—by providing essential affordable housing—outweigh any minimized residual impacts.

2. Consistency with plans and regulations

- **Objective:** Development within the SMA must be consistent with the general plan, development plans, sustainable communities plans, and zoning ordinances; provided that a finding of inconsistency does not preclude concurrent processing of amendments to applicable plans or a zone change.
- **Project Relevance:** For the reasons discussed in this Section 4.2, the project is consistent with the aforementioned City & County of Honolulu plans.

Required permits will include City and County of Honolulu Building Permits including grading and construction related permits as well as utility connection approvals.

Section 5.0

IMPACTS, ALTERNATIVES & MITIGATION MEASURES

5.0 IMPACTS, ALTERNATIVES AND MITIGATION MEASURES

5.1 Probable Impact on the Environment

The project represents a similar use to the site's current use as a residential apartment complex and is consistent with surrounding land uses. Impacts associated with the proposed project have generally been determined to be negligible. As a residential use, activity within the building will likely be highest during non-work hours and on weekends. This is considered highly desirable and an activator in creating a work / live environment. The project's probable impact on the environment can be viewed favorably through several key considerations:

1. **Sustainable Site Design:** The project site has been selected and designed with sustainability as a priority. It is situated outside the 3.2-foot sea-level rise exposure area, which demonstrates foresight in mitigating the risks associated with climate change and sea-level rise. The design incorporates green spaces and utilizes native plant species that require less water and maintenance, thereby reducing the project's ecological footprint.
2. **Energy Efficiency:** The project is planned to incorporate energy-efficient building materials and technologies, such as photovoltaic panels, energy-efficient lighting, and low-flow water fixtures. These features will minimize energy consumption and reduce greenhouse gas emissions, contributing positively to the fight against global warming.
3. **Waste Reduction:** Construction and operational phases will follow practices aimed at reducing waste. The use of local materials, where possible, and the implementation of recycling programs will limit the project's contribution to landfill volumes and promote a circular economy.
4. **Water Management:** By integrating advanced stormwater management systems, the project will minimize runoff, protect water quality, and reduce the impact on the existing drainage infrastructure.
5. **Transportation and Air Quality:** Given its proximity to urban centers and public transportation links, the project supports a reduction in vehicle dependency, which can lead to decreased air pollution and traffic congestion. This approach aligns with sustainable urban planning principles that favor walkability and public transit.
6. **Community and Economic Benefits:** By providing affordable housing, the project addresses a critical need in the community and is likely to have a positive socioeconomic impact. It can also stimulate local employment opportunities during construction and beyond.
7. **Respect for Cultural and Historical Context:** The project's planning processes involve consideration for the cultural and historical significance of the area, particularly given its proximity to Pearl Harbor. Efforts to integrate cultural sensibilities into the design and operations will ensure that the development not only respects but also celebrates the local heritage.

In summary, the project aims to provide a comprehensive approach to minimizing negative impacts while maximizing environmental and community benefits. The project promises to be a model of responsible development, combining affordability, sustainability, and respect for the natural and cultural environments of the area.

5.2 Adverse Impacts Which Cannot be Avoided

Despite the proposed project's commitment to employing best practices for environmental protection and sustainable development, it is important to acknowledge that certain adverse impacts cannot be entirely avoided due to the inherent nature of development projects. The following are potential environmental effects associated with the proposed project:

1. **Land Alteration:** Construction activities will inevitably lead to temporary soil disturbance, vegetation removal, and alteration of the current landforms during site preparation. These changes can lead to soil erosion and temporary disruptions in local ecosystems.
2. **Air Quality:** Construction activities will likely result in temporary increases in dust and emissions from construction machinery. Despite measures to control these emissions, they can't be entirely eliminated during the construction phase.
3. **Noise and Vibrations:** Construction activities will also lead to a temporary increase in noise levels and vibrations in the immediate vicinity of the project site. This will mainly affect the nearby residents and businesses during the construction phase.
4. **Resource Consumption:** The proposed project will necessitate the consumption of water, energy, and other resources during both the construction and operational phases. Even with the incorporation of sustainable design features and efficient resource management, some level of consumption is inevitable.
5. **Waste Generation:** Construction and operational activities will generate waste. While waste minimization, recycling, and proper waste management strategies will be employed, complete elimination of waste generation is not feasible.

Mitigation measures will be applied wherever possible to minimize these adverse impacts. It's important to note, however, that these impacts are short-term or can be managed effectively with careful planning, and they are common in almost any development project. The long-term benefits offered by the proposed project, including substantial socio-economic benefits through the provision of affordable housing and the stimulation of local economic activity, are anticipated to outweigh these temporary and manageable impacts.

5.3 Alternatives to the Proposed Action

5.3.1 No Action Alternative

This option involves not proceeding with the proposed project. Under this alternative, the current land use and the associated environmental conditions would remain unchanged. While this option would cause no additional environmental impacts, it would not address the community's urgent need for affordable housing, nor would it stimulate local economic development. Hence, this alternative may not effectively meet the project's socio-economic objectives.

5.3.2 Alternative Design

Alternative Site Location: This alternative considers relocating the project to a different site. While this may potentially reduce some environmental impacts, it could also introduce new challenges. It would require an additional period of site selection, inspection, and possibly higher land acquisition costs. Furthermore, alternate locations might not be as accessible or well-served by infrastructure as the proposed site, which could diminish the potential benefits to future residents and the broader community.

Reduced Scale Alternative: This alternative involves scaling down the project's size. While this could potentially lessen some environmental impacts, it would significantly reduce the number of affordable housing units available to the community. Given the pressing need for affordable housing in the area, this alternative may not be sufficient to meet community needs and could also reduce the project's financial viability.

Alternative Design: This option would entail implementing different architectural or infrastructural designs to reduce environmental impact. While a green design approach can be beneficial, it may also result in higher upfront costs. However, the proposed project already incorporates many sustainable design elements that balance affordability and environmental stewardship.

Adaptive Reuse Alternative: This option involves refurbishing and converting existing buildings into affordable housing units instead of new construction. While this can conserve resources and minimize waste, suitable structures may not be available or may require extensive rehabilitation to meet living standards and building codes. The capacity of the existing buildings to accommodate the required number of affordable housing units is not sufficient.

It's important to note that while these alternatives may offer different benefits and drawbacks, none of them fully meets the project's objectives as effectively as the proposed affordable housing project. The current proposal achieves an optimal balance between meeting a pressing community need, economic feasibility, and environmental sustainability. It incorporates sustainable design principles and practices that minimize its environmental footprint, while providing an accessible and affordable housing solution that contributes to local economic development.

5.4 Mitigation Measures

Long-term impacts resulting from the proposed improvements are expected to be minimal or non-existent based upon the subject environmental assessment. Long-term traffic, air and noise impacts are not expected to change significantly after improvements are completed. Short-term construction related noise and air quality impact mitigation measures include general good housekeeping practices and scheduled maintenance to avoid a prolonged construction period. The contractor will be directed to use best management practices (BMP) wherever applicable. Construction materials and equipment will be transported to the project site during non-peak traffic hours. In the event that existing roadways or sidewalks are damaged during construction activities, the roadways and sidewalks will be restored to original or better condition.

5.5 Irreversible and Irretrievable Commitment of Resources

Implementation of the proposed project will result in the irreversible and irretrievable commitment of resources in the use of non-recyclable energy expenditure and labor. Materials used for new construction may have salvage value; however, it is unlikely that such efforts will be cost-effective. The expenditure of these resources is offset by gains in construction-related wages, increased tax base and tertiary spending.

Section 6.0

LIST OF NECESSARY PERMITS & APPROVALS

6.0 LIST OF NECESSARY PERMITS & APPROVALS

The following is a general list of permits and approvals may be required prior to the implementation of the project:

Table 6-1: List of Necessary Permits & Approvals	
Permit/Approval	Approving Agency
Chapter 343, Hawaii Revised Statutes (HRS), Environmental Assessment	City and County of Honolulu, Dept. of Planning and Permitting
Chapter 6E, HRS, Historic Preservation Compliance	State of Hawaii, Dept. of Land and Natural Resources Historic Preservation Division
National Pollutant Discharge Elimination System (NPDES) Permit	State of Hawaii Department of Health
Chapter 201H, HRS	City and County of Honolulu, Dept. of Planning and Permitting & City Council
Special Management Area (SMA) Major Permit	City and County of Honolulu, Dept. of Planning and Permitting The Honolulu City Council
Building Permits	City and County of Honolulu, Dept. of Planning and Permitting
Certificate of Occupancy	City and County of Honolulu, Dept. of Planning and Permitting
Construction Dewatering Permit	City and County of Honolulu, Dept. of Planning and Permitting
Grading and Stockpiling Permits	City and County of Honolulu, Dept. of Planning and Permitting
Sewer Connection Permit	City and County of Honolulu, Dept. of Environmental Services <u>Planning and Permitting</u>
Demolition Permit	City and County of Honolulu, Dept. of Planning and Permitting
Trenching Permit	City and County of Honolulu, Dept. of Planning and Permitting

Section 7.0

DETERMINATION OF SIGNIFICANCE

7.0. DETERMINATION OF SIGNIFICANCE

As stated in Hawaii Administrative Rules, Title 11, Subchapter 6, Section 11-200.1-13, Significance Criteria: in determining whether an action may have a significant effect on the environment, every phase of a proposed action shall be considered. The expected consequences of an action, both primary and secondary, and the cumulative as well as the short-term and long-term effects must be assessed in determining if an action shall have significant effect on the environment. Each of the significance criteria is listed below and is followed by the means of compliance or conflict (if extant).

- **Irrevocably commit a natural, cultural, or historic resource.**

The proposed action will occur on an existing developed site and will not impact any topographical features. Subsurface archaeological artifacts are a possibility but the site has been heavily disturbed and any remnants are unlikely. In the event that any archaeological remains are uncovered during the course of construction, all work will stop and the State Historic Preservation Office will be contacted for appropriate action.

- **Curtail the range of beneficial uses of the environment.**

The proposed use will not result in a change from its existing use but will bring a newer residential building to the site. The project represents an appropriate use that will benefit the public and will be environmentally consistent with the surrounding urban area. The proposed project will not curtail beneficial uses of the environment. The proposed project will provide needed housing inventory in the TOD area and is considered a highest and best use in the public interest.

- **Conflict with the State's environmental policies or long-term environmental goals established by law.**

The proposed action is consistent with the goals and guidelines expressed in Chapter 343, Hawaii Revised Statutes and Chapter 25, Revised Ordinance of Honolulu. The proposed action is triggered by the site being in an SMA. The subject Environmental Assessment has been developed in compliance with the Chapter 343, HRS and Chapter 25, ROH.

- **Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State.**

The proposed action will make a positive contribution to the welfare and economy of the State and City by providing desirable and needed affordable rental housing to the State of Hawaii. The project will also contribute positively to the community through the use of goods and services in the area, through construction related employment, and through secondary and tertiary spending and taxes. The proposed action will not have any impact on any native cultural practices.

- **Have a substantial adverse effect on public health.**

The proposed improvements are not expected to have any direct impact on public health but will provide housing for a target market that may not otherwise have an opportunity for centrally located affordable housing. No recreational resources will be impacted by the project, nor will the project increase any undesirable environmental impacts.

- **Involve adverse secondary impacts, such as population changes or effects on public facilities.**

The proposed action will increase the population within the community and will increase the demand for public facilities. These impacts are consistent with residential development of this

nature and are not considered adverse impacts. The change in population and demand for public facilities will be readily met by existing infrastructure and services.

- **Involve a substantial degradation of environmental quality.**

The proposed action will not degrade environmental quality. Impacts associated with the project, such as traffic impact and noise quality have been assessed to be minimal. The project is located in a highly urban environment that is expected to be heavily developed in the future. In that respect, the project is consistent with the overall land use of the district.

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

The Hale O Lipoa project is very beneficial in offering needed housing in consonance with the intent and overarching plans for the TOD Special District. The site is appropriately zoned for the proposed activities and does not serve as a component of a larger development.

- **Have a substantial adverse effect a rare, threatened or endangered species, or its habitat.**

The proposed action will not affect any rare, threatened or endangered species of flora or fauna, nor is it known to be near or adjacent to any known wildlife sanctuaries.

- **Have a substantial adverse effect on air or water quality or ambient noise levels.**

The proposed action will not impact air or water quality. Noise levels will change from those associated with day time oriented land use to residential use. The change in noise level is expected to be negligible and will not significantly affect surrounding properties. Minimal impacts on air quality and noise are anticipated during construction, but will be limited by normal construction practices and Department of Health construction mitigation standards.

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

The project will not have any impact on an environmentally sensitive area.

- **Have a substantial adverse effect on scenic vistas and view planes, day or night, identified in County or State plans or studies.**

~~The proposed action will not affect any scenic vistas or view planes as surrounding developments are similar in height to the proposed project. The project is located in a highly urban environment.~~
The proposed action will have an effect on the existing views plans. However, the height is consistent with the intent of the TOD Special District and underlying BMX-3 zoning.

- **Require substantial energy consumption or emit substantial greenhouse gases.**

The project will increase electrical energy consumption over the existing use. This increase will be consistent with residential use and will be typical of any high-density urban use. The project will include energy conservation measures to the greatest extent practicable. General conservation goals include: meeting State energy conservation goals, using energy saving design practices and technologies, and targeting LEED certification.

Based on the above stated criteria, the proposed Hale O Lipoa project is not expected to have a significant effect on the environment. As such, a Finding of No Significant Impact (FONSI) is expected to be issued for the project by the Department of Planning and Permitting.

Section 8.0

PARTIES CONSULTED DURING THE PREPARATION OF THE DRAFT ENVIRONMENTAL ASSESSMENT

8.0 PARTIES CONSULTED DURING THE PREPARATION OF THE DRAFT ENVIRONMENTAL ASSESSMENT

Table 8-1 lists the agencies, organizations, and parties formally notified of the project and requested for early consultation. The table also lists the parties from which comments were received, and copies of their formal letters and our responses are included at the end of this section. These parties will also receive a copy of the ~~Draft~~ Final Environmental Assessment upon publication.

Comment received during the 30-day DEA review period that commenced upon the formal issuance of in the Office of Planning and Sustainable Development's The Environmental Notice are included in the Final Environmental Assessment. Minutes and a summary of comments from Meetings and Presentations outside of the 30-day DEA comment period have been also been included.

~~Future comments received during the 30-day DEA review period that commences upon formal notice issuance in the Office of Planning and Sustainable Development's The Environmental Notice will be included in the Final Environmental Assessment.~~

Table 8-1 Consulted Parties				
Parties Consulted for Early Consultation	<u>Additional Parties Consulted</u>	Comments received from Early Consultation Request	<u>Comments received from 30-day DEA comment period</u>	<u>Meeting/ Presentation/ Comments/ Minutes from Meeting outside of DEA Comment Period</u>
A. Federal Agencies				
Department of Agriculture Natural Resources Conservation Services				
U.S. Fish & Wildlife Service Pacific Islands Fish & Wildlife Office		X		
Environmental Protection Agency				
U.S Geological Survey Pacific Islands Water Science Center				
Department of the Interior Army Corps of Engineers			X	
U.S. Senator - Mazie Hirono				

U.S. Senator - Brian Schatz				
U.S. Representative - Ed Case				
	<u>Federal Aviation Administration</u>			
	<u>Housing and Urban Development</u>			
B. State Agencies				
Department of Education		X		
Office of the Governor				
Hawaiian Community Development Authority				
State Representative - House District 32 Micah Aiu				
State Senator - Senate District 16 Brandon Elefante				
Department of Land & Natural Resources Historic Preservation Division				
Hawaii State Land Use Commission - Department of Business, Economic, Development & Tourism				
Office of Planning & Sustainable Development		X	X	
Department of Health Office of Hazard Evaluation & Emergency Response				
Department of Transportation		X	X	
Department of Accounting & General Services		X		
Office of Hawaiian Affairs			X	
	<u>Department of Hawaiian Home Lands</u>		X	
	<u>Hawaii State Energy Office</u>			

	<u>Hawaii Housing Finance and Development Corporation</u>			
County				
Mayor Rick Blangiardi				
Honolulu Board of Water Supply		X	X	
Honolulu Fire Department		X	X	
Honolulu Police Department		X		
Department of Design & Construction		X		
Department of Environmental Services		X		
Department of Community Services		X	X	
Department of Planning and Permitting		X	X	
Department of Parks & Recreation		X		
Department of Transportation Services		X	X	
City Council Representative Radiant Cordero				
	<u>Honolulu Area Rapid Transit</u>			
	<u>Office of Sustainability Climate Change and Resilience</u>			
	<u>Office of Economic Revitalization</u>			
Neighborhood				
Aiea Neighborhood Board No. 20		X		X
	<u>Aiea Community Association</u>			X
Other Entities				
	<u>Hawaiian Electric</u>			X

8.1 Comments Received from Early Consultation Request



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

March 21, 2022



In Reply Refer To:
2022-0020322-S7-001

Ms. Alicia Ruelke
Environmental Planning & Assessments LLC
P.O. Box 3442
Honolulu, Hawaii 96801

Subject: Species List for the proposed Hale O Lipoa Affordable Rental Housing Development at 98-150 Lipoa Place, Aiea, O'ahu

Dear Ms. Ruelke:

Thank you for your email of March 11, 2022, requesting a species list and guidance for the proposed Hale O Lipoa Affordable Rental Housing Development at 98-150 Lipoa Place, on the island of O'ahu. The proposed project is located in Aiea and consists of the construction of a five-story, 122-unit affordable rental housing building near the Pearlridge HART rail station. The PepperTree Apartments are currently in the location.

This letter has been prepared under the authority of and in accordance with provisions of the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*), as amended (ESA). Based on this authority, we offer the following comments for your consideration. We have reviewed the information you provided and pertinent information in our files, as it pertains to listed species and designated critical habitat in accordance with section 7 of the ESA. There is no federally designated critical habitat within the immediate vicinity of the proposed project. Our data indicate the following federally listed species may occur or transit through the vicinity of the proposed project area: the endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*); and the endangered Hawaiian petrel (*Pterodroma sandwichensis*), endangered Hawai'i distinct population segment (DPS) of band-rumped storm-petrel (*Oceanodroma castro*), and threatened Newell's shearwater (*Puffinus auricularis newelli*) (hereafter collectively referred to as Hawaiian seabirds).

Hawaiian hoary bat

The Hawaiian hoary bat roosts in woody vegetation across all islands and will leave their young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller are cleared

INTERIOR REGION 12
PACIFIC ISLANDS

INTERIOR REGION 9
COLUMBIA-PACIFIC NORTHWEST

IDAHO, MONTANA*, OREGON*, WASHINGTON
*PARTIAL
AMERICAN SAMOA, GUAM, HAWAII*,
NORTHERN MARIANA ISLANDS

2

Ms. Alicia Ruelke

during the pupping season, June 1 through September 15, there is a risk that young bats could inadvertently be harmed or killed, since they are too young to fly or move away from disturbance. Hawaiian hoary bats forage for insects from as low as 3 feet to higher than 500 feet above the ground and can become entangled in barbed wire used for fencing.

To avoid and minimize impacts to the endangered Hawaiian hoary bat we recommend you incorporate the following applicable measures into your project description:

- Do not disturb, remove, or trim woody plants greater than 15 feet tall during the bat birthing and pup rearing season (June 1 through September 15).
- Do not use barbed wire for fencing.

Hawaiian seabirds

Hawaiian seabirds may traverse the project area at night during the breeding, nesting and fledging seasons (March 1 to December 15). Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality. Seabirds are attracted to lights and after circling the lights they may become exhausted and collide with nearby wires, buildings, or other structures or they may land on the ground. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators.

Young birds (fledglings) traversing the project area between September 15 and December 15, in their first flights from their mountain nests to the sea, are particularly vulnerable to light attraction.

To avoid and minimize potential project impacts to seabirds we recommend you incorporate the following measures into your project description:

- Fully shield all outdoor lights so the bulb can only be seen from below.
- Install automatic motion sensor switches and controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.
- Avoid nighttime construction during the seabird fledging period, September 15 through December 15.

We appreciate your efforts to conserve protected species. If you have questions regarding this letter, please contact Charmian Dang, Fish and Wildlife Biologist (phone: 808-792-9400, email: Charmian_Dang@fws.gov). When referring to this project, please include this reference number: 2022-0020322-S7-001.

Sincerely,
AARON NADIG

Island Team Manager
O'ahu, Kaua'i, Northwestern Hawaiian Islands, and American Samoa

Signature of Aaron Nadig
Date: 2022/03/21 10:46:00



PO Box 3442
Honolulu, HI 96801
Phone | (808) 464-7084
Email | epa.hawaii@gmail.com

November 8, 2023

Charmain Dang, Fish and Wildlife Biologist
United States Department of the Interior
Fish and Wildlife Service
300 Ala Moana Boulevard, Room 3-122
Honolulu, HI 96850

SUBJECT: Response to Comments from the Early Consultation for the Proposed
Hale O Lipoa Affordable Rental Housing Development located at 98-150 Lipoa
Pl, Aiea, Hawaii 96701; TMK: 1-9-8-014021

Dear Charmain Dang,

Thank you for your letter dated March 21st, 2022 and your corresponding email dated March 2nd, 2023.

We acknowledge that there is no federally designated critical habitat within the immediate vicinity of the proposed Project. We also acknowledge that there are federally listed species that may occur or transit through the vicinity of the proposed Project area. In an effort to protect the Hawaiian hoary bat and the Hawaiian seabirds, we acknowledge your recommended procedures to minimize the potential impacts to these creatures.

We appreciate your input and will include a copy of your comment letters and this response in the Draft Environmental Assessment (EA). Should you have any questions or require further information regarding the proposed action, please email epa.hawaii@gmail.com. Thank you for your assistance.

Sincerely,

Alicia Ruelke, President
Environmental Planning & Assessments LLC



Alicia Ruelke
April 19, 2022
Page 2

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

OFFICE OF FACILITIES AND OPERATIONS

Thank you for the opportunity to comment. Should you have questions, please contact Robyn Loudermilk, School Lands and Facilities Specialist of the Facilities Development Branch, Planning Section, at (808) 784-5093 or by email at robyn.loudermilk@k12.hi.us.

Sincerely,

Roy Ikeda
Interim Public Works Manager
Planning Section

April 19, 2022

Alicia Ruelke, President
Environmental Planning & Assessments
P.O. Box 3442
Honolulu, Hawaii 96801

RI:ctc

c: John Erickson, Complex Area Superintendent, Aiea/Moanalua/Radford Complex
Facilities Development Branch

Re: Request for Technical Assistance Regarding Early Consultation for the Proposed Hale O Lipoa Affordable Rental Housing Development located at 98-150 Lipoa Place, Aiea, Hawaii 96701; TMK: (1)9-8-014:021

Dear Ms. Ruelke:

Thank you for your letter dated March 4, 2022. The Hawaii State Department of Education (Department) has the following comments on the Request for Technical Assistance Regarding Early Consultation for the Proposed Hale O Lipoa Affordable Rental Housing Development (Project).

Children living in this Project will be attending Alvah Scott Elementary, Aiea Intermediate, and Aiea High Schools. Alvah Scott Elementary is currently operating below capacity and will continue to operate at this capacity during the next five years. Both Aiea Intermediate and Aiea High School are operating below capacity and will continue to operate below capacity during the next five years.

The Project is located within the Leeward Oahu Impact Fee District with a fee amount of \$4,334 for each multi-family unit. The Project developer is encouraged to meet with the Department as early as possible to discuss executing an Educational Contribution Agreement.

When the Project is completed the Department anticipates approximately 45 public school students to reside there.

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER



PO Box 3442
Honolulu, HI 96801
Phone | (808) 464-7084
Email | epa.hawaii@gmail.com

JOHN GREEN, M.D.
GOVERNOR



KERRI T. HAYASHI
SUPERINTENDENT

STATE OF HAWAII
DEPARTMENT OF EDUCATION
KA 'OIHANA HO'ONA'AUAO
P.O. BOX 2360
HONOLULU, HAWAII 96804

OFFICE OF FACILITIES AND OPERATIONS

November 8, 2023

Roy Ikeda, Interim Public Works Manager
State of Hawaii Department of Education
Planning Section
P.O. Box 2360
Honolulu, HI 96804

April 3, 2023

SUBJECT: Response to Comments from the Early Consultation for the Proposed
Hale O Lipoa Affordable Rental Housing Development located at 98-150 Lipoa
Pl, Aiea, Hawaii 96701; TMK: 1-9-8-014021

Alicia Ruelke, President
Environmental Planning & Assessments
P.O. Box 3442
Honolulu, Hawaii 96801

Dear Mr. Ikeda,

Thank you for your letters dated April 19, 2022 and April 3, 2023 on the subject project. We
have reviewed your comments and offer the following:

We understand that the developer applicant must meet with the Department of Education to
discuss the Education Contribution Agreement and will do so at the appropriate time.

We appreciate your input and will include a copy of your comment letters and this response in
the Draft Environmental Assessment (EA). Should you have any questions or require further
information regarding the proposed action, please email epa.hawaii@gmail.com. Thank you for
your assistance.

Sincerely,

Alicia Ruelke, President
Environmental Planning & Assessments LLC

Re: Request for Technical Assistance Regarding Early Consultation for the Proposed
Hale O Lipoa Affordable Rental Housing Development located at 98-150 Lipoa Place
Aiea, Hawaii 96701; TMK: (1)9-8-014:021

Dear Ms. Ruelke:

Thank you for your letter dated February 23, 2023. The Hawaii State Department of Education
(Department) previously provided the enclosed comments, dated April 19, 2022, and encourages
the developer to meet with the Department as early as possible to discuss executing an
Educational Contribution Agreement.

Thank you for the opportunity to comment. Should you have any questions, please contact Cori
China, of the Facilities Development Branch, Planning Section, at (808) 784-5080 or via email at
cori.china@k12.hi.us.

Sincerely,

Roy Ikeda
Interim Public Works Manager
Planning Section

RL:tc
Enclosure

c: John Erickson, Complex Area Superintendent, Aiea/Moanalua/Radford Complex
Facilities Development Branch

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER



**STATE OF HAWAII
OFFICE OF PLANNING
& SUSTAINABLE DEVELOPMENT**

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

DAVID Y. IGE
GOVERNOR
MARY ALICE EVANS
DIRECTOR

Telephone: (808) 587-2846
Fax: (808) 587-2864
Web: <https://planning.hawaii.gov/>

DTS 202203090827NA

Ms. Alicia Ruelke
April 22, 2022
Page 2

Coastal Zone Management Program
Environmental Review Program
Land Use Commission
Land Use Division
Special Plans Branch
State Transit-Oriented Development
Statewide Geographic Information System
Statewide Sustainability Branch

April 22, 2022

Ms. Alicia Ruelke
Project Manager
Environmental Planning & Assessments LLC
P.O. Box 3442
Honolulu, Hawai'i 96801

Dear Ms. Ruelke,

Subject: Response to Early Consultation Request for the Proposed Hale O Lipoa Affordable Rental Housing Development
98-150 Lipoa Place, Aiea, Hawai'i 96701
TMK: (1) 9-8-014: 021

Thank you for the opportunity to provide comments on your early consultation request in the preparation of a Draft Environmental Assessment (Draft EA) for the proposed Hale O Lipoa Affordable Rental Housing Project. The Office of Planning and Sustainable Development (OPSD) has reviewed the material emailed with the notification request and memo dated March 4, 2022.

It is our understanding that Lipoa Development LLC intends to redevelop an existing 58-unit apartment complex into a 122-unit affordable rental housing development for individuals and families at and below 100% of Area Median Income (AMI). The proposed project is located near the Pearl Harbor shoreline and is within a quarter mile of the Honolulu Authority for Rapid Transportation (HART) Pearlridge Station.

According to the review material, the primary objective of this project is to provide much needed affordable housing, coupled with resident services and community amenities, to improve the quality of life for low-income residents. As a Transit Oriented Development (TOD) project, Hale O Lipoa is proposing to reduce onsite parking, and will be providing bike parking, and EV charging stations. It is stated the project will house residents who will use other multi-modal transportation options, including public transit, walking, biking, carshares, or the Handi-Van for their transportation needs. The project is intended to be built to LEED Gold standards.

OPSD has the following comments to offer.

1. **Hawai'i Revised Statutes (HRS) Chapter 343 Triggers and Permits Required**
The Environmental Assessment (EA) should identify and discuss the trigger(s) requiring the preparation of an EA under HRS Chapter 343, as well as list the permits required and the exemptions being sought in the 201H application process.

We note the review material acknowledges the need for a Special Management Area (SMA) Use Permit. The EA can serve as a supporting document for the SMA Use Permit application by specifically examining compliance with the requirements of SMA use under Revised Ordinances of Honolulu (ROH) Chapter 25, and by consulting with the Department of Planning and Permitting (DPP), City and County of Honolulu (CCH). The subject EA should provide a regional location map of the subject property on O'ahu, with the project site proximity and relation to the CCH-designated SMA boundary.

2. **Hawai'i Coastal Zone Management (CZM) Program**
The CZM area is defined as "all lands of the State and the area extending seaward from the shoreline to the limit of the State's police power and management authority, including the U.S. territorial sea" under HRS § 205A-1.
Pursuant to HRS § 205A-4, in implementing the objectives of the CZM program, agencies shall consider ecological, cultural, historic, esthetic, recreational, scenic, open space values, coastal hazards, and economic development. As this project will require agency approval, to aid in the decision-making process, the Draft EA should include a discussion on the project's consistency with HRS § 205A-2, as amended.

Disclosure of impacts on CZM objectives and supporting policies, as it relates to HRS Chapter 343 requirements, will aid the State in determining impacts to the State's coastal resources.

3. **Climate Change / Sea Level Rise (SLR)**
Sea level rise increases the risk of flooding, storm surges, and coastal erosion. To assess any potential impacts of sea level rise on the proposed development area, we suggest the Draft EA refer to the findings of the Hawaii Sea Level Rise Vulnerability and Adaptation Report 2017, accepted by the Hawaii Climate Change Mitigation and Adaptation Commission.

The Report, and Hawaii Sea Level Rise Viewer at <https://www.nacios.hawaii.edu/shoreline/slr-hawaii/> identifies a 3.2-foot SLR exposure area across the main Hawaiian Islands, including O'ahu, which may occur in the mid- to latter half of the 21st century.

The Draft EA should provide a map of the project area in relation to the 3.2-foot sea level rise exposure area, and consider site-specific mitigation measures, if necessary, to respond to the potential impacts of 3.2-foot sea level rise on the proposed development.

4. **Stormwater Runoff, Erosion, and Water Resources**
Pursuant to Hawai'i Administrative Rules (HAR) § 11-200.1-18(d)(7) – identification and analysis of impacts and alternatives considered, to ensure that nearshore marine resources along the southshore of O'ahu remain protected, the negative effects of stormwater inundation and sediment loading surrounding the proposed project site should be evaluated.



**STATE OF HAWAII
OFFICE OF PLANNING
& SUSTAINABLE DEVELOPMENT**

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

JOSH GREEN, M.D.
GOVERNOR

SCOTT J. GLENN
PLANNING DIRECTOR

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

DTS 202303080826NA

March 28, 2023

- Coastal Zone Management Program
- Environmental Review Program
- Land Use Commission
- Land Use Division
- Special Plans Branch
- State Transit-Oriented Development
- Statewide Geographic Information System
- Statewide Sustainability Branch

Ms. Alicia Ruelke
Project Manager
Environmental Planning & Assessments, LLC
P.O. Box 3442
Honolulu, Hawaii 96801

Dear Ms. Ruelke:

Subject: Response to Early Consultation Request for the Proposed Hale O Lipoa Affordable Rental Housing Development
98-150 Lipoa Pl., Aiea, Hawaii 96701
TMK: (1) 9-8-014; 021

Thank you for the opportunity to provide comments on your early consultation request in the preparation of a Draft Environmental Assessment (Draft EA) for the proposed Hale O Lipoa Affordable Rental Housing Project. The notification request was sent via memo dated February 23, 2023.

It is our understanding that Lipoa Development LLC intends to develop a 154-unit affordable rental housing development for individuals and families in 'Aiea, O'ahu. The proposed project location is along the Pearl Harbor Shoreline and is within the service area of the Honolulu Authority for Rapid Transportation (HART) Pearlridge Station.

The Office of Planning and Sustainable Development (OPSD) has examined the review material and has the following comments to offer:

1. Previous Comments:
OPSD had previously submitted comments on an agency early consultation request on the Hale O Lipoa Housing project, DTS 202203090827NA, dated April 22, 2022. Based on the information provided, it appears that the two early consultation project material do not appear to show any significant differences, aside from an increase of 154-units, compared to 122-units in the previous agency comment request. Our comments in our previous response letter from April 2022 have not changed.

Ms. Alicia Ruelke
April 22, 2022
Page 3

Issues that may be examined include, but are not limited to, project site characteristics in relation to flood and erosion prone areas, potential vulnerability of water resources, the shoreline, and impermeable surface area. The EA should identify mitigation measures that will be undertaken for the protection for surface water resources and the coastal ecosystem, pursuant to HAR § 11-200.1-18(d)(8).

5. **Transit-Oriented Development and Increased Density**
The EA should discuss the environmental and social benefits of increasing residential density in proximity to transit service, as well as the adverse impacts associated with TOD density. The EA should identify the specific measures that will be incorporated in project design, construction, and operations to mitigate these development impacts.
6. **Green Building and Sustainability**
Similarly, the EA should describe and discuss the elements proposed to be implemented to achieve LEED Gold for the project, including water conservation and reuse, energy conservation and renewable energy resources, green infrastructure, and green building practices and materials that are proposed to be used in project development and operation.
7. **Walkability and Promotion of Transit and Multi-modal Transportation Modes**
The EA should discuss the measures that will be taken to promote resident use of public transit and alternative modes of transportation, including walking, bicycling, and car share. This is particularly critical given the reduction in both vehicular and bike parking proposed for the project. Safe pedestrian, bicycle, and micro-mobility movement between the project and the Pearlridge rail station is essential and the EA should examine how the project might improve conditions so that residents have safe and convenient non-vehicular access to the HART station, nearby amenities and shops, and the Pearl Harbor Historic Trail.

If you have any questions, please contact Joshua Hekeia, (808) 587-2845, for CZM and environmental concerns or Carl Miura, (808) 587-2805, for TOD-related concerns.

Sincerely,
Mary Alice Evans
Mary Alice Evans
Director



PO Box 3442
Honolulu, HI 96801
Phone | (808) 464-7084
Email | epa.hawaii@hawaii.com

November 9, 2023

Scott J. Glenn, Director
State of Hawaii
Office of Planning & Sustainable Development
P.O. Box 2359
Honolulu, HI 96804

SUBJECT: Response to Comments from the Early Consultation for the Proposed Hale O Lipoa Affordable Rental Housing Development located at 98-150 Lipoa Pl, Aiea, Hawaii 96701; TMK: 1-9-8-014021

Dear Mr. Glenn,

Thank you for your letters dated April 22, 2022 and March 28, 2023 on the subject project. We have reviewed your comments and offer the following:

From the April 22, 2022 letter:

- Chapter 343 Triggers and Permits Required:
As suggested, Section 1 indicates that the Project is subject to environmental documentation required pursuant to the requirements of Chapter 343, HRS and Chapter 25, Revised Ordinances of Honolulu (ROH) because it is located in a Special Management Area (SMA). In addition, it also proposes the potential use of public financing and is seeking exemptions from City development standards. Section 6 of the DEA lists the permits required by the proposed Project and Section 2.5 discusses the exemptions being sought in the 201H application process. Please see Figure 3.3.2.3 for the Special Management Area Map.
- Hawaii Coastal Zone Management (CZM) Program:
As suggested, Section 4 includes a discussion on the proposed Project's consistency with HRS Section 205A-2, as amended.
- Climate Change / Sea Level Rise (SLR):
As suggested, Section 3.3.2 of the DEA assesses the potential impacts of SLR on the proposed development area. A SLR map of the project area in relation to the 3.2-foot sea level rise exposure area is provided as Figure 3-6.
- Stormwater Runoff, Erosion, and Water Resources:

Ms. Alicia Ruelke
March 28, 2023
Page 2

2. **Changes to the Project from our Previous Review**
Based on our previous review of the project site, the information provided for this iteration of the affordable housing project is unclear on the need for a resubmittal for agency comment. For example, issues such as the building footprint are similar the previous request. The Draft EA should clarify how the previous information differs from this agency comment request. These can include changes in building size, footprint, increase of impervious surfaces, and parking requirements. An increase of hardened surface may necessitate the deployment of mitigation measures that limit stormwater runoff, in light of a proposed increase of housing units from 122 to 154.

3. **State Goals on Affordable Rental Housing:**
OPSD commends the Lipoa Development LLC for its plans to build additional affordable housing to help address the serious housing shortages on the island of O'ahu. The Draft Environmental Assessment should detail how the 154-unit affordable rental housing project aligns with Act 127, (Session Laws of Hawai'i, 2016), Affordable Rental Housing Report and Ten-Year Plan.

If you have any questions, please contact Joshua Hekeia of our CZM Program on Environmental Assessment concerns as they relate to this OPSD response letter at (808) 587-2845 or Carl Muura of our Land Use Division on affordable rental housing issues at (808) 587-2805.

Sincerely,

for Scott J. Glenn,
Interim Director

As suggested, the DEA includes a discussion on project site characteristics in relation to flood and erosion prone areas, potential vulnerability of water resources, the shoreline, and impermeable surface area in Section 3.3.2. Also identified are mitigation measures that will be undertaken for the protection for surface water resources and the coastal ecosystem.

5. Transit-Oriented Development and Increased Density:
As suggested, Section 3.2 discusses the benefits and adverse impacts associated with TOD density, as well as the specific measures that will be incorporated to mitigate these development impacts.
6. Green Building and Sustainability:
The project is planning on achieving LEED Gold and Section 2.2.7 describes these proposed implementations.
7. Walkability and Promotion of Transit and Multi-modal Transportation Modes:
As suggested, Section 2.2.5 discusses the multi-modal mitigation measures in relation to the surrounding area, including the HART station and Pearl Harbor Historic Trail.

From the March 28, 2023 letter –

1. Previous Comments:
We have responded to your previous comments above.
2. Changes to the Project from Previous Review:
A second pre-consultation request letter was sent because the project size and density increased from the time the project was sent in 2022. The environmental assessment had also not been started until 2023. All else remains the same.
3. State Goals on Affordable Rental Housing:
As suggested, Section 4.1 describes how the Project aligns with Act 127, (Session Laws of Hawaii, 2016), Affordable Rental Housing Report and Ten-Year Plan.

We appreciate your input and will include a copy of your comment letters and this response in the Draft Environmental Assessment (EA). Should you have any questions or require further information regarding the proposed action, please email epa.hawaii@gmail.com. Thank you for your assistance.

Sincerely,



Alicia Ruelke, President
Environmental Planning & Assessments LLC

Ms. Alicia Ruelke
April 3, 2023
Page 2

STP 8.3590

shall be included in the submittal. The form and criteria for submittal can be found at the following website: <https://oiaa.faa.gov/oiaa/external/portal.jsp>.

3. Due to the project's proximity to HNL, the applicant and future residents should be aware of potential single event noise from aircraft operations. There is also a potential for fumes, smoke, vibrations, odors, etc., resulting from occasional aircraft flight operations over or near the project. These incidences may increase or decrease over time and are dependent on airport operations.

4. If a solar energy photovoltaic (PV) system is going to be installed, be aware that PV systems located in or near the approach path of aircrafts can create a hazardous condition for pilots due to possible glint and glare reflected from the PV panel array. If glint or glare from the PV array creates a hazardous condition for pilots, the owner of the PV system shall be prepared to immediately mitigate the hazard upon notification by the HDOT and/or FAA.

The FAA requires a glint and glare analysis for all solar energy PV systems near airports. The www.sandia.gov/glare website has information and guidance with the preparation of a glint and glare analysis. A separate FAA Form 7460-1 will be necessary for the solar energy PV system. After the FAA determination of the Form 7460-1 glint and glare analysis, a copy shall be provided to the HDOT by the owner of the solar energy PV system.

Solar energy PV systems have also been known to emit radio frequency interference (RFI) to aviation-dedicated radio signals, thereby disrupting the reliability of air-to-ground communications. Again, the owner of the solar energy PV system shall be prepared to immediately mitigate the RFI hazard upon notification by the HDOT and/or FAA.

5. The proposed development shall not provide landscape and vegetation that will create a wildlife attractant, which can potentially become a hazard to aircraft operations. Please review the [FAA Advisory Circular 150/5200-33C, Hazardous Wildlife Attractants On Or Near Airports](http://www.faa.gov/airports/operations/aircraft/aircraft_attraction) for guidance. If the project's landscaping creates a wildlife attractant, the developer shall immediately mitigate the hazard upon notification by the HDOT and/or FAA.

6. No direct impact to State highways is anticipated, however, the EA traffic impact discussion should include the following:

- a. Jurisdiction of roadways in the vicinity.
- b. Location of existing and proposed site access driveways.
- c. Observations regarding existing traffic conditions in the vicinity of the site include bicycle and pedestrian routes and locations of transit stops.

JOSH GREEN, M.D.
GOVERNOR



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

April 3, 2023

EDWIN H. SHIFFEN
DIRECTOR
Deputy Directors:
DREXIALEE K. KALLI
TAMMY L. LEE
ROBIN K. SHIBUDO
JAMES HUNANE TOROGA
1685A, 1685B, 1685C, 1685D

DIR 0160
STP 8.3590

VIA EMAIL: epa.hawaii@gmail.com

Ms. Alicia Ruelke, President
Environmental Planning & Assessments LLC
PO Box 3442
Honolulu, Hawaii 96801

Dear Ms. Ruelke:

Subject: Early Consultation for Environmental Assessment (EA)
Hale O Lipoa Affordable Rental Housing Development
Aiea, Oahu, Hawaii
Tax Map Key: (1) 9-8-014-021

Thank you for your letter dated February 23, 2023, requesting the Hawaii Department of Transportation's (HDOT) review and comments for the subject affordable housing project. HDOT understands Lipoa Development LLC is proposing to construct a 5-story affordable rental housing development with 154 units. The proposed project will be a transit-oriented development and will be located along the Pearl Harbor Shoreline and within proximity to the Pearlridge Honolulu Authority for Rapid Transit rail station. The project site will be accessed via Lipoa Place, adjacent to Kamehameha Highway (State Route 99).

HDOT has the following comments:

1. The proposed development is approximately 3.14 miles from the property boundary of Daniel K. Inouye International Airport (HNL). All projects within 5 miles from Hawaii State airports are advised to read the Technical Assistance Memorandum (TAM) for guidance with development and activities that may require further review and permits. The TAM can be viewed at this link: http://files.hawaii.gov/dhsst/cap/docs/TAM-FAA-DOE-Airports_08-01-2016.pdf.
2. Federal Aviation Administration (FAA) regulation requires the submittal of FAA Form 7460-1 Notice of Proposed Construction or Alteration pursuant to the Code of Federal Regulations, Title 14, Part 77.9, if the construction or alteration is within 20,000 feet of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with its longest runway more than 3,200 feet. Construction equipment and staging area heights, including heights of temporary construction cranes,



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 Honolulu, HI 96801
 Phone | (808) 464-7084
 Email | epa.hawaii@gmail.com

Ms. Alicia Ruelke
 April 3, 2023
 Page 3

STP 8.3590

November 8, 2023
 Edwin H. Sniffen, Director
 State of Hawaii
 Department of Transportation
 869 Punchbowl Street
 Honolulu, HI 96813-5097

SUBJECT: Response to Comments from the Early Consultation for the Proposed Hale O Lipoa Affordable Rental Housing Development located at 98-150 Lipoa Pl, Aiea, Hawaii 96701; TMK: 1-9-8-01-4021

Dear Mr. Sniffen,

Thank you for your letter dated April 3, 2023 on the subject project. We have reviewed your comments and offer the following:

1. FAA Form 7460-1 Notice of Proposed Construction or Alteration: We acknowledge that the FAA Form 7460-1 will be submitted prior to applying for a construction permit for the proposed Project.
2. Solar Energy PV Systems: We acknowledge that a glint and glare analysis will be conducted and a separate FAA Form 7460-1 will be filed and provided to the HDOT.
3. Landscaping: We acknowledge that any hazard caused by landscaping that creates a wildlife attractant will be properly mitigated upon immediate notification by the HDOT and/or FAA.
4. Traffic Impact Discussion: As suggested, the DEA includes a discussion and assessment on the listed items.
5. HDOT Permits:
 1. Permit to Perform Work Upon State Highways: No work is planned within the State highway ROW.
 2. Permit to Operate or Transport Oversize and/or Overweight Vehicles and Loads Over State Highways (HRS Chapter 291, Section 36): There are no operational requirements for use of oversize/overweight vehicles. However, some construction equipment and materials may qualify. The contractor shall apply for the permit if necessary.
 3. Permit for the Occupancy and Use of State Highway (HRS 264): No private utilities are planned in the State Highway ROW.

- d. Project description including pipelines and other infrastructure that may be removed or constructed within the HDOT right-of-way (ROW), operations and construction activities, hours of operation, estimated number of vehicle trips to and from the site during peak traffic hours and access routes.
 - e. Assessment of the project's potential direct, secondary and cumulative impact to State roadways.
 - f. If the qualitative traffic assessment suggests a potential for adverse impact to State highways, the EA should include a traffic impact analysis report prepared by a licensed professional engineer.
7. Determine applicability for the following HDOT permits:
- a. Permit to Perform Work Upon State Highways is required for any work within the State highway ROW, Hawaii Revised Statutes (HRS) 264. The application includes the review and approval of construction drawings and a Traffic Management Plan.
 - b. Permit to Operate or Transport Oversize and/or Overweight Vehicles and Loads Over State Highways (HRS Chapter 291, Section 36).
 - c. Permit for the Occupancy and Use of State Highway (HRS 264). Note: this is applicable to underground and overhead power lines, utility pipelines within the State highway ROW.

The permit applications and instructions are available online: <https://hdot.hawaii.gov/highways/home/doing-business/guide-to-permits>

Please submit any subsequent land use entitlement related requests for review or correspondence to the HDOT Land Use Intake email address at DOT.LandUse@hawaii.gov.

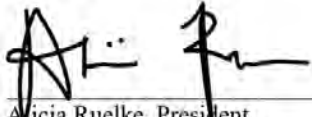
If there are any questions, please contact Mr. Blayne Nikaido, Planner, Land Use Section of the HDOT Statewide Transportation Planning Office at (808) 831-7979 or via email at blayne.nikaido@hawaii.gov.

Sincerely,

EDWIN H. SNIFFEN
 Director of Transportation

We appreciate your input and will include a copy of your comment letters and this response in the Draft Environmental Assessment (EA). Should you have any questions or require further information regarding the proposed action, please email epa.hawaii@gmail.com. Thank you for your assistance.

Sincerely,

A handwritten signature in black ink, appearing to read 'Alicia Ruelke', written over a horizontal line.

Alicia Ruelke, President
Environmental Planning & Assessments LLC



PO Box 3442
Honolulu, HI 96801
Phone | (808) 464-7084
Email | epa.hawaii@gmail.com

November 8, 2023

Christine L. Kinimaka, Public Works Administrator
State of Hawaii
Department of Accounting and General Services
P.O. Box 119
Honolulu, HI 96810-0119

SUBJECT: Response to Comments from the Early Consultation for the Proposed
Hale O Lipoa Affordable Rental Housing Development located at 98-150 Lipoa
Pl, Aiea, Hawaii 96701; TMK: 1-9-8-014021

Dear Ms. Kinimaka,

Thank you for your letter dated March 8th, 2023. We understand that the proposed Project is approximately one (1) mile away from the State's proposed New Aloha Stadium Entertainment District (NASED).

We appreciate your input and will include a copy of your comment letters and this response in the Draft Environmental Assessment (EA). Should you have any questions or require further information regarding the proposed action, please email epa.hawaii@gmail.com. Thank you for your assistance.

Sincerely,

Alicia Ruelke, President
Environmental Planning & Assessments LLC



JOHN GREEN, M.D.
GOVERNOR
HE HUI AHA

KEITH A. REGAN
COMPTROLLER
KA LUNA HO'OMALU HANA LAULA
HESHA KING BELMANN
DEPUTY COMPTROLLER
KA HOPE LUNA HO'OMALU HANA LAULA

STATE OF HAWAII | KA MOKU'ĀINA O HAWAII'
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES | KA 'OHANA LOIHELU A LAWELEWE LAULA
P.O. BOX 119, HONOLULU, HAWAII 96810-0119 (P)21.027

MAR - 8 2023

Alicia Ruelke
Environmental Planning & Assessments LLC
P.O. Box 3442
Honolulu, HI 96801

Dear Ms. Ruelke:

Subject: Early Consultation for Draft Environmental Assessment
Hale O Lipoa Affordable Rental Housing Development
98-150 Lipoa Place, Aiea, Hawaii, 96701
TMK: (1) 9-8-014:021

Thank you for the opportunity to provide comments on the subject project. The subject project is approximately one (1) mile away from the State's proposed New Aloha Stadium Entertainment District (NASED) involving construction of a stadium and mixed-use development. A Final Environmental Impact Statement for NASED was accepted by the governor and published on September 23, 2022. The documents can be downloaded from the State of Hawaii's Environmental Review Program's website: <https://nased.hawaii.gov/erp/>. You may also visit the NASED project's website at <https://nased.hawaii.gov/> for additional information.

If you have any questions, your staff may call David DePonte of the Planning Branch at (808) 586-0492 or e-mail at david.c.deponte@hawaii.gov.

Sincerely,

CHRISTINE L. KINIMAKA
Public Works Administrator

DD:mo
c: Ryan Andrews, DBEDT - Aloha Stadium

Ms. Alicia Ruelke
March 16, 2023
Page 2

When water is made available, the applicant will be required to pay our Water System Facilities Charges (WSFC) for resource development, transmission, and daily storage. Water conservation measures are required for all proposed developments. These measures include utilization of nonpotable water for irrigation using rain catchment, drought tolerant plants, xeriscape landscaping, efficient irrigation systems, such as a drip system and moisture sensors, and the use of Water Sense labeled ultra-low flow water fixtures and toilets.

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

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

The BWS may waive the WSFC and new meter cost for qualified on-site affordable and homeless dwelling units, up to 500 dwelling units per year. The waivers will be evaluated when the building permit is submitted for approval. To qualify, the dwelling units must be certified as either affordable or homeless dwelling units by the appropriate agency of the City and County of Honolulu. Waiver of the WSFC will apply only to fixture units associated with the certified dwelling units. The amount of the meter waiver shall be calculated as a percentage of the number of certified dwelling units to the total number of dwelling units in the project. If the annual cap of 500 dwelling units has not been reached and a project is proposed that would qualify for more than the remaining number of dwelling units in that year, the Manager and Chief Engineer has the discretion to increase that year's limit. This waiver provision shall expire on June 30, 2023.

If you have any questions, please contact Barry Usagawa of our Water Resources Division, at (808) 748-5900.

Very truly yours,


ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

BOARD OF WATER SUPPLY

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



March 16, 2023

RICK BLANGIARDI, MAYOR
BRYAN P. ANDAYA, Chair
KAPUA SPROGAT, Vice Chair
MAX J. SWORD
JULIE A. KANE
JOAN RYAN KANESHIRO
DAWN B. SZEWZYK, P.E., Ex-Officio
EDWIN H. SNIPPEN, Ex-Officio
ERNEST Y. W. LAU, P.E.,
Manager and Chief Engineer
ERWIN M. KAWATA
Deputy Manager

Ms. Alicia Ruelke
Environmental Planning & Assessment LLC
P.O. Box 3442
Honolulu, Hawaii 96801

Dear Ms. Ruelke:

Subject: Your Letter Dated February 23, 2023 Regarding the Early Consultation for the Environmental Assessment for the Proposed Hale O Lipoa Affordable Rental Housing Development at 98-150 Lipoa Place – Tax Map Key: 9-8-014: 021

Thank you for the opportunity to comment on the proposed 154-unit affordable housing project.

The existing water system is currently adequate to accommodate the proposed development. However, please be advised that the existing Alea to Halawa water system capacity has been reduced due to the shut-down of the Alea Wells and Halawa Wells pumping station as a proactive measure to prevent fuel contamination from the Navy's Red Hill Bulk Storage Tank fuel releases. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval, pending evaluation of the water system conditions at that time on a first-come, first-served basis. The Board of Water Supply (BWS) reserves the right to change any position or information stated herein up until the final approval of the building permit application.

We continue to request 10% voluntary water conservation of all customers until new sources are completed and require water conservation measures in all new developments. If water consumption significantly increases, progressively restrictive conservation measures may be required to avoid low water pressures and disruptions of water service.

Presently, there is no moratorium on the issuance of new and additional water services. Water distributed via the BWS water systems remains safe for consumption. The BWS is closely monitoring water usage and will keep the public informed with the latest findings. Please visit our website at <http://www.boardofwatersupply.com> and <http://www.protectourwater.org> for the latest updates and water conservation tips.



PO Box 3442
Honolulu, HI 96801
Phone | (808) 464-7084
Email | epa.hawaii@gmail.com

November 8, 2023

Ernest Y. W. Lau, Manager and Chief Engineer
City and County of Honolulu
Board of Water Supply
630 South Beretania Street
Honolulu, HI 96843

SUBJECT: Response to Comments from the Early Consultation for the Proposed
Hale O Lipoa Affordable Rental Housing Development located at 98-150 Lipoa
Pl, Aiea, Hawaii 96701; TMK: 1-9-8-014021

Dear Mr. Lau,

Thank you for your letter dated March 16th, 2023. We appreciate your comments that the existing water system is currently adequate to accommodate the proposed development. We further recognize that the Board of Water Supply reserves the right to change its position on water availability until the building permit application has been approved.

We also confirm that the applicant will look for ways to conserve water through various design and conservation measures. If deemed necessary, the applicant will pay the fees for water resource development, transmission, and daily storage, however the applicant is planning on receiving a waiver of these fees through the 201H application request.

Additionally, Fire protection requirements will be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department as the project moves forward.

Finally, we acknowledge the rest of the comments contained in your letter.

We appreciate your input and will include a copy of your comment letter and this response in the Draft Environmental Assessment (EA). Should you have any questions or require further information regarding the proposed action, please email epa.hawaii@gmail.com. Thank you for your assistance.

Sincerely,

Alicia Ruelke, President
Environmental Planning & Assessments LLC

Ms. Alicia Ruelke, President
Page 2
March 21, 2022

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

RICK BLANGUARDI
MAYOR



SHELDON K. HAO
FIRE CHIEF
JASON SAMALA
DEPUTY FIRE CHIEF

March 23, 2022

- 2. An approved water supply capable of supplying the required fire flow for fire protection shall be provided to all premises upon which facilities, buildings, or portions of buildings are hereafter constructed or moved into the jurisdiction. The approved water supply shall be in accordance with Section 18.4. (NFPA 1; 2018 Edition, Section 18.3.1.)
- 3. The Fire department access roads shall be in accordance with Section 18.2.3. (NFPA 1; 2018 Edition, Section 18.2.3.)
- 4. Submit civil drawings to the HFD for review and approval.

Should you have questions, please contact Fire Captain Timothy Caires of our Fire Prevention Bureau at 808-723-7094 or tcaires@honolulu.gov.

Sincerely,

CRAIG UCHIMURA
Acting Assistant Chief

CU/CM:bh

Ms. Alicia Ruelke, President
Environmental Planning
and Assessments LLC
P.O. Box 3442
Honolulu, Hawaii 96801

Dear Ms. Ruelke:

Subject: Early Consultation for Environmental Assessment
Hale O Lipoa Affordable Rental Housing Development
98-150 Lipoa Place
Aiea, Hawaii 96701
Tax Map Keys: 9-8-014; 021

In response to your letter dated March 4, 2022, regarding the abovementioned subject, the Honolulu Fire Department (HFD) reviewed the submitted information and 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 meters) 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; 2018 Edition, Sections 18.2.3.2.2 and 18.2.3.2.2.1, as amended.)

A fire department access road shall extend to within 50 feet (15 meters) 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; 2018 Edition, Section 18.2.3.2.1.)



PO Box 3442
Honolulu, HI 96801
Phone | (808) 464-7084
Email | epa.hawaii@gmail.com

November 8, 2023

Craig Uchimura, Acting Assistant Chief
City and County of Honolulu
Honolulu Fire Department
636 South Street
Honolulu, HI 96813-5007

SUBJECT: Response to Comments from the Early Consultation for the Proposed
Hale O Lipoa Affordable Rental Housing Development located at 98-150 Lipoa
Pl, Aiea, Hawaii 96701; TMK: 1-9-8-014021

Dear Mr. Uchimura,

Thank you for your letter dated March 23rd, 2022 and your corresponding email dated March 2nd, 2023.

We acknowledge and can confirm that the Project will comply with the NFPA 1, 2018 edition and amendments that apply. We will also comply with the rest of the comments contained in your letter.

We appreciate your input and will include a copy of your comment letters and this response in the Draft Environmental Assessment (EA). Should you have any questions or require further information regarding the proposed action, please email epa.hawaii@gmail.com. Thank you for your assistance.

Sincerely,

Alicia Ruelke, President
Environmental Planning & Assessments LLC



PO Box 3442
Honolulu, HI 96801
Phone (808) 464-7084
Email epa.ha.wa.ii@gmail.com

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU
801 SOUTH BERETANIA STREET · HONOLULU, HAWAII 96813
TELEPHONE: (808) 528-3111 · INTERNET: www.honolulu.gov



RADE Y. VANIG
INTERIM CHIEF

RICH BLANGUARD
MAYOR

November 1, 2023

Arthur "Joe" Logan, Chief of Police
Honolulu Police Department
801 South Beretania St
Honolulu, HI 96813-5007

OUR REFERENCE EO-DK

March 24, 2022

SUBJECT: Response to Comments from the Early Consultation for the Proposed Hale O Lipoa Affordable Rental Housing Development located at 98-150 Lipoa Pl, Aiea, Hawaii 96701; TMK: 1-9-8-014021

Dear Mr. Uchimura,

Thank you for your letter dated March 24rd, 2022.

We acknowledge and can confirm that the Project will comply the comments contained in your letter.

We appreciate your input and will include a copy of your comment letters and this response in the Draft Environmental Assessment (EA). Should you have any questions or require further information regarding the proposed action, please email epa.hawaii@gmail.com. Thank you for your assistance.

Sincerely,

Alicia Ruelke, President
Environmental Planning & Assessments LLC

SENT VIA EMAIL

Ms. Alicia Ruelke
epa.hawaii@gmail.com

Dear Ms. Ruelke:

This is in response to your letter of March 4, 2022, requesting input on an Early Consultation, Environmental Assessment, for the proposed 122-unit affordable rental housing development project to be located at 98-150 Lipoa Place in Aiea.

The Honolulu Police Department has reviewed the project summary provided and recommends that all necessary signs, lights, barricades, and other safety equipment be installed and maintained by the contractor during the construction phase of the project. The ingress and egress of construction vehicles, equipment, and deliveries should be evaluated to ensure the flow of traffic is not adversely affected.

If there are any questions, please call Major Robert Towne of District 3 (Pearl City) at (808) 723-8803.

Thank you for the opportunity to review this project.

Sincerely,

DARREN CHUN
Assistant Chief of Police
Support Services Bureau

Serving and Protecting With Aloha



PO Box 3442
Honolulu, HI 96801
Phone | (808) 464-7084
Email | epa.hawaii@gmail.com

November 8, 2023

Haku Milles, Director
City and County of Honolulu
Department of Design and Construction
650 South King Street, 11th Floor
Honolulu, HI 96813

SUBJECT: Response to Comments from the Early Consultation for the Proposed Hale O Lipoa Affordable Rental Housing Development located at 98-150 Lipoa Pl, Aiea, Hawaii 96701; TMK: 1-9-8-014021

Dear Director Milles,

Thank you for your letter dated March 14th, 2023. We understand that the Department of Design and Construction does not have any comments at this time.

We appreciate your input and will include a copy of your comment letters and this response in the Draft Environmental Assessment (EA). Should you have any questions or require further information regarding the proposed action, please email epa.hawaii@gmail.com. Thank you for your assistance.

Sincerely,

Alicia Ruelke, President
Environmental Planning & Assessments LLC

**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) 768-4687
Web site: www.hoodollulu.gov



RICK BLANGIARDI
MAYOR

HAKU MILLES, P.E.
DIRECTOR
BRYAN GALLAGHER, P.E.
DEPUTY DIRECTOR

March 14, 2023

SENT VIA EMAIL

Ms. Alicia Ruelke
epa.hawaii@gmail.com

Dear Ms. Ruelke:

Subject: Request for Technical Assistance Regarding Early Consultation for the Proposed Hale O Lipoa Affordable Rental Housing Development located at 98-150 Lipoa Pl., Aiea, Hawaii 96701
TMK: 1-9-8-014021

Thank you for the opportunity to review and comment. The Department of Design and Construction has no comments to offer at this time.

Should you have any questions, please contact me at (808) 768-8480.

Sincerely,

Haku Milles, P.E., LEED AP
Director

HM:krm (898033)



November 8, 2023

Roger Balcock, Ph.D. P.E., Director
City and County of Honolulu
Department of Environmental Service
1000 Uluohia Street, Suite 308
Kapolei, HI 96797

SUBJECT: Response to Comments from the Early Consultation for the Proposed Hale O Lipoa Affordable Rental Housing Development located at 98-150 Lipoa Pl, Aiea, Hawaii 96701; TMK: 1-9-8-014021

Dear Dr. Balcock,

Thank you for your letters dated April 11, 2022 on the subject project. We have reviewed your comments and offer the following:

A Sewer Connection Application No. 2023/SCA-0514 was approved by the Wastewater Branch on May 4, 2023. Please see Section 3.3.9 for more details on infrastructure and utilities.

We appreciate your input and will include a copy of your comment letters and this response in the Draft Environmental Assessment (E.A). Should you have any questions or require further information regarding the proposed action, please email epa.hawaii@gmail.com. Thank you for your assistance.

Sincerely,

Alicia Ruelke, President
Environmental Planning & Assessments LLC

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://env.honolulu.org>



RICK BLANGIARDI
MAYOR

ROGER BABCOCK, JR., PH.D., P.E.
DIRECTOR

MICHAEL OYKEEFE
DEPUTY DIRECTOR

ROSS S. TANIMOTO, P.E.
DEPUTY DIRECTOR

IN REPLY REFER TO:
PHO 22-044

April 11, 2022

Ms. Alicia Ruelke
Environmental Planning & Assessments LLC
P.O. Box 3442
Honolulu, Hawaii 96801

Dear Ms. Ruelke:

SUBJECT: Request for Technical Assistance Regarding Early Consultation for the Proposed Hale O Lipoa Affordable Rental Housing Development
98-150 Lipoa Place
TMK: 9-8-014:021
Aiea, Oahu, Hawaii

We have reviewed the subject documents transmitted to us by your letter dated March 4, 2022. If the proposed project requires additional sewer capacity, then a sewer connection application should be submitted to the Department of Planning and Permitting, Site Development Division, Wastewater Branch.

Should you have any questions, please call Lisa Kimura, Civil Engineer, at 768-3455.

Sincerely,

Roger Babcock, Jr., Ph.D., P.E.
Director



November 8, 2023

Anton C. Krucky, Director
City and County of Honolulu
Department of Community Services
925 Dillingham Boulevard, Suite 200
Honolulu, HI 96817

SUBJECT: Response to Comments from the Early Consultation for the Proposed
Hale O Lipoa Affordable Rental Housing Development located at 98-130 Lipoa
Pl, Aiea, Hawaii 96701; TMK: 1-9-8-014021

Dear Director Krucky,

Thank you for your letter dated March 3rd, 2023. We understand that the proposed Project will have no adverse impact on any Department of Community Services activities or projects in the surrounding neighborhood.

We appreciate your input and will include a copy of your comment letters and this response in the Draft Environmental Assessment (EA). Should you have any questions or require further information regarding the proposed action, please email epa.hawaii@gmail.com. Thank you for your assistance.

Sincerely,

Alicia Ruelke, President
Environmental Planning & Assessments LLC

PO Box 3442
Honolulu, HI 96801
Phone | (808) 464-7084
Email | epa.hawaii@gmail.com

DEPARTMENT OF COMMUNITY SERVICES
CITY AND COUNTY OF HONOLULU
925 DILLINGHAM BOULEVARD, SUITE 200-HONOLULU, HAWAII 96817
PHONE: (808) 788-7762 • FAX: (808) 788-7792
www.hawaii.gov/epa



RICK BLANGARDI
MAYOR

ANTON C. KRUCKY
DIRECTOR
AEDWARD LOS BANOS
DEPUTY DIRECTOR

March 15, 2022

Environmental Planning & Assessments LLC
c/o Alicia Ruelke
P.O. Box 3442
Honolulu, Hawaii 96801
Email: epa.hawaii@gmail.com

Dear Ms. Ruelke:

SUBJECT: Pre-Consultation: DRAFT Environmental Assessment
Hale O Lipoa Affordable Rental Housing, 98-150 Lipoa Place
TMK: (1) 9-8-014:021, Aiea, O'ahu, Hawaii

Thank you for your pre-consultation notice of a Draft Environmental Assessment for Lipoa Development LLC's proposed Hale O Lipoa Affordable Rental Housing Development project.

Our review indicates that the proposed project will have no adverse impacts on any Department of Community Services activities or projects in the surrounding neighborhood.

Thank you for providing us the opportunity to comment on this matter.

Sincerely,

Anton C. Krucky
Director



DEAN UCHIDA
DIRECTOR
DAWN TAKEUCHI APUNA
DEPUTY DIRECTOR

RICK BLANGIARDI
MAYOR

April 8, 2022 2022/ELOG-520(MAK)

Ms. Alicia Ruelke
April 8, 2022
Page 2

The LUO is available on our website at:

www.honolulu.gov/Portals/0/Portals/0/pdfs/zoning/TOD%20Guidelines%202-5-19.pdf

2. The Project site is within half a mile of the Pearlridge Station and is slated to be added to the Transit Oriented Development (TOD) Special District (SD), as shown in the Alea-Pearl City TOD Neighborhood Plan. The TOD SD will have specific design standards in addition to the underlying zoning district standards and will take precedence over underlying zoning regulations. The Draft EA should indicate how the proposed Project is consistent with policies and guidelines for the TOD SD. Existing TOD SD regulations begin in LUO Section (tie together) 21-9.100. Information on the Alea-Pearl City Neighborhood TOD Plan can be accessed online at:

www.honolulu.gov/tod/neighborhoods/alea-pearl-city

The TOD Design Guidelines are available online at:

www.honolulu.gov/Portals/0/Portals/0/pdfs/zoning/TOD%20Guidelines%202-5-19.pdf

3. The Project site is also within the Special Management Area (SMA) and the proposed construction of a 122 unit five-story affordable rental housing project is considered development for purposes of Chapter 25, ROH. Therefore, an SMA Permit is required. The Draft EA should address project compliance with Chapter 205A, HRS and Chapter 25, ROH. Additionally, amendments to Chapter 205A, HRS, under Act 16 (2020), reiterated the need to evaluate potential impacts related to coastal hazards and Sea Level Rise (SLR). As such, the following information needs to be addressed in the Draft EA:

- a. Flood Zone: The Project is within Flood Zone X, which is not subject to the provisions of the Flood Hazard Areas Ordinance, Chapter 21A, ROH. However, the Draft EA should address how any impacts caused by flooding will be mitigated, particularly if flooding is exacerbated by SLR in the coming decades.
- b. SLR: According to the State Pacific Island Ocean Observing System SLR Viewer, the 3.2 feet of SLR is not anticipated to impact the site. However, the Draft EA should explore ways to reduce potential impacts to the development, including siting the dwelling as far from the shoreline as possible.
- c. Storm Surge: The site is located in a Tsunami Evacuation Zone. The National Hurricane Storm Surge Maps indicate coastal area along the Project site may be subject to flooding inundation of less than three

Ms. Alicia Ruelke, President
Environmental Planning & Assessments LLC
P.O. Box 3442
Honolulu, Hawaii 96801

Dear Ms. Ruelke:

SUBJECT: Pre-Assessment Consultation - Environmental Analysis
Hale o Lipoa Affordable Rental Housing Development
98-150 Lipoa Place - Alea
Tax Map Key 9-8-014: 021

This in response to your letter, received March 9, 2022, requesting comments regarding the upcoming preparation of a Draft Environmental Assessment (EA). We understand that the proposal is to develop a 122 unit five-story affordable rental housing project on the subject property. The Department of Planning and Permitting (DPP) has the following comments that should be addressed in the Draft EA.

1. The Draft EA should show how the proposed Project supports the policies and objectives of the Oahu General Plan and the Primary Urban Center Development Plan.
2. The Draft EA should indicate how the proposed Project meets the requirements for qualifying for the City and County of Honolulu's Chapter 201H, Hawaii Revised Statutes (HRS), Program. Specifically, affordable units (those for sale or rent) must remain affordable for a period of not less than 30 years. The narrative provided does not discuss how long units will remain affordable.
3. The proposed Project is located within the A-1 Low Density Apartment District and indicates that exemptions from the development standards will be sought during the 201H application. The Draft EA should provide justification as to why these exemptions are necessary, and how the Project will otherwise follow the provisions of the Land Use Ordinance (LUO), Chapter 21, Revised Ordinances of Honolulu (ROH).

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) 768-0041
DEPT. WEB SITE: www.honolulu.gov/dpp



RICK BLANGIARDI
MAYOR

DAWN TAKEUCHIAPUNA
DIRECTOR
JIRO A. SUMADA
DEPUTY DIRECTOR

April 10, 2023

2023/ELOG-404(CK)

Ms. Alicia Ruelke
Environmental Planning and Assessments, LLC
P.O. Box 3442
Honolulu, Hawaii 96801

Dear Ms. Ruelke:

SUBJECT: Request for Pre-Consultation Comments
Environmental Assessment for Affordable Rental Housing
Hale O Lipoa Development
98-150 Lipoa Place – Kalaaua, Ewa
Tax Map Key 9-8-014: 021

This is in response to your letter, received March 1, 2023, requesting comments on the scope and content to be addressed in a Draft Environmental Assessment (DEA), as required under Chapter 25, Revised Ordinance of Honolulu (ROH), the Special Management Area (SMA) Ordinance, for the construction of a new affordable rental housing development (Project), as allowed under Section 201H, Hawaii Revised Statutes (HRS). The proposed 154-unit affordable housing Project will be located on a 42,000-square-foot (sq.-ft.) lot within the A-1 Low Density Apartment District and the SMA, in Aiea, Oahu. Because the Project is anticipated to exceed \$500,000 in cost, it is anticipated that an SMA Major Permit will be required. Our step-by-step instructions for the preparation of EAs in support of an SMA Major Permit can be found on our website at the link below. Instructions for preparing a complete SMA Major Permit application package are also available at the link below. Please utilize these resource as you prepare the disclosure document and application package

www.honolulu.gov/dpp/permitting/coastal-area-permits/sma-major

In addition, the following items should be addressed in the DEA:

- Existing and Proposed Structures: The DEA should describe any existing or proposed structures, including when the existing structures were built, and identify any associated building permits or other land use approvals.

Ms. Alicia Ruelke
April 8, 2022
Page 3

feet above ground level during a Category 3 hurricane event. The Draft EA should discuss any impacts of storm surge on the property, and identify mitigation strategies that would need to be employed.

- The Draft EA should include a ground-level landscaping plan with conceptual information regarding the proposed quantity, location, spacing, and species of street trees. The draft TOD Street Tree Plan recommends Silver Trumpet and White Tecoma as the preferred and alternative street tree species on Lipoa Place. This plan must be followed once the TOD Street Tree Plan is complete and/or the SD established.
- The Draft EA should include justification for the number of off-street parking spaces and bicycle parking on-site and how these are consistent with TOD.

- Please be advised that in December 2020, the State Historic Preservation Division (SHPD) began using a new online system to better track consultation requests.

<https://shpd.hawaii.gov/hicris/landing>.

Because the new tracking system requires agency-to-agency requests, the DPP has created a generic request letter that consultants or property owners may use for projects that will eventually require DPP approval. This letter may be completed by a consultant or property owner and submitted to SHPD directly via their online system to initiate requests before permit applications are submitted to the DPP. The letter includes a general DPP contact number and email, as well as blank fields where the property owner or their consultant can enter their contact information. The generic request letter is available online at:

<https://tinyurl.com/h7yvc7vp>.

- The Draft EA should include a discussion off any other land use permits anticipated to be required prior to Project implementation.

Should you have any questions, please contact Michael Kat, of our Zoning Regulations and Permits Branch, at (808) 768-8013 or via email at michael.kat@honolulu.gov.

Very truly yours,

Dean Uchida
Director

- recommended measures to avoid and/or minimize potential traffic and/or circulation-related impacts.
- Noise and Air Quality: It is anticipated that the most notable sources of short- and long-term noise and air quality emissions at the Project site will be generated by construction equipment and resident vehicles, respectively. Therefore, the DEA should evaluate the anticipated levels of these emissions, based on the duration of construction activity and equipment types in the short-term, as well as anticipated traffic levels as identified in the TIA over the long-term. The DEA should discuss how the Project will comply with related regulatory requirements, implement design features, and incorporate recommended measures to avoid and/or minimize potential noise or air-quality-related impacts.
- Utilities and Public Services: The DEA should disclose the proposed utilities and public services for the Project. These include, but not limited to water quality and supply, wastewater services, police, fire, medical services, schools, parks, and recreational facilities. The DEA should also discuss how the Project will comply with related regulatory requirements, implement design features, and incorporate recommended measures to avoid and/or minimize potential utilities and public services-related impacts.
- Historic, Archeological, and Cultural Resources: Please be advised that in December 2020, the State Historic Preservation Division (SHPD) began using a new online system (HICRIS) to better track consultation requests:
<https://shpd.hawaii.gov/hicris/landing>
Because the HICRIS system requires agency-to-agency consultation requests, the Department of Planning and Permitting (DPP) has created a generic request letter that consultants/property owners may use for projects that will eventually require DPP approval. This letter may be completed by a consultant or property owner and submitted to SHPD directly via their online system to initiate requests before permit applications are submitted to the DPP. The letter includes a general DPP contact number and email, as well as blank fields where the property owner or their consultant can enter their contact information. The generic request letter is available online at:
www.honolulu.gov/dpp/permitting/zoning-permits

- Land Use and Regulatory Consistency: The DEA should describe the Project's consistency with Chapter 21, ROH, the Land Use Ordinance, the Oahu General Plan, the Primary Urban Center Development Plan, the Alea-Pearl City Transit Oriented Development (TOD) Neighborhood Plan, and Section 201H, HRS. In addition, because the DEA is being prepared in support of a future SMA Major Permit application, the DEA should also analyze the Project's consistency with Chapter 25, ROH, the SMA Ordinance, and Chapter 205A, HRS. As previously noted, instructions for preparation of an SMA Major Permit application are available on our website at the link referenced above.
- Coastal Hazards and Flooding: The Project site is located in the SMA, and therefore, the DEA should discuss the potential for current and future susceptibility to coastal hazards associated with sea level rise (SLR), wave action, flooding, tsunamis, and storm surge. According to the State of Hawaii SLR Viewer, the subject property is located outside of the area projected to be affected by 3.2 ft. of SLR by 2100 or sooner. According to our records, the subject property is also located entirely within the Flood Zone X, as mapped by the Federal Emergency Management Agency. Flood Zone X corresponds to areas outside the 500-year flood area, and outside of the Special Flood Hazard Area. Chapter 21A, ROH, the Flood Hazard Areas Ordinance is not applicable to properties in Flood Zone X.
- Traffic and Circulation: Traffic and vehicular circulation is a concern during both construction and operation of the Project. Therefore, the DEA should evaluate anticipated short-term and long-term changes to traffic patterns and volumes that may occur as a result of Project implementation. This analysis should consider the existing level of service (LOS) at nearby roadway segments and intersections as a baseline condition, as well as the Project's anticipated contribution to near-term and long-term changes to the LOS in the affected vicinity. It is recommended that a Traffic Impact Analysis (TIA) be prepared to identify these potential impacts and support the analysis in the DEA. In addition to vehicular patterns, the TIA should also evaluate the internal and external circulation patterns for other forms of transportation such as walking, bicycling, and public transportation. Specifically, the TIA should include an evaluation as to whether the Project's location within the TOD is anticipated to affect traffic or circulation impacts that may result from Project implementation. The TIA should also identify the location of any on-site and off-site construction staging areas, and recommend whether a Traffic Management Plan should be prepared for the management of short-term or long-term circulation in and around the Project site. Finally, the TIA and DEA should also discuss how the Project will comply with related regulatory requirements, implement design features, and incorporate



PO Box 3447
Honolulu, HI 96801
Phone | (808) 464-7084
Email | epa.hawaii@gmail.com

November 8, 2023

Dawn Takeuchi Apuna, Director
City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, HI 96813

SUBJECT: Response to Comments from the Early Consultation for the Proposed
Hale O Lipoa Affordable Rental Housing Development located at 98-150 Lipoa
Pl, Aiea, Hawaii 96701; TMK: 1-9-8-014021

Dear Ms. Apuna,

Thank you for your letters dated March 9, 2022 and April 10, 2023 on the subject project. We have reviewed your comments and offer the following:

From the March 9, 2022 letter:

1. Policies from the Oahu General Plan and Primary Urban Center Development Plan: As suggested, Section 4 includes the discussion of how the proposed Project supports these policies and objectives.
2. Chapter 201H, Hawaii Revised Statutes (HRS): As suggested, Section 2.2.3 indicates how the proposed Project meets the requirements for qualifying for the City and County of Honolulu's Chapter 201H Program. The specific affordability levels have not yet been determined, but the project will stay within the City and County of Honolulu's 201H Program guidelines. The units will be distributed with at least 51% affordable to low- and moderate-income households. More specifically, at least 20% of the units will be set aside for households earning annual incomes less than 80% of the area median income (AMI), and 31% of the total number of units will be set aside for households earning 120% of the AMI or lower. These units will be affordable for a period of at least 61 years.
3. Exemptions from Development Standards: As suggested, Section 2.5 provides justification as to why the exemptions sought during the 201H application are necessary and how the Project will otherwise follow the provisions of the Land Use Ordinance (LUO), Chapter 21, Revised Ordinances of Honolulu (ROH).
4. TOD Special District:

Ms. Alicia Ruelke
April 10, 2023
Page 4

Please note the SHPD has indicated they will not provide comments on environmental disclosure documents, but supporting technical surveys should be submitted if applicable.

Finally, please contact the appropriate Neighborhood Board and any relevant neighborhood associations or commissions to request an opportunity to present the Project. A presentation before the Neighborhood Board is required prior to the submittal of an SMA Major Permit.

Should you have any questions, please contact Christi Keller, of our Zoning Regulations and Permits Branch, at (808) 768-8087 or via email at c.keller@honolulu.gov.

Very truly yours,

Jordan Olby
Dawn Takeuchi Apuna
Director

summarize, we do not anticipate any significant impact from the implementation of the proposed development on traffic and circulation.

5. **Noise and Air Quality:**
As suggested, Sections 3.3.6 and 3.3.7 address the anticipated level of short- and long-term noise and air quality emissions.
6. **Historical, Archeological, and Cultural Resources:**
We acknowledge this above.
7. **Neighborhood Board:**
We acknowledge this requirement and anticipate presenting the project to the neighborhood board after the acceptance of the DEA.

We appreciate your input and will include a copy of your comment letters and this response in the Draft Environmental Assessment (EA). Should you have any questions or require further information regarding the proposed action, please email gra.havani@email.com. Thank you for your assistance.

Sincerely,



Alicia Ruelke, President
Environmental Planning & Assessments LLC

As suggested, Section 4 contains information on how the proposed Project is consistent with the policies and guidelines for the Aiea-Pearl City Transit Oriented Development (TOD) Neighborhood Plan and its related TOD Special District.

5. **SMA Permit: Compliance with Ch. 205A, HRS and Ch. 25, ROH:**
As suggested, Section 4 discusses project compliance with the SMA Regulatory Compliance sections above. In addition, Section 3.3.2 evaluates potential impacts related to coastal hazards and Sea Level Rise (SLR) by addressing flooding, SLR, and storm surge.
6. **Landscaping Plan:**
Conceptual information regarding the proposed landscaping at the project site has been included in Section 2.2.6.
7. **Off-Street Vehicular and Bicycle Parking:**
As suggested, Section 2.2.5 includes a discussion regarding off-street vehicular and bicycle parking. The applicant has considered reducing the amount of parking provided onsite, but is limited in doing so. The most compelling reason for providing 150 vehicular parking stalls is that maintaining an almost 1-to-1 parking ratio can help ensure the long-term viability and marketability of the affordable housing project, which in turn will benefit the community and the project's financial sustainability as properties with insufficient parking may often be less attractive to potential tenants. Many residents rely on their vehicles for employment and a lack of parking could jeopardize their ability to maintain their jobs and financial stability. In addition, in areas with insufficient parking, residents often resort to parking on the streets, which can lead to congestion and safety issues.
8. **State Historic Preservation Division (SHPD) Consultation:**
We acknowledge that SHPD has begun to use a new online system to track consultation requests and the applicant has submitted this.
9. **Other Land Use Permits:**
As suggested, Section 6 contains a list of the necessary permits and approvals for the proposed Project.

From the April 10, 2023 letter –

1. **Existing and Proposed Structures:**
As suggested, Section 2.1 contains a description of the existing and proposed structures. Section 6 includes a list of the necessary permits and approvals for the proposed Project.
2. **Land Use and Regulatory Consistency:**
As suggested, Section 4 describes the Project's consistency with these items.
3. **Coastal Hazards and Flooding:**
As suggested, Section 3.3.2 discusses the susceptibility to coastal hazards associated with SLR, wave action, flooding, tsunamis, and storm surge.
4. **Traffic and Circulation:**
As suggested, a draft TIA was prepared to address these items and identify potential impacts. Section 3.3.5 of the DEA addresses the incorporation of recommended measures to avoid and/or minimize potential traffic and/or circulation-related impacts. To

DEPARTMENT OF PARKS & RECREATION
CITY AND COUNTY OF HONOLULU
1000 Unuhia Street, Suite 309, Kapolei, Hawaii 96707
Phone: (808) 768-3003 • Fax: (808) 768-3053
Website: www.honolulu.gov



RICK BLANGIARDI
MAYOR

LAURA H. THIELEN
DIRECTOR
KEHAULANIPIU
DEPUTY DIRECTOR

April 7, 2022

Ms. Alicia Ruelke, President
Environmental Planning and Assessments, LLC
PO Box 3442
Honolulu, Hawaii 96801

Dear Ms. Ruelke:

SUBJECT: Request for Technical Assistance Regarding Early Consultation for the Proposed Hale O Lipoa Affordable Rental Housing Development located at 98-150 Lipoa Place, Aiea, Hawaii 96701 Tax Map Key 1-9-8-014:021

Thank you for the opportunity to review and comment at the Early Consultation stage of the subject proposed 122 unit affordable rental housing project.

The Department of Parks and Recreation notes that you have established a milestone of January 30, 2023 to secure 201H approval that may include an exemption from the requirements of the City's Park Dedication Ordinance.

If you haven't already done so, we encourage you to contact the City's Department of Planning and Permitting (DPP) to be sure you understand the rules and regulations permitting this exemption.

Should you have any questions, please contact Mr. John Reid, Planner at 808-768-3017.

Sincerely,

A handwritten signature in black ink, appearing to read "Laura H. Thielen".

Laura H. Thielen
Director

LHT:jr
(875615)

cc: DPP

Ms. Alicia Ruelke, President
April 25, 2022
Page 2

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 • web: www.honolulu.gov



K. BLANGUARDI
MAYOR

J. ROGER MORTON
DIRECTOR
JON Y. NOUCHI
DEPUTY DIRECTOR

TP3/22-876599

April 25, 2022

Guide can be found at
<http://www4.honolulu.gov/docushare/dsweb/View/Collection-7723>.

- ii. The TIA shall include a Traffic Management Plan, which shall note that during construction, deliveries to the project site shall be scheduled during off-peak traffic hours to minimize any impacts on pedestrians and traffic at or near the driveways at the project site.

2. Transit Oriented Development (TOD). We suggest the following multi-modal mitigation measures be completed with the project:

- i. Include a description of how the project will promote, encourage, and monitor transit use by its residents.
- ii. The management entity should inform residents, staff, and visitors of the City's vanpool, car share, and bikeshare programs to promote alternate modes of transportation.
- iii. Provide residents and staff with subsidized transit passes.
- iv. Require the developer to make a contribution for complete streets improvements as recommended by the TIA.

3. Complete Streets.

- i. The sidewalks used to access the project site shall be restored to its original or better condition; restored and new sidewalks shall be consistent with the Complete Streets Design Manual.
- ii. Provide/show a separate pedestrian ingress/egress to the building, as the site/ground floor plan only shows an entry driveway. Vehicles and pedestrians need to be separated. The plans must also show the location of the building's staircases.
- iii. Investigate the feasibility of installing bike racks on the sidewalk fronting the proposed building.

4. Parking.

- i. A discussion regarding off-street parking and site generated parking demand should be added to this report. The project should consider TOD core principals. The January 2017 report, Trip and Parking Generation at Transit-Oriented Developments Number NITC-RR-767,

Ms. Alicia Ruelke, President
Environmental Planning & Assessments, LLC
P.O. Box 3442
Honolulu, Hawaii 96801

Dear Ms. Ruelke:

Thank you for the opportunity to provide written comments regarding the Request for Technical Assistance Regarding Early Consultation for the Proposed Hale O Lipoa Affordable Rental Housing Development located at 98-150 Lipoa Place, Aiea, Hawaii 96701; Tax Map Key: 1-9-8-014021. We have the following comments.

1. Transportation Impact Assessment (TIA).

- i. The applicant shall perform a TIA to examine the vehicle, pedestrian, bicycle, and public transit stress and comfort levels at the nearby intersections and driveways with corresponding improvements to mitigate these impacts by applying Complete Streets principles. The applicant shall discuss the future year growth rate, trip distribution, mode split, and route assignment assumptions used in the TIA.

The TIA should identify an appropriate speed limit for the streets adjacent to the project by analyzing conflict density and activity level, among other contextual factors, to determine the speed limit that will best minimize the risk of a person being killed or seriously injured. The National Association of City Transportation Officials Safe Speed Study methodology is recommended. A Safe Speed Study should be conducted for the longest relevant segment of a street corridor affected by the project.

The applicant shall submit all native files (e.g., Synchro, Excel, etc.) for the raw multi-modal counts and accompanying analyses to the Regional Planning Branch at dtsplanningdiv@honolulu.gov. Please refer to the Department of Transportation Services (DTS) TIA Guide for multimodal assessment tools and recommended analyses. The TIA

Ms. Alicia Ruelke, President
April 25, 2022
Page 4

Should you have any questions, please contact Greg Tsugawa, of my staff, at
(808) 768-6683.

Very truly yours,



J. Roger Morton
Director

Attachments

Ms. Alicia Ruelke, President
April 25, 2022
Page 3

concludes that less parking is required than suggested in the Institute of Transportation Engineers (ITE) Parking Generation Manual for sites that are dense, mixed use, with low stress pedestrian environments, and adjacent to a high quality transit stop. We recommend the applicant provide the minimum TOD parking ratio, given that the Project falls within a TOD Plan area and is in close proximity to the future rail station.

ii. Disability and Communication Access Board (DCAB). "How to Design an Accessible Parking Space," December 2012 guidance document, Page 2 states the minimum number of required accessible parking spaces is 4 for a project this size. As such, consider reducing the number of electric vehicle parking spaces and increasing the number of accessible parking spaces. Per City Council Bill 25 (2019), CD2, affordable rental housing is exempt from any electric vehicle infrastructure requirements.

5. Street Usage Permit.

i. A street usage permit from the DTS should be obtained for any construction-related work that may require the temporary closure of any traffic lane or pedestrian mall on a City street.

6. Neighborhood Impacts.

i. The area representatives, neighborhood board, as well as the area residents, businesses, emergency personnel (fire, ambulance, and police), Oahu Transit Services, Inc. (TheBus and TheHandi-Van), etc., should be kept apprised of the details and status throughout the project and the impacts that the project may have on the adjoining local street area network.


7. Disability and Communication Access Board (DCAB):

i. Project plans (vehicular and pedestrian circulation, sidewalks, parking and pedestrian pathways, vehicular ingress/egress, etc.) should be reviewed and approved by DCAB to ensure full compliance with Americans with Disabilities Act requirements.

Ms. Alicia Ruelke, President
April 26, 2023
Page 2

- Services (DTS) TIA Guide for multimodal assessment tools and recommended analyses. The TIA Guide can be found at <http://www4.honolulu.gov/docshare/dsweb/View/Collection-7723>.
2. Parking. Per Ordinance 20-41, Bill 2 (2020), CD1, FD1, of the Revised Ordinances of Honolulu, Section 21-6.20(a), no off-street parking is required in any zoning district within one-half mile of an existing or future Honolulu rail transit station. As such, the applicant should consider that the *Institute of Transportation Engineers' Parking Generation Manual, 5th Edition*, calculates an approximate average parking demand of 109 spaces for a multifamily housing mid-rise near rail transit. Additionally, the project should consider Transit Oriented Development (TOD) core principals. The January 2017 report, *Trip and Parking Generation at Transit-Oriented Developments Number WTC-RR-767*, concludes that less parking is required than suggested in the Institute of Transportation Engineers (ITE) Parking Generation Manual for sites that are dense, mixed use, with low stress pedestrian environments, and adjacent to a high quality transit stop. We recommend the applicant minimize the parking ratio, given that the Project falls within a TOD area and is in close proximity to the future rail station.
 3. Project Executive Summary Sheet, Site Information Page. The applicant shall revise the off-street parking, off-street loading, and bicycle parking calculations to reflect the 154 total dwelling units and the 'Parking' comment above.

Additionally, the DTS has herein attached its April 25, 2022 comments for reference.
Should you have any questions, please contact Greg Tsugawa, of my staff, at (808) 768-6683.

Very truly yours,

J. Roger Morton
Director

Attachment

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

711 KAPOLANI BOULEVARD, SUITE 1600
HONOLULU, HAWAII 96813
Phone: (808) 768-8006 • Fax: (808) 768-4730 • Internet: www.honolulu.gov



RICK BLANGIARDI
MAYOR

J. ROGER MORTON
DIRECTOR
JON Y. NOUCHI
DEPUTY DIRECTOR

TP/3/23-898621

April 26, 2023

Alicia Ruelke, President
Environmental Planning & Assessments, LLC
P.O. Box 3442
Honolulu, Hawaii 96801

Dear Ms. Ruelke:

SUBJECT: Request for Technical Assistance Regarding Early Consultation for the Proposed Hale O Lipoa Affordable Rental Housing Development located at 98-150 Lipoa Place, Aiea, Hawaii 96701; Tax Map Key: 1-9-8-014021

Thank you for the opportunity to provide written comments regarding the Request for Technical Assistance Regarding Early Consultation for the Proposed Hale O Lipoa Affordable Rental Housing Development located at 98-150 Lipoa Place, Aiea, Hawaii 96701; Tax Map Key: 1-9-8-014021. The Department of Transportation Services (DTS) stands by our April 25, 2022 comments on this project, and provides the following additional comments.

1. Transportation Impact Assessment (TIA). The applicant should perform a TIA to examine the vehicle, pedestrian, bicycle, and public transit safety, stress, and comfort levels at the nearby intersections and driveways with corresponding improvements to mitigate these impacts by applying Complete Streets principles. The applicant shall discuss the future year growth rate, trip distribution, mode split, and route assignment assumptions used in the TIA.

The TIA should identify an appropriate speed limit for the streets adjacent to the project by analyzing conflict density and activity level, among other contextual factors, to determine the speed limit that will best minimize the risk of a person being killed or seriously injured. The National Association of City Transportation Officials (NACTO) Safe Speed Study methodology is recommended. A Safe Speed Study should be conducted for the longest relevant segment of a street corridor affected by the project.

The applicant shall submit all native files (e.g., Synchro, Excel, etc.) for the raw multimodal counts (in the format specified at <https://geocommunity.com/api/format/>) and the example file at <https://bit.ly/DTS-count-sample>) and accompanying analyses to the Department of Transportation Services Regional Planning Branch (RPB) at dtsplanningdiv@honolulu.gov. Please refer to the Department of Transportation

We appreciate your input and will include a copy of your comment letters and this response in the Draft Environmental Assessment (EA). Should you have any questions or require further information regarding the proposed action, please email epa.hawaii@gmail.com. Thank you for your assistance.

Sincerely,


Alicia Ruelke, President
Environmental Planning & Assessments LLC



PO Box 3442
Honolulu, HI 96801
Phone | (808) 464-7084
Email | epa.hawaii@gmail.com

November 8, 2023

Edwin H. Sniffen, Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813-5097

SUBJECT: Response to Comments from the Early Consultation for the Proposed Hale O Lipoa Affordable Rental Housing Development located at 98-150 Lipoa Pl, Aiea, Hawaii 96701; TMK: 1-9-8-014021

Dear Mr. Sniffen,

Thank you for your letter dated April 3, 2023 on the subject project. We have reviewed your comments and offer the following:

- 1. FAA Form 7460-1 Notice of Proposed Construction or Alteration:**
We acknowledge that the FAA Form 7460-1 will be submitted prior to applying for a construction permit for the proposed Project.
- 2. Solar Energy PV Systems:**
We acknowledge that a glint and glare analysis will be conducted and a separate FAA Form 7460-1 will be filed and provided to the HDOT.
- 3. Landscaping:**
We acknowledge that any hazard caused by landscaping that creates a wildlife attractant will be properly mitigated upon immediate notification by the HDOT and/or FAA.
- 4. Traffic Impact Discussion:**
As suggested, the DEA includes a discussion and assessment on the listed items.
- 5. HDOT Permits:**
 - 1. Permit to Perform Work Upon State Highways:** No work is planned within the State highway ROW.
 - 2. Permit to Operate or Transport Oversize and/or Overweight Vehicles and Loads Over State Highways (HRS Chapter 291, Section 36):** There are no operational requirements for use of oversize/overweight vehicles. However, some construction equipment and materials may qualify. The contractor shall apply for the permit if necessary.
 - 3. Permit for the Occupancy and Use of State Highway (HRS 264):** No private utilities are planned in the State Highway ROW.

8.2 Comments Received from 30-day DEA Comment Period

Gmail - POH-2024-00032 (Lipoa Development LLC, Hale O Lipoa Affordable Rental Housing Project, Aiea, Island of Oahu, HI)

1/25/24, 3:36 PM



PO Box 3442
Honolulu, HI 96801
Phone | (808) 464-7084
Email | epa.hawaii@gmail.com



Environmental Planning & Assessments <epa.hawaii@gmail.com>

POH-2024-00032 (Lipoa Development LLC, Hale O Lipoa Affordable Rental Housing Project, Aiea, Island of Oahu, HI)

1 message

Vipperman, Abigail C (Abbey) CIV USARMY CELRP (USA)
<Abigail.C.Vipperman@usace.army.mil>
Thu, Jan 25, 2024 at 12:18 PM
To: epa.hawaii@gmail.com <epa.hawaii@gmail.com>
Cc: Morgan, Jeremy K CIV USARMY CEPOH (USA) <Jeremy.K.Morgan@usace.army.mil>, "mele.tau@honolulu.gov" <mele.tau@honolulu.gov>

Aloha,

The US Army Corps of Engineers (Corps) received your request for comments on the proposed Hale O Lipoa Affordable Rental Housing Project in Aiea, Island of Oahu, Hawaii.

The Corps' regulatory authorities are based on Section 10 of the Rivers and Harbors Act (RHA) of 1899 and Section 404 of the Clean Water Act. Section 10 of the RHA of 1899 prohibits the obstruction or alteration of any navigable water of the U.S. (WOTUS) without a Department of the Army (DA) permit. Section 404 of the Clean Water Act prohibits the discharge of dredged or fill material into WOTUS without a DA permit. For projects that are being developed, we ask that you identify areas that may fall within the Corps jurisdiction as WOTUS such as streams, rivers, and wetlands.

If you determine that your project would need a permit from the Corps, then we would require an application to be provided. We must also evaluate the project for any impacts to resources such as threatened or endangered species, historic properties, and/or essential fish habitat, and consult if necessary. If applying for a permit, include detailed plans/drawings of the proposed project where streams or wetlands are present. Include a clear line indicating the ordinary high water mark (OHWM) in your plans and also include the amount and type of fill that would be placed below the OHWM. To comply with Section 10 of the Rivers and Harbors Act, all work in, over, or under tidally influenced waters requires a Corps permit. Please include a description and plans of structures or work below the mean higher-high water mark (MHHWM)/high tide line of tidally influenced waters.

A permit is not required from the Corps if all work being done is located in uplands.

Please visit <https://www.poh.usace.army.mil/Missions/Regulatory/Permits/Nationwide-Permits/> to find more information about our program. Email permit applications to CEPOH-RO@usace.army.mil, as we have gone paperless.

Feel free to contact me with any further questions.

Abbey Vipperman
Regulatory Division
US Army Corps of Engineers
Phone: (412) 625-9469

1/2

<https://mail.google.com/mail/u/4/?ik=036076c8&ik=6&view=pr&search=all&permthid=thread-f:178910253493678892&simpl=msg-f:178910253493678892>

SENT VIA EMAIL: Abigail.C.Vipperman@usace.army.mil

May 8, 2024

Abby Vipperman
Regulatory Division
US Army Corps of Engineers

SUBJECT: Response to Comments on Draft Environmental Assessment
Hale O Lipoa Affordable Rental Housing Development located at
98-150 Lipoa Pl, Aiea, Hawaii 96701; TMK: 1-9-8-014021

Dear Ms. Vipperman,

Thank you for your email dated February 7, 2024, concerning the Draft Environmental Assessment (EA) for the proposed Hale O Lipoa Affordable Housing Project. The following responses are offered to your comments.

We have determined that our project site does not encompass any areas under the jurisdiction of the US Army Corps of Engineers as defined by Waters of the US (WOTUS).

To support our findings, we have included the latest maps provided by the U.S. Fish and Wildlife Service National Wetlands Inventory in the Final Environmental Assessment (FEA) as Figure 3-2. This clearly indicate that there are no streams, rivers, wetlands, or any other water bodies that would be considered WOTUS within the project area. Consequently, no work is planned in, over, or under any tidally influenced waters, and thus, a permit from the Corps will not be required.

We appreciate your input and will include a copy of your comment letters and this response in the Final Environmental Assessment (EA). Should you have any questions or require further information regarding the proposed action, please email epa.hawaii@gmail.com. Thank you for your assistance.

Sincerely,

Alicia Ruefke, President
Environmental Planning & Assessments LLC



**STATE OF HAWAII
OFFICE OF PLANNING
& SUSTAINABLE DEVELOPMENT**

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96808

JOSH GREEN, M.D.
Director

SYLVIA LUKE
11, 10/17/2018

MARY ALICE EVANS
Interim Director

(808) 587-2646
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DTS202401230941NA

February 21, 2024

- Coastal Zone Management Program
- Environmental Review Program
- Land Use Commission
- Land Use Division
- Special Plans Branch
- State Transit-Oriented Development
- Statewide Geographic Information System
- Statewide Sustainability Branch

Ms. Alicia Ruelke
Environmental Planning and Assessment, LLC
P.O. Box 3442
Honolulu, Hawaii 96801
epa.hawaii@gmail.com

Dear Ms. Ruelke:

Subject: Draft Environmental Assessment (DEA) for Hale O Lipoa Affordable Housing Project
98-150 Lipoa Place, Aiea; TMK: 9-8-014-021

Thank you for the opportunity to provide comments on the Draft Environmental Assessment (DEA) for the proposed Hale O Lipoa Affordable Housing Project in Aiea. The Office of Planning and Sustainable Development (OPSD) has received the material emailed with the letter dated January 22, 2024.

It is our understanding that the project plans to build 8-story, 153 units of affordable multi-family housing on an existing apartment site known as Pepper Tree Apartments. It is zoned BMX-3 Community Business Mixed-Use District in a Special Management Area and is also in the City's Aiea-Pearl City Neighborhood Transit-Oriented Development Plan area. The project will increase the affordable housing stock along the rail and bus transit lines.

OPSD has reviewed the DEA and has the following comments to offer.

1. Previous Hawaii's Coastal Zone Management (CZM) Comments We acknowledge that the Draft Environmental Assessment (Draft EA) has addressed our comments submitted in our agency response letter for to an early consultation request, DTS 202203090827NA, dated April 22, 2022. The comments that have been addressed in the Draft EA includes Consultation with the City and County of Honolulu, Department of Planning and Permitting (DPP) on Special Management Area permitting; evaluation of potential vulnerability to coastal inundation resulting from sea level rise; and an assessment on potential impacts and mitigation measures that will be applied to limit the impact to the nearshore environment from polluted stormwater runoff ensuing from this proposed development.

Furthermore, the Draft EA contains an analysis on the project's alignment with the Hawaii's State Planning Act, Hawaii's Revised Statutes (HRS) Chapter 226.

Ms. Alicia Ruelke
February 21, 2024
Page 2

Hawaii's Coastal Zone Management (CZM) Program

As stated in our Early Consultation response letter DTS 202203090827NA, pursuant to HRS § 205A-4; in implementing the objectives of the CZM program, agencies shall consider ecological, cultural, historic, aesthetic, recreational, scenic, open space values, coastal hazards, and economic development. We acknowledge that pages 53-54 of the Draft EA provide a very brief response to the HRS § 205A-2, however this analysis was combined with an assessment on HRS § 205 - Hawaii's State Land Use Law.

We recommend that the assessment on the Hawaii's CZM Program be revised in the Final Environmental Assessment (Final EA) to contain a standalone evaluation of all ten objectives and supporting policies of the Hawaii's CZM Program, set forth in HRS § 205A-2. These objectives 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.

The Final EA should assess and discuss how the proposed action will be consistent with the CZM objectives and policies.

2. Transit-Oriented Development

The DEA discusses the environmental and social benefits of increasing density in close proximity to the Peairidge Kalanoo Skyline Station. It has identified the specific measures that will be incorporated in project design, construction, and operations to mitigate development impacts and take advantage of a well-located site near the Skyline station.

Other issues that we recommend be evaluated for the Final EA include:

- Whether parking can be unbundled from residential units (priced separately from unit rent) to instead encourage use of transit.
- Whether the second-floor parking level could be feasible and economically designed with a slightly higher ceiling height to allow for adaptation into residential spaces if parking demand goes down when the rail system is fully operational.

If you wish to respond to this comment letter, please include DTS202401230941NA in the subject line. Any questions regarding our Environmental Assessment concerns, please contact Josh Hekeka at (808) 587-2845 or by email to joshua.k.hekeka@hawaii.gov, or Carl Miura on transit-oriented development issues at (808) 587-2805 or by email to carl.miura@hawaii.gov.

Mahalo,
Mary Alice Evans
Mary Alice Evans
Interim Director

c: Steve Tagawa, City and County of Honolulu, DPP, Land Use Approval Branch



PO Box 3442
Honolulu, HI 96801
Phone | (808) 464-7084
Email | epa.hawaii@gmail.com

May 13, 2024

Mary Alice Evans, Interim Director
State of Hawaii's
Office of Planning & Sustainable Development
P.O. Box 2359
Honolulu, Hawaii 96804

SUBJECT: Response to Comments on Draft Environmental Assessment
Hale O Lipoa Affordable Housing Development located at
98-150 Lipoa Pl, Aiea, Hawaii 96701; TMK: 1-9-8-014-021
DTS202401230941NA

Dear Ms. Evans,

Thank you for your letter dated February 21st, 2024 concerning the Draft Environmental Assessment (DEA) for the proposed Hale O Lipoa Affordable Housing Project. The following responses are offered to your comments.

Hawaii Coastal Zone Management (CZM) Program
An assessment on the Hawaii CZM Program has been expanded and revised in the Final Environmental Assessment containing a standalone evaluation of all ten objectives and policies of the Hawaii CZM Program, set forth in HRS Section 205A-2. This assessment is included in Section 4 of the Final EA and discusses how the proposed project will be consistent with the CZM Program objectives and policies.

Transit-Oriented Development
The Applicant has evaluated the recommendations included in your comment letter and offers the following responses:

1. The off-street parking provided at the proposed project cannot be unbundled from residential units whereby the parking would be priced separately from the unit rent. This is against the regulation stipulated in the Low-Income Housing Tax Credit Program by the Internal Revenue Service. Refer to Treasury Regulation Section 1.42-11. The off-street parking will be considered as eligible basis and therefore is not an allowable fee to be charged to the tenants.

Page 2 of 2

We can offer acknowledgement that the project will make efforts to encourage the use of transit by including directions to, and maps and schedules of the nearby transit systems throughout the project's common areas to educate the residents and facilitate accessibility to alternative transportation options.

2. The height of the proposed building is designed to be 89' at the top of the roof. If the second-floor parking level's ceiling height was increased slightly, the height of the proposed building would exceed the 90-foot height limit allowed within the underlying zoning. The Applicant is not prepared to increase the height of the proposed building for several reasons including community concerns over height and increased construction costs resulting from an increase in height.

Finally, we acknowledge the rest of the comments contained in your letter. We appreciate your participation in the environmental review process.

We appreciate your input and will include a copy of your comment letters and this response in the Final Environmental Assessment (EA). Should you have any questions or require further information regarding the proposed action, please email epa.hawaii@gmail.com. Thank you for your assistance.

Sincerely,

Alicia Ruéjke, President
Environmental Planning & Assessments LLC

JOSH GREEN, M.D.
GOVERNOR
KE KIA'ĀINA



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'
DEPARTMENT OF TRANSPORTATION | KA 'OIHANA ALAKAU
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

February 22, 2024

EDWIN H. SNIFFEN
DIRECTOR
KA LUNA HO'OKELE

Deputy Directors
Nā Hope Luna Ho'okele
DREANALEE K. KALILI
TAMMY L. LEE
ROBIN K. SHISHIDO

IN REPLY REFER TO:

DIR 0051
STP 8.3717

VIA EMAIL: epa.hawaii@gmail.com
stagawa@honolulu.gov

Ms. Alicia Ruelke
Environmental Planning & Assessment, LLC
P.O. Box 3442
Honolulu, Hawaii 96801

Dear Ms. Ruelke:

Subject: Draft Environmental Assessment (EA)
Hale O Lipoa Affordable Rental Housing Project
Aiea, Oahu, Hawaii
Tax Map Keys: (1) 9-8-014: 021

Thank you for your letter, dated January 22, 2024, requesting the Hawaii Department of Transportation's (HDOT) review and comments on the Draft EA for the subject project. HDOT understands Lipoa Development LLC is proposing to construct a new 8-story affordable rental housing project on the existing Pepper Tree Apartments parcel. The proposed project will be a transit-oriented development located along the Pearl Harbor shoreline and within proximity to the Pearlridge rail station.

In reviewing the Draft EA's project description and location, HDOT's early consultation comment numbers 1 through 5 of letter STP 8.3590, dated April 3, 2023, as found within the Draft EA are still valid and applicable to the proposed project. Please include a copy of HDOT's comments and appropriate responses in the Final EA.

Please submit any subsequent land use entitlement related requests for review or correspondence to the HDOT Land Use Intake email address at DOT.LandUse@hawaii.gov.

If there are any questions, please contact Mr. Blayne Nikaido, Planner, Land Use Section of the HDOT Statewide Transportation Planning Office at (808) 831-7979 or via email at blayne.h.nikaido@hawaii.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Edwin H. Sniffen".

EDWIN H. SNIFFEN
Director of Transportation

c: Mr. Steve Tagawa, Department of Planning and Permitting, Land Use Approval Branch

We appreciate your input and will include a copy of your comment letters and this response in the Final Environmental Assessment (EA). Should you have any questions or require further information regarding the proposed action, please email epa_hawaii@gmail.com. Thank you for your assistance.

Sincerely,

Alicia Ruelke, President
Environmental Planning & Assessments LLC



May 13, 2024

Edwin H. Sniffen, Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

PO Box 3442
Honolulu, HI 96801
Phone | (808) 464-7084
Email | epcuhawaii@gmail.com

SUBJECT: Response to Comments on Draft Environmental Assessment
Hale O Lipoa Affordable Housing Development located at
98-150 Lipoa Pl, Aiea, Hawaii 96701; TMK: 1-9-8-01-4-021

Dear Mr. Sniffen,

Thank you for your letter dated February 22, 2024 concerning the Draft Environmental Assessment (DEA) for the proposed Hale O Lipoa Affordable Housing Project. The following responses are offered to your comments:

We acknowledge that your early consultation comment numbers 1 through 5 of letter STP 8,3590, dated April 3, 2023, are still valid and applicable to the proposed project. The responses submitted to those comments from the DEA are included in this Final Environmental Assessment.

If deemed necessary, the Applicant will submit FAA Form 7460-1 to the Federal Aviation Administration (FAA), the federal agency responsible for evaluating objects affecting navigable airspace. This will be submitted prior to applying for a construction permit for the proposed project.

We appreciate your participation in the environmental review process. It is important to note a change was made from the DEA regarding the housing type and affordability levels. The proposed project will now consist of 152 affordable rental, or a mixture of affordable and market for-sale housing units (depending on the source of financing). Please refer to the discussion in Section 2.4 regarding this change.



Environmental Planning & Assessments <epa.hawaii@gmail.com>

OHA Comment Re: DEA for Hale o Lipoa

1 message

Kamakana Ferreira <kamakanaf@oha.org>

Wed, Feb 7, 2024 at 2:07 PM

To: "stagawa@honolulu.gov" <stagawa@honolulu.gov>

Cc: "cflaherty@3leafholdings.com" <cflaherty@3leafholdings.com>, "epa.hawaii@gmail.com" <epa.hawaii@gmail.com>

Aloha,

The Office of Hawaiian Affairs (OHA) is in receipt of your January 22, 2024, letter notifying us of the draft environmental assessment (DEA) for the Hale o Lipoa Affordable Rental Housing Project at [98-150 Lipoa Place](#) in Aiea. Lipoa Development LLC has prepared this DEA pursuant to HRS 343. The six 2-story Pepper Tree apartments will be demolished and replaced with an 8-story, 153 unit affordable housing project with 150 parking spaces on 2 levels, a community center, and exercise room.

OHA observes that a cultural impact assessment (CIA) was completed as part of the DEA in September 2023. Interviewees (Mahealani Cypher, Danielle Espiritu, Kehaulani Lum, Tiger Mills) brought up the project area being where the Loko Opu (a filled fishpond) was. Other concerns included impacts to ongoing cultural practices at the McGrew Point fishpond and nearby lo'i kalo. They did mention nearby fishpond reconstruction efforts and a native farm and lo'i kalo. The CIA does also mention suggestions to have the Pa'aiau community based-model of cultural sustainability and preservation be integrated in the design/plans. Suggested mitigations include implementing native plants in the landscaping, integrating cultural elements in the project architecture, and ensuring no adverse impacts to harbor waters.

OHA requests that more specific information be added to demonstrate how exactly there will be no adverse impacts to harbor waters and assurances that consultation will be maintained as part of the integration of cultural elements in the project architecture. In terms of adverse impacts to harbor waters, perhaps a means of follow up monitoring could be employed to gauge whether or not there are any changes to water quality that could affect nearby lo'i and fishponds.

Mahalo for the opportunity to comment. We look forward to seeing added specification to the recommended CIA mitigations. Please let me know if you have any questions at this time.

Mahalo,

Kamakana C. Ferreira, M.A.

Lead Compliance Specialist

Office of Hawaiian Affairs

[560 N. Nimitz Hwy](#)[Honolulu, Hi. 96817](#)

(808)594-0227

Additionally, the applicant will work with community-based organizations, such as the Aiea Community Association, neighborhood board, Aiea Hawaiian Civic Club, among others, to facilitate outreach and appropriate incorporation of the significant cultural elements into the design of the proposed project. The goals would be to highlight the historic and cultural significance of the area through certain design elements throughout the project to provide both education and recognition.

Finally, we acknowledge the rest of the comments contained in your letter. It is important to note a change was made from the DEA regarding the housing type and affordability levels. The proposed project will now consist of 152 affordable rental, or a mixture of affordable and market for-sale housing units (depending on the source of financing). Please refer to the discussion in Section 2.4 regarding this change.

We appreciate your input and will include a copy of your comment letters and this response in the Final Environmental Assessment (FEA). Should you have any questions or require further information regarding the proposed action, please email epa.hawaii@gmail.com. Thank you for your assistance.

Sincerely,

Alicia Ruelke, President
Environmental Planning & Assessments LLC



PO Box 3442
Honolulu, HI 96801
Phone | (808) 464-7084
Email | epa.hawaii@gmail.com

May 8, 2024

Kamakana Ferreira, Lead Compliance Specialist
Office of Hawaiian Affairs
560 North Nimitz Hwy
Honolulu, HI 96817

SUBJECT: Response to Comments on Draft Environmental Assessment
Hale O Lipoa Affordable Housing Development located at
98-150 Lipoa Pl, Aiea, Hawaii 96701; TMK: 1-9-8-014-021

Dear Mr. Ferreira,

Thank you for your email dated February 7, 2024 concerning the Draft Environmental Assessment (FEA) for the proposed Hale O Lipoa Affordable Housing Project. The following responses are offered to your comments.

We acknowledge the community concerns included in the cultural impact assessment (CIA). Several of these concerns were raised during our community engagement process, which included three neighborhood board meetings, a town hall, and a presentation to the Aiea Community Association. This FEA includes a public input section summarizing the comments received during our community outreach. It is important to note that some of the concerns included in the CIA have been removed in the FEA at the request of the interviewee. The suggested mitigation measures will be implemented into the project. These include providing native plants in landscaping, integrating cultural elements in the project architecture, and ensuring no adverse impacts to harbor waters.

Furthermore, Section 3.3.2 of the Final Environmental Assessment addresses mitigation of adverse impacts to the area's hydrology in more detail. As a new residential housing development in a highly developed area, all impacts can be mitigated to prevent contamination of the area's hydrology and effectively recharge the aquifers with water free from pollutants.



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JOSHI GREEN, M.D.
GOVERNOR
STATE OF HAWAII
Ka Ala Imua e ka Ikaika Imae o
SHAWN L. LANE
LIEUTENANT GOVERNOR
STATE OF HAWAII
Ka Ala Imua e ka Ikaika Imae o
"Ka Ikaika Imae"



STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
Ka 'Ohana 'Aina Ho'opunapuna Hawai'i
HONOLULU, HAWAII 96808

May 14, 2024

Andrew Choy, Planning Program Manager
State of Hawaii
Department of Hawaiian Home Lands
P.O. Box 1879
Honolulu, HI 96805

January 25, 2024

ref: PO-24-014

sent electronically: epa.hawaii@gmail.com

Ms. Alicia Ruelke
Environmental Planning & Assessment, LLC
P.O. 3442
Honolulu, HI 96801

SUBJECT: Response to Comments on Draft Environmental Assessment
Hale O Lipoa Affordable Rental Housing Development located at
98-150 Lipoa Pl, Aiea, Hawaii 96701; TMK: 1-9-8-01-4021

Dear Mr. Lau,

Thank you for your letter dated January 25, 2024 concerning the Draft Environmental Assessment (EA) for the proposed Hale O Lipoa Affordable Housing Project. The following responses are offered to your comments.

We acknowledge your comment that due to the project's lack of proximity to Hawaiian Home Lands, you do not anticipate any impacts to your lands or beneficiaries. It is important to note a change was made from the DEA regarding the housing type and affordability levels. The proposed project will now consist of 152 affordable rental, or a mixture of affordable and market for-sale housing units (depending on the source of financing). Please refer to the discussion in Section 2.4 regarding this change.

We appreciate your input and will include a copy of your comment letters and this response in the Final Environmental Assessment (EA). Should you have any questions or require further information regarding the proposed action, please email epa.hawaii@gmail.com. Thank you for your assistance.

Sincerely,

Alicia Ruelke, President
Environmental Planning & Assessments LLC

Dear Ms. Ruelke,

Re: Revised Ordinances of Honolulu, Chapter 25
DEA - Hale O Lipoa Affordable Rental Housing Project; 98-150 Lipoa Place, Aiea
TMK: 9-8-014: 021

The Department of Hawaiian Home Lands acknowledges receiving the request for comments on the above-cited project. After reviewing the materials submitted and due to its lack of proximity to Hawaiian Home Lands, we do not anticipate any impacts to our lands or beneficiaries from the project. However, DHHL recommends consultation with Hawaiian Homestead community associations located within the moku of Waiawa and other (N)ative Hawaiian organizations to better assess potential impacts to cultural and natural resources, and other rights of Native Hawaiians.

Mahalo for the opportunity to provide comments. If you have any questions, please contact the Planning Office at (808) 620-9480 or via email at dhlh.planning@hawaii.gov.

Aloha,

Andrew H. Choy
Planning Program Manager

cc: Steve Tagawa - stagawa@honolulu.gov

**BOARD OF WATER SUPPLY
KA 'OIHANA WAI
CITY AND COUNTY OF HONOLULU**
630 SOUTH OERETANIA STREET • HONOLULU, HAWAII 96813
Phone: (808) 748-5000 • www.boardofwatersupply.com



RICK BLANGUARDI
MAYOR
REIA
ERNEST Y. W. LAU, P.E.
MANAGER AND CHIEF ENGINEER
KIMIKO A. IRE KAHU WAIKI
ERWIN KAWATA
DEPUTY MANAGER
HOVE/MAKKA

NAAI BHUJANATHAN, CHIEF
ENGINEER
BRYAN P. ANDAYA
JONATHAN KANESHIRO
EDWIN H. SHIFFEN, EX-OFFICIO
GENE C. ALBAND, P.E., EX-CON

February 9, 2024

Ms. Alicia Ruelke
Environmental Planning & Assessment, LLC
P.O. Box 3442
Honolulu, Hawaii 96801

Dear Ms. Ruelke:

Subject: Your Letter Dated January 22, 2024 Regarding the Draft Environmental Assessment for the Proposed Hale O Lipoa Affordable Rental Housing Project at 98-150 Lipoa Place in Aiea – Tax Map Key: 9-8-014; 021

Thank you for your letter regarding the proposed 153-unit six-story apartment building project.

The existing water system is currently adequate to accommodate the proposed development. However, please be advised that the existing Aiea-Halawa water system capacity has been reduced due to the shut-down of the Aiea Wells and Halawa Wells pumping station as a proactive measure to prevent fuel contamination from the Navy's Red Hill Bulk Storage Tank fuel releases. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval, pending evaluation of the water system conditions at that time on a first-come, first-served basis. The Board of Water Supply (BWS) reserves the right to change any position or information stated herein up until the final approval of the building permit application.

We continue to request 10% voluntary water conservation of all customers until new sources are completed and require water conservation measures in all new developments. If water consumption significantly increases, progressively restrictive conservation measures may be required to avoid low water pressures and disruptions of water service.

Ms. Alicia Ruelke
February 9, 2024
Page 2

Presently, there is no moratorium on the issuance of new and additional water services. Water distributed via the BWS water systems remains safe for consumption. The BWS is closely monitoring water usage and will keep the public informed with the latest findings. Please visit our website at www.boardofwatersupply.com and www.protectourwater.org for the latest updates and water conservation tips.

When water is made available, the applicant will be required to pay our Water System Facilities Charges (WSFC) for resource development, transmission, and daily storage.

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

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

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

The BWS may waive the WSFC and new meter cost for qualified on-site affordable and homeless dwelling units, up to 500 dwelling units per year. The waivers will be evaluated when the building permit is submitted for approval. To qualify, the dwelling units must be certified as either affordable or homeless dwelling units by the appropriate agency of the City and County of Honolulu. Waiver of the WSFC will apply only to fixture units associated with the certified dwelling units. The amount of the meter waiver shall be calculated as a percentage of the number of certified dwelling units to the total number of dwelling units in the project. If the annual cap of 500 dwelling units has not been reached and a project is proposed that would qualify for more than the remaining number of dwelling units in that year, the Manager and Chief Engineer has the discretion to increase that year's limit.

If you have any questions, please contact Barry Usagawa of our Water Resources Division, at (808) 748-5900.

Very truly yours,

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

cc: Steve Tagawa, DPP - Land Use Approval Branch



PO Box 3442
Honolulu, HI 96801
Phone | (808) 464-7084
Email | epa-hawaii@gmail.com

May 7, 2024

Ernest Lau, Manager and Chief Engineer
City and County of Honolulu
Board of Water Supply
630 South Beretania Street
Honolulu, HI 96843

SUBJECT: Response to Comments on Draft Environmental Assessment
Hale O Lipou Affordable Rental Housing Development located at
98-150 Lipou Pl, Aiea, Hawaii 96701; TMK: 1-9-8-014021

Dear Mr. Lau,

Thank you for your letter dated February 9, 2024 concerning the Draft Environmental Assessment (EA) for the proposed Hale O Lipou Affordable Housing Project. The following responses are offered to your comments.

We acknowledge your assessment that the existing water system is currently adequate to accommodate the proposed development. We further recognize that the Board of Water Supply reserves the right to change its position on water availability until the building permit application has been approved.

We also confirm that the applicant will look for ways to conserve water through various design and conservation measures. If deemed necessary, the applicant will pay the fees for water resource development, transmission, and daily storage.

Additionally, fire protection requirements will be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department as the project moves forward.

Finally, we acknowledge the rest of the comments contained in your letter.

It is important to note a change was made from the DEA regarding the housing type and affordability levels. The proposed project will now consist of 152 affordable rental, or a mixture of affordable and market for-sale housing units (depending on the source of financing). Please refer to the discussion in Section 2.4 regarding this change.

We appreciate your input and will include a copy of your comment letters and this response in the Final Environmental Assessment (EA). Should you have any questions or require further information regarding the proposed action, please email epa-hawaii@gmail.com. Thank you for your assistance.

Sincerely,

Alicia Ruelke, President
Environmental Planning & Assessments LLC

HONOLULU FIRE DEPARTMENT
KA 'OIHANA KINAI AHI O HONOLULU
CITY AND COUNTY OF HONOLULU

635 SOUTH STREET • HONOLULU, HAWAII 96813
PHONE: (808) 723-7158 • FAX: (808) 723-7111 • WEBSITE: honolulu.gov



RICK BLANGIARDI
MAYOR
AIE/A

SHELDON C. IMAI
LUAIA 'ŪI KINAI AHI
JASON SAMULA
DEPUTY FIRE CHIEF
HOHE LUAIA 'ŪI KINAI AHI

January 29, 2024

Ms. Alicia Ruelke
Page 2
January 29, 2024

4. An approved water supply capable of supplying the required fire flow for fire protection shall be provided to all premises upon which facilities, buildings, or portions of buildings are hereafter constructed or moved into the jurisdiction. The approved water supply shall be in accordance with NFPA 1; 2018 Edition, Sections 18.3 and 18.4.
5. Submit civil drawings to the City and County of Honolulu's Department of Planning and Permitting (DPP) and route them to the HFD for review and approval.

The requirements above are required by the HFD. This project may have additional requirements to be met as determined by other agencies.

Should you have questions, please contact Battalion Chief Jean-Claude Bisch of our Fire Prevention Bureau at 808-723-7154 or jbsich@honolulu.gov.

Sincerely,

CRAIG UCHIMURA
Assistant Chief

CUMN:j

cc: Steve Tagawa, DPP
Land Use Approval Branch

Ms. Alicia Ruelke
Environmental Planning and
Assessment, LLC
P. O. Box 3442
Honolulu, Hawaii 96801

Dear Ms. Ruelke:

Subject: Draft Environmental Assessment
Hale O Lipoa Affordable Rental Housing Project
98-150 Lipoa Place
Tax Map Key: 9-8-014: 021

In response to a letter from Dawn Takeuchi Apuna dated January 22, 2024, regarding the abovementioned subject, the Honolulu Fire Department (HFD) reviewed the submitted information and requires that the following be complied with:

1. The fire department access roads shall be in accordance with National Fire Protection Association 1; 2018 Edition, Section 18.2.3.
2. A fire department access road shall extend to within 50 feet (15 meters) 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; 2018 Edition, Section 18.2.3.2.1.)
3. 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 meters) from fire department access roads as measured by an approved route around the exterior of the building or facility. (NFPA 1; 2018 Edition, Sections 18.2.3.2.2 and 18.2.3.2.1, as amended.)



PO Box 3442
Honolulu, HI 96801
Phone | (808) 464-7084
Email | epa.hawaii@gmail.com

May 8, 2024

Craig Uchimura, Assistant Chief
City and County of Honolulu
Honolulu Fire Department
636 South Street
Honolulu, HI 96813-5007

SUBJECT: Response to Comments on Draft Environmental Assessment
Hale O Lipoa Affordable Rental Housing Development located at
98-150 Lipoa Pl, Aiea, Hawaii 96701; TMK: 1-9-8-014021

Dear Mr. Uchimura,

Thank you for your letter dated January 29, 2024 concerning the Draft Environmental Assessment (EA) for the proposed Hale O Lipoa Affordable Housing Project. The following responses are offered to your comments.

We acknowledge and can confirm that the Project will comply with the NFPA 1, 2018 edition and amendments that apply. We will also comply with the rest of the comments contained in your letter.

It is important to note a change was made from the DEA regarding the housing type and affordability levels. The proposed project will now consist of 152 affordable rental, or a mixture of affordable and market for-sale housing units (depending on the source of financing). Please refer to the discussion in Section 2.4 regarding this change.

We appreciate your input and will include a copy of your comment letters and this response in the Draft Environmental Assessment (EA). Should you have any questions or require further information regarding the proposed action, please email epa.hawaii@gmail.com. Thank you for your assistance.

Sincerely,

Alicia Ruelke, President
Environmental Planning & Assessments LLC

DEPARTMENT OF COMMUNITY SERVICES
64, 'OIHANA LANAELANE KAIULOU
CITY AND COUNTY OF HONOLULU
153 DILLON DRIVE, SUITE 300, HONOLULU, HAWAII 96817
PHONE: (808) 525-7102 FAX: (808) 525-7102 WEB: www.hawaii.gov

MIKE BLANGUARDI
MAYOR
AIEA



ANTONIO TORIBIO
DIRECTOR
FOTO
ALEXANDER LOPEZ-BANDRES
DEPUTY DIRECTOR
HONOLULU

January 25, 2024

Environmental Planning & Assessment, LLC
P.O. Box 3442
Honolulu, Hawaii 96801
Attn: Alicia Ruelke

Dear Ms. Ruelke:

SUBJECT: DRAFT Environmental Assessment
Hale O Lipoa Affordable Rental Housing Project
98-150 Lipoa Place, Aiea, Hawaii 96701
TMK: (1) 9-3-014:021

The Department of Planning and Permitting (DPP) notified us that Environmental Planning & Assessment, LLC is soliciting comments on the Draft Environmental Assessment (DEA) published for the above-named project.

Our review indicates that the proposed project should have no adverse impacts on any Department of Community Services activities or projects in the surrounding neighborhood.

Thank you for providing us the opportunity to comment on this matter.

Sincerely,

Anton C. Krucky
Director

Cc: Mr. Steve Tagawa, DPP Land Use Approval Branch



PO Box 3442
Honolulu, HI 96801
Phone | (808) 464-7084
Email | epa.hawaii@gmail.com

May 8, 2024

Anton Krucky, Director
City and County of Honolulu
Department of Community Services
925 Dillingham Blvd, Suite 200
Honolulu, HI 96817

SUBJECT: Response to Comments on Draft Environmental Assessment
Hale O Lipoa Affordable Rental Housing Development located at
98-150 Lipoa Pl, Aiea, Hawaii 96701; TMK: 1-9-8-014021

Dear Mr. Krucky,

Thank you for your letter dated January 25, 2024 concerning the Draft Environmental Assessment (EA) for the proposed Hale O Lipoa Affordable Housing Project. The following response is offered to your comment.

We acknowledge that the project should have no adverse impacts on any Department of Community Services activities or projects in the surrounding area. We appreciate your participation in the environmental review process.

It is important to note a change was made from the DEA regarding the housing type and affordability levels. The proposed project will now consist of 152 affordable rental, or a mixture of affordable and market for-sale housing units (depending on the source of financing). Please refer to the discussion in Section 2.4 regarding this change.

We appreciate your input and will include a copy of your comment letters and this response in the Final Environmental Assessment (EA). Should you have any questions or require further information regarding the proposed action, please email epa.hawaii@gmail.com. Thank you for your assistance.

Sincerely,

Alicia Ruelke, President
Environmental Planning & Assessments LLC

DEPARTMENT OF PLANNING AND PERMITTING
KA 'OIHANA HO'OLĀLA A ME NĀ PALAPALA 'ĀE
CITY AND COUNTY OF HONOLULU

802 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-3000 • FAX: (808) 768-6041 • WEB: honolulu.gov/dpp

RICK OLIVIGUARDI
MAYOR
(HONOLULU)



OWW
JH
08

March 8, 2024

2023/E

Ms. Alicia Ruelke
Environmental Planning & Assessments, LLC
1188 Bishop Street, Suite 907
Honolulu, Hawaii 96813

Dear Ms. Ruelke,

SUBJECT: Revised Ordinances of Honolulu Chapter 25
Special Management Area (SMA)
Draft Environmental Assessment (DEA)
Hale O Lipoa Affordable Rental Housing Project (Project)
98-150 Lipoa Place – Alea
Tax Map Key 9-8-014: 021

We have reviewed the above DEA for the Hale O Lipoa Affordable Rental Housing Project, which has been prepared in accordance with Revised Ordinance Honolulu (ROH) Chapter 25, related to the SMA. The following is our understanding of the Project:

Section 2.2.3 Residential Units: The Developer will request exemptions from certain requirements including maximum density, side yards, and transition; height setback requirements pursuant to Hawaii Revised Statutes (HRS) Chapter 201H, for the proposed Project. The proposed Project consists of 153 dwelling units (including one manager's unit); 20 percent will be available to households earning 80 percent area median income (AMI) and below, and 31 percent will be available to households earning 120 percent AMI and below, and the affordable period will be 61 years.

Section 2.4 Funding and Scheduling: The Developer may seek a combination of Low Income Tax Housing Credits, Hula Mae Multi-Family Bonds and Rental Housing Revolving Funds, which would mean 100 percent of the units may be set aside for 60 percent AMI and lower households. Should the Project receive such funding, which is typically administered by the State, it is likely that the

Ms. Alicia Ruelke
March 8, 2024
Page 2

Hawaii Housing and Finance Development Corporation will have oversight and monitoring responsibility for the Project.

The Department of Planning and Permitting (DPP) has the following comments:

- Section 2.4 Funding and Scheduling:** The Final Environmental Assessment (FEA) and/or the HRS 201H exemption application should confirm funding sources, target households, affordability period, and oversight agency responsible for monitoring the affordable housing (AH) component for compliance with applicable AH requirements. Rental projects are not subject to ROH Chapter 29 relating to AH Requirements administered by the City. However, should the units be converted to for-sale units, they will be subject to ROH Chapter 29. At such time they should consult with the DPP Planning Division, and more details will be needed to assess the AH requirements for the Project.
- Section 3.3.1 Geological Characteristics: Soils –** The FEA should provide estimates on the amount of excavation and fill anticipated to construct the proposed Project. The type of soil and its characteristics should be discussed in the context of the type of the foundation and construction challenges that are faced in supporting the eight-level structure.
- Section 3.3.2 Water Resources:** This section describes the irreplaceable and vulnerable status of the Waimalu and Pearl Harbor aquifers of the Project site. The discussion on the hydrologic hazards of this Project must be expanded and clarified. In the body of the FEA, it must explain the apparent contradiction of the sensitivity of this resource and its assessment of "no adverse hydrologic impact" of the Project. The discussion of the Project location in relation to the State Underground Injection Control line must be expanded, and reference to Figure 3 must be included in this section of the FEA (i.e., not merely referenced).
- Section 3.3.9 Infrastructure and Utilities:** This section must be expanded in the FEA to provide empirical estimates of the demands generated by the Project which are placed on existing utilities. There should be figures provided for daily water and wastewater demands, and estimated daily water demand generated by the 153-unit structure.
- Section 4 Relationship to Plans, Codes and Ordinances:** This section of the FEA should be revised to utilize headers for each of the discussions on the respective plans.

6. Transit Oriented Development (TOD) Plan and Zoning:

- A. The Project appears to be consistent with the TOD Plan's vision and principles, as well as the site's TOD zoning of BMX-3 with the ability to request a maximum 7.0 Floor Area Ratio (4.5 Floor Area Ratio bonus) and 90 feet (60 feet bonus) with community benefits, including affordable housing.
- B. The TOD Special District map of the Kalaauo (Pearlridge) rail station area does not identify Lipoa Place as a key street designated for additional design control. The map identifies a 20-foot-wide view corridor in front of the Project site between Lipoa Place and the Pearl Harbor Historic Trail (PHHT). The Project can take advantage of this corridor to Pearl Harbor and the PHHT, which could potentially become an access route, by designing around it, including the addition of any ground level commercial uses (e.g., convenience store) that would be visible from the PHHT.
- C. Affordable Housing: The TOD Plan promotes a wide variety of housing types to accommodate diverse lifestyles and varying income levels. The Project supports these goals through providing at least 20 percent of the AH units for individuals and families earning 80 percent of the AMI or less, and at least 31 percent of affordable housing units for individuals and families earning 120 percent of the AMI or less. The Project provides a well-balanced variety of AH unit types (studio, one-, two-, and three-bedroom) for a total of 152 units. Over half of the housing units are two-bedroom units (47 percent) and three-bedroom units (8 percent), which can better accommodate families with children. The Project should provide AMI levels associated with each unit type.
- D. Street Trees: The DEA refers to the TOD Street Tree Master Plan and TOD Special District without providing any specifics on compliance, leaving our comment on the Pre-DEA mostly unaddressed. "The Project should include a ground-level landscaping plan, clarifying the quantity, location, spacing, and species of street trees. The sidewalk should be reconfigured, if possible, to allow for trees to be placed between it and the road to provide for maximum shade." The draft TOD Street Tree Plan recommends Silver Buttonwood, Hau, and Beach Heliotrope as the preferred and alternative street tree species on Lipoa Place. This plan must be followed once it is completed per the TOD Special District regulations.

E. Site Design: The following comments on the Pre-DEA were mostly unaddressed:

- i. "The Project renderings should include better references to clarify site orientation." To ensure that the Project preserves the view corridor mentioned previously, please show the orientation of the building relative to the street.
 - ii. "The ground floor plan should clarify the direction of vehicular and pedestrian traffic flows at the drop-off/pick-up area. Additionally, the Project should attempt to combine the entrances of the parking lot and the drop-off/pick-up areas, in order to reduce the number of curb cuts and improve the pedestrian environment. In accordance with TOD principles and ... regulations, the Project should screen the entire parking lot through additional ground level uses along Lipoa Place (also better activates the street), such as the community resource center, exercise room, and multi-purpose room that are mentioned in the executive summary. These active uses could also consider a convenience store as previously mentioned. At a minimum and on other sides (not Lipoa Place street frontage), the parking should be screened by vegetation" along with any other attempts to make the ground floor area more attractive to pedestrians.
- F. The Project should consider an outdoor connection from the 3rd level open-air courtyard to the street level to further improve the building connectivity with the street level, possibly moving the elevator closer to the front of the property.
- G. Parking: We are concerned that the Project increased the number of parking spaces from less than a one-to-one residential unit-to-parking space ratio (Pre-DEA) to a nearly one-to-one ratio, which is not consistent with TOD Plan principles. The Project should attempt to lower this amount because it is located close to the Kalaauo rail station and bus transit routes, and there are no required parking minimums in the TOD Special District. The incorporation of more bicycle and car share infrastructure would further support reduced parking.

We support the increased provision of long-term bicycle parking from over the minimum requirement (76 spaces) to 78 spaces, which is consistent with TOD Plan principles. However, the bicycle parking located on the 2nd floor should be relocated to the 1st floor to make it more accessible. This

Ms. Alicia Ruelke
March 8, 2024
Page 5

could be done by rearranging the automobile parking spaces from the 1st floor to the 2nd floor or removing automobile parking spaces from the 1st floor. Figures should also clearly show where short- and long-term bicycle parking is located.

7. Section 4.0 State of Hawaii Plans, Codes and Ordinances. We suggest that this section be revised in the FEA to separate the identification, descriptions and discussions regarding the Project compliance with the respective regulations. For the SMA, the brief discussions on pages 32 and 33, must be relocated, significantly expanded, and organized to address each of the objectives, policies and guidelines of ROH Section 25-3.1. Further, with respect to scenic and open space resources, the FEA must include exhibits which simulate the eight-story Project as it will be seen along Kamehameha Highway, approaching from both directions (i.e., eastbound westbound). A visual simulation of the Project as seen along the shoreline and the PHHT (bike path) should also be provided

8. Section 6.0 List of Necessary Permits and Approvals: The Table must be revised to correctly indicate that the Approving Agency in the following:

- SMA Use Permit - The Honolulu City Council, not the DPP.
- Sewer Connection Permit – The DPP Department of Planning and Permitting, not the Department of Environmental Services (ENV). However, for the HRS 201H request to waive these sewer fees is correctly listed as submitted to the City ENV.

9. Section 8.0 Parties Consulted During the Preparation of the DEA: Table 8.1 must be expanded to include the agencies that DPP distributed to the DEA, to add the following:

- Federal Agencies: Federal Aviation Administration and the Housing and Urban Development;
- State Agencies: Hawaii State Energy Office, Hawaii Housing Finance and Development Corporation, and the Department of Hawaiian Home Lands; and
- County Agencies: Honolulu Area Rapid Transit, Office of Sustainability Climate Change and Resilience, and the Office of Economic Revitalization.

Ms. Alicia Ruelke
March 8, 2024
Page 6

Should you have any questions, please contact Steve Tagawa, of our Land Use Approval Branch, at (808) 768-8024.

Very truly yours,


Dawn Takeuchi Apuna
Director

cc: Environmental Review Program - Mary Alice Evans



PO Box 3442
Honolulu, HI 96801
Phone | (808) 464-7084
Email | epa.hawaii@gmail.com

May 13, 2024

Dawn Takeuchi Apuna, Director
City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, HI 96813

SUBJECT: Response to Comments on Draft Environmental Assessment
Hale O Lipoa Affordable Housing Development located at
98-150 Lipoa Pl, Aiea, Hawaii 96701; TMK: 1-9-8-014; 021

Dear Ms. Apuna,

Thank you for your letter dated March 8, 2024 concerning the Draft Environmental Assessment (EA) for the proposed Hale O Lipoa Affordable Housing Project. The following responses are offered to your comments.

1. Section 2.4 Funding and Scheduling:

This section, in addition to Section 2.2.3, has been revised to include a discussion on the potential funding sources, target households, and affordability periods of the proposed project. It addresses the need and intent for flexibility to pursue various financing options in the 2011 application. It is important to note a change was made from the DEA regarding the housing type and affordability levels. The proposed project will now consist of 152 affordable rental, or a mixture of affordable and market for-sale housing units (depending on the source of financing). The applicant met with DPP Staff and explained the change in a meeting in April 2024.

2. Section 3.3.1 Geological Characteristics:

Regarding the cut and fill, it is impossible to calculate at this time. The majority of the actual earthwork is projected to be under the building as part of the foundation work. We do not expect the project to need a grading permit as the earthwork anticipated is minimal and the existing grades will generally be maintained. As suggested, a discussion on the type of soil and its characteristics has been addressed in the context of the type of foundation and construction anticipated to support the eight-level structure. Please see Section 3.3.1.

3. Section 3.3.2 Water Resources:

The Potential Impacts and Mitigation discussion of this section has been expanded and clarified as suggested. Additionally, the figure related to the Underground Injection Control line has been included for reference. Please see Appendix G for a Hydrogeological Assessment conducted by INTERA, Inc. to support that the project will have no adverse impacts to the area's water sources.

4. Section 3.3.9 Infrastructure and Utilities:

As suggested, this section has been expanded to include empirical estimates of the utility demands generated by the project. The requested figures have been added to this section.

5. Section 4 Relationship to Plans, Codes and Ordinances:

This section has been revised to utilize headers for each of the discussions on the respective plans as suggested.

6. Transit Oriented Development (TOD) Plan and Zoning:

A. We acknowledge that the Project appears to be consistent with the TOD Plan's vision and principles.

B. We acknowledge that the TOD Special District map of the Kalaueo (Pearlridge) rail station area does not identify Lipoa Place as a key street designated for additional design control. The Applicant understands there is a view corridor identified in front of the Project site between Lipoa Place and the Pearl Harbor Historic Trail, however, the inclusion of any ground level commercial uses is not contemplated at this time.

C. Affordable Housing: As shared in Comment #1, Section 2.2.3 and Section 2.4, have been revised to include a discussion on the potential funding sources, target households, and affordability periods of the proposed project. It addresses the need and intent for flexibility to pursue various financing options in the 2011 application. It is important to note a change was made from the DEA regarding the housing type and affordability levels. The proposed project will now consist of 152 affordable rental, or a mixture of affordable and market for-sale housing units (depending on the source of financing). The applicant met with DPP Staff and explained the change in a meeting in April 2024. The AMI levels associated with each unit type across the three funding scenarios will be provided in the 2011 application.

D. Street Trees: A ground-level landscaping plan, clarifying the quantity, location, spacing, and species of street trees has been included in Section 2.2.6, as well as a discussion expanding on how the Project incorporates the recommendations indicated in the TOD Street Tree Plan and Special District.

E. Site Design:

i. New renderings were included in Section 2 as Figures 2-19 through 2-22 to clarify site orientation and show the orientation of the building relative to the street.

ii. The ground floor plan, Figure 2-3, has been revised to clarify the direction of vehicular and pedestrian traffic flows at the drop-off/pick-up area. Ride share traffic will be directed into the parking garage away from the public sidewalk through the Ewa end entrance to the loading and unloading area with access to the residential lobby. There will not be any curb cuts included in the Project. Perforated metal screens will be installed with 55% coverage to allow for a naturally ventilated parking garage to minimize power consumption. The residential lobby will utilize a store-front glazing system for maximum transparency to Lipoa Place. The residential resource center and exercise room are placed on level 3 fronting the landscape courtyard to facilitate convenient access to outdoor events/activities and will be for residents of Hale O Lipoa use only. In addition, short term bicycle parking near the residential lobby along Lipoa Place will activate the sidewalk with both residential and public activities to provide "eyes on the street".

F. The 3rd level open-air courtyard will be for use by residents of Hale O Lipoa only for safety and liability reasons. Therefore, an outdoor connection to the street level is not considered.

G. Parking: The Project has taken into consideration the TOD Plan principles surrounding parking and an explanation regarding the provision of onsite parking at its current parking ratio is included in Section 2.2.5. During the Applicant's community engagement efforts at the neighborhood board meetings, there was a concern from community members regarding a lack of adequate onsite parking, therefore the Project attempts to balance the parking ratio with the community's input as well. The bicycle parking has been relocated to the 1st floor from the 2nd floor to make it more accessible as recommended. Figure 2-3 clarifies where the short- and long-term bicycle parking is located.

7. Section 4.0 State of Hawaii Plans, Codes and Ordinances:

As suggested, this section has been revised to separate the identification, descriptions and discussions regarding the project's compliance with the respective regulations. The discussion on the project's compliance with ROH Section 25-3.1 and HRS Section 205A-2 has been further expanded as requested. Additionally, project renderings included in Section 2 as Figures 2-19 through 2-22 show visual simulations of the project in relation to the surrounding area.

8. Section 6.0 List of Necessary Permits and Approvals:

The Table in this section has been revised to correctly indicate the approving agencies.

9. Section 8.0 Parties Consulted During the Preparation of the DEA:

This Table has been expanded to include the agencies that DPP distributed the DEA to.

Finally, we acknowledge the rest of the comments contained in your letter. We appreciate your participation in the environmental review process.

We appreciate your input and will include a copy of your comment letters and this response in the Final Environmental Assessment (EA). Should you have any questions or require further information regarding the proposed action, please email cpa.hawaii@gmail.com. Thank you for your assistance.

Sincerely,

Alicia Ruelke, President
Environmental Planning & Assessments LLC



RICK BLANGIARDI
DIRECTOR

J. ROGER MORTON
DIRECTOR
JOHN V. KOUJAL
DEPUTY DIRECTOR

TP2/24-917353

February 22, 2024

MEMORANDUM

TO: Dawn Takeuchi Apuna, Director
Department of Planning and Permitting

ATTN: Steve Tagawa, Planner
Land Use Approval Branch

FROM: J. Roger Morton, Director
Department of Transportation Services

SUBJECT: Hale O Lipoa Affordable Rental Housing Project
Draft Environmental Assessment (EA)
98-150 Lipoa Place - Alea
Tax Map Key: 9-8-014: 021

Thank you for the opportunity to provide written comments regarding the Hale O Lipoa Affordable Rental Housing Project; Draft Environmental Assessment (DEA); 98-150 Lipoa Place - Alea; Tax Map Key: 9-8-014: 021. The Department of Transportation Services (DTS) stands by its April 26, 2023 and April 25, 2022 comments, included herein, and provides the following updated comments.

1. DEA.

- i. Figure 2-3, Page 10. The Applicant shall notate the sidewalk widths on the Lipoa Place frontage. See also comment 3.i below.
- ii. Section 2.2.6, Page 24. The Applicant shall revise the Landscaping section to include providing or maintaining existing shade street trees along Lipoa Place. See also comments 3.ii and 3.iii below.

Dawn Takeuchi Apuna, Director
February 22, 2024
Page 2

iii. Section 3.3.5, Page 38. The Applicant shall revise the Transportation Demand Management section to include providing subsidized transit passes to residents and employees.

iv. Section 3.3.9, Page 47. The Applicant shall revise the parking stall tally to include the 4 car share stalls cited in Section 2.2.5, Page 9.

2. Transportation Impact Analysis Report (TIAR).

i. Section 1, Page 1 and Section 2.1, Page 5. The Applicant shall verify the number of building stories, as DEA, Section 2.2.2, Page 8, states there will be 8 stories, not 6.

ii. Section 1, Page 4 and Section 8.8, Page 40. The Applicant shall verify whether the recommended safe speed limit is 20 MPH or 25 MPH, as the cited speeds are inconsistent.

iii. Section 5.1, Page 24. The Applicant shall revise the Project Vehicle Trip Generation Estimates to fully encompass the proposed 153-unit building. The Applicant may then subtract the existing 58-unit apartment buildings' trip generation to produce the net trip generation increase.

iv. The Applicant shall submit all native files (e.g., Synchro, Excel, etc.) for the raw multi-modal counts (in the format specified at <https://geocounts.com/api/format/> and the example file at <https://bit.ly/DTS-count-sample>) and accompanying analyses to the DTS Regional Planning Branch (RPB) at dtsplanningdiv@honolulu.gov. Please refer to the DTS Transportation Impact Assessment (TIA) Guide for multimodal assessment tools and recommended analyses. The TIA Guide can be found at <http://www4.honolulu.gov/docushare/dsweb/View/Collection-7723>.

3. Pedestrian Improvements.

i. Sidewalks. All internal Project sidewalks/pedestrian paths and those fronting the Project site shall have a minimum of 5-foot, 8-foot preferred, pedestrian clear zone separate from the furniture and utility zone. Sidewalks shall incorporate the standards of the Honolulu Complete Streets Design Manual, including the placement of street furniture such as landscaping, signage, and lighting, which is intended to provide added protection for pedestrians. New sidewalks, curb ramps, curbs, and gutters must meet current Americans with Disabilities Act standards.

- ii. Installation of lighting; pedestrian-oriented green infrastructure, trees, or other greening landscape consistent with the Complete Streets (furniture zone) and trash receptacles per the Honolulu Complete Streets Design Manual, Oahu Pedestrian Plan, and any applicable streetscape plan.
- iii. The Applicant shall add or maintain street trees along Lipoa Place. Trees provide shade that plays an important role in making walking comfortable.
- iv. The developer may construct Complete Streets improvements as recommended by the TIAR or make a financial contribution equal to the cost on construction in lieu of such.
4. Parking. The DTS is supportive of the reduced parking ratio of 0.95 parking spaces per unit (146 total residential parking spaces, subtracting the 4 car share stalls); however, the applicant should consider that the *Institute of Transportation Engineers' Parking Generation Manual, 5th Edition*, calculates an approximate average parking demand of 109 spaces for a multifamily housing mid-rise near rail transit in a dense multi-use urban area. Per Ordinance 20-41, Bill 2 (2020), CD1, FD1, of the Revised Ordinances of Honolulu, Section 21-6.20(a), no off-street parking is required in any zoning district within one-half mile of an existing or future Honolulu rail transit station. The January 2017 report, *Trip and Parking Generation at Transit-Oriented Developments Number NITC-RR-767*, concludes that less parking is required than suggested in the Institute of Transportation Engineers (ITE) Parking Generation Manual for sites that are dense, mixed use, with low stress pedestrian environments, and adjacent to a high quality transit stop. As such, we recommend the applicant minimize the parking ratio, given that the Project falls within a Transit-Oriented Development area and is less than half a mile from the Kalaauo (Pearlridge) Rail Station.
5. Street Usage Permit. A street usage permit from the DTS should be obtained for any construction-related work that may require the temporary closure of any traffic lane, sidewalk, bicycle lane, or pedestrian mall on a City street.
6. Neighborhood Impacts. The area representatives, neighborhood board, as well as the area guests, businesses, emergency personnel (fire, ambulance, and police) Oahu Transit Services, Inc. (TheBus and TheHandi-Van), etc., should be kept apprised of the details and status throughout the project and the impacts that the project may have on the adjoining local street area network.

7. Disability and Communication Access Board (DCAB). Project plans (vehicular and pedestrian circulation, sidewalks, parking and pedestrian pathways, vehicular ingress/egress, etc.) should be reviewed and approved by DCAB to ensure full compliance with Americans with Disabilities Act requirements.

Should you have any questions, please contact Greg Tsugawa, of my staff, at (808) 768-6683.

Attachments

cc: Alicia Ruelke, Agent
Environmental Planning & Assessment, LLC



May 7, 2024

J. Roger Morton, Director
Department of Transportation Services
711 Kapiolani Blvd, Suite 1600
Honolulu, HI 96813

PO Box 3442
Honolulu, HI 96801
Phone | (808) 464-7084
Email | epa.hawaii@gmail.com

SUBJECT: Response to Comments on Draft Environmental Assessment
Hale O Lipoa Affordable Rental Housing Development located at
98-150 Lipoa Pl, Aiea, Hawaii 96701; TMK: 1-9-8-014-021

Dear Director Morton,

Thank you for your letter dated February 22, 2024 concerning the Draft Environmental Assessment (E/A) for the proposed Hale O Lipoa Affordable Housing Project. The following responses are offered to your comments.

1. **DEA**
 - i. The sidewalk width has been added to the plans in Appendix F, and Figures 2-3 & 2-17.
 - ii. A ground-level landscaping plan, clarifying the quantity, location, spacing, and species of street trees has been included in Section 2.2.6.
 - iii. As an affordable housing community with limited financial operating resources, the Applicant's focus is on preserving affordable rental rates for future residents. Therefore, there is not enough operating financial capacity for the project to provide subsidized transit passes to all residents and employees for an on-going period.
 - iv. The parking stall tally has been revised to include the 4 car share stalls.
2. **Transportation Impact Analysis Report (TIAR)**
 - i. The TIAR has been corrected to include 8 stories.
 - ii. These sections have been corrected in the TIAR.
 - iii. Section 5.1 has been corrected.
 - iv. Acknowledged. Our traffic consultant, Fehr and Peers, will submit this data.
3. **Pedestrian Improvements**
 - i. We acknowledge these sidewalk requirements. Section 2.2.6 has been updated to include a discussion and figures highlighting the project's sidewalks in more detail. The public sidewalk and internal pedestrian paths are notated with dimensions in

Page 2 of 3

Figure 2-17. Further information on how the project incorporates the standards of the Honolulu Complete Streets Design Manual is included in this section as well. Section 2.2.6 has been updated to reflect the incorporation of lighting, pedestrian-oriented green infrastructure, trees, other greening landscape, and trash receptacles consistent with the applicable streetscape plans.

- iii. A ground-level landscaping plan, clarifying the quantity, location, spacing, and species of street trees has been included in Section 2.2.6.
- iv. Complete Street improvements were not recommended by the TIAR, therefore this is not applicable.

4. **Parking**

The Project has taken into consideration the TOD Plan principles surrounding parking and an explanation regarding the provision of onsite parking at its current parking ratio is included in Section 2.2.5. During the Applicant's community engagement efforts at the neighborhood board meetings, there was a concern from community members regarding a lack of adequate onsite parking, therefore the Project attempts to balance the parking ratio with the community's input as well. The project will also incorporate several multi-modal transportation options as discussed in Section 2.2.5.

5. **Street Usage Permit**

We acknowledge that the proper street usage permit will be obtained if warranted.

6. **Neighborhood Impacts**

We acknowledge that the community has and will continue to be kept informed of the details and status of the proposed project.

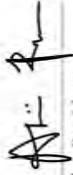
7. **Disability and Communication Access Board (DCAB)**

We acknowledge that the project plans will need to be reviewed and approved by DCAB.

Finally, we acknowledge the rest of the comments contained in your letter. We appreciate your participation in the environmental review process. It is important to note a change was made from the DEA regarding the housing type and affordability levels. The proposed project will now consist of 152 affordable rental, or a mixture of affordable and market for-sale housing units (depending on the source of financing). Please refer to the discussion in Section 2.4 regarding this change.

We appreciate your input and will include a copy of your comment letters and this response in the Draft Environmental Assessment (E.A). Should you have any questions or require further information regarding the proposed action, please email epa.hawaii@gmail.com. Thank you for your assistance.

Sincerely,



Alicia Ruelke, President
Environmental Planning & Assessments LLC.

8.3 Meeting/Presentation/Comments/Minutes from Meetings Outside of DEA Comment Period



AIEA NEIGHBORHOOD BOARD NO. 20

66 925 DILLINGHAM BOULEVARD, SUITE 100 HONOLULU, HI 96817
PHONE (808) 768-3710 • FAX (808) 768-3711 • INTERNET: <http://www.honolulu.gov/nco>

DRAFT REGULAR MEETING WRITTEN SUMMARY FOR VIDEO RECORD TUESDAY, NOVEMBER 14, 2023 AIEA PUBLIC LIBRARY PROGRAM ROOM AND ONLINE VIA WEBEX

Video Recording of Meeting Link: <https://www.youtube.com/watch?v=JwTjD0110U>
Google Drive Link: <https://drive.google.com/drive/folders/1PYA1awPDKw0d845fF4.../view?usp=sharing>

1. CALL TO ORDER [0:00:00]

Chair Wood called the meeting to order at 7:00 p.m. **Quorum was established with 11 board members present.** Note: This 15-member board requires eight (8) members to establish quorum and to take official board action.

Members Present: Stephen Wood, Tracy Arakaki, Bill Clark, Danielle Espiritu, Ronald Fitch, Paul Glen, May Inamura-Uruu, Richard Mizusawa, Russell Tsuji, Alvin Vasquez, Franice Whitfield, and Jane Sugimura (7:16 p.m.)

Members Absent: Jane Anderson, Kim Burgess, and Mike Bywer

Guests: Firefighter 1 Nick Hudson (HFD), Sergeant Miller (HFD), Tracy Burgo (BWS), Chris Kimimaka, Samantha Spain, David Harris (Stadium Authority), Jeff Ramsey (Crawford Architects), Bettina Mehnert (OCCC), David Cianelli (Pearl Ridge Shopping Center), Victor Flint (U.S. Navy), Casey Abe (Highways Division), Tommy Johnson (Department of Public Safety), Cathi Schar, Caroline Whitesel, Creesha Layaoben, Dean (UHCCDC), Keegan Flaherty, Chris Flaherty, Nanao Watson (Kenauka), Janelle Saneishi (Governor Green), Senator Eliodoro, Michael Greenough (Representative Michael Au), Representative Sam Kong, DDC Director Haku Miles (Mayor Blongardi), Aaron Wilson, Jocelyn Roberts (Councilmember, Kimohe), Tricia Repalle (Councilmember Cordaro), Susan Morishige (ACA), Garner Shimizu, Wayne Takara, Kylie Akiona, Joanna Chang, Randy Chang, Jamie Davis, Rachael Pang, Iris Pang, Jeffrey Pang, Lawrence Higa, Danielle Barnes, Paul Gasper, Lulu Burreo (Residents), Logan Hutchinsan (NCO). **Note: Name not included if not legible or stated for the record. There were 99 total participants.**

2. MONTHLY REPORTS [0:00:23]

Honolulu Fire Department (HFD) [0:00:23]: Firefighter 1 Nick Hudson gave the report, which a copy of can be found at <https://drive.google.com/file/d/1G9C5JmEw7B8D0C6k4z2D0u8V1N3Z4/view?usp=sharing>. Should you have any questions, please email the Honolulu Fire Department Community Relations Office at hr@hfd.honolulu.gov.

- **October 2023 Statistics:** There were two (2) structure fires, one (1) wildland/brush fire, one (1) nuisance fire, five (5) activated alarms (no fire), 130 medical emergencies, three (3) motor vehicle crash/collisions, and one (1) mountain rescue.
- **Safety Tip: Holiday Cooking Safety** – Keep everyone safe this holiday season. Thanksgiving is the peak day for home cooking fires with more than three times the daily average for such incidents. Christmas Day and Christmas Eve rank second and third, with both having nearly twice the daily average. Unattended cooking is by far the leading contributing factor in cooking fires and fire deaths. Stay in the kitchen and focus on the food when you are cooking on the stove top. Stay in the home when cooking your turkey, and check on it frequently. If you want a fried turkey, purchase it from a grocery store, restaurant or buy a fryer that does not use oil. Turkey fryers that use cooking oil are not safe. These fryers use large amounts of oil at high temperatures, which can cause devastating burns. Consider purchasing an infrared fryer, air fryer, or electric turkey fryer, that has been listed by a qualified testing laboratory. Do not leave fryers unattended when in use. For more information, visit <https://fire.honolulu.gov/>.

Questions, comments, and concerns followed [0:02:41]

Honolulu Police Department (HFD) [0:07:14]: Sergeant Miller reported the following:

- **October 2023 Statistics:** There were six (6) motor vehicle thefts, two (2) burglaries, 21 thefts, 14 unauthorized entries into motor vehicles (UEMV), and 9,205 total calls for service. Further statistical information can be found at www.honolulu.gov.
- **September 2023 Statistics:** There were six (6) motor vehicle thefts, four (4) burglaries, 30 thefts, eight (8) unauthorized entries into motor vehicles (UEMV), and 5,940 total calls for service.

Questions, comments, and concerns followed [0:08:09]

Chair's Nighttime Board system – Established 1973

AIEA NEIGHBORHOOD BOARD NO. 20
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Board of Water Supply (BWS) [0:12:07]: Tracy Burgo provided the monthly report, which a copy of can be found at <https://drive.google.com/file/d/1V17X1S1YxM1UJmXGgJkD9e87PUCeW7EwEwZuqz-drive-link>. There were five (5) main breaks reported in October in the district. BWS has launched its 2024 Poster and Poetry Contest. For more information, go to www.boardofwatersupply.com/watercontest.

Questions, comments, and concerns followed [0:13:50]

Sugimura joined the meeting at 7:16 p.m.; 12 members present.

Stadium Authority [0:15:47]: Chris Kimimaka highlighted the Stadium Authority website at <https://mailed.hawaii.gov/> including the market sounding process and October 2023 newsletter. Samantha Spain highlighted the Holiday Light Show in the Lower Halawa Lot.

Questions, comments, and concerns followed [0:20:46].
Osaka Community Correctional Center (OCCC) [0:24:51]: Bettina Mehnert delivered her report due to the presentation on alternative models for OCCC and community-based continuum of care later in the meeting.

Questions, comments, and concerns followed [0:25:52].

Pearl Ridge Shopping Center [0:27:21]: David Cianelli highlighted a few of the upcoming events at Pearl Ridge Shopping Center. For more information, go to <https://www.pearlridgecenter.com/>.

Questions, comments, and concerns followed [0:31:08].

U.S. Navy/Department of Defense (DOD) [0:33:16]: No representative present at this time.

Environmental Protection Agency (EPA) [0:33:45]: No representative present. No report provided.

State Department of Transportation (DOT), Highway Division [0:33:55]: Casey Abe provided an update on the Moanalua Freeway Lighting Improvements Project at the Halawa Heights off-ramp to the Middle Street overpass.

Questions, comments, and concerns followed [0:35:44].

Hearing no objections, Chair Wood returned to a previous agenda item [0:39:56].

U.S. Navy/Department of Defense (DOD) [0:39:56]: Victor Flint provided the report, which a copy can be found at <https://drive.google.com/file/d/1B495BjB2k0tM5d95k0uH3D3SLvJF7vnxZuqz-drive-link>.

Questions, comments, and concerns followed [0:42:42].

3. BOARD BUSINESS [0:49:12]

Wildfire Prevention: Efforts for Pearl City and Aiea [0:49:12]: Chair Wood added this agenda item to allow any community discussion on the topic before getting an update from HFD at the next meeting. No board action taken.

Alternative Models for OCCC and Community-Based Continuum of Care [0:49:58]: Tommy Johnson, Cathi Schar, Caroline Whitesel, Creesha Layaoben, and Dean gave the presentation, prepared by the University of Hawaii Community Design Center (UHCCDC), which a copy of can be found at <https://drive.google.com/file/d/1rxvzskzE3J0aAR7148d3VxVpht5D2mbVwqz-drive-link>. Highlights included the project timeline, goals/objectives, and engaging stakeholders in alternatives for a new jail and strengthening a community-based continuum of care. Links were provided to 1) Project website: <https://www.engagehawaii.org/> (click on project icon), 2) Symposium website: <https://www.breakingcycles-symposium.org/>, and 3) the UHCCDC website <https://www.uhccdc.hawaii.gov/>.

Questions, comments, and concerns followed [1:03:30].

2023 CUP-25 Group Living Facility, Halawa, Case Home Update [1:08:05]: Member Arakaki requested Chair Wood give a brief of what has occurred since the permit was approved. Chair Wood shared he knew that the permit was approved with restrictions and that testimony/concerns were submitted. Member Vasquez asked and Councilmember Cordaro shared a bill needs to be heard in the next session in order to introduce penalties for those who were granted permits under false pretenses. On October 26, 2023, Conditional Use Permit No. 2023CUP-25 was approved with conditions. Anyone wishing to appeal the Director's action must submit a written petition and a \$400 filing fee to the Zoning Board of Appeals by November 25, 2023. For more information, please contact Lena Phomouvannh of the Department of Planning and Permitting (DPP), at (808) 768-8052 or lena.phomouvannh@honolulu.gov. Member Arakaki raised a concern about lack of proper notice prior to one of the public hearings. Chair Wood requested either Member Arakaki or a committee take point on this issue moving forward.

Councilmember Val Okimoto (2:26:53). Aaron Wilson provided legislature updates and Councilmember Okimoto's newsletter, which a copy of can be found at https://drive.google.com/file/d/1SH6LOUHNHvGc3S0bKpVjg5ZuRNc0BAV/view?usp=drive_link.

Councilmember Radiant Cordero (2:29:30). Councilmember Cordero provided her report, which a copy can be found at https://drive.google.com/file/d/1DVUwF4reJkMoEN2c8tLxsa7z9LNMWtEdG/view?usp=drive_link. Councilmember Cordero highlighted reports to facilities at Aiea District Park, ongoing activation of Makalapa Park, and plans to conduct walk audits in the area. Councilmember Cordero plans to request the Department of Planning & Permitting (DPP) to attend a future meeting to provide clear information and answer questions on the concern with monster homes in the area.

Questions, comments, and concerns followed (2:38:16).

6. REPORTS (2:37:29)

Board Members Attendance at Other Meetings Affecting Aiea Neighborhood Board Business (2:37:29). Chair, Wood shared that he attended the Conference of Chairs on October 30, 2023. Member Arakaki, Member Vasquez, and Chair Wood attended a walkthrough of the new Haleiwa Housing Apartments.

Aiea Community Association (ACA) (2:41:20). Susan Morishige announced a book sale on November 18, 2023 from 9:00 a.m. to 2:00 p.m. at Aiea Public Library. Help is needed to setup on November 17, 2023 at 1:30 p.m. and breakdown on November 18, 2023 at 2:30 p.m. The next ACA meeting will take place after the book sale. The Aiea Christmas Parade is taking place on December 9, 2023.

Committees (2:42:59)

- i. Executive: No report.
- ii. Transportation: No report.
- iii. Community Relations and Publicity: No report.
- iv. Parks and Recreation: No report.
- v. Planning and Zoning: No report.
- vi. Restoration Advisory Board, Military, & Intergovernmental Affairs (RABMIA): Member Whitfield shared a tentative date on December 6, 2023 at the Oahu Veterans Center for the next Peal Harbor Hickam Restoration Advisory Board (RAB) meeting.
- vii. Red Hill Fuel Tanks: No report.
- viii. Education and Culture: Member Espiritu announced an upcoming event.

7. ANNOUNCEMENTS (2:45:03)

Next Meeting - The Aiea Neighborhood Board No. 20 will recess in December 2023. The next meeting is tentatively scheduled on Tuesday, January 9, 2024 at 7:00 p.m. at Aiea Public Library and online via WebEx.

Olelo Broadcasts: Retroadcasts of the Aiea Neighborhood Board No. 20 meetings are scheduled each month on Olelo channel 49 for every last Thursday at 6:00 p.m. An archive of past meetings may be found on <https://olelo.org/olelo/> by searching "Aiea"

8. ADJOURNMENT (2:45:17) The meeting adjourned at 9:48 p.m.

Submitted by: Logan Kealoha Hutchinson, Neighborhood Assistant
Reviewed by: Dylan Whitsett, Deputy
Finalized by:

g of Board Funds (1:19:48). Chair Wood requested the board brainstorm ideas for the use of \$1,000 allocated in board funds, as mentioned included, but were not limited to, a scholarship, a board newsletter, community clean-ups, and upturn/support for committee meetings.

le O Lipoa Affordable Housing Development (1:26:28). Keegan and Chris Flaherty (Ikenakea) gave the presentation, which a copy of can be found at https://drive.google.com/file/d/1HCxmZuWzE_rG16tZ830QzQQUNPY/view?usp=drive_link. The project is located at 88-150 Lipoa Place. Highlights include background information about Ikenakea Development LLC, an overview of the project, and unit details including amenities, rent ranges, and parking. The expected project completion is in May 27. The Draft Environmental Assessment (DEA) was just submitted today, November 14, 2023.

Questions, comments, and concerns followed (1:36:17).

Approval of Regular Meeting Written Summary for Video Record - September 12, 2023 (1:57:11). Vasquez MOVED and Glen CONDED to approve the Tuesday, September 12, 2023 Regular Meeting Written Summary for Video Record as written (57:41). Hearing no discussion, the board conducted a voice vote. The motion WAS ADOPTED. 12 - 0 - 0 (Aye, Aiyakali, Aki, Espiritu, Fitch, Glen, Inamura-Uruu, Mtsuavae, Sugimura, Tsuji, Vasquez, Whitfield, Wood, Nay, None, Abstain, None) (57:56).

4. RESIDENTS/COMMUNITY CONCERNS (1:58:37) None.

5. ELECTED OFFICIALS (1:58:50)

Senator Josh Green's Representative (1:58:50). Janelle Sameishi highlighted wildfire mitigation efforts. The State House of Representatives establishing a Wildfire Prevention Working Group. A report from the group will be submitted to the legislature the upcoming session. For more information, go to <https://www.capitol.hawaii.gov/legislators/specialcommittees.aspx?committee=2023&year=2023>. The Hawaii Wildfire Management organization (HWMO) is another organization and their website is <https://www.hawaiiwildfire.org/home>. Sameishi also provided low-up responses to concerns raised at a previous meeting.

Questions, comments, and concerns followed (2:02:39).

5. Representative Ed Case (2:05:53) No representative present. No report provided.

Senator Glenn Wakai (2:06:06). No representative present. No report provided.

Senator Brandon Elefante (2:08:15). Senator Elefante announced the legislature will be going into special session for the preme Court nominees. Senator Elefante and Michael Greenough did site visits to look at the different Capital Improvement projects (CIP) going on in the district. The link to Senator Elefante's legislative page is <https://www.capitol.hawaii.gov/legislators/memberpage.aspx?member=208&year=2023>.

representative Linda Ichiyama (2:07:56). No representative present. No report provided.

representative Micah Bookala Kim Aui (2:08:06). Representative Aui shared that the delimiting of Red Hill is nearly complete, there is an upcoming Joint Task Force Red Hill Task Force (JTRFH) meeting, and to keep an eye out for a survey in the mail to solicit community input on certain issues. The news release for the JTRFH meeting can be found at https://health.hawaii.gov/news/files/2023/11/News_Release_November_2023_FTAC_Media_Advisory.pdf and the meeting agenda can be found at https://health.hawaii.gov/files/2023/11/Nov_15_2023_FTAC_Final_Agenda.pdf.

Questions, comments, and concerns followed (2:09:24).

representative Sam Kana (2:10:18). Representative Kong provided his report, which a copy of can be found at https://drive.google.com/file/d/1cU68Nym7PGMnSLAG9GYHvc3XKNv/view?usp=drive_link. Representative Kong highlighted the groundbreaking ceremonies for the Aloha Ia Halewika, 140-unit senior affordable housing project in the area.

Mayor Rick Blangiardi's Representative (2:12:54). Department of Design & Construction (DDC) Director Haku Miles gave the report and provided follow-up responses to concerns raised at a previous meeting. The Mayor's Newsletter can be found at <https://www.oneoahu.org/newsletter>. To explore career opportunities at the City and County of Honolulu, please visit <https://www.governmentjobs.com/careers/honolulu>. Regarding the Marites Callado Care Home: On October 26, 2023, additional Use Permit No. 2023CUP-25 was approved with conditions. Anyone wishing to appeal the Director's action must submit a written petition and a \$400 filing fee to the Zoning Board of Appeals by November 25, 2023. For more information, please contact Lena Phomsouwan of the Department of Planning and Permitting (DPP) at (808) 768-8052 or la.phomsouwan@hawaii.gov. Regarding Department of Facility Maintenance (DFM) storm drain maintenance, please reach out to DFM Division of Road Maintenance at (808) 768-3600 or dfrmoads@hawaii.gov.

Questions, comments, and concerns followed (2:19:27).



AIEA NEIGHBORHOOD BOARD NO. 20

95 DILLINGHAM BOULEVARD, SUITE 160 HONOLULU, HI 96817
PHONE (808) 768-3710 • FAX (808) 768-3711 • INTERNET: <http://www.honolulu.gov/aiea>

**DRAFT REGULAR MEETING WRITTEN SUMMARY FOR VIDEO RECORD
TUESDAY, MARCH 12, 2024 AT 7:00 P.M.
AIEA PUBLIC LIBRARY PROGRAM ROOM AND ONLINE VIA WEBEX**

Video Recording of Meeting Link: <https://www.youtube.com/watch?v=VFLcblafEBk>

Google Drive Link: <https://drive.google.com/drive/folders/1PYAlawPDNkKw0b94SFP4-JAhtsi5fUu>

1. CALL TO ORDER [0:00:14]

Chair Wood called the meeting to order at 7:00 p.m. **Quorum was established with 11 board members present.**
Note – This 15-member board requires eight (8) members to establish quorum and to take official board action.

Members Present: Stephen Wood, Jane Anderson, Tracy Arakaki, Bill Clark, Danielle Espiritu, Paul Glen, Lawrence Higa, May Imamura-Uruu, Richard Mizusawa, Russell Tsuji, Francie Whitfield and Jans Sugimura (7:28 p.m.)

Members Absent: Kim Burgees and Ronald Fitch

Guests: Sergeant Miller (HPD); Firefighter Watkins (HFD); Tracy Burgo, Kathleen Pakinui, Raelynn Nakabayashi, Steven Norstrom (BWS), Chris Kinimaka, Samantha Spain (Stadium Authority), Jeff Ramsey (Crawford Architects), David Cianelli, Lori Lum (Pearlridge Shopping Center), Victor Flint (U.S. Navy), Casey Abe (DOT, Highways Division), Cathi Schar, Caroline Whitesel, Creesha Layaoco, Dean Matsumura (JHCCO); Janelle Saneishi (Governor Green); Senator Brandon Elefante, Taylor Sayles, Mistie Kim (Representative Ichihama); Representative Micah Aiu, Representative Sam Kong; DDC Director Haku Miles (Mayor Blangiardi); Councilmember Va Okimoto, Jocelyn Roberts, Aaron Wilson, Councilmember Radlan Cordero, Robert Sato; Clair Tamamoto, Susan Morimoto (ACA); Keapan Fishery; Nainoa Watson (Ikenaka Development); Bettina Mehnert (AHL); Sean Pao (OTS); Mandeia New-Lorenzo, Wayne Takara, Lilia Umi-Kuehu, (Guests); Logan Hutchinson (NCO). **Note: Name not included if not legible or stated for the record. There were 50 total participants.**

Chair Wood passed the gavel to Vice Chair Mizusawa [0:00:17]

2. MONTHLY REPORTS [0:01:50]

Honolulu Police Department (HPD) [0:02:10]: Sergeant Miller reported the following:
• January 2024 Statistics: There were eight (8) motor vehicle thefts, five (5) burglaries, 21 thefts, and 15 unauthorized entries into motor vehicles (UEMV). Further statistical information can be found at www.honolulu.gov.

• February 2024 Statistics: There were eight (8) motor vehicle thefts, 12 burglaries, 17 thefts, and 18 UEMVs. Questions, comments, and concerns followed [0:02:56].

Honolulu Fire Department (HFD) [0:12:18]: Firefighter Watkins gave the report. Should you have any questions, please email the Honolulu Fire Department Community Relations Office at dr@hfd.honolulu.gov.

• Report: https://drive.google.com/file/d/1_qPY6xMhKHzEzXUjYH8kPH-rTtYsXv2/view?usp=drive_link
• February 2024 Statistics: There were two (2) structure fires, one (1) wildland/brush fire, one (1) nuisance fire, one (1) cooking fire, seven (7) activated alarms (no fire), 135 medical emergencies, and 11 motor vehicle crashes/collisions.

• Safety Tip: Smoke Alarm Safety Tips – Smoke alarms save lives and are an important part of a home fire escape plan. Properly installed and maintained smoke alarms give occupants early warning to get outside quickly. Install smoke alarms inside each bedroom and outside the sleeping areas (hallways) and on every level of the home (including the basement). Keep smoke alarms away from the kitchen or bathroom to reduce false alarms. Test all smoke alarms once a month. Press the test button to ensure the alarm is working. If the smoke alarm requires a nine-volt battery, replace the battery each year. Replace smoke alarm unit every ten years, or sooner if they do not respond properly. For more information, visit <https://fire.honolulu.gov/>

Oahu's Neighborhood Board System – Established 1973

**AIEA NEIGHBORHOOD BOARD NO. 20
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Board of Water Supply (BWS) [0:14:35]: Tracy Burgo and Kathleen Pakinui gave the report. Highlights included no main breaks in the area during February 2024, World Water Day on Friday, March 22, 2024, and the following resources:

- Report: https://drive.google.com/file/d/1r5HlUk3qCzE57Hr5fK5M0aDQ8VCl_AiXv2/view?usp=drive_link
- World Water Day: <https://www.boardofwatersupply.com/worldwaterday>
- Water Yield Map: https://drive.google.com/file/d/1z2h_PsyhtOq-H66-v44F8NpsQ-M3wHn6/view?usp=drive_link
- FTCA Claim: https://drive.google.com/file/d/1Yoc6wGvR68t_YM2qX1G1HC81zOP1u6p0x/view?usp=drive_link
- New Fresh Water Wells Construction Project: https://drive.google.com/file/d/1hoxHfXcAzV63AF-hjARNy2UjNbyV9Qxv/view?usp=drive_link
- Toilet Rebate: https://drive.google.com/file/d/1XQ2z9vYUJ-JhRW0Psd0Hcal-Z-E_AiXv2/view?usp=drive_link

Questions, comments, and concerns followed [0:22:16].

Sugimura joined the meeting at 7:28 p.m.; 12 members present.

Stadium Authority [0:37:31]: Chris Kinimaka reported on the ongoing procurement process and Community Engagement Conference scheduled for May 6, 2024 at 6:30 p.m. in-person at the existing stadium. Kinimaka also highlighted Senate Bill (SB) 3197 and House Bill (HB) 2664. Samantha Spain announced some upcoming events. Website and Newsletter: <https://naased.hawaii.gov/>

Questions, comments, and concerns followed [0:47:52].

Electricity Shopping Center [0:49:24]: David Cianelli gave the report and highlighted upcoming events in March and April 2024. For more information, go to <https://pearlridgeonline.com/>

- Report: https://drive.google.com/file/d/1IovDvEXDzTFLNudSecAKssFo1WMMx/view?usp=drive_link

U.S. Navy/Department of Defense (DOD) [0:52:41]: Victor Flint gave the report. Highlights included the Joint Task Force Red Hill (JTF-RH) transitioning to the Navy Closure Task Force (NCTF), drinking water long-term monitoring, and the Naval Facilities-Hawaii Utility Corridor.

- Report: https://drive.google.com/file/d/1FUSTUwNjLzOFmblUjHrG0P2mBzKx/view?usp=drive_link

Questions, comments, and concerns followed [0:56:22].

State Department of Transportation (DOT), Highways Division [1:02:22]: Casey Abe reported on 1) the eastbound zipper lane after the Aiea off-ramp being closed, 2) assistance for business near the Gulick Avenue overpass, 3) pothole repairs on Ulua Street, 4) the Moanalua Freeway Resurfacing Project, and 5) various concerns near the Aiea Heights Drive overpass. For questions/concerns, email casey_abe@hawaii.gov or call (808) 265-7299

Questions, comments, and concerns followed [1:08:06].

3. BOARD BUSINESS [1:10:08]

Oahu Community Correctional Center (OCCC) Workshop Findings [1:10:08]: Caroline Whitesel, Dean Matsumura, and Creesha Layaoco presented on the preliminary findings from the community engagement so far. Highlights included the OCCC project timeline, a summary of the Aiea OCCC Community Engagement Workshop on Thursday, February 1, 2024 at the Aiea Elementary School Cafeteria, possible programs/potential partners for the new facility, site design, and next steps. To get in contact, email uhccdc@hawaii.edu

- Websites: <https://www.breaking-cycles-symposium.org/>, <https://www.engageohawaii.org/>

BWS Rates Presentation [1:20:08]: Raelynn Nakabayashi presented on the BWS rates and charges. Highlights included inflation and other measures affecting purchasing power, a breakdown of where users money goes, customer classes, and water conservation

- Presentation: https://drive.google.com/file/d/1m1BfItSkUrnMwCmzduJ6-TL4wEES_CssX/view?usp=drive_link
- Water Rates Handout: https://drive.google.com/file/d/1to6VDHK2_sUWeSMC24R1q1-SuSPCm5Mxw2/view?usp=drive_link

Questions, comments, and concerns followed [1:30:42]

Mayor Rick Blangardi is Representative [2:12:45]. Department of Design & Construction (DDC) Director Heku Milles gave the report and provided follow-up responses to concerns raised at a previous meeting. Mayor Blangardi's Town Hall meetings are returning.

- Mayor's Newsletter: <https://www.oneasthu.org/newsletter>
- Town Halls: https://drive.google.com/file/d/1JUEACTYAlmobiLdAGbpcSkrmE1mLvdnMB/view?usp=drive_link
- Career Opportunities at the City & County of Honolulu: <https://www.governmentjobs.com/careers/honolulu>

Questions, comments, and concerns followed [2:18:12].

Councilmember Val Okimoto [2:20:02]. Aaron Wilson gave the report and highlighted budget season and several constituent concerns that are being followed up with.

- Newsletter: https://drive.google.com/file/d/1D152XbvZNIeVSzAZjAXSRiEXiSk7wexL/view?usp=drive_link

Councilmember Radlant Cordero [2:22:04]. Robert Sato provided the report and highlighted faded road markings in the area and Councilmember Cordero's work as Budget Committee Chair.

- Newsletter: https://drive.google.com/file/d/1AwW0d6icKrnOlkirDlGyV0mip01Tj9s/view?usp=drive_link

6. REPORTS [2:24:03]

Board Members Attendance at Other Meetings Affecting Area Neighborhood Board Business: [2:24:03]. None

Aliea Community Association (ACA) [2:24:20]. No representative present. The next ACA meeting will be on April 15, 2024 at 7:00 p.m. For more information, call Claire Tamamoto at (808) 429-1282.

- Website: <https://www.alieacommunity.org/>

Committees [2:24:28]

- Executive: No report.
- Transportation: No report.
- Community Relations & Publicity: VACANT.
- Parks and Recreation: No report.
- Planning & Zoning: No report.
- Restoration Advisory Board: Military, & Intergovernmental Affairs (RABMIA). Member Whitfield shared that files related to Per- and Polyfluorinated Substances (PFAS) are available.
- Red Hill Fuel Tanks: No report.
- Education & Culture: Member Espiritu shared dates for Community Workdays in the area.

7. ANNOUNCEMENTS [2:25:33]

Next Meeting: The Aliea Neighborhood Board No.20 is tentatively scheduled to hold its next regular meeting on Tuesday, April 9, 2024 at 7:00 p.m. at Aliea Public Library and online via WebEx.

Olelo Rebroadcasts: Rebroadcasts of the Aliea Neighborhood Board No.20 meetings are scheduled each month on Olelo channel 48 for every last Thursday at 6:00 p.m. An archive of past meetings may be found on <https://olelo.org/olelozone/> by searching <Aliea>

YouTube Archives: For a playlist containing the YouTube videos of the Aliea Neighborhood Board No.20 meetings from 2023-2025, go to <https://www.youtube.com/playlist?list=PLV5Lma3mwn508DYk0i8VLUChvP-MVJwJ>

8. ADJOURNMENT [2:25:40]

The meeting adjourned at 9:26 p.m.

Submitted by: Logan Keeloha Hutchinson, Neighborhood Assistant
Reviewed by: Lindon Valenciano, Public Relations Assistant
Finalized by:

Certificates of Recognition for Mike Dwyer and Lynn Vasquez [1:44:17]. Chair Wood explained a way for the Board to recognize two (2) of their members who resigned recently. **Glen MOVED and Arakaki SECONDED to create certificates of recognition for Mike Dwyer and Lynn Vasquez** [1:46:13]. Hearing no discussion, the Board conducted a voice vote. **The motion WAS ADOPTED: 12 - 0 - 0 (Aye: Anderson, Arakaki, Clark, Espiritu, Glen, Higa, Imamura-Uruu, Sugimura, Tsuji, Whitfield, Wood, Mizusawa, Nay None; Abstain: None)** [1:46:33]

Approval of Regular Meeting Minutes - Tuesday, February 13, 2024 [1:46:50]. **Espritu MOVED and Clark SECONDED to approve the Tuesday, February 13, 2024 Regular Meeting Written Summary for Video Record as written** [1:47:01]. Hearing no discussion, the Board conducted a voice vote. **The motion WAS ADOPTED: 12 - 0 - 0 (Aye: Anderson, Arakaki, Clark, Espiritu, Glen, Higa, Imamura-Uruu, Sugimura, Tsuji, Whitfield, Wood, Mizusawa, Nay None; Abstain: None)** [1:47:20].

4. RESIDENTS/COMMUNITY CONCERNS [1:47:31]

Town Hall Meeting [1:47:44]. Keegan Flaherty from Ikenakea Development announced a meeting and presentation about the Hale O Lipoa Affordable Housing Project which will be at Waimalu Elementary School on Wednesday, April 3, 2024 at 6:00 p.m.

- Flyer: https://drive.google.com/file/d/1DX9nLmY2tGshf6mC2v4xop1tUjGRQnEP/view?usp=drive_link
- Website: <https://www.ikenakea.com/>

Final Harbor Bike Bath Cleanup [1:49:42]. Robert Sato from Councilmember Cordero's Office announced an Earth Day Cleanup on Saturday, April 20, 2024 from 8:00 to 10:30 a.m.

- View Event(s) and Sign-Up: <https://www6.honolulu.gov/swdq/get-involved/events-calendar/>

5. ELECTED OFFICIALS [1:51:36]

Governor Josh Green's Representative [1:51:36]. Janelle Saneishi gave the report. Highlights included continued efforts at remediation following the wildfires on Maui in August 2023 and the Governor wanting to reduce the homeless population by 50% by the end of his term.

- Website: <https://governor.hawaii.gov/>

Questions, comments, and concerns followed [1:53:14].

U.S. Representative Ed Case [2:02:53]. No representative present.

- Report: <https://case.house.gov/news/small/show.aspx?ID=XPBR2021CFBAK>

Senator Glenn Wakai [2:03:00]. No representative present. No report provided.

Senator Brandon Elefante [2:03:54]. Senator Elefante provided his newsletter. Highlights included legislature related to speeding and details on laws regarding assaulding law enforcement.

- Report: https://drive.google.com/file/d/1EUs4TicMVC7WEHqkBC0rX83verW83cy/view?usp=drive_link
- Aliea High School Track, Field, & Other Improvements Capital Improvement Project Funding: https://drive.google.com/file/d/1n6Kqz220a4yusKjEwNA674eZ7Rm8U8xX/view?usp=drive_link

Representative Linda Ichiyama [2:06:25]. Mitsie Kim from Representative Ichiyama's Office provided the report and was available for any questions/concerns.

- Report: https://drive.google.com/file/d/1d14JvLkxNZMtmxk0pD5Q-nb-qbWIRAE/view?usp=drive_link

Representative Misah Pookela Kim Aiu [2:06:53]. Representative Aiu provided his newsletter and reported on the House Budget that will be distributed on Wednesday, March 13, 2024. HB 2664, HB 1653, and a follow-up from the community survey from the previous month.

- Newsletter: https://drive.google.com/file/d/1YFD9zroYpoghOHNSUJE1pLdnt1XbL/view?usp=drive_link

Representative Sam Kong [2:09:47]. Representative Kong reported on legislature he is tracking and some work the Lions Club is doing in the area.

- Report: https://drive.google.com/file/d/1KQGzXV_M4YXYu2XeKOUNF0FZdGAgQWw/view?usp=drive_link

Questions, comments, and concerns followed [2:11:32].



AIEA NEIGHBORHOOD BOARD NO. 20

NEIGHBORHOOD COMMISSION, 925 DILLINGHAM BOULEVARD, SUITE 160, HONOLULU, HAWAII, 96817
 PHONE (808) 768-3710 • FAX (808) 768-3711 • INTERNET: <http://www.honolulu.gov/aiea>

REGULAR MEETING AGENDA

TUESDAY, APRIL 9, 2024 AT 7:00 P.M.
 AIEA PUBLIC LIBRARY – PROGRAM ROOM
 99-374 POHAI PLACE, AIEA, HI 96701
 AND ONLINE VIA WEBEX

Board Meetings are held on the Second Tuesday of the Month

Meeting Link: <https://central.webex.com/join/join.html?MTID=rd4b15227d456866a70f152465658187>

Meeting Number / Access Code: 2491 087 6781

Password: NB20 (6220 from phones and video systems)

Join by Video System: Dial 7491.087.6781@central.webex.com or 173.243.2.68 and enter your meeting number.
Join by Phone: +1-408-418-9388 United States Toll

Board Google Drive: <https://drive.google.com/drive/folders/1PYA1aw6DNkx0d494SfEP4--Lkub4t1fLk>
Board Meeting Recordings: <https://www.youtube.com/channel/UC1DZ1TKo6TTN7n8SU-LP2w>

Rules of Speaking for a Video Conference: Anyone wishing to speak is asked to raise their hand and wait to be recognized by the Chair. Speakers are encouraged to keep their comments to under three (3) minutes, and those giving reports are urged to keep their reports under five (5) minutes. Please mute your microphone when not speaking.
Note: The Board may take action on any agenda item. As required by the State Sunshine Law (HRS 92), SPECIFIC ISSUES NOT NOTED ON THIS AGENDA CANNOT BE VOTED ON, UNLESS ADDED TO THE AGENDA. A two-thirds vote (10) of this 15-member Board is needed to add an item to the agenda. Items may not be of major importance and will affect a number of people.

- V. ELECTED OFFICIALS (Limited to three (3) minutes each)
 - a. State Governor, Josh Green's Representative – Janelle Saneishi
 - b. U.S. Representative Ed Case – Nestor Garcia
 - c. District 15 State Senator Glenn Wakai
 - d. District 16 State Senator Brandon Elefante
 - e. District 31 State Representative Linda Ichiyama
 - f. District 32 State Representative Mizah Pookela Kim Aiu
 - g. District 33 State Representative Sam Kono
 - h. Mayor Rick Blangillard's Representative – DDC Director Haku Milles
 - i. City Councilmember Vai Okimolo
 - j. City Councilmember Radlant Cordero

VI. REPORTS (Limited to three (3) minutes each)

- a. Board Member attendance at other meetings affecting Aiea Neighborhood Board Business
- b. Community Reports
 - i. Aiea Community Association (ACA) – Next meeting: Monday, May 20, 2024 at 7:00 p.m. For further information call Claire Tamamoto at (808) 429-1282 <http://aieacommunity.org>
 - c. Committees
 - i. Executive – S. Wood
 - ii. Transportation – K. Burgess
 - iii. Community Relations & Publicity – VACANT
 - iv. Parks & Recreation – P. Glen
 - v. Planning & Zoning – K. Burgess
 - vi. Restoration Advisory Board, Military, & Intergovernmental Affairs (RABM/IA) – F. Whitfield
 - vii. Red Hill Fuel Tanks – T. Arakaki
 - viii. Education & Culture – D. Espiritu

VII. ANNOUNCEMENTS

- a. Next Meeting – The Aiea Neighborhood Board No.20 is tentatively scheduled to hold its next regular meeting on Tuesday, May 14, 2024 at 7:00 p.m. at Aiea Public Library and online via WebEx.
- b. Olelo Rebroadcasts: Rebroadcasts of the Aiea Neighborhood Board No.20 meetings are scheduled each month on Olelo channel 49 for every last Thursday at 6:00 p.m. An archive of past meetings may be found on <https://olelo.olelochannel.com/> by searching <Aiea>
- c. YouTube Archive: For a playlist containing the YouTube videos of the Aiea Neighborhood Board No.20 meetings from the 2023-2025 board term, go to <https://www.youtube.com/playlist?list=PLV5UM63mns08PYA0iRVEUQvSP-MVJwU>

VIII. ADJOURNMENT

A mailing list is maintained for interested persons and agencies to receive this board's agenda and minutes. Additions, corrections, and deletions to the mailing list may be directed to the Neighborhood Commission Office (NCO) at Kapaemā Hale, 925 Dillingham Boulevard, Suite 160, Honolulu, Hawaii 96817, by telephone on (808) 768-3710, fax (808) 768-3711, or e-mailing ncos@honolulu.gov. Agenda documents and minutes are also available online at <http://www.honolulu.gov/ncos/boards.html>

All written testimony must be received in the Neighborhood Commission Office 48 hours prior to the meeting. If within 48 hours of the meeting, written and/or oral testimony may be submitted directly to the Board at the meeting. If submitting written testimony, please note the Board and agenda item(s) your testimony concerns. Send to Neighborhood Commission Office, 925 Dillingham Boulevard, Suite 160, Honolulu, HI 96817, fax (808) 768-3711, or email ntestimony@honolulu.gov.

If you need an auxiliary aid/service or other accommodation due to a disability or an interpreter for a language other than English, please call the Neighborhood Commission Office at (808) 768-3710 between 8:00 a.m. and 4:00 p.m. or send an email to ncos@honolulu.gov at least three (3) business days before the scheduled meeting. It may not be possible to fulfill requests received after this date.

- I. CALL TO ORDER – Chair: Stephen Wood
- II. MONTHLY REPORTS (Limited to five (5) minutes each)
 - a. Honolulu Fire Department (HFD)
 - b. Honolulu Police Department (HPD)
 - c. Board of Water Supply (BWS) – Tracy Burgo
 - d. Stadium Authority – Christine Kinimaka, Samantha Spain
 - e. Pearlridge Shopping Center – David Cianelli
 - f. U.S. Navy/Department of Defense (DOD) – Victor Flint
 - g. State Department of Transportation (DOT), Highways Division – Casey Abe
- III. BOARD BUSINESS (Limit presentations to 10 minutes each)
 - 1. Filing of Vacancy – One (1) Subdistrict:4. Residents interested in filling a vacant board seat must bring current proof of residency to the meeting or contact Neighborhood Assistant Logan Hutchinson (logan.hutchinson@honolulu.gov) to verify residency in advance.
 - 2. Hale O Lipoa Affordable Housing Community - K. Flaherty
 - 3. Hawaiian Cement – C. Olsen-Orr
 - 4. TheBus Service Modifications – K. Yang
 - 5. Kōkua Na "Aina – J. Ryff
 - 6. Resolution Opposing Senate Bill 3202 and House Bill 1630 – S. Wood
 - 7. Monster Homes in Aiea – DPP Deputy Director Jiro Sumida
 - 8. Approval of Regular Meeting Minutes: Tuesday, March 12, 2024
 - 9. Motion to Establish New Committee(s), Designate Chair(s), and Add Members
- IV. RESIDENTS/COMMUNITY CONCERNS (Limited to three (3) minutes each)

Aiea Community Association
Agenda

April 15, 2024

www.aieacomunity.org

Please join my meeting from your computer, tablet or smartphone
<https://meet.google.com/664277317>
You can also dial in using your phone.
United States: +1 (812) 757-3121

Announcements

XIII. HONU Project - Homeless shelter at Neal Blaisdell Park.

- a. Ho'ike - April 20, 2024, 6:00 pm - 8:00 pm Moamalia Performing Arts Center
- b. Stadium Representatives Outreach meeting - 3 reps May 6, 2024, 6:00-8:00 pm
- c. Aiea Neighborhood Board Hybrid Meeting - Tues, May 14, 2024, 7:00 pm Aiea Library
- d. Aiea Community Association - May 20, 2024, 7:00 pm Aiea Library, Hybrid

Access Code: 664-277-317

- I. Introductions
- II. Secretary's Minutes - February, March recess
- III. Treasurer's Report - Balance 23, 575.92, Deposit for 13 Aiea Books of \$325.00, Expenses: DCCA registration
Friends of the Aiea Library deposit of \$100 in memory of Naomi from Catherine Payne
- IV. Neighborhood Watch - Wayne Suzuki
- V. Aloha Ia Halewihiko - Questor Lan update
- VI. 'Ikenākea - redevelopment of the Peppertree Apts.
- VII. Aloha Stadium/Stadium Authority - Samantha Spain
- VIII. Aloha Stadium Entertainment District Updates - Chris Kinimaka
- IX. OCCC - Bettina Mehnert and Cathy Ho Schar
- X. Loko Pa Pa'iaua Update - Kehaulani Lum
Ho'ike - Kumu Keola Kalani - Hale Haola Kanaka Cultural Institute, April 20, 2024
Moamalia Performing Arts Center, Moamalia School 6:00 - 8:00 pm, Free Donations accepted.
- XI. Friends of Makalapa Park - Ahi Jeffers Fabro/Sherry Cassetta/ Wayne Suzuki
- XII. Navy Matters/Concerns: Lydia Robertson/Kris
- XIII. 2024 Christmas Parade and Blood Drive- December 14, 2024
Permit submitted, Statewide Safety Systems contacted, Application? And Sponsors?
- XIV. Election of officers
- IX. By Law amendments: Jo Ann Update, schedule regarding Lifetime members.
- X. Hawaiian Cement Variance for 12 existing structures over height limit.
- XI. Aiea Stream (downstream blockage). Stream cleared but tables, chairs, ladders and rubbish are still there. Recent rains (two weeks ago) brought them together and some damming is occurring.

Additional Comments

HALE O LIPOA: ADDITIONAL COMMENTS

Building Height; Incompatibility with Existing Plans

Thank you for agreeing to address the statement on page 77 of the DEA that indicates that the project "will not affect any scenic vistas or view planes as surrounding developments are similar in height to the proposed project." As I noted previously, this statement appears to be untrue as the building will likely be 2-3 times taller than anything currently in the area. Even the Skyline pillars are only about 40 feet tall. Using this statement to substantiate an expected "Finding of No Significant Impact (FONSI)" (which would avoid the need to prepare an EIS) feels deceitful.

I understand that, given the increased costs of construction locally, affordable housing projects need to try to maximize available space to keep costs as economical as possible. I also understand that the project height is within what is allowed under present zoning. So, I understand the reasoning for proposing an 8-story building.

However, please understand that many in the community are not happy with the height of the building. Community members have spent the past several decades working with the City and County on planning issues within Alea, and Hale O Lipoa's proposed height goes against much of what many community members have worked for these past many years.

For example, if you refer to the [Primary Urban Center development plan](#), as adopted by the Honolulu City Council in 2004 and enacted as Article 2 of Chapter 24, Revised Ordinances of Honolulu, one of the land use policies applicable to Alea is the "[creation of] public open space along the Pearl Harbor waterfront."

Similar language appears prominently in the [Alea Pearl City Livable Communities Plan](#) (see, for example, page 5 of the PDF, though these points are emphasized throughout the plan), which recommends:

- "[L]ow density development makai of [Kamehameha Highway] [buildings should be no higher than two stories, or 30 feet]."
- "[H]igher density development mauka of [Kamehameha] highway;" and
- "Preserv[ing] and enhanc[ing] views to the shoreline from Kamehameha Highway[.]"

An 8-story building is not compatible with these land use policies and development recommendations, so I understand why many of my neighbors who spent hours working on these plans with various mayors and city councils over the years are unhappy about the height of the proposed building.



Fwd: Kalaauo Stream/Kalaauo Springs Stream

1 message

Alicia Ruelke

Mon, Apr 22, 2024 at 1:26 PM

Forwarded message

From: [REDACTED]

Date: Mon, Apr 22, 2024 at 1:24 PM

Subject: Kalaauo Stream/Kalaauo Springs Stream

To: Alicia Ruelke

Cc: [REDACTED]

Aloha e Alicia,

[REDACTED] passed your message on to me asking for clarification about the streams in Kalaauo. I apologize for the delay in responding.

I have tried to explain my understanding of the local geography as clearly as I could in the attached PDF (see "Kalaauo Springs channel (near Lipoa Place).pdf"). Please also see the two maps (Fp0992.pdf and o88014.pdf) that I've attached to this email for further context. Please let me know if you have any questions.

I also provided a few additional general comments on the project (see Hale O Lipoa (Additional Comments).pdf).

Thank you very much for reaching out. I really appreciate you all taking time to listen to (or read, in this case) our comments and concerns.

Mahalo nui,

4 attachments

Fp0992.pdf
616K

o88014.pdf
334K

Hale O Lipoa (Additional Comments).pdf
167K

Kalaauo Springs channel (near Lipoa Place).pdf
2291K

Additional Comments

Also, please be straightforward in the environmental assessment about the effect that an 8-story building would have: *Yes, the view plane in the area will change.* An 80-foot building is not as impactful as a 30-story condo, but a new building that is 2-3 times taller than nearby buildings is still a significant change.

If the project will try to minimize these impacts in some way to maintain a FONSI, please communicate it clearly in the environmental assessment and to the community. However, please do not say that there will be no effect on scenic vistas or view planes as I can't in any way see how this is true.

Runoff into Kalauao Springs Stream

Please ensure that your construction plans have provisions to prevent runoff from polluting this stream. The Sumida family (watercess farm owners) likes to brag that the water coming from Kalauao Springs is clean enough to drink. While most streams running into East Loch (Hālawā, Aiea, Kalauao, and Waimālu) are really polluted, this stream usually looks remarkably clean in comparison (though definitely not pristine). I appreciate that you attempted to address this issue in your presentation to the ACA; I hope you will also provide a way for the community to contact you in case we notice any pollutants inadvertently entering the waterway during construction.

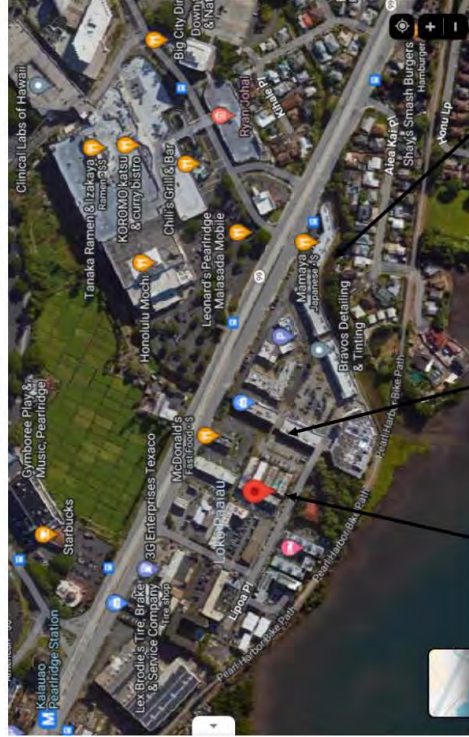
Cultural Heritage

Also, Kalauao Springs is significant to many in our community due to its association with Kahuawai and Kalamimanu'ia. It's also treasured because it's one of the few, if not only, places in Kalauao where fresh spring water still flows as freely as it once did in many other parts of Aiea and Pearl City. The history of Loko Opu as one of Kalamimanu'ia's royal fishponds is less known, but I agree with Auntie Kehau that it deserves recognition. While I understand that you are constructing a housing project and not a public facility, I appreciate that you reported that you are taking steps to incorporate a sense of this historical and cultural setting into the project.

Thank You

I appreciate your staff coming to our meeting this past week. I am grateful you are taking the time to engage and listen to the community's concerns. Thank you for the opportunity to provide these comments.

HALE O LIPOA: KALAUAO SPRINGS STREAM VS. KALAUAO STREAM



(Google Maps imagery)

Hale O Lipoa project site Kalauao Springs/Kalauao Springs Stream Kalauao Stream

Summary

There are two freshwater channels in this part of Kalauao: (1) the stream on the west side of Pearl Kai Shopping Center that drains Kalauao Springs (Sumida Watercess Farm) and continues mauka through Pearlridge Center and into Pearl Country Club; and (2) Kalauao Stream, which flows east of Pearl Kai Center and continues mauka past Down to Earth, the former Toys R Us store, Our Savior Lutheran Church, and into Kalauao Valley up to the Ko'olau Crest. Both streams have distinct outlets into Pearl Harbor.

In short, the former stream is "Kalauao Springs;" "Kalauao Springs Stream," or "Kalauao Springs Ditch." The latter stream is named "Kalauao Stream."

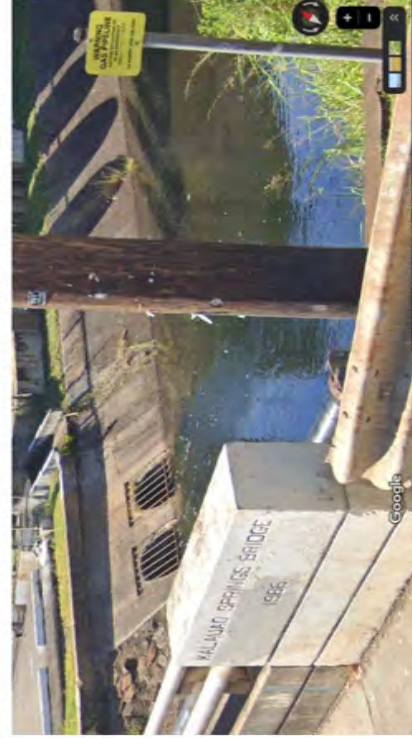


Documentation of Name

I am also attaching two maps: (1) a plat map from the City and County of Honolulu Real Property Assessment Division ([098014.pdf](#)) and (2) File Plan #992, from the state Department of Accounting and General Services Land Survey Division (Fp992.pdf). Both maps show two streams: one labeled "Kalauao Springs Ditch" and one labeled "Kalauao Stream." The stream labeled "Kalauao Springs Ditch" is the stream that is closer to the Hale O Lipoa site, while the stream labeled "Kalauao Stream" runs east of Pearl Kai Center.

Bridge Inscriptions

Over Kamehameha Highway, the bridge over the stream that passes closest to Pepper Tree Apartments is labeled "Kalauao Springs Bridge":



In contrast, the bridge over the stream that flows east of Pearl Kai Center is labeled "Kalauao Stream Bridge."

Please also note the following screenshot from a National Register of Historic Places filing, which describes the name of the stream that runs west of Pearl Kai Center as either "Kalauao Springs" or "Kalauao Springs Ditch".¹

United States Department of the Interior
National Park Service / National Register of Historic Places Registration Form
NPS Form 10-900
OMB Control No. 1024-0018

Kalauao Springs Bridge
Name of Property

Honolulu, HI
County and State

Narrative Description

Both reinforced-concrete three-lane bridges cross the waterway created by the outflow of Kalauao Springs, also known as Kalauao Springs Ditch (makai of the bridge).² Eastbound traffic travels on the makai bridge and the mauka bridge carries westbound traffic. The makai eastbound bridge has a single span of about 40'. The mauka westbound bridge has a more complex design; there are two spans, each approximately 26', on the 1945 section, and a single span of about 31' on the 1966 section. Both the eastbound and westbound bridges have a roadway approximately 40' wide. Each bridge has concrete walkways approximately 4' wide, which are about 4" higher than the roadway surface. The eastbound bridge has walkways along both its mauka (1936) parapet and along its makai (1966) edge, while the westbound bridge has a walkway only along its mauka (1966) parapet. The walkway along the 1936 parapet is now in the highway median and utilized by few pedestrians.

(available at <https://dhr.hawaii.gov/shpd/files/2020/07/Kalauao-Springs-Bridge.pdf>, page 6)

Draft Environmental Assessment References

Throughout the draft environmental assessment (DEA), depending on the context, it seems that some of the references to "Kalauao Stream" should be changed to refer to Kalauao Springs or Kalauao Springs Stream/Ditch instead. The page numbers refer to the page numbers of the PDF as filed with OPSD's environmental review program.

- **Page 40:** Under "water resources," there is a statement that reads: "The closest sources of fresh water are Kalauao Stream, a non-perennial drainage located roughly 0.5 mi (0.90 km) north east of the study area..." This statement ignores the presence of Kalauao Springs Stream, located only about 100 feet away from the project site, as well as the springs itself, which is located a few hundred feet mauka of the project site. Figure 3-6 also incorrectly labels Kalauao Springs Stream as Kalauao Stream (see comment re: page 55).

¹ I have always known this stream as "Kalauao Springs Stream", rather than Kalauao Springs Ditch. Notwithstanding the official name of this channel, my main point is that the stream that runs on the west side of Pearl Kai Center is *not* Kalauao Stream—Kalauao Stream is the stream east of Pearl Kai Center. For the remainder of this email, I will generally refer to the west channel as "Kalauao Springs Stream" because this is the name I am most familiar with.

- **Page 52:** Figure 3-7 incorrectly labels Kalauao Springs Stream as Kalauao Stream (see comment re: page 55).
- **Page 53:** Figure 3-8 incorrectly labels Kalauao Springs Stream as Kalauao Stream (see comment re: page 55).
- **Page 55:** The map from Construction Management & Engineering LLC incorrectly labels Kalauao Springs Stream as "Kalauao Stream." Referencing the plat map from the Real Property Assessment Division (098014.pdf), parcels #29 and #30 both border Kalauao Springs Stream, not Kalauao Stream. Therefore, it looks like the referenced drainage ditch drains into Kalauao Springs Stream, not Kalauao Stream.
- **Page 59:** Figure 3-11 incorrectly labels Kalauao Springs Stream as Kalauao Stream (see comment re: page 55).
- **Page 128:** Under "Current Use of Adjacent Properties," the description of adjoining properties to the east of the project site is wrong. First, Waimalu Shopping Center is not located anywhere near the project site; Waimalu Shopping Center is located well west of the project site (on the parcel between Kamehameha Highway, Hekaha Street, Kauwa Street, and Hamuku Street). The shopping center next to Hale O Lipoa is *Pearl Kai Shopping Center*. Second, the stream adjacent to the project site is Kalauao Springs Stream, not Kalauao Stream.
- **Page 668:** Same comment as my comment regarding the statement on page 40 above.
- **Page 723:** Same comment as my comment regarding the statement on page 40 above.
- **Page 896:** Same comment as my comment regarding the statement on page 55 above: The drainage ditch flows into Kalauao Springs Stream, not Kalauao Stream.
- **Page 897:** Same comment as my comment regarding the statement on page 55 above: The waterway in figure E-5 is incorrectly labeled as "Kalauao Stream."

Historical Context

I believe the name "Kalauao Springs Stream" or "Kalauao Springs Ditch" is a relatively recent name. In maps from the 1800s, the stream is frequently labeled "Huawai Stream" or "Kahuawai Stream" (see the map on page 686 of the DEA for an example), which is a reference to Kahuawai, the famous royal bathing pool that was likely fed by Kalauao Springs.²

² As discussed in several parts of your DEA, this was a sacred pool reserved for ali'i; it's also believed that Kalamantani'u, Queen of Oahu, not only bathed here but also lived/held court close by. This association with Kahuawai is one reason why this stream is very important to many of my neighbors.



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Email | epa.hawaii@gmail.com

May 7, 2024

Public Outreach

This narrative summarizes the public outreach conducted to date by the Applicant. These presentations and community discussions were held outside of the 30-day Draft EA public review period. The Applicant addressed these comments at these meetings, and as applicable, in the various sections of the Final EA. If comments/questions could not be addressed during the meetings, the responses are provided herein.

Neighborhood Board (No.20) Meeting – November 14, 2023

On November 9, 2023, the Applicant mailed a written notification of a November 14, 2023, presentation on the proposed project at the Aiea Neighborhood Board No. 20 meeting to adjoining property owners as required by the Special Management Area Major Permit Application. A presentation describing the project details was provided during the Board Business section as shown in the attached minutes of the neighborhood board. Questions, comments, and concerns followed the presentation. Opinions were expressed about including adequate parking and conducting appropriate community engagement. This engagement was conducted as early consultation prior to the transmittal of the Draft Environmental Assessment.

A summary of the comments is provided below:

Community Concern: Adequate parking should be accommodated as many working families have more than one vehicle. Not providing enough onsite parking could overload the neighboring communities and streets.

Response: *Parking needed to be balanced here at an almost one to one ratio to consider the needs of the future residents, existing transportation alternatives in the surrounding area, and the anticipated construction costs of the project. Off-street parking at the site will provide ride share options, short- and long-term bicycle storage, and is in close proximity to the newly constructed rail station.*

Community Concern: Appropriate community engagement needs to be conducted. Encouraged the applicant to go door to door to ask for feedback.

Response: *The Applicant attended a total of three (3) neighborhood board meetings, held a town hall meeting, and presented at the Aiea Community Association. Information was mailed to residents on Lipoa Place inviting them to the Town Hall to provide feedback and ask questions.*

Community Comment: Felt like the project is needed. The development of this project will hopefully kickstart the revitalization of the area.

Community Comment: It is in a great location and the project is needed.

Community Comment: Try to get as close to 2-to-1 parking as possible.

Page 2 of 4

Community Question: Question around the existing structure was raised.

Community Question: Were the area elected officials notified about the project?

Community Question: Is it possible to do a basement parking structure?

Community Question: How many residents would be displaced with the new project? Would they be offered a spot at the "upgraded beautiful development"?

Neighborhood Board (No.20) Meeting – March 12, 2024

On March 12, 2024, a representative of the Applicant attended the Neighborhood Board meeting to announce a Town Hall on the Hale O Lipoa Affordable Housing Project to be held on April 3, 2024. An additional announcement was made for a follow-up presentation at the April Neighborhood Board meeting. Meeting minutes representing this announcement are attached.

Town Hall – April 3, 2024

On March 27, 2024, the Applicant mailed out invitations ahead of the Town Hall to residents on Lipoa Place. The Town Hall was held at 6 PM at Waimalu Elementary School. There were 7 people who signed in. A presentation on the details of the Proposed Project was held and was followed by questions, comments and concerns from the attendees.

A summary of the comments is provided below:

Community Comment: Appreciation for the for-sale option was shared.

Community Comment: Encouraged the incorporation of the area's culture into the building, not just by design but with historical context.

Community Question: What is the AMI of Aiea? Will the residents in Aiea be able to afford the AMI presented in the project?

Community Comment: Concentration of affordable housing and homeless in Aiea is not wanted. The new stadium development will have about 4,000 affordable units.

Community Concerns: The proposed height is of concern.

Community Comment: Need to address concerns shared in the Cultural Impact Assessment regarding the project's proximity to the nearby streams and the area's cultural importance. **Note: Some of the concerns included in the CIA have been removed in the FEA at the request of the interviewee.*

Community Comment: There are other developable sites in the area that are ready for development.

Community Concern: There have been two water main breaks in the area. Concerns were brought up around infrastructure.

Community Comment: Look at the Sea Level Rise Viewer and the economic loss feature.

Neighborhood Board (No.20) Meeting – April 9, 2024

On April 9, 2024, representatives of the Applicant attended the Neighborhood Board meeting to present the details of the Proposed Project. A presentation describing the project

Page 3 of 4

details was provided during the Board Business section as shown in the attached the neighborhood board. This presentation was followed by questions, comment concerns from the attendees.

A summary of the comments is provided below:

Community Comment: Excitement for the project was shared, however the park onsite would be inadequate.
Community Comment: Cultural awareness and incorporation into the project as the Town Hall.
Community Concern: Inadequate notice of Town Hall.
Community Concern: Town Hall issues not addressed during presentation.
Community Question: Asked if a follow-up meeting in January 2025 could be set provide a project update and get more comments before permits are submitted.
Community Comment: Suggestion to reduce the size of the building to accommodate visibility of the shoreline.
Community Concern: Brought up concerns about the children and where they w attending school.

Aiea Community Association Meeting – April 15, 2024

On April 15, 2024, representatives of the Applicant attended the Aiea Community Association meeting to present the details of the Proposed Project as shown in the agenda of the Aiea Community Association. This presentation was followed by comments and concerns from the attendees.

A summary of the comments is provided below:

Community Question: How many EV parking stalls are provided? There may be convert some stalls to EV later down the road.
Community Question: How long is the applicant going to own the property?
Community Comment: Alternative sites were discussed such as the old Toys R Us
Community Concerns: The proposed height is too large.
Community Question: Who are the investors?
Community Question: How much of the project's ground floor is available for (a percentage terms)?
Response: *Approximately 10%*
Community Comment: The project should anticipate running into issues with the experienced in the neighboring Pearl Kai Shopping Center parking basement.
Community Comment: Revise EA to eliminate the statement that the proposed h fit in with the surrounding community relative to its height relationship to the e developments in the area.
Response: *This has been corrected in the FEA.*
Community Comment: The proposed height is incompatible with the existing la policies and development recommendations.
Community Question: Looking at the projected Sea Level Rise in 2090, what pre taken to account for this?

Page 4 of 4

Community Question: What is the reason behind the 61-year affordability period? Who will take ownership of the property after 61 years?

Community Comment: The preliminary engineering report contained in the DEA incorrectly labels Kaluaao Springs Ditch as Kaluaao Stream.

Response: *This has been corrected in the FEA.*

Community Question: Could the applicant consider broadening the AMI levels to include some higher income level units?

Response: *The various financing scenarios explained in Section 2.4 of the EA provide a variety of affordability levels.*

Community Comment: A general opposition to this project was shared. Bill 50 was mentioned to address the traditional cultural spaces and practices in the area. Requested that the Applicant do more cultural analysis. Shared that the community has been working with the Navy to clean the water in the harbor and is committed to restoration of a nearby fish pond.

Response: *Acknowledged. The FEA has been updated to include an expanded discussion on the hydrology in the area. In addition, the Applicant will work with community-based organizations, such as the Aiea Community Association, neighborhood board, Aiea Hawaiian Civic Club, among others, to facilitate outreach and appropriate incorporation of the significant cultural elements into the design of the proposed project. The goals would be to throughout the project to provide both education and recognition.*

Community Question: How will monitoring occur for stormwater quality?

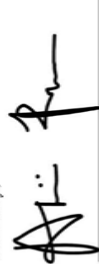
Response: *The project will comply with the rules and regulations regarding stormwater quality.*

Community Question: Who is the landscaping company?

Response: *Monaghan Landscape Architects LLC*

An email containing additional comments from a member of the Aiea Community Association was received following this meeting and is also attached.

Sincerely,



Alicia Ruelke, President
Environmental Planning & Assessments LLC

LIPOA DEVELOPMENT, LLC
1188 Bishop Street, Suite 907
Honolulu, HI 96813
(808) 466-4685



April 11, 2024

VIA EMAIL:
ci@hawaiianelectric.com
eric.shimono@hawaiianelectric.com

Hawaiian Electric
PO Box 2750
Honolulu, HI 96840-0001

SUBJECT: Request for Electric Availability Confirmation at Hale O Lipoa
98-150 Lipoa Place, Aiea, HI 96701
TMK: (1) 9-8-014021

To Whom it May Concern:

Lipoa Development is proposing to develop 143 units of affordable multi-family housing on an existing apartment complex down the street from the Pearlridge TOD Station. The property currently known as the Peppertree Apartments, was built in 1970 and contains 58 units of market rate housing. Following the redevelopment of the site, there will be 18 studios, 51 one bedrooms, 72 two bedrooms and 12 three-bedroom units.

This is a "Will Serve" letter to request your written assessment to confirm the availability of the electricity for the project to assist us in preparing our application for the City and County of Honolulu's 201H Program. Enclosed is a property information sheet, site plan, and map. Please provide comment by May 11, 2024.

Please forward comments to Lipoa Development, c/o Alicia Ruelke, 1188 Bishop Street, Suite 907, Honolulu, Hawaii 96813 or email Alicia.ruelke@ikenakea.com. Thank you for your assistance.

Sincerely,

Alicia Ruelke



April 16, 2024

Ms. Alicia Ruelke
Lipoa Development, LLC
1188 Bishop Street, Suite 907
Honolulu, HI 96813

Dear Ms. Ruelke:

Re: 98-150 Lipoa Place, Aiea, HI 96701
TMK: (1) 9-8-014021

This is in response to your request for a "Will Serve" letter for the above project location.

We have an existing distribution circuit along Lipoa Place that could potentially be used to serve your future project. Please keep in mind that this circuit may need to be upgraded or new circuit(s) brought into the area depending on the size of this project's load. At this time, we do not have sufficient information and detailed plans to make this determination.

We request that you keep us informed on the status of your project. As soon as you have detailed plans, please create a Service Request with us, and be sure to allow sufficient time for us to work on the project.

Please let us know if we can be of assistance in any other way. Should you have any questions, please call me at 543-7590.

Sincerely,

Eric Shimono
Supervising Engineer
Customer Engineering Department

Hawaiian Electric

PO BOX 2750 / HONOLULU, HI 96840-0001

Appendix A



**PHASE I
ENVIRONMENTAL SITE ASSESSMENT**

**98-150 Lipoa Place
Aiea, Hawaii 96701
TMK (1) 9-8-014:021**

Prepared for:
Hawaiian Community Development Board
1188 Bishop Street, Unit 909
Honolulu, HI 96813

Prepared by:
Environmental Risk Analysis LLC
905A Makahiki Way
Honolulu, HI 96826

February 2022

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- Appendix A: Environmental Professional Qualifications
Appendix B: Aerial Photographs
Appendix C: EDR Report, Sanborn Fire Insurance Maps, Historical Topographic Maps,
Historical Aerial Photographs and City Directory
Appendix D: Interview Documentation
Appendix E: Site Reconnaissance Photographs
Appendix F: HECO Documentation

ACRONYMS

ACBM	Asbestos Containing Building Material
ASTM	American Society for Testing and Materials
CCA	chromated copper arsenate
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CERC-NFRAP	CERCLIS No Further Remedial Action Planned
Cl ⁻	chloride
COPC	Chemicals of Potential Concern
CORRACTS	Treatment, storage and disposal facility subject to Corrective Action under RCRA
C-REC	Controlled Recognized Environmental Condition
DLNR	Department of Land and Natural Resources
EDR	Environmental Data Resources, Inc.
EHE	Environmental Hazard Evaluation
EHMP	Environmental Hazard Management Plan
ERA	Environmental Risk Analysis, LLC
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
HDOH	Hawai'i Department of Health
HECO	Hawaiian Electric Company
H-RECs	Historical Recognized Environmental Condition
LCP	Lead Containing Paint
LLC	Limited Liability Company
LUST	Leaking Underground Storage Tank
mg/l	milligrams/liter
MINES	Mines Master Index File
MIS	Multi-Incremental Sampling
msl	mean sea level
NFA	no further action

NPL	National Priorities List
PCB	polychlorinated biphenyl
PMT	Pole-Mounted Transformer
RCRA	Resource Conservation and Recovery Act
RCRA-LQG	Resource Conservation and Recovery Act – large quantity generators
RCRA-SQG	Resource Conservation and Recovery Act – small quantity generators
RCRA-CESQG	Resource Conservation and Recovery Act – conditionally exempt small quantity generators
REC	Recognized Environmental Condition
SARA	Superfund Amendments and Reauthorization Act
SHWS	State Hazardous Waste Sites List
SVOC	Semi-volatile organic compound
TMK	Tax Map Key
TPH	Total Petroleum Hydrocarbons
UIC	Underground Injection Control
US	United States
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground Storage Tank
VEC	Vapor Encroachment Concern
VES	Vapor Encroachment Screening
VOC	Volatile organic compound

QUALIFICATIONS AND SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

The undersigned environmental professional was responsible for conducting and preparing the Phase I Environmental Site Assessment for the property designated by Tax Map Key (TMK) (1) 9-8-014:021 and the street address 98-150 Lipoa Place in Aiea, Oahu, Hawaii.

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40CFR312.

I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40CFRPart312.

Environmental professional qualifications are provided in Appendix A.

Environmental Risk Analysis LLC

Prepared By:

A handwritten signature in black ink, appearing to read 'Vincent Yanagita', written over a horizontal line.

Name: Vincent Yanagita

Title: Principal

Reviewed By:

A handwritten signature in black ink, appearing to read 'Russell Okoji', written over a horizontal line.

Name: Russell Okoji Ph.D.

Title: Principal

EXECUTIVE SUMMARY

Environmental Risk Analysis (ERA), a Limited Liability Company (LLC) has performed a Phase I Environmental Site Assessment (ESA) at the request of the Hawaiian Community Development Board for an approximately 0.96-acre parcel located at 98-150 Lipoa Place in Aiea, Hawaii (hereafter referred to as the Site). The Site is designated on City and County of Hawaii Tax Maps as Tax Map Key (TMK) (1) 9-8-014:021.

The purpose of this ESA was to identify, to the extent feasible, Recognized Environmental Conditions (RECs) associated with the Site. The investigation included a physical inspection of the property; review of current regulatory environmental database information; interviews of persons knowledgeable about the property, review of historical records; and preparation of this Phase I ESA Report. This ESA report conforms to the requirements of the *American Society for Testing and Materials (ASTM) Document E1527-21* and the United States Environmental Protection Agency's (USEPA) All Appropriate Inquiries Rule. The site reconnaissance was conducted by Ms. Kristen Caskey of ERA on January 19, 2022.

Findings

Site Reconnaissance

The Site is completely paved and developed with a parking lot, six (6) two-story apartment buildings, a pool, and a single-story office building. Access to the Site is granted off Lipoa Place. A pile of abandoned furniture was observed on the sidewalk fronting the property. The six (6) two-story buildings were composed of wood siding and wood roof shingles, with a wooden staircase leading to the second floor. The interior of the units were composed of drywall walls and drywall and popcorn ceilings. The units originally had vinyl floor tiles and vinyl sheeting, but some of the newly renovated units contain carpet. According to the owner, all the units were originally two-bedroom units, but he has since converted several of the two-bedroom units into studio and one-bedroom units. The interior of the units was unable to be assessed as they were all being occupied by residents. The owner stated that there has been a history of roof leaks and recently plumbing line leaks which have led to water damage inside the units. Mold and water damage most likely exist inside some of the units throughout all six (6) buildings. Between each of the buildings were

concrete walkways with vegetation around the walkways. None of the vegetation appeared to be distressed, but some water was observed to be pooling inside the planters and may be a sign of drainage issues. The northern boundary of the property is a vegetated strip that does not appear to be kept, but no vegetation in this area appeared to be stressed.

In the center of the property is the single-story office building. The office building is composed of wood siding with a wood-shingled roof. The interior of the office building is composed of drywall walls, drywall ceiling, and vinyl tile flooring. There was a large bubble in the paint along the ceiling in the front portion of the office which was said to have appeared after the heavy rain event in December 2021. Therefore, there is most likely a roof leak in the office building. Fluorescent light ballasts and bulbs were observed in the office building and in the common laundry areas. No releases were observed from any of the ballasts or bulbs.

Adjacent to the office building is the pool. The pool area includes a large concrete deck with a small wooden shed in the eastern portion of the pool area which houses all the pool equipment, including the chlorine. The concrete deck had large cracks throughout. The pool itself appeared to be in good condition.

The parking lot was located along the western portion of the Site. There were multiple small-scale (less than 25 square feet) concrete pavement stains throughout the entirety of the parking lot. These small-scale pavement stains are considered *de minimis* and do not constitute a REC for the Site.

ERA visually assessed areas adjacent to the Site from public thoroughfares. The surrounding area was a mix of other residential and commercial businesses. Adjoining the Site to the north is Firestone Complete Auto Care and McDonalds, to the south an empty lot that appears to be being used as a construction staging area. Adjacent to the Site to the west was another multi-story apartment complex. Adjacent to the site to the east is the Pearl Kai Shopping Center which hosts a Jiffy Lube, several restaurants, and other commercial businesses. The presence of the Firestone Complete Auto Care in close proximity to the Site is a potential environmental concern due to auto repair operations that use a large quantity of petroleum products.

Historic Photos

Based on a review of TMK (1) 9-8-014:021, historical aerial and Google Earth Pro photographs spanning 1952 to 2001 shows the Site was developed since 1962, where the vegetation has been removed, the land was leveled, and Lipoa Place was constructed. The buildings and parking lot that exist today were first seen on the 1968 map. No ASTM defined RECs were noted from review of the historical aerial photographs.

Regulatory Database Review

The target property address submitted to Environmental Data Resources, Inc. (EDR) was not listed in the any of the databases searched by EDR.

In the vicinity of the Site, a review of the State Hazardous Waste Sites (SHWS) database indicated there are ten (10) listed SHWS sites within a 1-mile radius of the target property. Three (3) of the ten (10) sites are not deemed to pose an environmental or human health threat to the subject Site and were granted a no further action (NFA) status. The remaining seven (7) sites were further investigated through review of Hawaii Department of Health (HDOH) records and determined to not pose significant threat to the environmental health of the subject Site.

According to the EDR Leaking Underground Storage Tank (LUST) database, there are thirteen (13) underground storage tank (UST) releases within a ½-mile radius of the subject Site. Of the thirteen (13) sites, twelve (12) sites have received NFA cleanup status. The remaining site, Sears Roebuck & Co, located at 98-180 Kamehameha Highway, approximately 1/8-mile away, is listed in the LUST database for a UST release in 2013. No further information regarding this release was available in HDOH records. Due to the age of this release and cleanup initiated status, this Site is unlikely to impact the subject Site.

According to the UST database, there are eight (8) sites within a ¼-mile radius that have registered USTs on property. Of the eight (8) sites, one (1) has USTs currently in use. Pearlridge Texaco #93970, located less than 1/8-mile upgradient, is listed with three (3) 10,000-gallon gasohol USTs currently in use. The site also has one (1) 1000-gallon used oil UST permanently out of use. Due

to the upgradient location and distance, potential future releases from this Site may pose a threat to the subject Site.

Table ES-1 Phase I ESA Summary	
Assessment Component	TMK (1) 9-8-014:021
Historic Land Use (Section 2)	
Historical Aerial Photos/Maps	-
Land Lease/Ownership	-
Interviews	-
Regulatory Records Review	-
Vapor Intrusion	-
Site Reconnaissance (Section 4)	
Operations	E ¹ , E ²
Hazardous Materials Storage	-
Underground Storage Tanks	-
Aboveground Storage Tanks	-
Solid Waste	-
Wells	-
Asbestos	E ³
Lead Based Paint	E ³
Arsenic	E ³
PCBs	-
Regulatory Database Review (Section 5)	
Target Property	-
Surrounding Sites	E ⁴

Notes:

- “-“ = no ASTM RECs identified, no further investigation is required
- R = ASTM defined REC observed
- H = ASTM defined Historic REC observed
- C = ASTM defined Controlled REC observed
- E = indicates *de minimus* or non ASTM REC

Reference numbers (i.e., R¹) are further discussed in the Executive Summary

SUMMARY AND RECOMMENDATIONS

RECs - Site

- No ASTM defined RECs were identified for the Site.

List of Additional Environmental Issues

- **E¹**: Multiple cracks and small-scale petroleum staining was observed throughout the parking lot area. These stains are considered *de minimis* and do not constitute a REC, however minor contamination may be present if the oil has seeped through the cracks.
- **E²**: The Site is located downgradient and adjacent to a Firestone Complete Auto Care. This business located in close proximity to the Site is a potential environmental concern due to auto repair operations that use a large quantity of petroleum products.
- **E³**: The structures at the Site were constructed around 1970. Based on the date of construction, there is the potential for lead, asbestos, and arsenic containing materials to be present at the Site. ERA visually assessed the interior of the existing structure for potential lead containing paint, asbestos containing building materials, and arsenic containing materials. Potential asbestos containing materials included drywall, vinyl floor tiles, vinyl baseboards, and ceiling tiles. Other materials typical in office spaces such as caulking, mastics may also have been present. Interior walls were painted and some of the paints used may contain lead. Drop ceiling materials in the office space may contain arsenic. Although the presence of asbestos and lead containing paints are not considered RECs by ASTM, a hazardous materials survey should be performed prior to renovation or demolition activities at the Site.
- **E⁴**: Texaco #93970, located less than 1/8-mile upgradient, is listed with three (3) 10,000-gallon gasohol USTs currently in use. The site also has one (1) 1,000-gallon used oil UST permanently out of use. Due to the upgradient location and distance, potential future releases from this Site may pose a threat to the subject Site.

SECTION 1: INTRODUCTION

This Phase I Environmental Site Assessment (ESA) report was prepared by Environmental Risk Analysis (ERA) a Limited Liability Company (LLC) for the Hawaiian Community Development Board. The subject of this Phase I ESA consists of a 0.96-acre parcel designated by Tax Map Key (TMK) (1) 9-8-014:021, located at 98-150 Lipoa Place in Aiea, Hawaii, as depicted in Figure 1.

1.1 PURPOSE

This Phase I ESA was requested by the client, the Hawaiian Community Development Board, to determine the current environmental status of the Site to satisfy due diligence requirements mandated by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). The purpose of this investigation was to identify and evaluate evidence that may indicate any Recognized Environmental Conditions (REC's) at the Site due to past or current management of chemicals or other materials that, if released or not properly controlled, could present a risk to human health or the environment.

Under CERCLA, owners and operators of real estate with hazardous substance contamination may be held strictly liable for the costs of cleaning up contamination found on their property. No evidence linking the owner/operator with the placement of the hazardous substances on the property is required.

Congress, in response to pressure from business and academic groups, established the "innocent landowner defense" in the 1986 amendments to CERCLA known as the Superfund Amendments and Reauthorization Act (SARA). To establish innocent landowner status, the landowner "must have undertaken, at the time of acquisition, all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial and customary practice in an effort to minimize liability."

In an effort to clarify what constitutes "all appropriate inquiry," the American Society for Testing and Materials (ASTM) has developed a standard that provides specific definition of the steps one should take when conducting a "due diligence" Phase I ESA for commercial real estate. The site assessment documented herein complies with the current ASTM E1527-21 Standard Practice for Environmental Site Assessments.

ASTM E-1527-21 defines three categories of RECs which may impact the project site.

- A REC is defined as the presence of any hazardous substance or petroleum product in, on, or at the property: 1) due to any release to the environment, 2) under conditions indicative of a release to the environment, or 3) under conditions that pose a material threat of a future release to the environment
- Historical RECs (H-RECs) are defined as a past release of any hazardous substance or petroleum product that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authorities or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls
- Controlled RECs (C-RECs) are defined as a REC resulting from a past release that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place, subject to the implementation of required controls, such as property use restrictions, activity and use limitations, institutional controls, or engineering controls

ERA defines an environmental concern as the presence of any hazardous substance or petroleum product in, on, or at the property under conditions that pose a threat of a future release or are indicative of a minor release to the environment. Minor is defined as less than 25-gallons of petroleum or an amount of hazardous material that is below the release reporting requirements of the local, state and federal agencies.

Additionally, the United States Environmental Protection Agency (USEPA) has also published its final rule setting federal standards for the conduct of all appropriate inquiries. This rule establishes specific regulatory requirements for conducting all appropriate inquiries into previous ownership, uses, and environmental conditions of a property. As of November 1, 2006, parties must comply with either the requirements of the All Appropriate Inquiries Final Rule or the standards set forth in the ASTM E1527-13 Phase I Environmental Site Assessment Process. All appropriate inquiries must be conducted in compliance with either of these standards in order to obtain protection from potential liability under CERCLA as an innocent landowner, a contiguous property owner, or a bona fide prospective purchaser. This site assessment complies with both the current ASTM E1527-21 Standard Practice for Environmental Site Assessments and the USEPA All Appropriate Inquiries Rule.

1.2 SCOPE

The scope of services for this Phase I ESA consisted of the following tasks:

- Reviewing historical aerial photographs, information of past ownership, and conducting discussions with knowledgeable persons to evaluate historical land use.
- Assessing general conditions at the Site including a general geology and hydrogeology evaluation.
- A reconnaissance visit to the Site to evaluate visual evidence of past or current practices that may have impacted the Site.
- Reviewing local, state, and federal agency lists and available files of reported hazardous waste sites and hazardous substance/petroleum sources and releases. ERA queried the Environmental Data Resources, Inc. (EDR) database which provides comprehensive federal and state environmental release listings. The EDR database provides results in proximity to the Site following ASTM search distance guidelines.
- Providing a summary of findings and recommendations for the Site.
- Providing a summary of the limitations of this assessment.

1.3 SITE LOCATION

The Site is located at 98-150 Lipoa Place, in Aiea, Hawaii and occupies a 0.96-acre parcel. The Site is designated on the City and County of Honolulu Public Access database as TMK (1) 9-8-014:021. A map displaying the location of the Site is included as Figure 1. Figure 2 depicts the TMK boundaries.

1.4 CURRENT USE OF THE SUBJECT PROPERTY

The Site is located at 98-150 Lipoa Place, which lies south of Kamehameha Highway in Aiea, Hawaii. The land is zoned for Residential use and is currently in use by an apartment complex consisting of six (6) two-story apartment buildings. Hawaiian Community Development Board plans on demolishing the current buildings and rebuilding a newly renovated apartment buildings.

1.5 CURRENT USE OF ADJACENT PROPERTIES

Adjoining properties were observed from public access areas for signs of RECs and evaluated for their potential to pose an environmental risk to the subject property. The uses and features of adjoining properties are provided below:

North:	Firestone Complete Auto Care, Kamehameha Highway,
South:	Lipoa Place, construction staging area, apartment buildings, East Loch Pearl Harbor
East:	Waimalu Shopping Center, Kalauao Stream
West:	Apartment buildings, Lipoa Place



PROJECT NAME:
Phase I Environmental Site Assessment
98-150 Lipoa Place
Aiea, HI 96701
TMK: (1) 9-8-014:021

FIGURE TITLE:
Site Location Map

FIGURE NUMBER:
1



TMK (1) 9-8-014:021



PROJECT NAME:

Phase I Environmental Site Assessment
98-150 Lipoa Place
Aiea, HI 96701
TMK: (1) 9-8-014:021

FIGURE TITLE:

TMK Map

FIGURE NUMBER:

2

SECTION 2: HISTORICAL LAND USE

Research regarding historical land use was conducted to determine, to the extent practicable, if past or current practices involving the use, storage, treatment, generation, and/or disposal of hazardous substances or petroleum products may have taken place at the Site or if releases on properties in the surrounding area may have impacted the Site. Research on historical land use was accomplished by examining the following sources: historical information sources, historical aerial photographs, land lease and land ownership records, and reports from previous investigations that may have been conducted at the Site. In addition, first hand interviews were conducted with persons who are knowledgeable about the Site.

2.1 HISTORICAL INFORMATION SOURCES

ERA queried the EDR database to obtain information about federal and state environmental release listings. The EDR database provides results in proximity to the Site following ASTM search distance guidelines (indicated in Section 5) and is continually updated. EDR provided the Sanborn Fire Insurance maps, historical city records, and historical topographic maps reviewed in this Section. Results of the EDR database search are provided in Section 5 of this report. Other historical information sources queried include aerial photographs and environmental records reviewed through the State of Hawaii, Department of Health (HDOH).

2.2 HISTORICAL AERIAL PHOTOGRAPHS

Historical aerial photographs were reviewed to help determine the past use of the Site, as well as adjacent properties. Aerial photographs for the years 1952, 1962, 1968, 1976, 1978, 1992, and 2001 were obtained from EDR historical aerial maps (EDR, 2022a). In addition, a 2015 aerial photograph was obtained from Google Earth Pro.

Based on a review of historical aerial and Google Earth Pro photographs spanning 1952 to 2001, the Site was developed since 1962, where the vegetation has been removed, the land was leveled, and Lipoa Place was constructed. The buildings and parking lot that exist today were first seen on the 1976 map. No ASTM defined RECs were noted from review of the historical aerial photographs.

Copies of the aerial photographs are available in Appendix B. Brief descriptions of these photographs are presented below:

1952	<p>Site: The 1952 aerial photograph shows the Site in an area, which appears to be undeveloped with no structures on the property</p> <p>Adjacent Properties: The vicinity of the Site appears to be mostly undeveloped except for a four (4) lane highway to the north. Ponds are visible to the southeast of the Site. The Pearl Harbor Bike Path is also observed to the south of the Site.</p>
1962	<p>Site: The 1962 aerial photograph shows the Site in an area which appears to be beginning development. Vegetation has been cleared and the beginning of construction of Lipoa Place is observed. There does not appear to be any buildings at the Site.</p> <p>Adjacent Properties: The vicinity of the Site appears to be developed with all adjacent areas cleared of vegetation and a highway to the north.</p>
1968	<p>Site: The 1968 aerial photograph shows the Site in an area which appears to be vacant with no structures.</p> <p>Adjacent Properties: The vicinity of the Site is depicted with development to the north and west of the Site. Commercial structures or large residential structures are observed to the north and west. To the south of the Site is Lipoa Place. Beyond Lipoa Place is additional vacant land. The area to the east appears to be undeveloped.</p>

1976	<p>Site: The 1976 aerial photograph shows the Site in an area which appears to be developed. There appears to be seven (7) residential structures and a parking lot on the Site. Structures appear similar to those which exist currently.</p> <p>Adjacent Properties: The vicinity of the Site is depicted with what appears to be a mix of residential and commercial structures to the north, east, south, and west.</p>
1978	<p>Site: The 1978 aerial photograph shows the Site in an area which appears to be developed. There appears to be seven (7) residential structures and a parking lot on the Site. Structures appear similar to those which exist currently.</p> <p>Adjacent Properties: The vicinity of the Site is depicted with what appears to be a mix of residential and commercial structures to the north, east, south, and west.</p>
1992	<p>Site: The 1992 aerial photograph shows the Site in an area which appears to be developed. Due to the quality of the photograph, the number of buildings at the site could not be determined, however appear similar to those which were depicted previously.</p> <p>Adjacent Properties: The vicinity of the Site is depicted with what appears to be a mix of residential and commercial structures to the north, east, south, and west.</p>

2001	<p>Site: The 2001 aerial photograph shows the Site in an area which appears to be developed. There appears to be seven (7) residential structures and a parking lot on the Site. Structures appear similar to those which exist currently.</p> <p>Adjacent Properties: The vicinity of the Site is depicted with what appears to be a mix of residential and commercial structures to the north, east, south, and west.</p>
2015	<p>Site: The 2015 Google Earth photograph shows the Site similar to what exists currently.</p> <p>Adjacent Properties: The vicinity of the Site is depicted with residential and commercial structures to the north, south, east, and west. Firestone Complete Auto care, HMC Karaoke Pearlridge, and McDonalds are located north of the Site. A canal, and Pearl Kai Shopping Center are located east of the Site. Harbor Shores Apartment Hotel, other residential structures, and East Loch Pearl Harbor is located south of the Site. Texaco gas station and other residential structures are located west of the Site.</p>

2.3 EDR SUPPLEMENTAL SEARCH OF SANBORN FIRE INSURANCE MAPS

The EDR database was queried for Sanborn Fire Insurance Maps which document historical property use. The EDR database was unable to locate any Sanborn maps for the Site (EDR, 2022b).

2.4 EDR CITY DIRECTORY ABSTRACT

EDR City Directory Abstracts identify historic usage of subject and adjoining properties. The City Directory Abstract is presented in Appendix C. Listings for the Site in Aiea, Hawaii were found for the years 1992, 1995, 2000, 2005, 2010, 2014, and 2017. The 2017-1992 City Directories identify primarily residential listings on Lipoa Place and Kamehameha Highway (cross street) and are listed below (EDR, 2022c).

2017	Site: Pepper Tree Dragon Adjacent Properties: Island Brake & Alignment Inc., Bayview Auto Sales LLC, Central Auto Body, Central Body & Paint, E Cars Auto Detailing, Two Thumbs Tattoo, Auto Repair of Hawaii, Elite Mechanical Inc., Red Diamond Tattoo & Body Works, Jiffy Lube, Lex Brodies, Chevron, Fuji Chevron Car Wash, Shell, America Tier & Service Co, Firestone Complete Auto Care, Automotive Car Care Centers, Liquid Metal Tattoo & Piercing, Ridge Way Motors LLC, Best Auto Group, Wallys Auto Repair, TNT Tattoo, Island Auto Exchange, Used Cars of Hawaii Inc, Aiea Collision Center.
2014	Site: Residential Listings Adjacent Properties: Hawaii Auto Detail LLC, Island Brae & Alignment Inc, Bayview Auto Sales LLC, Central Auto Body, Mrs. Clean, Two Thumbs Tattoo, Auto Repair of Hawaii, Jiffy Lube, Red Diamond Tattoo & Body Works, Chevron Station Aiea, Fuji Chevron Car Wash, Yunnies Shell, American Tire & Service Co., Firestone Complete Auto Care Store, Automotive Car Care Centers, Ridge Way Motors LLC, Best Auto Group, Wallys Auto Repair, Pearl Harbor Transmission, TNT Tattoo, Island Auto Exchange, Mission Motors LLC, Used Cars of Hawaii Inc, and Aiea Collision Center.
2010	Site: Pepper Tree Apartments Adjacent Properties: Island Brake & Alignment Inc, Small Engine Clinic, Central Body & Paint Inc, E Cars Auto Detailing, Mrs. Clean, Two Thumbs Tattoo, Auto Repair of Hawaii, Elite Mechanical Inc, Front Line Auto, Pearl Auto Service & Supply, Lava Motors LLC, Lex Brodies Tire Co, Fuji Chevron Car Wash, Yunnies Shell, American Tire & Service Co, Firestone Complete

	<p>Auto Care, Sumida Farm Inc, Kapalama Military Reservation, Sears Auto Center, Automotive Car Care Center, Jiffy Lube, Just Print LLC, Kens Cleaners III, Liquid Metal Tattoo & Piercing, Ridge Way Motors LLC, Wallys Auto Detailing, Wallys Auto Repair, TNT Tattooing, Fair Deal Used Cars, Island Auto Exchange, Used Cars of Hawaii Inc, Aiea Collision Center, and Kuroda Radiator.</p>
2005	<p>Site: Residential Listing</p> <p>Adjacent Properties: Cutter Ford, Auto Repair of Hawaii, Island Brake & Alignment Inc, Small Engine Clinic, Aloha Automotive Distributing, Central Body & Paint, Elite Mechanical Inc, Paradise Autos Inc, Hilo Tire, American Tire & Service Co, Firestone Tire & Service Centers, Sumida Farm Inc, Automotive Car Care Center, Ridge Way Motors LLC, Napa Auto & Truck Parts, and Aiea Collision Center Inc.</p>
2000	<p>Site: Pepper Tree Apartment Hotel</p> <p>Adjacent Properties: Cutter Ford Isuzu Service Department, Auto Repair of Hawaii, Small Engine Clinic, Dry Clean Express Waimalu Shopping Center, Central Body & Paint, Cutter Team Used Car Center, Pacific Oldsmobile GMC Volkswagon Service Center, Pearl Auto Service & Supply, Pacific Automotive Inc, Pearlridge Shell, Fuji Chevron Car Wash, Yunnies Shell, American Tire & Service Company, Firestone Tire & Service Centers Pearl Kai, Sumida Farm Inc, Texaco RMI, Automotive Car Care Centers Pearl Kai Shopping Center, Jiffy Lube Pearl Kai, Ridge Way Motors, B C Used Cars, Napa Auto Parts Aiea, Schuman Automotive Inc Aiea Branch, TNT Tattoo, Island Auto Exchange, Kuroda Autobody Inc, Kuroda Radiator,</p>
1995	<p>Site: Pepper Tree Apartment Hotel</p>

	Adjacent Properties: Auto Repair of Hawaii, Royal Hawaiian Tire & Auto Center, Screen Arts Ink, Auto Trim Design Trim Line, Island Landscaping & Maintenance Inc, Pacific Oldsmobile GMC VW, Pearl Auto Service & Supply, PearlrIDGE Shell, Japan Auto Engine Corp, Fuji Chevron, PearlrIDGE Cars, Sears 1 Hour Photo, Texaco, Automotive car Care Center, Fox Photo, Jiffy Lube, Ridge Way Motors, B C Used Cars, Schuman Automotive Inc, Island Brake & Alignment, B & M Cars, Island Auto Exchange, Kuroda Auto Repair Inc, Kuroda Radiator, B&B Janitorial Services,
1992	Site: No listing Adjacent Properties: All residential listings

2.5 EDR HISTORICAL TOPOGRAPHIC MAPS

EDR Historical Topographic Maps track changing land use and development patterns of subject and adjoining properties. Historical Topographic Maps are presented in Appendix C (EDR, 2022d). Following are the observations made of listings provided for the years 1928, 1954, 1959, 1968, 1970, 1983, 1998/1999, 2013, and 2017 (most current year available). No ASTM defined RECs were noted from the review of the historic topographic maps.

1928	The site appears to be undeveloped. Kalauao Stream is located just south of the Site, with another stream located just west of the Site. A railroad < ¼-mile north; East Loch is located < ¼-mile south; Aiea Bay is located < ½-mile northeast; three (3) reservoirs are located < 1 ½-miles northeast, north, and northwest; and Ford Island is located < 1½-mile north of the Site.
1954	Aiea Bay, East Loch Pearl Harbor, Kalauao Spring, Ford Island Naval Air Station, and the three (3) reservoirs are still listed. The railroad is now listed as abandoned.

	<p>A fishpond is located < ¼-mile southeast; McGrew Point is located < ½-mile south; another fishpond is located < ½-mile northwest; Naval Reservations are located < 1-mile west and < 1-mile east; and a sugar refinery is located < 1½-mile east of the Site.</p>
1959	<p>Aiea Bay, East Loch Pearl Harbor, Kalauao Spring, Ford Island Naval Air Station, the three (3) reservoirs, the two (2) fishponds, the Naval Reservations to the east and west of the Site, McGrew Point, the sugar refinery, and the abandoned railroad are still listed.</p> <p>A pipeline runs directly to the east, Kalauao Spring is located < ¼-mile north, a test well is located < ¼-mile north, Waiau Spring is located < 1-mile northwest; a water well is located < 1-mile north, two (2) water wells are located < 1½-miles east of the Site.</p>
1968	<p>Aiea Bay, East Loch Pearl Harbor, Ford Island Naval Air Station, the three (3) reservoirs, the two (2) fishponds, the Naval Reservations to the east and west of the Site, McGrew Point, the sugar refinery, Waiau Spring, Kalauao Spring, the three (3) water wells, and the abandoned railroad are still listed.</p> <p>A sewage treatment plant is located < ¼-mile to the west, Pearl Harbor Park is located < 1-mile west, a golf course is located < 1-mile north, a water well is located < 1-mile north, and a water well is located < 1 ½-mile northeast of the Site.</p>
1970	<p>Aiea Bay, East Loch Pearl Harbor, Pearl Harbor Park, Ford Island Naval Air Station, the three (3) reservoirs, the Naval Reservations to the east and west of the Site, McGrew Point, the sugar refinery, one (1) of the water wells to the north, and the golf course are still listed.</p>
1983	<p>Aiea Bay, East Loch Pearl Harbor, Ford Island Naval Air Station, the Naval Reservations to the east and west of the Site, McGrew</p>

	<p>Point, the sugar refinery, Waiiau Spring, Kalauao Spring, and the five (5) water wells are still listed. Pearl City Park is now listed as Blaisdell Park. The golf course is now listed as Pearl City Country Club.</p> <p>Aloha Stadium is located < 1-mile southeast and an aqueduct is listed < 1 ½-miles north of the Site.</p>
1998/ 1999	<p>Aiea Bay, East Loch Pearl Harbor, Ford Island Naval Air Station, the Naval Reservations to the east and west of the Site, McGrew Point, the sugar refinery, Waiiau Spring, Kalauao Spring, the five (5) water wells, Blaisdell Park, Pearl City Country Club, Aloha Stadium, and the aqueduct are still listed.</p>
2013	<p>Aiea Bay, East Loch Pearl Harbor, Ford Island Naval Air Station, the Naval Reservations to the east and west of the Site, McGrew Point, the sugar refinery, Waiiau Spring, Kalauao Spring, the golf course, and the aqueduct are still listed.</p> <p>Waimalu Stream is located < ½-mile west of the Site.</p>
2017	<p>Aiea Bay, East Loch Pearl Harbor, Ford Island Naval Air Station, the Naval Reservations to the east and west of the Site, McGrew Point, the sugar refinery, Waiiau Spring, Kalauao Spring, the golf course, the aqueduct, and Waimalu Stream are still listed.</p>

2.6 TIER ONE VAPOR ENCROACHMENT SCREENING (VES)

According to the EDR Vapor Encroachment Screening (EDR, 2022f), the target property was not identified in any of the databases searched in the EDR.

Surrounding sites which were identified as potentially contributing to a vapor encroachment concern (VEC) to the Site include:

- Pearl Harbor Naval Complex: listed in the PRP, ROD, US INST CONTROLS, US ENG CONTROLS, NPL, SEMS databases.
- Pearl Harbor Naval Station: listed in the DOD database
- Hi-Grade Plumbing: listed in the UST, SHWS, INST CONTROL, LUST, and ENG CONTROLS databases.
- Hawaii Baking Co. Inc: listed in the RCRA-VSQG, FINDS, ECHO, UST, HAZNET, SHWS, LUST, and SPILLS databases

These sites were evaluated and discussed in Section 5. None of these sites were determined to contribute a VEC to the Site.

2.7 LAND LEASES AND OWNERSHIP

The City and County of Honolulu indicates the Fee Owners of the Site parcel as Ray M TR Ojiri and Steve K TR Ojiri. This information is also listed on the Honolulu County Real Property Assessment and Tax Billing Information website. According to the City and County of Honolulu records TMK (1) 9-8-014:021 comprises approximately 0.96-acre of land. The site is in an area zoned for Residential use. The Site is located in a Special Hazard Flood Area. Past ownership of the Site was unable to be determined through the Honolulu Country Real Property records.

2.8 PREVIOUS INVESTIGATIONS

Hawaiian Community Development Board did not provide a history of previous investigations performed at the property.

2.9 INTERVIEW

ERA conducted an interview with persons who are knowledgeable about the Site. The objective of these interviews was to ascertain any information that may be indicative of potential RECs in connection with the Site. According to ASTM Standard E1527-21 Section 10, questions should be addressed to *past and present* owners, operators, and occupants of the Site, as well as local government officials.

Summary of Interview

A Phase I ESA Questionnaire was provided to Mr. Ray Ojiri, owner of the Peppertree Apartments. The questionnaire was filled out and returned on January 12, 2022 and is provided in Appendix D. The following is a summary of the answers he provided in the questionnaire:

Mr. Ojiri indicated that he had purchased the 0.96-acre parcel at market price. When asked about previous use of the Site and adjacent properties, he noted that he purchased the property when it was already being used as an apartment complex with the same buildings that exist today. He stated that the buildings were built in the 1970's. During his time as the owner, he has converted some of the two-bedroom units into studio and one-bedroom units. He stated that there has been a history of roof leaks and plumbing leaks in the buildings. Mr. Ojiri had no knowledge of the previous uses of the adjacent properties.

Mr. Ojiri has is unaware of any environmental cleanup liens or Activity Use Limitations against the property. He stated that there are no chemicals stored on the property besides chlorine for the pool and household cleaners. He does not know of any spills, chemical releases, underground, or above ground storage tanks on the property currently or in the past.

2.10 RECORDS REVIEW

The target property address submitted to EDR was not listed in listed in the following databases searched by EDR.

For the surrounding Sites, a review of the State Hazardous Waste Sites (SHWS) database indicated there are ten (10) listed SHWS sites within a 1-mile radius of the target property. Three (3) of the ten (10) sites are listed as No Further Action (NFA) and therefore not deemed to pose an environmental or human health threat to the subject Site. The remaining seven (7) sites were reviewed through HDOH records. None of the SHWS sites were determined to be an environmental concern for the Site.

2.11 ENVIRONMENTAL LIENS OR ACTIVITY AND USE LIMITATIONS

ERA inquired with Mr. Ray Ojiri regarding any environmental liens or activity associated with the Site. At this time there are no current environmental cleanup liens against the Site that have been filed under federal, tribal, state or local law.

2.12 VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

The Honolulu County, Real Property Assessment and Tax Billing Information website lists the total assessed value of TMK (1) 9-8-014:021 as \$7,049,100. The total assessed land value is \$5,553,900 and the total assessed building value is \$1,495,100. Fair market value and purchase price information was not available.

SECTION 3: SITE CONDITIONS

The subject property is situated in Aiea on the island of Oahu. The following section describes the Site with regards to soil classifications, groundwater hydrology, topography and land cover and local zoning.

3.1 SOIL CLASSIFICATIONS

The United States Department of Agriculture (USDA) Soil Conservation Service classifies the soil within the Site as Keaau clay, saline (KmbA), moderately shallow, with slopes ranging from 0 to 2 percent. KmbA is described as poorly drained with negligible runoff, not prime for farmland. KmbA belongs to hydrologic soil group C. The typical soil profile is clay between 0 and 34 inches below ground surface (bgs), cemented material from 34 to 39 inches, and sand from 39 to 57 inches it becomes bedrock with a depth to water table about 24 to 48 inches (USDA, 2022).

3.2 GROUNDWATER HYDROLOGY

The Site overlies the Waimalu aquifer system of the Pearl Harbor aquifer sector. The site lies on top of two aquifers. The upper aquifer is a basal (fresh water in contact with seawater), unconfined (where water table is upper surface of saturated aquifer), sedimentary (nonvolcanic lithology) aquifer. It is classified as a currently used, irreplaceable, and highly vulnerable to contamination, with a low salinity (250-1000 milligrams per liter [mg/l] chloride [Cl⁻]). It is considered an ecologically important water source (Mink and Lau, 1990).

The lower aquifer is a basal (fresh water in contact with seawater), confined (aquifer bounded by impermeable or poorly permeable formations, and top of saturated aquifer is below groundwater surface), flank (horizontally extensive lavas) aquifer. It is classified as a currently used, irreplaceable, and moderately vulnerable to contamination, with a low salinity (250-1000 milligrams per liter [mg/l] chloride [Cl⁻]). It is considered an ecologically important water source (Mink and Lau, 1990).

According to the EDR report, there are sixty-nine (69) United States Geological Survey (USGS) wells within a 1-mile radius of the Site. In addition, there are sixty-one (61) water wells were identified in the State Database Well Information located within a 1-mile radius of the subject

property (EDR, 2022e). The Site is upgradient of the Underground Injection Control (UIC) line (Figure 3) as such; the underlying aquifer is considered a potable drinking water source and permit limitations governing the use of these waters are more stringent than for non-drinking water aquifers.

3.3 TOPOGRAPHY AND LAND COVER

According to the USGS, Honolulu, Hawaii, 7.5-minute topographic quadrangle map, the subject property elevation is approximately 4.5-feet above mean sea level (msl).

3.4 LOCAL ZONING

The Honolulu County, Department of Permitting and Planning, Land Use Ordinance Zoning Designation for the Site is A-1. Zone A-1 designation is described as a low-density apartment district. The Site is located within the Special Management Area. The Site is not located in any other Special District

3.5 FLOOD ZONE DETERMINATION

The Federal Emergency Management Agency (FEMA) flood insurance rate map (FIRM:15003C0243H, effective on 11/05/2014), was reviewed. The subject properties are within Flood Zone AE, an area of inundation by the 1% annual chance flood.



Site Location

UIC Line



PROJECT NAME:
Phase I Environmental Site Assessment
98-150 Lipoa Place
Aiea, HI 96701
TMK: (1) 9-8-014:021

FIGURE TITLE:
UIC Map

FIGURE NUMBER:
3

SECTION 4: SITE RECONNAISSANCE

The purpose of the site reconnaissance was to visually assess for evidence of the use, storage, generation and disposal of potentially hazardous substances and petroleum products, and/or indicators of possible releases of hazardous substances and/or petroleum products at the Site. Evidence of possible releases of hazardous substances or petroleum products include discolored soil, flooring, or paving; visible leaks; odors; and apparent stressed vegetation. A visual survey of adjacent properties from public thoroughfares was also conducted. Ms. Kristen Caskey of ERA along with Mr. Keegan Flaherty (representative of the Client) conducted the Site walk on January 19, 2022. The following sections present general observations of the Site and the surrounding area, a description of PCB-containing equipment, asbestos-containing building materials (ACBM), and lead containing paint (LCP) and arsenic findings at the Site.

4.1 GENERAL OBSERVATIONS OF THE SITE

Visual evidence of previous small-scale pavement staining was noted during the Site reconnaissance. Photos of the Site as it appeared on January 19, 2022 are provided in Appendix E.

General

The Site is completely paved and developed with a parking lot, six (6) two-story apartment buildings, a pool, and a single-story office building. Access to the Site is granted off Lipoa Place. A pile of abandoned furniture was observed on the sidewalk fronting the property. The six (6) two-story buildings were composed of wood siding and wood roof shingles, with a wooden staircase leading to the second floor. The interior of the units were composed of drywall walls and drywall and popcorn ceilings. The units originally had vinyl floor tiles and vinyl sheeting, but some of the newly renovated units contain carpet. According to the owner, all the units were originally two-bedroom units, but he has since converted several of the two-bedroom units into studio and one-bedroom units. The interior of the units were unable to be assessed as they were all being occupied by residents. The owner stated that there has been a history of roof leaks and recently plumbing line leaks which have led to water damage inside the units. Mold and water damage most likely exist inside some of the units throughout all six (6) buildings. Between each of the buildings were concrete walkways with vegetation around the walkways. None of the vegetation appeared to be distressed, but some water was observed to be pooling inside the planters and may be a sign of drainage issues. The northern boundary of the property is a vegetated strip that does not appear to be kept, but no vegetation in this area appeared to be stressed.

In the center of the property is the single-story office building. The office building is composed of wood siding with a wood-shingled roof. The interior of the office building is composed of drywall walls, drywall ceiling, and vinyl tile flooring. There was a large bubble in the paint along the ceiling in the front portion of the office which was said to have appeared after the heavy rain event in December 2021. Therefore, there is most likely a roof leak in the office building. Fluorescent light ballasts and bulbs were observed in the office building and in the common laundry areas. No releases were observed from any of the ballasts or bulbs.

Adjacent to the office building is the pool. The pool area includes a large concrete deck with a small wooden shed in the eastern portion of the pool area which houses all the pool equipment, including the chlorine. The concrete deck had large cracks throughout. The pool itself appeared to be in good condition.

The parking lot was located along the western portion of the Site. There were multiple small-scale (less than 25 square feet) concrete pavement stains throughout the entirety of the parking lot. These small-scale pavement stain are considered *de minimis* and do not constitute a REC for the Site.

The Site is located mauka of the UIC Line established by the State of Hawaii Department of Health, therefore; the groundwater located beneath the Site is considered a potable water resource. No drinking water supply wells were observed on the subject property or adjacent properties. Groundwater is assumed to flow south from the mountains towards the ocean but is assumed to be tidally influenced.

4.2 GENERAL OBSERVATIONS OF THE SURROUNDING AREA

ERA visually assessed areas adjacent to the Site from public thoroughfares. The surrounding area was a mix of other residential and commercial businesses. Adjoining the Site to the north is Firestone Complete Auto Care and McDonalds, to the south an empty lot that appears to be being used as a construction staging area. Adjacent to the Site to the west was another multi-story apartment complex. Adjacent to the site to the east is the Pearl Kai Shopping Center which hosts a Jiffy Lube, several restaurants, and other commercial businesses. There were thirteen (13) pole-mounted transformers located within the vicinity of the Site along Lipoa Place, no releases were observed with any of the transformers.

4.3 PCB-CONTAINING EQUIPMENT

Electrical transformers may contain PCBs. All untested mineral oil transformers purchased prior to July 1, 1979, must be considered PCB-contaminated. ERA observed thirteen (13) pole-mounted transformers adjacent to the Site. There were no pole-mounted or pad-mounted transformers observed on the Site. Hawaiian Electric Company (HECO) was queried regarding the PCB status of the transformers. All thirteen (13) transformers are Non-PCB containing. Documentation from HECO can be found in Appendix F.

4.4 ASBESTOS-CONTAINING MATERIAL AND LEAD PAINT

ACBM and LCP are not considered to be RECs as defined by ASTM but can pose potential health hazards. According to the aerial photographs and historic maps, the structure at the Site was developed between 1970 and 1971. Based on the age of the structures, it is possible that ACBM and LCP are present at the Site. Interior and exterior paints appeared in fair condition and may contain lead. Materials such as vinyl floor tiles, vinyl baseboards, drywall joint compound, pipe insulation, and caulking may contain asbestos.

While not ASTM-defined RECs, given the age of the structure, it is prudent that a hazardous materials survey be conducted to determine the presence or absence of ACBM and LCP prior to any renovation or demolition work.

4.5 ARSENIC

ERA did not observe any possible arsenic containing building materials (e.g., canec ceiling tiles) at the Site during the reconnaissance.

SECTION 5: REVIEW OF FEDERAL, STATE, AND LOCAL LISTS AND AVAILABLE FILES OF REPORTED HAZARDOUS SUBSTANCE/PETROLEUM PRODUCT SOURCES AND RELEASES

This section includes results of a review of federal, state, and local lists and available files of reported hazardous waste sites and hazardous substance/petroleum product sources and releases. The EDR database provided the federal and state environmental release listings (EDR, 2019e). This information is provided in Appendix C and is summarized below.

5.1 DATABASES AND REGULATORY FILES REVIEWED

A list of the Federal Sources and Hawai'i State Regional databases reviewed is provided below. These databases were reviewed to document the location of federal and state listed sites, or other known hazardous waste sites, following ASTM search distance guidelines. The ASTM search distance guidelines are provided in parenthesis.

Standard Environmental Record Sources

- Federal National Priorities List (NPL) (1-mile)
- Federal RCRA – very small quantity generators (RCRA-VSQG) (¼-mile)
- State Hazardous Waste Sites List (1-mile)
- HDOH LUST Database (½-mile)
- HDOH Registered UST Database (property and adjoining properties)
- State Engineering Control Sites (ENG CONTROL) (½-mile)
- State Sites with Institutional Controls (INST CONTROL) (property only)

The following standard environmental record sources were reviewed by EDR, however there were no findings within the ASTM specified search distances. The following databases are provided for reference, but not further discussed in this report:

- SEMS-ARCHIVE List (1/2-mile)
- RCRA Corrective Action Activity (CORRACTS) List (1-mile)
- RCRA-TSDF List (1/2-mile)
- Federal RCRA – large quantity generators (RCRA-LQG) (property and adjoining properties)
- Federal RCRA – small quantity generators (RCRA-SQG) (¼-mile)

- Federal RCRA – conditionally exempt small quantity generators (RCRA-CESQG) (property and adjoining properties) (¼-mile)
- Federal Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) (½-mile)
- Federal Delisted NPL List (½-mile)
- Federal Engineering Controls Sites (property only)
- Federal Sites with Institutional Controls (property only)
- Federal Emergency Response Notification System (property only)
- State Voluntary Response Program Sites (½-mile)
- State facilities permitted as solid waste landfills, incinerators, or transfer stations (½-mile)
- Voluntary Remediation Program and Brownfields Sites with Institutional Controls (½-mile)
- Permitted Landfills in the State of Hawai‘i (½-mile)
- Leaking Underground Storage on Indian Land (½-mile)
- Underground Storage on Indian Land (½-mile)

Additional Environmental Record Sources

The following additional environmental record sources were reviewed by EDR and findings from the search are detailed in Section 5.2.

- RCRA Non-Gen Facilities
- FUDS list
- Department of Defense Sites (DOD)
- Records of Decision
- US Historical Auto Sites
- US Historical Cleaners
- Unmapped Sites

The following additional environmental records sources were reviewed by EDR, however there were no findings within the ASTM specified search distances. The following databases are provided for reference, but not further discussed in this report:

- EPA Listing of Brownfields Properties
- Facility Index System/Facility Identification Initiative Program Summary Report (FINDS)
- Biennial Reporting System
- Formerly Used Defense Sites
- Superfund CERCLA Consent Decrees
- CERCLA Lien Information
- Records of Decision

- Uranium Mill Tailing Sites
- Hazardous Materials Information Reporting System
- Material Licensing Tracking System
- PCB Activity Database System
- Storm Water General Permits
- RCRA Administrative Action Tracking System
- Toxic Chemical Release Inventory System
- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act /Toxic Substances Control Act
- Section 7 Tracking Systems
- Open Dump Inventory
- Clandestine Drug Labs
- Incident and Accident Data
- Radiation Information Database
- Federal Insecticide, Fungicide, and Rodenticide Act/ Toxic Substances Control Act Tracking System Administrative Case Listing
- Land Use Control Information System
- Integrated Compliance Information System State List of Permitted Facilities Permitted Drycleaner Facility Listing
- Indian Reservations
- Mines Master Index File
- State Brownfields Sites (½-mile)
- EDR Proprietary Manufactured Gas Plants

5.2 RESULTS OF DATABASE REVIEW AND REGULATORY AGENCY CONTACTS

This section provides a summary of results for all database searches conducted during this assessment. ERA does not consider any of the EDR results discussed below as RECs for the Site.

Section 5.2.1 provides results specifically for the Site and Section 5.2.2 provides results found for properties within the vicinity of the Site.

5.2.1 RESULTS FOR SUBJECT SITE

The target property address submitted to EDR was not listed in any of the reviewed databases searched by EDR.

5.2.2 RESULTS FOR PROPERTIES WITHIN THE VICINITY OF THE SUBJECT SITE

ASTM proximity search guidelines were used to designate properties for evaluation and review. Properties were listed in the vicinity of the Site in the following databases and reviewed for potential impacts which could contribute to a REC at the Site:

Standard Environmental Record Sources

- Federal National Priorities List (NPL) (1-mile)
- Federal RCRA – very small quantity generators (RCRA-VSQG) (property and adjoining properties)
- State Hazardous Waste Sites List (1-mile)
- HDOH LUST Database (½-mile)
- HDOH Registered UST Database (property and adjoining properties)
- State Institution/Engineering Control (property only)
- State Sites with Institutional Controls (INST CONTROL) (property only)

Additional Environmental Record Sources

- RCRA Non-Gen Facilities
- FUDS list
- Department of Defense Sites (DOD)
- Records of Decision
- US Historical Auto Sites
- US Historical Cleaners
- Unmapped Sites

The following additional environmental record sources were found within the specified search distances that have the potential impact to contribute to a REC at the Site.

Potential environmental conditions at adjacent properties located within the vicinity of the Site are summarized below.

Standard Environmental Record Sources

List of Federal NPL (Superfund) sites

A review of the NPL list, which identifies over 1,200 sites for priority cleanup under the Superfund program. Identifies one (1) NPL site within approximately 1-mile of the subject Site. Pearl Harbor Naval Complex, located < ½-mile upgradient, is on the NPL list due to contaminants in the soil and groundwater. In 1983, the Navy identified thirty-one (31) potentially hazardous waste sources within the six (6) facilities, including unlined landfills, pesticide disposal pits, chromic acid disposal areas, PCB disposal areas, mercury-contaminated harbor sediments, leaking underground solvent tanks, waste oil facilities, and numerous other types of sources resulting from industrial activities at the complex. Soils beneath the site are permeable, facilitating movement of contaminants into groundwater. The Pearl Harbor Naval Complex facilities are located across the harbor from the subject Site, and the majority of the base is located over 1-mile from the subject Site. It is unlikely that contamination from the Pearl Harbor Naval Complex will migrate to the subject Site.

RCRA-Very Small Quantity Generators (VSQG) List

A review of the RCRA-VSQG (very small quantity generators) database lists three (3) RCRA-VSQG sites within a ¼-mile radius of the subject Site. Very small quantity generators generate less than 100 kg of hazardous waste per month, or less than 1 kg of acutely hazardous waste per month. Sears Automotive Center, IES Retail Aiea, and Aloha Petroleum: Yunnies Shell are not listed with any violations and are not considered to pose a significant environmental or human health threat to the subject Site.

State Hazardous Waste Sites (SHWS) List

A review of the SHWS database indicated there are ten (10) listed SHWS sites within a 1-mile radius of the target property. Three (3) of the ten (10) sites are listed as No Further Action (NFA) and therefore not deemed to pose an environmental or human health threat to the subject Site. The remaining seven (7) sites are listed and discussed below:

Hawaii Baking Co Inc., 98-736 Moanalua Loop

According to the SHWS database, Hawaii Baking Co Inc. (located approximately ½-mile upgradient) is not listed with a hazard priority. A review of the SHWS database did not produce any documents pertaining to the Site, but states that the site is currently undergoing an assessment. Even though there is a lack of documentation pertaining to the site, this site is not believed to be a potential environmental or human health hazard to the subject Site.

Goodyear Auto Service, 98-1277 Kaahumanu Street

According to the SHWS database, Goodyear Auto Service (located approximately 1-mile upgradient) is not listed with a hazard priority. A review of the SHWS database did not produce any documents pertaining to the Site and states that the site has been unreviewed. Even though there is a lack of documentation pertaining to the site, due to distance and location across Waimalu Stream from the subject Site, this site is not believed to be a potential environmental or human health hazard to the subject Site.

Pearl City Midas, 98-1234 Kaahumanu Street

According to the SHWS database, Pearl City Midas (located approximately 1-mile upgradient) is not listed with a hazard priority. A review of the SHWS database produced a letter from HDOH stating that the site had received an NFA with Institutional Controls. A release of petroleum to the environment at the site was discovered in 2020 during the removal of several out-of-service hydraulic lifts located beneath the ground floor of the existing building on the Site. Approximately 384 tons of petroleum-contaminated soil was excavated to the extent practicable without incurring damage to the building and related infrastructure and disposed at a local landfill. After excavation, residual petroleum was still present in soil beneath the excavation floor at depths of between approximately 5' to 10' below ground surface. However, under current conditions, due to its location and depth, no current environmental hazards are posed by the release. HDOH is requiring annual reporting and monitoring for the site, along with following institutional controls outlined in the Environmental Hazard Evaluation (EHE) and Environmental Hazard Management Plan (EHMP). Based on the NFA status provided by HDOH, this site is not believed to be a potential environmental or human health hazard to the subject Site.

Al Phillips, The Cleaners, Inc, 98-1277 Kaahumanu Street

According to the SHWS database, Al Phillips, The Cleaners (located approximately 1-mile upgradient) is not listed with a hazard priority. A review of the SHWS database did not produce any documents pertaining to the Site and states that the site has been unreviewed. Even though there is a lack of documentation pertaining to the site, due to distance and location across Waimalu Stream from the subject Site, this site is not believed to be a potential environmental or human health hazard to the subject Site.

406 Kamehameha Highway

According to the SHWS database, 406 Kamehameha Highway (located approximately 1-mile downgradient) is listed with a medium hazard priority. A review of the SHWS database revealed a Phase II dated September 2014. A Phase I ESA at the site indicated a possible release from former underground fuel storage tanks on the adjacent parcel that were used in gas station operations on the project site. For the Phase II ESA, soil and groundwater samples were conducted in potentially impacted areas of the Site. Gasoline was detected in six (6) of the seven (7) samples, with five (5) of the samples exceeding HDOH Tier 1 EALs. Soil samples with the highest measured concentration of gasoline were collected along the west parcel boundary. TPH-diesel and TPH-oil were not detected in any of the soil samples. Temporary wells were created to conduct groundwater sampling. Gasoline was detected in six (6) of the seven (7) groundwater samples, each of which were detected at concentrations exceeding HDOH Tier 1 EALs. Again, highest concentrations were detected along the western boundary of the parcel. TPH-diesel and TPH-oil were not detected in any of the groundwater samples. Soil samples were taken after soil was excavated and PTH-gasoline, VOCs, SVOCs, and metals were detected, but at concentrations below unrestricted Tier 1 EALs. TPH-oil was not detected above the method detection limit. Due to the crossgradient location, distance of the site, and location across Waimalu Stream from the subject Site, this site is not believed to be a potential environmental or human health hazard to the subject Site.

Aloha Stadium Station, 99-500 Salt Lake Boulevard

According to the SHWS database, Aloha Stadium Station (located approximately 1-mile upgradient) is not listed with a hazard priority. A review of the SHWS database shows an

EHE/EHMP for the site dated March 2019. It notes that in November 2017, field crews encountered a UST approximately 2-3 ft bgs which was found to contain diesel fuel and was not listed in the LUST or UST database. An excavator bucket punctured the UST, which led to approximately 150-gallons of petroleum product being released into the soil. The UST was drained and removed in January 2018 and the surrounding soil was excavated. Based on the results of the screening evaluation, an EHE/EHMP was created in association with TPH-diesel in site soils for direct exposure, gross contamination, and leaching to groundwater including institutional controls, engineering controls, and opportunistic removal of contaminated soil during future site activities. Due to the distance of this site to the Subject site and the institutional and engineering controls in place, this site is not believed to be a potential environmental or human health hazard to the subject Site.

HECO Transformer 52091, 98-199 Kamehameha Highway

According to the SHWS database, HECO Transformer 52091 (located approximately < 1/8-mile downgradient) is listed with a low hazard priority. A review of the SHWS database produced a letter from HDOH HEER office stating that there was an approximately 150-gallon non-PCB oil release from a rusted HECO pad-mounted transformer at Pearl Kai Center. Cleanup was conducted and an NFA was requested in 2004. No further documentation was provided. Due to the cleanup activities conducted and the downgradient location of the site to the subject Site, this site is not believed to be a potential environmental or human health hazard to the subject Site.

HDOH Leaking Underground Storage Tank (LUST) Database

According to the EDR Leaking Underground Storage Tank (LUST) database, there are thirteen (13) UST releases within a ½-mile radius of the subject Site. Of the thirteen (13) sites, twelve (12) sites have received no further action cleanup status. The remaining site is listed as cleanup initiated and discussed below:

Sears Roebuck & Co, 98-180 Kamehameha Highway

Sears Roebuck & Co, located at 98-180 Kamehameha Highway, approximately 1/8-mile away, is listed in the LUST database for a UST release in 2013. No further information regarding this release was available in HDOH records. If and when further documentation becomes available it

may be amended into the report. Due to the age of this release and cleanup initiated status, this Site is unlikely to impact the subject Site.

HDOH UST Database

According to the EDR registered Underground Storage Tank (UST) database, there are eight (8) sites within a ¼-mile radius that have registered USTs on property. Of the eight (8) sites, one (1) has USTs currently in use and is listed below:

Pearlridge Texaco #93970, located less than 1/8-mile upgradient, is listed with three (3) 10,000-gallon gasohol USTs currently in use. The site also has one (1) 1000-gallon used oil UST permanently out of use. Due to the upgradient location and distance, potential future releases from this Site may pose a threat to the subject Site.

ENG CONTROLS/INST CONTROL List

According to the State and tribal institutional control (ISNT CONTROL)/engineering control (ENG CONTROL) registries, there are two (2) Hawaii ENG CONTROL and two (2) Hawaii INST CONTROL sites within a ½-mile radius of the Site. Both registries have Hi-Grade Plumbing and Hi-Grade Plumbing, Inc. listed. These sites were also listed in the SHWS database as NFA with controls in place. Neither of the Sites are deemed to pose significant threat the environmental health of the subject Site.

Additional Environmental Record Sources

RCRA-NonGen

A review of the RCRA Non Generator Facilities (NonGen) list revealed four (4) RCRA NonGen facilities within a ¼-mile radius of the subject site. These facilities are not deemed to pose an environmental threat to the subject Site.

Formerly Used Defense Sites (FUDS) List

A review of the Formerly used Defense Sites (FUDS) Properties list revealed three (3) FUDS sites within a 1-mile radius of the subject Site. This listing includes locations of formerly used defense sites where the US Army Corps of Engineers is actively working or will take necessary cleanup

steps. Based on proximity of these sites to the subject Site, they are not considered an environmental concern.

Department of Defense

A review of the Department of Defense (DOD) lists, which lists federally owned or administered lands to the DOD equal or greater to 640 acres, lists two (2) sites within approximately 1-mile of the subject Site. One of the listed sites is the Pearl Harbor Naval Complex, which was further discussed in the NPL section above and was determined it is unlikely to be an environmental concern to the subject Site. The other site, Ford Island, located at the center of Pearl Harbor, is also not considered an environmental concern to the subject Site.

Record of Decision

A review of the Record of Decision (ROD) list, which documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in cleanup, lists one (1) site within a 1-mile radius of the subject Site. The listed site is the Pearl Harbor Naval Complex which is further discussed in the NPL section above. This site is not considered a potential environmental or human health hazard to the subject Site.

Historical Auto Sites List

The EDR Historical Auto records reviewed selected national collections of business directories and collected listings of potential gas station/filling station/service station sites that were available. This database falls within the “High Risk Historical records” category. The EDR records indicate there are four (4) Historical Auto sites within an 1/8-mile radius of the subject Site. The four (4) sites are listed below:

- R & S Venture Inc, located at 98-121 Kamehameha Highway, is listed as a Gasoline Service Station from 1992 to 1999, a carwash in 2013, and as a Gasoline Service Station, NEC in 2014.
- Fujis Chevron Service station, located at 98-121 Kamehameha Highway, is listed twice in the database. The first listing lists the site as a Gasoline Service Station from 1969 to 1972. The second listing lists the site as a Gasoline Service Station from 1973 to 1990.

- National Tire of Hawaii Ltd., located at 98-115 Kamehameha Highway, is listed as an Auto and Home Supply Store, NEC from 1998 to 2006.

The R&S Venture and Fuji's Chevron Service Station located at 98-121 Kamehameha Highway is listed as Pearlridge Texaco 93970 in the UST database with UST currently in use. The National Tire of Hawaii Ltd. location listed at 98-115 Kamehameha Highway is listed as Equipment Yard with a 3,000-gallon gasoline tank permanently out of use. No spills or releases were noted and none of the EDR Historical Auto sites are deemed to pose significant environmental threat to the subject Site.

Historical Drycleaners Sites List

The EDR Historical Cleaner records reviewed shows two (2) Historical Cleaner site within an 1/8-mile radius of the subject Site.

- C C Cleaners, located at 98-199 Kamehameha Highway, is listed as a Drycleaning Plant, Except Rugs from 2000 to 2003.
- Kens Cleaners Hawaii, listed at 98-199 Kamehameha Highway Suite C, is listed as using Laundry and Drycleaner Agents from 2006 to 2013.

No spills or releases were noted from this location in any other database, and this business is not located directly adjacent to the Site. None of the EDR Historical Cleaner sites are deemed to pose significant environmental threat to the subject Site.

Unmapped

There are thirty (30) unmapped sites identified by the EDR database search. Based on proximity to subject Site and nature of contamination; none of these sites are deemed to pose significant environmental threat to the subject Site.

SECTION 6: FINDINGS & RECOMMENDATIONS

This Phase I ESA report was prepared by ERA for Hawaiian Community Development Board. The subject of this Phase I ESA consists of one parcel designated by TMK (1) 9-8-014:021, with a street address of 98-150 Lipoa Place, in Honolulu, Hawaii. The purpose of this investigation was to identify and evaluate evidence that may indicate any REC at the Site due to past or current management of chemicals or other materials that, if released or not properly controlled, could present a risk to human health or the environment. This ESA report conforms to the format outlined in the *ASTM Document E1527-21* and the USEPA's All Appropriate Inquiries Rule. The site reconnaissance visit was conducted by Ms. Kristen Caskey of ERA on January 19, 2022.

Findings

Site Reconnaissance

The Site is completely paved and developed with a parking lot, six (6) two-story apartment buildings, a pool, and a single-story office building. Access to the Site is granted off Lipoa Place. A pile of abandoned furniture was observed on the sidewalk fronting the property. The six (6) two-story buildings were composed of wood siding and wood roof shingles, with a wooden staircase leading to the second floor. The interior of the units were composed of drywall walls and drywall and popcorn ceilings. The units originally had vinyl floor tiles and vinyl sheeting, but some of the newly renovated units contain carpet. According to the owner, all the units were originally two-bedroom units, but he has since converted several of the two-bedroom units into studio and one-bedroom units. The interior of the units were unable to be assessed as they were all being occupied by residents. The owner stated that there has been a history of roof leaks and recently plumbing line leaks which have led to water damage inside the units. Mold and water damage most likely exist inside some of the units throughout all six (6) buildings. Between each of the buildings were concrete walkways with vegetation around the walkways. None of the vegetation appeared to be distressed, but some water was observed to be pooling inside the planters and may be a sign of drainage issues. The northern boundary of the property is a vegetated strip that does not appear to be kept, but no vegetation in this area appeared to be stressed.

In the center of the property is the single-story office building. The office building is composed of wood siding with a wood-shingled roof. The interior of the office building is composed of drywall

walls, drywall ceiling, and vinyl tile flooring. There was a large bubble in the paint along the ceiling in the front portion of the office which was said to have appeared after the heavy rain event in December 2021. Therefore, there is most likely a roof leak in the office building. Fluorescent light ballasts and bulbs were observed in the office building and in the common laundry areas. No releases were observed from any of the ballasts or bulbs.

Adjacent to the office building is the pool. The pool area includes a large concrete deck with a small wooden shed in the eastern portion of the pool area which houses all the pool equipment, including the chlorine. The concrete deck had large cracks throughout. The pool itself appeared to be in good condition.

The parking lot was located along the western portion of the Site. There were multiple small-scale (less than 25 square feet) concrete pavement stains throughout the entirety of the parking lot. These small-scale pavement stain are considered *de minimis* and do not constitute a REC for the Site.

ERA visually assessed areas adjacent to the Site from public thoroughfares. The surrounding area was a mix of other residential and commercial businesses. Adjoining the Site to the north is Firestone Complete Auto Care and McDonalds, to the south an empty lot that appears to be being used as a construction staging area. Adjacent to the Site to the west was another multi-story apartment complex. Adjacent to the site to the east is the Pearl Kai Shopping Center which hosts a Jiffy Lube, several restaurants, and other commercial businesses. The presence of the Firestone Complete Auto Care in close proximity to the Site is a potential environmental concern due to auto repair operations that use a large quantity of petroleum products.

Historic Photos

Based on a review of TMK (1) 9-8-014:021, historical aerial and Google Earth Pro photographs spanning 1952 to 2001 shows the Site was developed since 1962, where the vegetation has been removed, the land was leveled, and Lipoa Place was constructed. The buildings and parking lot that exist today were first seen on the 1968 map. No ASTM defined RECs were noted from review of the historical aerial photographs.

Regulatory Database Review

The target property address submitted to Environmental Data Resources, Inc. (EDR) was not listed in the any of the databases searched by EDR.

In the vicinity of the Site, a review of the State Hazardous Waste Sites (SHWS) database indicated there are ten (10) listed SHWS sites within a 1-mile radius of the target property. Three (3) of the ten (10) sites are not deemed to pose an environmental or human health threat to the subject Site and were granted NFAs. The remaining seven (7) sites were further investigated through review of HDOH records and determined to not pose significant threat to the environmental health of the subject Site.

According to the EDR Leaking Underground Storage Tank (LUST) database, there are thirteen (13) UST releases within a ½-mile radius of the subject Site. Of the thirteen (13) sites, twelve (12) sites have received NFA cleanup status. The remaining site, Sears Roebuck & Co, located at 98-180 Kamehameha Highway, approximately 1/8-mile away, is listed in the LUST database for a UST release in 2013. No further information regarding this release was available in HDOH records. Due to the age of this release and cleanup initiated status, this Site is unlikely to impact the subject Site.

According to the Underground Storage Tank (UST) database, there are eight (8) sites within a ¼-mile radius that have registered USTs on property. Of the eight (8) sites, one (1) has USTs currently in use. Pearlridge Texaco #93970, located less than 1/8-mile upgradient, is listed with three (3) 10,000-gallon gasohol USTs currently in use. The site also has one (1) 1000-gallon used oil UST permanently out of use. Due to the upgradient location and distance, potential future releases from this Site may pose a threat to the subject Site.

SUMMARY AND RECOMMENDATIONS

RECs – Site

- No ASTM defined RECs were identified for the Site.

List of Additional Environmental Issues

- **E¹:** Multiple cracks and small-scale petroleum staining was observed throughout the parking lot area. These stains are considered *de minimis* and do not constitute a REC, however minor contamination may be present if the oil has seeped through the cracks.
- **E²:** The Site is located downgradient and adjacent to a Firestone Complete Auto Care. This business located in close proximity to the Site is a potential environmental concern due to auto repair operations that use a large quantity of petroleum products.
- **E³:** The structure at the Site was constructed around 1970. Based on the date of construction, there is the potential for lead, asbestos, and arsenic containing materials to be present at the Site. ERA visually assessed the interior of the existing structure for potential lead containing paint, asbestos containing building materials, and arsenic containing materials. Potential asbestos containing materials included drywall, vinyl floor tiles, vinyl baseboards, and ceiling tiles. Other materials typical in office spaces such as caulking, mastics may also have been present. Interior walls were painted and some of the paints used may contain lead. Drop ceiling materials in the office space may contain arsenic. Although the presence of asbestos and lead containing paints are not considered RECs by ASTM, a hazardous materials survey should be performed prior to renovation or demolition activities at the Site.
- **E⁴:** Texaco #93970, located less than 1/8-mile upgradient, is listed with three (3) 10,000-gallon gasohol USTs currently in use. The site also has one (1) 1,000-gallon used oil UST permanently out of use. Due to the upgradient location and distance, potential future releases from this Site may pose a threat to the subject Site.

SECTION 7: DEVIATIONS AND DATA GAPS

The following are data gaps encountered during the assessment:

- A valuation assessment comparing fair market value of the Site was not performed as information regarding the fair market value and property purchase price was not available.

These data gaps are not considered significant.

SECTION 8: REPORT LIMITATIONS; SPECIAL TERMS AND CONDITIONS

The findings, observations, conclusions, and recommendations of this report are limited by the technical requirements specified in the contract between the Hawaiian Community Development Board and ERA. The findings, observations, conclusions, and recommendations presented herein solely identify and evaluate evidence that may indicate that environmental hazards exist at the Site due to past or current management of chemicals or other materials that, if released or not properly controlled, could present a risk to human health or the environment.

The Phase I ESA provides a “snap shot” of Site conditions at the time of the investigation. The assessment does not cover site changes that ERA could not reasonably ascertain. Additionally, it must be noted that no investigation can completely rule out the existence of any regulated or hazardous materials at a given site.

In preparing this report, ERA relied on information derived from visual reconnaissance, governmental agencies, computer databases, and personal interviews. Except as set forth in this report, ERA made no independent investigations as to the accuracy and completeness of the information derived from the listed sources. ERA assumed that all information obtained during the course of the investigation is accurate and complete.

Although ERA did evaluate (to the extent reasonable) the historical use of adjacent properties (e.g., City Directory Search), ERA cannot guarantee that neighboring industries have not impacted the subject Site. ERA did not perform a complete environmental assessment of adjacent properties and it is possible that groundwater migration, overland flow or transport of contaminated particles via wind may have contaminated the Site.

All findings, observations, conclusions, and recommendations stated in this report are based on facts; circumstances; applicable federal, state and local laws, rules, and regulations; and generally accepted national standards for such services in existence at the time that the report was prepared. Topics not explicitly discussed within this report should not be assumed to have been investigated or tested.

ERA has prepared this document for the use and benefit of the Hawaiian Community Development Board. Any use of this document or information herein by persons or entities other than those

named above without the express written consent of ERA will be at the sole risk and liability of said person or entity, and ERA will not be liable to such persons or entities for any damages resulting therefrom.

SECTION 9: REFERENCES

American Society for Testing and Materials (ASTM), 2013, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, E1527-13.

ASTM, 2021, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, E1527-21.

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EDR, 2022b. Certified Sanborn® Map Report, Hale O’Lipoa, 98-150 Lipoa Place, Aiea, Hawaii 96701, Inquiry Number 6816704.3, January 12, 2022.

EDR, 2022c. City Directory Image Report, Hale O’Lipoa, 98-150 Lipoa Place, Aiea, Hawaii 96701, Inquiry Number 6816704.5, January 12, 2022.

EDR, 2022d. Historical Topographic Map Report, Hale O’Lipoa, 98-150 Lipoa Place, Aiea, Hawaii 96701, Inquiry Number 6816704.4, January 12, 2022.

EDR, 2022e. Radius Map with GeoCheck®, Hale O’Lipoa, 98-150 Lipoa Place, Aiea, Hawaii 96701, Inquiry Number 6816704.2s, January 12, 2022.

EDR, 2022f. Vapor Encroachment Screen, Hale O’Lipoa, 98-150 Lipoa Place, Aiea, Hawaii 96701, Inquiry Number 6816704.2s, January 12, 2022.

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Appendix A

ENVIRONMENTAL PROFESSIONAL QUALIFICATIONS

Russell S. Okoji, Ph.D.

Principal

Professional Summary:

Dr. Russell S. Okoji is Principal and Senior Technical Advisor for Environmental Risk Analysis. Dr. Okoji received his BS in Applied Ecology from the University of California, Irvine, and his doctorate in Environmental Toxicology from the University of California, Los Angeles. Previously, he was the Environmental Division Manager for AMEC Earth and Environmental's Pacific Region and oversaw a team of 10 environmental scientists, engineers, geologists and biologists. He has been associated with ERA since its inception in 2006 and has more than 20 years of environmental professional consulting experience. Dr. Okoji's current responsibilities at ERA include Program and Project Management for a variety of project types including environmental impact statements, toxicological assessments, human health and ecological risk assessments, industrial hygiene projects, air studies, both small and large scale Phase 1, 2 and 3 Assessments, and public relations support. Dr. Okoji has extensive knowledge in both federal and state environmental regulations. Between 2006 and 2010, Dr. Okoji was the Program Manager for an environmental IDIQ contract through Kamehameha Schools Commercial Assets Division, the largest private landowner in Hawaii. Between 2004 and 2008, Dr. Okoji served as Program Manager for the Hawaii Department of Health Environmental Services IDIQ Contract. Dr. Okoji is currently Program Manager for ERA Federal Programs which includes contracts with the USNavy, USArmy and USACE. USACE projects include large scale EIS/EAs in the CNMI and Hawaii and planning studies in Japan. Dr. Okoji has received commendation from the State of Hawaii, City and County of Honolulu, the U.S. Navy and ATSDR.

Past Employment History	AMEC Earth and Environmental Inc.
Position:	Environmental Division Manager, Pacific Region
Dates of Employment:	2000 to 2010
Other Firms:	University of California, Los Angeles
Position:	Laboratory Manager and Researcher
Dates of Employment:	1994 to 2000
Education:	2000, Ph.D., Environmental Toxicology, University of California, Los Angeles 1994, B.S., Applied Ecology, University of California, Irvine
Professional Qualifications:	OSHA 40-Hour Hazardous Material Operations and Emergency Response Training (29 CFR 1910.120), initial certification 2000, annual refreshers Asbestos Building Inspector, initial certification 2005 Asbestos Management Planner, initial certification 2005

Detailed Core Skills by Project

Environmental Due Diligence (Phase 1, 2 and 3 Assessments)

Hensel Phelps, Honolulu Airport Mauka Extension, HI, 2018-2020 – Contract Value \$1,000,000. Principal in Charge: Produced a construction specific Contaminated Soil Management Plan (CSMP), Health and Safety Plan, HSP and Construction and Operation Environmental Hazard Management Plan (EHMP). Performed site characterization of soil, groundwater and surface water. Provided Environmental Professional (EP) services during construction.

Projects involved significant excavations in contaminated soil and groundwater. Soil and water sampling events conducted under the strict oversight of the Hawaii Department of Health (HDOH). EP support included daily PID and air monitoring for worker safety. Provided daily reports and significant consultation over the course of the project.

Nan Inc, Multiple HART Sites, HI, 2017-2019 – Contract Value \$300,000. Principal in Charge: Produced a construction specific Contaminated Soil Management Plan (CSMP), Health and Safety Plan (HSP), performed site characterization of soil, groundwater and surface water. Provided Environmental Professional (EP) services during construction. Projects involved significant excavations in contaminated soil and groundwater. Soil and water sampling events conducted under the oversight of the Hawaii Department of Health (HDOH). EP support included daily PID and air monitoring for worker safety. Provided daily reports in compliance with the comprehensive EHMP for the project.

Grace Pacific, HI, 2019 – Contract Value \$75,000. Principal in Charge: Multiple Phase I Site Assessments (various locations): At the request of Grace Pacific, ERA performed 9 Phase I Environmental Site Assessments (ESA) for multiple parcels of land in Honolulu, Maui and the Big Island.

Island Recycling Inc., Campbell Industrial Park, HI, 2015-2018 – Contract Value \$150,000. Principal in Charge: Provide expert witness support regarding potential site and navigable waters contamination at the CIP site. Performed a comprehensive soil and groundwater investigation to support litigation and DOH Notice of Violation (NOV) for the drainage canal on the north and east side of the property. Authored work plans, negotiated scopes of work with the DOH and completed the Final Investigation Report. No Further Action status with EHMP was granted for the Site in 2018.

Kamehameha Schools, Confidential Site, 2008-2009 – Contract Value \$500,000. Program Manager: This confidential Site was used for over a hundred years as a truck fleet repair and maintenance facility, for warehousing and other heavy industrial activities. Previous investigations at the Site identified TPH contamination in soil/rock, groundwater, and in free product form. Studies also identified the presence of elevated lead levels in Site surface soils. Dr. Okoji assembled and managed a highly qualified team of environmental professionals to identify existing data gaps, provide services to fully characterize and delineate the Site and provide detailed recommendations for further investigation and site cleanup. Specifically, Dr. Okoji's team was tasked with the following:

- Provide expert witness support and opinion
- Delineate the lateral and vertical extent of free product contamination in groundwater.
- Provide fingerprinting analyses for free product source identification.
- Provide a free product recovery pilot test to evaluate the implementability, cost, and effectiveness of traditional remedial technologies.
- Determine true groundwater gradient at the Site (correcting for tidal influences) to provide information regarding free product and contaminant fate and transport conditions.
- Provide baseline chemical conditions for future determination of the status of the free product plume (stable, shrinking, migrating).
- Delineate lateral and vertical extent of hydrocarbon-related contaminants in soil/rock and groundwater at concentrations exceeding regulatory levels of concern.
- Determine if shallow soil vapor in plume areas contain site contaminants at levels that would pose a human health risk.
- Determine the nature and extent of possible chlorinated solvent contamination several areas on Site.
- Determine the nature of possible chlorinated pesticides and herbicide contamination in surface soil and groundwater near Building 8's refrigerator truck wash area.
- Perform a geophysical investigation to identify the presence and relative locations of physical features (i.e., lava tubes, bedrock fractures, utilities) and potentially the extent of the free product plume.

Kamehameha Schools, Confidential Site, 2009 – Contract Value \$150,000. Program Manager: Performed an evaluation of surface soil, surface water and groundwater at a confidential Quarry Site assumed to be the location of illegal dumping of C&D debris, metal, asphalt and unknown solvents. Dr. Okoji and his team planned and initiated an environmental investigation which included a geophysical survey to identify location and magnitude of debris as well as nature and extent of soil and groundwater contamination. The results of Dr. Okoji's study was used by the client to recover costs associated with the investigation and to facilitate further investigative activities.

Kamehameha Schools, Confidential Site, 2008-2009 – Contract Value \$20,000. Program Manager: Dr. Okoji provided a third party review of various Remedial Alternatives Analysis & Response Action reports for ongoing litigation related to environmental investigations at a confidential agricultural Site that included a Herbicide Mixing

area and Heavy machinery Storage area. Dr. Okoji determined that there were significant deficiencies and bias in the site characterization, evaluation and recommendations for the Site. Dr. Okoji provided detailed recommendations to address the deficiencies. As part of his scope, Dr. Okoji also performed a comprehensive Administrative Records Review.

Sun Edison Inc: Phase II Environmental Site Assessment, 87-2018 Farrington Highway and 87-2019 Farrington Highway, Waianae, HI, 2012 – Contract Value \$20,000. Principal in Charge: Performed a limited Phase II Environmental Site Assessment for 2 sites previously used for farming, salvage and a former firing range. The Site was assessed as 4 independent decision units and sampled accordingly based on suspected historical chemical usage. Multi-incremental sampling methodology utilized per HDOH guidelines.

Hawai'i State Department of Health, Kea'au, HI, 2005-2006 – Contract Value \$150,000. Program Manager: Performed the initial Phase 2 site characterization of arsenic in former sugar cane land over a several hundred acre area in Kea'au. To accomplish this task, the investigation focused sampling on areas with known or potential human exposure. The sampled areas included school playgrounds, community gardens and areas adjacent to residential areas. A main concern for the DOH was how to limit the uncertainty associated with conventional environmental sampling techniques. To limit the heterogeneity inherent to the method, the investigation implemented (for the first time in Hawaii) a multi increment composite sampling (MICS) methodology. MICSs can drive a skewed distribution (commonly found in environmental sampling) towards normality. For the Kea'au investigation a total of 40 increments (i.e. mini composite sample) was taken for each decision unit or area to be evaluated. The totality of the increments was composited and a larger 10-gram subsample sent for arsenic analysis. The laboratory arsenic results were deemed to better represent average site concentrations than concentrations achieved by simple traditional compositing methods or by averaging discreet sample points across a site. Additional subsamples for the physical and chemical properties of the soil were also obtained using multi increment compositing methods. Provided community relations support for the DOH. The MICS approach has been adopted by the State of Hawai'i Department of Health and is currently undergoing review for adoption by the USEPA.

Architects Hawaii Ltd, Lahaina, HI, 2012 – Contract Value \$20,000. Principal in Charge: Performed a limited Phase II Environmental Site Assessment at the Lahaina Fire Department located at 1860 Honoapiilani Highway, Lahaina, HI. The Limited Phase II ESA was conducted to determine the presence or absence of total petroleum hydrocarbon-diesel (TPH-D) in Site surface soils in the immediate vicinity of a currently used diesel Aboveground Storage Tank (AST) proposed for removal. The assessment was also conducted to determine if an onsite shed proposed for demolition requires special disposal considerations based on leachable lead concentrations.

Agribusiness Development Corporation, Ewa, HI, 2009 – Contract Value \$5,000. Principal in Charge: Performed a Phase I Environmental Site Assessment (ESA) for an agricultural easement encumbering a parcel situated at Honouliuli, District of Ewa, City and County of Honolulu, State of Hawai'i. The subject site covered an area of 108.221 acres. AMEC provided the following services in accordance with ASTM E1527-05: conducted an historic aerial photograph review; conducted a database search for property and adjacent properties; conducted an historic property use review of property; executed a site walk; and prepared a Phase I Report. Based on the Phase I Investigation, it was determined the environmental concerns for the Site are minimal. As the land is intended to remain under agricultural use in perpetuity, further investigation was not warranted.

State of Hawaii, Department of Education, HI, 2010 – Contract Value \$10,000. Project Manager: Phase I Environmental Site Assessment, Phase II Sampling and Analysis Plan and Title Documents for Kalaheo Elementary School Land Acquisition, Kalaheo, Hawaii.

Hawai'i State Department of Health, Kakaako Brownfield Unit 8 Site, HI, 2008 – Contract Value \$25,000. Project Manager: Performed a preliminary site-specific Phase 2 assessment and screening level risk assessment of a former incinerator site slated for redevelopment. Contaminants of concern included heavy metals, dioxins and polyaromatic hydrocarbons. Recommendations were made to conduct a site-specific baseline risk assessment that considers site-specific exposure assumptions, partitioning of data based on future land use and partitioning of data based on lateral and vertical dispersion of contaminants.

County of Maui, Waiale Landfill, HI, 2008-2009 – Contract Value \$175,000. Project Manager: Contracted by the County of Maui to perform a Phase II Site Investigation to evaluate existing site conditions at the Waiale Landfill. Previous environmental site assessments and investigations conducted for the adjacent roadway indicated that landfill waste was found in several locations along the roadway alignment during excavation activities for road construction. The Phase II delineated the limits of waste placement and property boundaries, by performing analysis of surface and trenched soils. Determined the thickness of the surface soil layer above the top waste layer within the landfill. Currently providing the County of Maui with an Engineering Evaluation and Cost Analysis (EECA) detailing closure options of the landfill.

Native Hawaiian Veterans, USACE HED, Munitions Response Site Prioritization Protocol (MRSPP) for Defense Environmental Restoration Program, Formerly Used Defense Site (FUDS) of Opana Point Bombing Range, Opana Point, Island of Maui, Site No.H09HI027200 and Papohaku Target Range, Kaluakoi, Island of Molokai, Site No. H09HI0032, 2014- 2017 – Contract Value \$500,000. Principal in Charge: Executed MRSPP to determine the relative risks posed at each of the sites; assistance with data gathering from state and local repositories; collecting appropriate information necessary to eliminate from further consideration those releases that pose no significant threat to public health or the environment; determining potential need for removal action and collecting or developing additional data to complete the MRSPP. Prepared project documents (UFP-QAPP, SAP) for a remedial investigation. COCs included metals, explosives and semi-volatile organic compounds. Risk to human health and ecological receptors are evaluated.

Long-Term Maintenance & Monitoring/ Remedial Action Operations for IRP Sites CF023, CG110, LF01, LF14, SS01, SS06, SS11, SS15 and Consolidation Unit at Joint Base Pearl Harbor – Hickam, HI, 2012-2017 – Contract Value \$500,000. Principal in Charge: Performed annual inspections, maintained and optimized long-term maintenance and monitoring (LTM) / Remedial Action Operations (RAO) (groundwater sampling) at eight Installation Restoration Program sites. The project consisted of inspecting, maintaining, and providing recommendations to optimize the existing remedies based on evaluation of all existing reports and recommendations for each site. Prepared all project documents including results of groundwater, soil vapor, landfill gas and apparent product thickness measurements.

Institutional Controls for Safety Awareness, Defense Environmental Restoration Program, Formerly Used Defense Sites at Various Windward Oahu Projects, Island of Oahu, HI, 2014-2017 – Contract Value \$500,000. Principal in Charge: Provided planning and producing institutional controls educational material for ensuring public safety from potential unexploded ordnance (UXO) at these sites. The institutional controls consist of materials oriented towards educating the public about the potential hazards from UXO found at these sites. Provided presentations to schools of affected areas and general public events.

Coca Cola Bottling Enterprises, Oahu, HI, 2000-2010 – Contract Value \$750,000. Project Manager: Conducted a Phase 2 and Phase 3 site investigation of soils and groundwater and site-specific risk assessment for the Coca Cola Bottling Facility. The site had undergone substantial remediation including removal of impacted soil, application of Oxygen Reaction Compounds (ORC) to groundwater and implementation of a Soil Vapor Extraction (SVE) System. Environmental Hazard Evaluation (Risk assessment) performed to determine the suitability of the property for future residential use. Chemicals of concern and pathways of concern include BTEX and fuel related compounds. Pathways of concern include direct contact with site media as well as vapor intrusion into buildings and ambient air.

Sun Edison Inc., Mililani, HI, 2010-2011 – Contract Value \$15,000. Principal in Charge: Multiple Phase 1 Environmental Site Investigations:

- Phase I Environmental Site Assessment for three (3) parcels of land located at 87-2018 Farrington Highway, 87-2019 Farrington Highway, and 87-1233 Hakimo Road, in Waianae, Hawaii (hereafter referred to as the Site). The Site was designated on Tax Maps as Tax Map Key (TMK) (1) 8-7-009-002, (1) 8-7-010-006, and (1) 8-7-010-010. TMK (1) 8-7-009-002 consisted of 236 acres of land, tmk (1) 8-7-010-006 consisted of 21.138 acres of land and tmk (1) 8-7-010-010 consisted of 2.755 acres of land. Additional soil investigation was recommended for 4 areas of the Site including soil near a large AST, a former salvage lot area, former pesticide mixing area and former firing range.
- Phase I Environmental Site Investigation for 91-399 Kauahi Street, Kapolei, Hawaii. The Site was designated on Tax Maps as TMK (1) 9-1-032-001. The 51-acre site was bordered by industrial property to the north, automobile storage to the west, Kalaeloa Airport to the East, and the continuation of the parcel to the south.
- Phase I Environmental Site Assessment for a 34.76-acre portion of lot within parcel TMK (1) 9-4-005:048 in Mililani, Hawaii. The Site was bordered by other agricultural lots in all directions.

Kamehameha Schools, HI, 2008-2010 – Contract Value \$25,000. Principal in Charge: Multiple Phase I Environmental Site Investigations:

- Phase I Environmental Site Assessment at the Jackson Volvo location, situated at 704 Ala Moana Boulevard in Honolulu, Hawai'i. The property evaluated was identified by Tax Map Keys (1) 2-1-055:002 (lot consisting of 0.8699 acres) and (1) 2-1-055:018 (lot consisting of 0.2789 acres).
- Phase I Environmental Site Assessment at multiple addresses located on Cooke Street, Auahi Street, and Pohukaina Street, Honolulu, Hawai'i. The property evaluated was identified by current Tax Map Key (1) 2-1-053:032 (lot consisting of 4.187 acres).
- Phase I Environmental Site Assessment at multiple addresses located on Ala Moana Boulevard, Coral Street, Keawe Street, and Auahi Street, Honolulu, Hawai'i. The property evaluated was identified by Tax Map Keys (1) 2-1-055:003 (lot consisting of 0.5306 acres), (1) 2-1-055:021 (lot consisting of 0.9256 acres), (1) 2-1-

055:006 (lot consisting of 0.4904 acres), (1) 2-1-055:026 (lot consisting of 0.1148 acres), and (1) 2-1-055:038 (lot consisting of 0.8135 acres).

- Phase I Environmental Site Assessment at multiple addresses located on Kekuanaoa Street, Iolani Street, and Mililani Street in Hilo, Hawai'i. The property evaluated was identified by Tax Map Keys (3) 2-2-030:004 (lot consisting of 0.4171 acres), (3) 2-2-030:006 (lot consisting of 0.8245 acres), (3) 2-2-030:008 (lot consisting of 0.2686 acres), (3) 2-2-030:009 (lot consisting of 0.5165 acres), (3) 2-2-030:0010 (lot consisting of 0.2479 acres), (3) 2-2-030:0011 (lot consisting of 0.2365 acres), (3) 2-2-030:0012 (lot consisting of 0.8617 acres), and (3) 2-2-030:014 (lot consisting of 0.4018 acres).

USBank, HI, 2012-2013 – Contract Value \$25,000. Principal in Charge: Multiple Phase I Site Assessments (various locations): At the request of USBank Dr. Okoji performed 6 Phase I Environmental Site Assessments (ESA) for multiple parcels of land in Honolulu, Hawaii. The purpose of the ESA was to identify, to the extent feasible, Recognized Environmental Conditions (REC) associated with the Site. The investigation included a physical inspection of the property; review of current regulatory environmental database information; interviews of persons knowledgeable about the property, review of historical records; and preparation of a Phase I ESA Report. The ESA report conformed to the format outlined in the American Society for Testing and Materials (ASTM) Document E1527-05 and the USEPA All Appropriate Inquiries Rule.

Marcus and Associates Inc. Multiple Phase 1 and 2 Environmental Site Assessments, HI, 2010-2020 – Contract Value \$>200,000. Principal in Charge: ERA has performed multiple Phase I and Phase 2 Environmental Site Assessment (ESA) for over the lifetime of the company. ESA's were performed in accordance with latest ASTM guidance. Phase 2 site assessments were performed in accordance with HDOH rules and regulations. Results of these assessments have allowed property transfers to proceed by providing regulatory closure and lender approval.

Environmental Planning and Permitting

United States Army Corps of Engineer, Integrated Feasibility Studies and Environmental Impact Statements for Modification of Rota and Tinian Harbors, Commonwealth of the Northern Mariana Islands (CNMI), 2016-2018 – Contract Value \$871,000. Produced two (2) separate Feasibility Studies and NEPA Environmental Impacts Statements to address potential impacts from the modification of the Rota and Tinian breakwaters. National Economic Development (NED) analysis was first used to evaluate the alternatives for this study. Standard USACE policy requires that economic analysis result in a positive benefit-cost ratio to justify federal participation in the implementation of a water resource development project. The economic analysis did not produce significant positive net benefits for any of the alternatives. The projects were therefore assessed to see if they meet the requirements for Section 2006 of WRDA of 2007. Specific constraints of this project include environmental impacts to endangered coral species and potential costs of compensatory mitigation. Constraints also include avoidance of adverse effects on the water quality in the harbor as well as nearby shorelines. Attended public and regulator meetings on behalf of the USACE in the CNMI.

United States Army Corps of Engineer, Planning Studies for Tengan Harbor Dredge Project, Okinawa, Japan 2018-2019 – Contract Value \$600,000. Produced a Comprehensive Testing Study Report (CTSR) to support maintenance dredging at Defense Logistics Agency (DLA) Port of Tengan Boat Basin in Camp Courtney, MCB Butler, Okinawa, Japan. The CTSR contained the results of the topographic control, hydrographic and underwater magnetic surveys and geotechnical and environmental investigations which were conducted at the Tengan Boat Basin site in accordance with the project Performance Work Statement (PWS), Government of Japan (GoJ) Law for the Prevention of Marine Pollution and Maritime Disaster (PMPMD), and the Japan Environmental Governing Standards (JEGS).

Environmental Science Corporation, US Air Force Integrated Natural Resources Management Plan Update, Kadena Air Base, Okinawa, USACE Japan District, Japan, 2017-2018 – Contract Value \$40,000. Performed an update to the previous Integrated Natural Resources Management Plan (INRMP) using studies performed in support of the updated INRMP and previous studies since the last INRMP. This updated INRMP was based on the U.S. Air Force's standardized INRMP template for installations located on lands belonging to a Host Nation. This INRMP guides the management of land, water, air, and natural resources of at Kadena Air Base. Implementation of the INRMP provides, to the extent practicable, Host Nation continued access to its land, air, and water resources and to sustain the long-term ecological integrity of the resource base and the ecosystem services it provides.

Cloudbreak Hawaii LLC, Kapolei, O'ahu HI, 2013-2014 – Contract Value \$35,000. Principal Planner: Prepared a HEPA and NEPA compliant EA for Cloudbreak Hawaii, LLC. The EA discussed the addition of affordable housing units to Hale Uhiwai Nalu, an 80-unit veterans housing and services building at Barbers Point. The project consisted

of constructing additional structures on an adjacent parcel of land, approximately 6,000 square feet. The Proposed Action would add up to 72 affordable housing units for very low to moderate income households and make support services such as outreach, substance abuse treatment, employment training and placement, and housing transition easily accessible. The project was partially funded through the State Rental Housing Trust Fund (RHTF) and was conducted in collaboration with the Hawaii Housing Finance and Development Corporation and U.S. Department of Veteran Affairs. Public and various federal, state and city agencies were consulted during the EA process. Evaluations conducted as part of the planning initiative concentrated on the following potentially affected environments: Soils, Topography, and Geology, Ground and Surface Water, Air Quality and Climate, Biological Resources, Historic/Archaeological Resources, Land Use, Hazardous/Toxic Wastes, Utilities and Noise. No significant impacts were determined for the proposed project. Specific supplemental studies included an archeological inventory survey and site-specific biological resources survey.

Kaiwahine Village Proposed Housing Development Environmental Assessment, Kihei, Maui, HI, 2017-2018 – Contract Value \$25,000. Currently assessing potential environmental impacts associated with the construction and operation of a proposed affordable housing development on unimproved real property. The EA is being prepared in accordance with NEPA and HEPA. A NEPA, 24 CFR Part 58 EA is required because the project has been allocated federal funds from the HOME Investment Partnerships Program (HOME), which is subsidized by the Department of Housing and Urban Development (HUD) and the County of Maui, Department of Housing and Human Concerns. An HRS Chapter 343 EA is also required due to the award of state funds from the Rental Assistance Revolving Funds, which was approved by Hawaii Housing Finance and Development Corporation (HHFDC). The project is composed of two phases which will construct an affordable housing development of 120 units.

Furuya Shore Protection Environmental Assessment, Honolulu, HI, 2017-2018 – Contract Value \$40,000. Prepared a Chapter 343 compliant Environmental Assessment (EA) for the rehabilitation of a shoreline protection retaining wall for a private estate in Wailupe, Hawaii. The EA is being prepared pursuant to Hawaii Revised Statutes (HRS) Chapter 205A-2 and Chapter 343; Title 11, Chapter 200, Hawaii Administrative Rules and Honolulu Revised Ordinances Chapter 23 Shoreline Setbacks and Chapter 25 Special Management Area. The intent of the document is to ensure that systematic consideration is given to the environmental consequences of the Proposed Action. The Proposed Action is the reconstruction of the seawall adjacent to the subject property. Special considerations include impacts to biological resources and shoreline access for the public.

United States Army Corps of Engineer, Environmental Assessment, Mount Kaala, HI, 2016-2018 – Contract Value \$183,000. Currently preparing an EA to address the potential direct, indirect and cumulative environmental impacts associated with the repair, maintenance and road infrastructure improvements at Mt. Kaala. The primary Federal actions under consideration are National Environmental Policy Act (NEPA) and Hawaii Environmental Policy Act (HEPA) compliance for road changes to Mt. Kaala Road. In addition to NEPA/HEPA compliance, a Biological Assessment for the United States Air Force (USAF) will be completed for potential consultations with federal regulators.

Environmental Science Corporation, Dredging of Naha Military Port, US Army Garrison, USACE Japan District, Okinawa, Japan, 2016-2017 – Contract Value \$30,000. Prepared an Environmental Review (ER) to assess potential environmental effects for of dredging the Naha Military Port. The ER was prepared for the project proponent pursuant to its obligation under Executive Order 12114 to identify, document and consider potential environmental harm associated with the proposed action.

Environmental Science Corporation, Yokohama North Dock, USACE Japan District, Yokohama, Japan, 2016-2017 – Contract Value \$30,000. Prepared an Environmental Review (ER) on behalf of US Army Garrison Okinawa (USAG-Okinawa) to assess potential environmental effects for its proposed action to dredge Yokohama North Dock in Okinawa, Japan. The ER was prepared for the project proponent pursuant to its obligation under Executive Order 12114 to identify, document and consider potential environmental harm associated with the proposed action. In the ER, USAG-Okinawa describes baseline environmental conditions at the proposed action site, analyzes potential environmental harm of the proposed action and describes mitigation measures and management practices intended to reduce the potential for environmental harm caused by the proposed action.

Environmental Science Corporation, Commander Fleet Activities Sasebo Integrated Natural Resources Management Plan Update, USACE Japan District, Japan, 2015 – Contract Value \$35,000. Performed an update to the previous Integrated Natural Resources Management Plan (INRMP) using studies performed in support of the updated INRMP and previous studies since the last INRMP. This updated INRMP provides guidelines for the management, conservation and protection of natural resources under the jurisdiction and stewardship of the U.S. Navy Command, Fleet Activities Sasebo (COMFLEACT Sasebo), Japan. COMFLEACT Sasebo properties with significant

natural resources include: Maebata Ordnance Area, Harioshima Ordnance Area, Akasaki Fuel Depot, Iorizaki Fuel Depot, and Yokose Fuel Depot.

Environmental Science Corporation, Environmental Report (ER) for 3 Projects, U.S. Army Engineer District, Japan District, Okinawa, Japan, 2015-2016 – Contract Value \$40,000. Principal Environmental Planner: Conducted an Environmental Review for three separately planned projects co-located on Kadena Air Base (KAB). Typically, each of the projects would be individually evaluated in separate documents. However, because they were all scheduled to begin construction in 2012 and because they were all co-located on KAB, it was appropriate to streamline the environmental evaluation process and consequently the documentation format, which resulted in a three-project environmental review. The 3 projects were:

- **Replace Bullet Road Bridge** – The U.S. Air Force proposed to repair and reconstruct the Bullet Road Bridge to meet current and future load capacity requirements of the munitions squadron. The existing Bullet Road Bridge is located along an alternate munitions transportation route that connects the airport runway at KAB with the Munitions Storage Annex. Natural weathering and normal operational wear of the Bullet Road Bridge has resulted in the bridge's current degraded state, which has deteriorated to a load capacity approximately 50% of its original design.
- **Department of Defense Education Activity (DODEA) MILCON School Replacements** – The DODEA proposed to conduct a series of replacement construction school projects at multiple sites over a period of 2-5 years with planned designed start dates scheduled for November 2012. Phase I of the DODEA project involves demolition of 49 existing family housing units to provide space for new construction and consolidated co-location of the Amelia Earhart Intermediate School (AEIS) and Bob Hope Primary School (BHPS). Phase II of the DODEA project involves construction of the new Stearley Heights Elementary School (SHES) and demolition of the old SHES. Phase III is to construct a new Kadena Elementary School (KES) in green space northeast of the old SHES site. Phase IV is the construction of the new Kadena High School (KHS) at the former KES site. This four-phase program will create adequate academic facilities that meet Department of Defense Dependents Schools DoDDS initiatives to increase classroom space for various plans and programs, such as the Reduced Pupil-Teacher Ratio (RPTR) initiative and the Department of Defense Education Activity DoDEA Technology Plan, which calls for increased computer laboratories in schools.
- **Special Action Committee on Okinawa (SACO) Agreement of 1996 Navy Relocation** – The Department of Defense (DOD) proposed to construct a single parking lot to serve all Navy facilities being relocated under the SACO program. The project, when completed, provides convenient access to support activities in the vicinity of the northeastern end of Runway F. The project also reconstructs parking areas that will be demolished or taken out of service in order to provide a site for the relocated Navy aircraft operations facilities. The project will include construction of sidewalks, a traffic light or pedestrian bridge, and new utilities such as storm drains and security lighting. The proposed action is consistent with the planned Navy Relocation activities related to the SACO Agreement.

Hawai'i State Army National Guard, Keaukaha Military Reservation Consolidation, HI, 2008-2009 – Contract Value \$90,000. Project Manager: Performed a NEPA and HEPA compliant Environmental Assessment for the consolidation of several Hawai'i National Guard facilities and construction and redevelopment of an existing military facility. Evaluated cumulative environmental impacts from the proposed project. Specific project issues include addressing potentially significant impacts on archaeological resources, historical buildings, determination and mitigation of potential impacts on historically significant trails and addressing the substantial public inquiry and comment regarding the project.

U.S. Air Force Center for Environmental Excellence, Environmental Assessment (EA) for Beddown of the 604th Air Support Operations Center (ASOC), Oahu, HI, 2009-2010 – Contract Value \$100,000. Principal Environmental Planner: Performed a NEPA and Chapter 343 State of Hawaii HEPA compliant environmental assessment to facilitate the beddown of the 604th ASOC on O'ahu, Hawai'i. Two principal technical services were provided: an Environmental Baseline Survey (EBS) and a NEPA and HEPA compliant EA. The EBS tasks were intended to provide thorough research, investigation, evaluation, documentation, and decision findings of the environmental conditions of the subject real property under consideration for the proposed beddown. The EA was necessary to determine if a Finding of No Significant Impact (FONSI) or the preparation of an Environmental Impact Statement (EIS) was required for the beddown. The EA addressed potential environmental impacts related to implementation of the proposed action and its alternatives; principal impact assessment is anticipated to focus on cultural resources management, hazardous and regulated materials and wastes, safety, infrastructure, and land use compatibility. A FONSI was determined for the proposed beddown project.

Environmental Impact Statement (EIS), EIS Technical Support for Pohakuloa Training Area, State of Hawai'i Department of Transportation, HI, 2008-2009 – Contract Value \$40,000. Principal Environmental Planner: Subcontracted by Okahara and Associates to provide EIS technical support for the State of Hawai'i Department of Transportation expansion of Saddle Road on the Big Island of Hawai'i. Specifically tasked with determining the impacts from potential depleted uranium originating from PTA during military training activities to receptors that may traverse the proposed roadway. Project involves depleted uranium surface soil sampling and air modeling to receptor locations.

City and County of Honolulu, Environmental Assessment for Expansion of Waianae Regional Park, Oahu, HI, 2008-2009 – Contract Value \$30,000. Project Manager: Performed an Environmental Assessment for development and expansion of a regional park. Provided technical support regarding the unique geological fixtures that might pose developmental difficulties. Specific issues included, ancient Hawaiian archaeological burial grounds, the existence of multiple limestone sinkholes on site and unique endangered species.

Environmental Science Corporation, Environmental Review (ER) for Proposed Kadena Industrial Park, U.S. Army Engineer District, Japan District, Okinawa, Japan, 2013-2014 – Contract Value \$40,000. Principal Environmental Planner: Prepared an Environmental Review (ER) for a new industrial park at Kadena Air Base (KAB). Camp Kinser, located south of KAB, was proposed for closure as a result of mandates from the Special Action Committee on Okinawa (SACO) Agreement of 1996 and the Security Consultative Committee (SCC) Agreement of 2005. The mandates required the relocation of a number of industrial facilities. Two sites, Kadena Ammunition Storage Area (KASA) 1 and Chibana were identified as viable alternatives for construction of the new industrial park. The ER was in accordance with the following:

- Executive Order (EO) 12114, Environmental Effects Abroad of Major Federal Actions, dated January 4, 1979.
- DoDD 6050.7, Environmental Effects Abroad of Major Defense Actions, dated March 31, 1979.
- Japan Environmental Governing Standards (JEGS) September 2008
- Air Force Policy Directive 32-7006, Environmental Program in Foreign Countries, 29 April 1994
- Air Force Instruction 32-7061, The Environmental Impact Analysis Process, 12 March 2003
- National Historic Preservation Act of 1966, Section 402.

Environmental Science Corporation, Environmental Review (ER) for Proposed Missile Storage Facility and Access Road, U.S. Army Engineer District, Japan District, Okinawa, Japan, 2013-2014 – Contract Value \$35,000. Principal Environmental Planner: Prepared an ER for a proposed Missile Storage Facility in the Munitions Storage Area of KAB. The ER was prepared for Kadena Air Base (KAB) through the US Army Corps of Engineers (USACE), Japan Engineer District (JED) to evaluate the potential environmental impacts that may occur as a result of the proposed actions at KAB. The Proposed Action was defined as the demolition of three (3) existing above ground magazines (AGM), construction and operation of two (2) consolidated MSF structures, and construction and maintenance of a new access road to accommodate munitions transport vehicles. The Proposed Action would be implemented under the authority of the FY14 Military Construction (MILCON), Army Patriot Missile Storage Facilities for the 1-1 Air Defense Artillery (ADA) Battalion.

Environmental Science Corporation, USACE Japan District, Iwakuni, Japan, 2013-2014 – Contract Value \$40,000. Principal Environmental Planner: Provided an Environmental Review (ER) to identify, document, and address potential environmental impacts associated with the construction and subsequent operation of a Type III Hydrant Fueling System and Supporting Structures. The action was proposed to improve safety, security, and logistics infrastructure at MCAS Iwakuni by providing a dependable, high volume and environmentally sound hydrant refueling system.

Effects of the Proposed Actions were analyzed as required by, and in accordance with:

- Executive Order (EO) 12114, Environmental Effects Abroad of Major Federal Actions, January 1979;
- Department of Defense (DoD) Directive 6050.7, Environmental Effects Abroad of Major Department of Defense Actions, March 1979; and
- Marine Corps Order (MCO) P5090.2A w/ch 2, Environmental Compliance and Protection Manual, May 2009.

Evaluations conducted as part of the planning initiative concentrated on the following potentially affected environments: Soils, Topography, and Geology; Ground and Surface Water; Air Quality and Climate; Biological Resources; Historic/Archaeological Resources; Hazardous/Toxic Wastes; Land Use; Utilities; and Noise.

Environmental Science Corporation, USACE Japan District, Marine Corps Base Camp Butler, 2012-2013 – Contract Value \$40,000. Principal Environmental Planner: Provided an Environmental Review (ER) to identify,

document, and address potential environmental impacts associated with the construction a new elementary school. The proposed action included the demolition of an existing school and residential neighborhood. The ER was performed in accordance with:

- Executive Order (EO) 12114, Environmental Effects Abroad of Major Federal Actions, January 1979;
- Department of Defense (DoD) Directive 6050.7, Environmental Effects Abroad of Major Department of Defense Actions, March 1979; and
- Marine Corps Order (MCO) P5090.2A w/ch 2, Environmental Compliance and Protection Manual, May 2009.

Enviroquest Inc, Environmental Report (ER) Iwakuni Marine Corp Air Station Golf Course, U.S. Army Corp Engineers (USACE), Iwakuni, Japan, 2008-2009 – Contract Value \$30,000. Principal Environmental Planner: Subcontracted by EnviroQuest Inc. to perform an Environmental Report on behalf of the U.S. Army Corp of Engineers (USACE) Japan Environmental District and U.S. Marine Corp Air Station, Iwakuni. The Environmental Report was prepared to identify, document, and address potential environmental impacts associated with the construction and subsequent operation of a golf course and supporting structures on a former unregulated landfill. Specialty impact assessments required for the EA included geotechnical and human health risk assessments. Also required was an impacts assessment for biological resources, specifically the proposed action's impacts on the endangered white snake. Additional evaluations conducted as part of the planning initiative concentrated on the following potentially affected environments: Soils, Topography, and Geology, Ground and Surface Water, Air Quality and Climate, Biological Resources, Historic/Archaeological Resources, Land Use, Hazardous/Toxic Wastes, Utilities and Noise.

Kaiaulu O Waikoloa Proposed Housing Development Environmental Assessment, Waikoloa, HI, 2017-2018 – Contract Value \$25,000. Currently assessing potential environmental impacts associated with the construction and operation of a proposed affordable housing development on unimproved real property. The EA is being prepared in accordance with NEPA and HEPA. A NEPA, 24 CFR Part 58 EA is required because the project has been allocated federal funds from the HOME Investment Partnerships Program (HOME), which is subsidized by the Department of Housing and Urban Development (HUD). An HRS Chapter 343 EA is also required due to the award of state funds from the Rental Assistance Revolving Funds, which was approved by Hawaii Housing Finance and Development Corporation (HHFDC). The project will construct an affordable housing complex consisting of 60 units, 28 two bedroom units and 32 three bedroom units in Waikoloa.

Bellavita, Inc., Napule Restaurant, Honolulu, HI, 2014-2015 – Contract Value \$20,000. Principal Scientist: Prepared an Environmental Assessment for a proposed restaurant at the current charter boat building located between Kewalo Basin Harbor and Ala Moana Blvd. The existing structure was slated to be renovated and/or redeveloped to accommodate the needs of the proposed restaurant's operations, including the installation of a wood fired oven. Planned renovations also included site work for the construction of the outdoor seating patio. The proposed project was planned to encompass approximately 6,000 square feet within Kewalo Basin and will be occupied by an Italian Restaurant, Napule.

Kewalo Waterfront Partners, Inc., Multi-use Facility, Honolulu, HI, 2014-2015 – Contract Value \$20,000. Principal Scientist: Prepared an Environmental Assessment for a proposed multi-use facility encompassing approximately 2.1 acres within Kewalo Basin and located between Kewalo Basin Harbor and Ala Moana Beach Park in what is now a surface parking lot. The facility consists of four, two-level buildings with the majority on the second level equipped with an open deck and viewing spaces. Combined, the four buildings include almost 50,000 square feet of waterfront retail stores; small restaurants, cafes and bars; commercial office space; a live entertainment venue; and a large observation deck and signature multipurpose venue on the second floor. Additionally, the proposed project includes a 250-stall, multi-level parking structure.

Confidential Client, Waimea Hawaii, 2016 – Contract Value \$30,000. Principal Scientist: Performed a comprehensive biological survey of a 4.6 acre parcel in Waikaloa, North Kona District, Island of Hawai'i. The survey focused on plants and wildlife listed under the Endangered Species Act (50 CFR 17.11 and 50 CFR 17.12), the Migratory Bird Treaty Act (50 CFR 10.13), and the state list of threatened or endangered wildlife (Exhibit 2 and 3 HAR 13-124). The biological survey consisted of a pedestrian survey for flora and terrestrial faunal resources and a point count survey for avian resources. A data inquiry for records of listed threatened or endangered species for the parcel was conducted at the University of Hawaii Mānoa Center for Conservation Research and Training prior to the field survey.

Covanta Energy, EIS for 3rd Boiler, City and County of Honolulu H-Power Facility, HI, 2008-2009 – Contract Value \$1,000,000. EIS and Permitting Task Manager: Performed an Environmental Impact Statement to address the impact of a third combustion unit at the City and County of Honolulu H-Power waste to energy facility. Potential impacts addressed include noise, traffic, historical resources, soil, groundwater and surface water. Air impacts

addressed in a PSD permit that included extensive modeling of emissions using screening models and AERMOD. Additional permitting support required for operation and construction of the facility included the solid waste management permit, NPDES operation, Conditional Use Permit, Wastewater Discharge, Stormwater, water use permit, Air Navigation and Clearance for Work in Airport Hazard Area, grading and drainage, NPDES Construction, well construction and pump installation and a permit to operate a sewage treatment facility. Dr. Okoji was also tasked with performance of a comprehensive multimedia risk assessment according to USEPA Human Health Risk Assessment Guidance for Combustor Facilities to address the human and ecological health impacts of the proposed combustion unit on neighboring communities. Also produced a Material Separation Plan and collected data for use in a Lifecycle Analysis pertaining to the recycling waste stream for the City and County of Honolulu.

Covanta Energy, Stormwater Monitoring Plans, H-Power Facility, HI, 2011-2012 – Contract Value \$30,000. Principal in Charge: Produced stormwater management plans for the H-Power facility. Plans included the facility Stormwater Management Plan (SWMP), Stormwater Pollution Control Plan (SWPCP) and Spill Prevention, Control, and Countermeasure Plan (Oil And Petroleum Products). Represented Covanta Energy in meetings with the State Department of Health during site inspections.

Department of Public Works, Sydney, Nova Scotia, 2002-2003, Task Manager: Assisted in performance of an Environmental Impact Analysis for air emissions associated with the environmental remediation of the Tar Ponds and Coke Ovens sites, which comprise over 100 hectares of industrial property containing 560,000 tonnes of soil contaminated with petroleum hydrocarbons, PAHs, and metals, 1,300 tonnes of PAH-contaminated sediments, 25,000 tonnes of coal-tar contaminated soil, 700,000 tonnes of sediments contaminated with PAHs and metals, and 35,000 tonnes of PCBs in excess of 50 ppm. Airborne constituents of concern included SO_x, NO_x, CO, and particulate matter from construction vehicles, particulate matter from excavation and grading activities, and site-related VOCs from excavation and stabilization activities. Evaluated air monitoring program and health-based air criteria. Estimated emissions from a proposed PCB combustor, which included PCBs, dioxins/furans, PAHs, and selected metals as Constituents of Potential Concern. Performed a worker and off-site resident risk assessment of the remediation of pond sediments containing PCBs, PAHs, other organic constituents and metals as well as similar risk assessments for the remediation

East West Center, University of Hawaii, Manoa Campus, Honolulu, HI, 2013-2014 – Contract Value \$20,000. Principal in Charge: Completed the NPDES permit application (Appendix L) for the East West Center decorative Koi pond. Performed initial discharge sampling for inclusion in the application. Negotiated chemical of concern list with the HDOH Clean Water Branch and enforcement division.

FOPCO, Fort Shafter Building 145, Honolulu, HI, 2015-2016 – Contract Value \$25,000. Principal in Charge: Prepared the Spill Prevention, Control, and Countermeasure Plan (SPCCP) for the removal, decontamination and disposal of one 12,000 gallon UST at Fort Shafter Building 145. Petroleum releases from these tanks which may be discovered during construction are subject to regulation and Hawaii Department of Health oversight under Hawaii Revised Statutes Chapter 128D, Hawaii Environmental Response Law (HERL) and Hawaii Administrative Rules Title 11, Chapter 451, State Contingency Plan. Provided environmental professional (EP) services during tank removal. Authored closure report.

FOPCO, Schofield Barracks, Wahiawa, HI, 2015-2016 – Contract Value \$25,000. Currently preparing the Spill Prevention, Control, and Countermeasure Plan (SPCCP) for the removal, decontamination and disposal of one 3,000 gallon UST at Schofield Barracks Building 2072. Petroleum releases from these tanks which may be discovered during construction are subject to regulation and Hawaii Department of Health oversight under Hawaii Revised Statutes Chapter 128D, Hawaii Environmental Response Law (HERL) and Hawaii Administrative Rules Title 11, Chapter 451, State Contingency Plan. Provided environmental professional (EP) services during tank removal. Authored closure report.

American Piping and Boiler, Campbell Industrial Park, Kapolei, HI, 2012-2013 – Contract Value \$50,000. Principal in Charge: Prepared a Grading and Drainage Permit Application to convert a vacant lot to a construction laydown parcel for use in the H-Power expansion project. Project site is located in the City and County of Honolulu, Special Management Area and Coastal Zone Management Area. Completed and submitted the SMA permit application which required that an environmental assessment be conducted for the project. ERA was successful in negotiations with the City and County Department of Environmental Services and the Land Use Approvals division to exempt the project from the Chapter 343 requirement. The exemption required consultation with multiple agencies including the State of Hawaii Historic Preservation Division, USFW, Land Use Approvals, DBEDT, DoA, OHA, etc. The exemption allowed the project to move forward without unnecessary delays due to the EA process. ERA also provided services for completion of a building permit for the construction of 2 driveways and an NPDES permit application for the Department of Health Clean Water Branch. NPDES permit application required completion of a Storm Water Pollution Prevention Plan.

City and County of Honolulu, Department of Environmental Services, H-Power, HI, 2015-2016 – Contract Value \$25,000. Principal in Charge: Prepared an Emergency Action Plan for the City and County facility for the H-Power facility located in Campbell Industrial Park. The plan was composed of a Level 1 plan and Level 2 conditions and requirements. The H-POWER Emergency Action Plan delineates the authorities, responsibilities and procedures to be followed by employees in effectively responding to a disaster within the facility. The primary function of the H-POWER Emergency Action Plan is to prepare the facility to respond effectively and quickly to emergencies that occur within the facility or within the community. The plan governs the facility and its employees in the event of an emergency or disaster.

City and County of Honolulu, Waimanalo Gulch Sanitary Landfill, HI, 2008-2009 – Contract Value \$75,000. Project Manager: Provided an operational and design review of the City and County operated Waimanalo Gulch Municipal Solid Waste Landfill. Tasks included the review of waste acceptance and screening procedures, as assessment of the geotechnical stability of the landfill including assessment of the use of waste to energy ash as structural fill, compliance with regulatory agencies, spill prevention and response and emergency operations. Report was presented to the City Council and appropriate State agencies to facilitate discussion regarding waste management options for the island of Oahu. Project add-ons included evaluating the cause of elevated landfill temperatures within the landfill and providing a third party review of a Waste Management request for additional funds to operate the landfill.

85-443 Waianae Valley Road Grading, Waianae, HI, 2012-2013 – Contract Value \$14,000. Principal in Charge: Prepared a NPDES general permit coverage application for the State of Hawaii, Department of Health Clean Water Branch. NPDES permit coverage was required to manage stormwater runoff during construction activities to remove existing manmade ponds from a former dairy farm. Completed and submitted the NPDES Notice of Intent and Site-Specific Construction Best Management Practices Plan. ERA provided quantity of stormwater discharge calculations and designed BMPs which would meet both client and regulatory requirements.

Engineering/Remediation Resources Group Inc (ERRG), U.S. Army Corps of Engineers, Hawaii District, Haleiwa Landing Field, Oahu, HI, 2011 – Contract Value \$6,000. Principal Scientist: Performed principal level review of a biological resources assessment for a formerly used defense site in Kawailoa, Oahu, Hawaii. The scope of the assessment included a biological resources reconnaissance survey and consultation with appropriate federal and state agencies including the State of Hawaii Department of Land and Natural Resources Land Division, Hawaii State Office of Conservation and Coastal Lands, Hawaii National Heritage Program and the United States Fish and Wildlife. The assessment report provide a detailed analysis of potential biological impacts due to planned construction activities within the boundaries of the site and mitigation measures required to prevent significant adverse impact.

Micon Real Estate, Environmental Assessment for Hale Ohana Affordable Housing Project, Koloa, Kauai and Maui, HI, 2008-2009 – Contract Value \$30,000. Principal Environmental Planner: Assisted a real estate developer, Micon Real Estate, with the environmental review process of their proposed Hale Ohana affordable housing project, located in Koloa, Kauai and proposed Honokawai Villa Apartments affordable housing project, located in Lahaina, Maui. The existing 48-unit Hale Ohana Apartment complex and 56-unit Honokawai Villa Apartments is proposed to undergo a significant renovation in order to meet current health and safety codes, and to provide a higher quality of housing for those in need. After evaluation of the project description and applicable environmental and social factors, these projects were determined to be of minimal impact to the environment and would be of great benefit to the community. Dr. Okoji and his team were able to seek exemptions from the environmental review process for these projects and secure Letters of Negative Determination. This saved the client valuable time and funds.

Project Manager, Aston Waikiki Beachside Hotel Renovation, Environmental Assessment (EA), Royal Kai Lani, O'ahu, HI, 2008-2009 – Contract Value \$35,000. Conducted an Environmental Assessment EA for a \$7 million dollar renovation project in Honolulu, Hawai'i. The proposed project would renovate the Aston Waikiki Beachside Hotel into a luxury condominium, the Royal Kai Lani. A complete interior renovation would transform the structure from its existing 8-unit per floor hotel into a single unit per floor luxury suite. Public and various federal, state and city agencies were consulted during the EA process. The Final Environmental Assessment was accepted by the Department of Planning and Permitting and a Finding of No Significant Impact was designated. Dr. Okoji and his staff were also successful in obtaining the necessary Special Management Area Use Permit, Major (SMA) for the project.

Belt Collins, Island of Hawai'i. Kawaihae-Mamalahoa Connector Road EIS Technical Support, HI, 2008-2009 – Contract Value \$40,000. Project Manager: Provided EIS technical support for the construction and operation of a bypass road in the Mamalahoa, Waimea area of the Island of Hawai'i. Specifically subcontracted by Belt Collins to determine the environmental impacts of the proposed roadway on adjacent organic and conventional farm lands. Impacts assessed included the change in surface water potential and productivity of the land. Conversely, the assessment also evaluated the impact of farming practices on potential future users of the proposed road.

Risk Assessment and Toxicology

AECOM, Munition Response Site (MRS) West Loch Burn Pit (UXO 7), 2015-2019 – Contract Value \$90,000.

Principal in Charge: ERA produced an HHRA for the Munition Response Site (MRS) West Loch Burn Pit (UXO 7), located in the Navy Munitions Command East Asia Division Detachment Pearl Harbor (NMC EAD DET PH), Joint Base Pearl Harbor-Hickam (JBPHH) West Loch Annex, Oahu, Hawaii. As part of the Remedial Investigation (RI) for the West Loch Burn Pit site, the objective of the HHRA was to quantify risks and hazards to human receptors potentially exposed to chemicals that may have been released to the soil and groundwater due to the disposal/burning activities of munition constituents (MC) and other debris at the site. RI field activities included the excavation of test pits in the area of subsurface anomalies, collection of incremental soil samples from 18 decision units (DUs) across the site, collection of groundwater samples from three monitoring well locations, laboratory analysis, and investigation-derived waste management. Chemical of potential concern identified in soil included TPH-diesel, metals, PAHs, and dioxins. Based on the initial risk calculations performed for the Site, two rounds of additional sampling and characterization was recommended to laterally delineate chemical concentrations.

Environmental Science International, Shipyard Storm Drain Release Sites, 2015-2019 – Contract Value \$80,000.

Principal in Charge: ERA produced a Human Health Risk Assessment (HHRA) as part of the remedial investigation (RI) for the Shipyard Storm Drain Release Sites, Naval Shipyard and Intermediate Maintenance Facility Shipyard Geographic Study Area (GSA) at Joint Base Pearl Harbor-Hickam (JBPHH). The purpose of the HHRA was to assess risk to human health from soil, groundwater and soil gas and to identify whether further evaluation is warranted if these media present unacceptable risks to current and potential future receptors. Thirteen (13) storm drain sites were evaluated in the RI. They included: Buildings 3A, 5/5A, 6, 7, 8, 11/11A, 12, 72, 92, 155, 214, and the former areas of demolished Buildings 4/4A and 36/37. Based on the locations of the storm drain sites and their surrounding area, the storm drain sites were divided into seven (7) areas of concern, grouped as building clusters or individual buildings. These areas of concern were further divided into individual Decision Units (DUs). The HHRA conducted included a Tier II baseline HHRA based on the results of a Tier IA and Tier IB risk-based screening level assessments conducted as part of the RI report. Human health exposure pathways evaluated included ingestion of soil and groundwater, dermal contact and absorption of chemicals in soil and groundwater, inhalation of chemicals bound to soil derived particulates, and inhalation of volatile constituents in soil gas and groundwater.

Environmental Science International, US Navy, Lualualei Annex Storm Water and Sewage Systems Site, Lualualei, HI, 2016-2019 – Contract Value \$50,000.

Principal in Charge: ERA performed a human health risk assessment as part of the Remedial Investigation (RI) for the Lualualei Annex Storm Water and Sewage Systems Site. The risk assessment was performed on 10 Areas of Interest (AOIs) each subdivided into Areas of Concern (AOCs). The AOIs/AOCs were grouped into 13 separate and distinct decision units (DUs) for evaluation of human health risk. COPCs evaluated included PAHs, TPH, dioxins, PCBs, and metals in surface and subsurface soil. In 2016 and 2017, additional sampling was conducted in three decision units and an update to the HHRA was performed to include the results of the additional sampling. The additional sampling was evaluated as 3 additional DUs. The latest regulatory recommended exposure assumptions and toxicity factors were used in the updated assessment.

Burleson Consulting Inc., National Park Service, Hawaii Volcanoes National Park (HAVO), Former Quarry Firing Range, 2013-2015 – Contract Value \$140,000.

Principal in Charge: ERA prepared a Work Plan, Sampling and Analysis Plan, performed soil and plant tissue sampling, and conducted a Human and Ecological Risk Assessment for a former firing range located at Hawaii Volcanoes National Park (HAVO). Soil at the former firing range was further investigated to laterally delineate the extent of contamination. Conducted field screening of site soil using XRF to delineate decision units (DUs) to be characterized. Soil was analyzed for metals associated with small arms including lead, copper, and antimony. Plant tissue samples were also collected to evaluate risk to ecological receptors which may frequent the site. Ecological receptors of primary concern were the endangered nēnē or Hawaiian goose. Site-specific human health receptors evaluated included National Park Service (NPS) workers, recreational park users, and future utility workers which were assumed to have potential exposure to the site. The human health risk assessment identified potential health risks to onsite receptors due to lead exposure at the Site. The estimated blood-lead concentration (PbB) due to exposure at DU-1A (backstop) exceeded the regulatory level of concern of 5 µg/dL for the fetus of the NPS worker, the adult utility worker and fetus of the adult utility worker, the child recreational user, and the fetus of the adult recreational user. For ecological receptors, a potential for risk was found for three ecological receptors including plants, soil invertebrates, and omnivorous small mammals. DU-1A is the primary contributor to that risk for both lead (plants, invertebrates, and small mammals) and antimony (plants and small mammals). The potential for risk was also found in DU-2A for lead (plants). The potential for risk to herbivorous and carnivorous mammals and birds (including the nēnē and 'io) was not found in the Ecological Risk Assessment.

Engineering Remediation Resources Group (ERRG), Aua Fuel Farm Pipeline, 2013-2015 – Contract Value \$60,000. Principal in Charge: ERA produced a Human Health Risk Assessment (HHRA) as part of the remedial investigation (RI) for the former Aua Fuel Farm Pipeline. The project site was located in Aua Village, Tutuila Island in American Samoa. The site consisted of three Investigation Areas located along the former fuel pipeline from Aua Village to approximately 1/3 mile east of Atuu Village. Soil sampling was conducted in 2011 and 2013. Soil gas sampling was conducted in 2015. The purpose of the HHRA was to assess risk to human health from soil and soil gas and to identify whether further evaluation is warranted if these media present unacceptable risks to current and potential future receptors. The HHRA identified total petroleum hydrocarbons – diesel range organics, and polynuclear aromatic hydrocarbons as chemicals of potential concern in soil. Investigation Area B and Investigation Area C were identified with potential for vapor intrusion hazards. All detected soil gas concentrations were evaluated in the HHRA and used to calculate estimated indoor air concentrations based on subslab soil gas concentrations by applying the default attenuation factor of 0.001 for future residential buildings (CNMI, 2012).

Engineering Remediation Resources Group (ERRG), Military Munitions Response Program, Remedial Investigation at Bellows Air Force Base, Waimanalo, HI, 2012-2014 – Contract Value \$60,000. Principal in Charge: Assisted in preparing project documents (UFP-QAPP, APP, SHSP, WP, IDW Management Plan, Explosives Safety Plan) for a remedial investigation. The subjects of the RI are three MRA (MRA39, MRA40 and MRA43). The MRAs were recommended for further investigation under a Comprehensive Site Evaluation (CSE) Phase II. The objective of the RI was to further characterize the nature and extent of munitions constituents (MC)-related contamination in soil and determine if MEC is still present. The suspected MC consisted primarily of lead and small amounts antimony, arsenic, cadmium, copper, and zinc. As part of the RI, human health and ecological risk assessments were performed to characterize the risk from site metals to humans and wildlife.

Environet Inc. Military Munitions Response Program, USACE Omaha District, RI/FS at Bellows Air Force Base, Waimanalo, HI, 2014-2017 – Contract Value \$100,000. Principal in Charge: Provided work plan and feasibility study support from RI/FS through Decision Document in conjunction with the technical team and federal regulatory bodies. Currently preparing a supplemental ERA for the Feasibility Study. The Feasibility Study is a follow-on study to the Remedial Investigation performed in 2012 and addressed datagaps identified in the RI and potential future use of the mangroves area as constituted wetland.

Environet Inc. for U.S. Department of the Interior, National Park Service, Screening Level Human Health Risk Assessment, Asan Beach Unit, War in the Pacific National Park, Asan, Guam, 2013-2014 – Contract Value \$15,000. Principal in Charge: Prepared a screening level human health risk assessment for munitions related chemicals. Risk assessment evaluated potential for health effects from the consumption metals and other COPCs in seafood.

Engineering Remediation Resources Group (ERRG), Military Munitions Response Program, Remedial Investigation at Wake Island Airfield, Wake Island Atoll, 2012-2014 – Contract Value \$60,000. Principal in Charge: Assisted in preparing project documents (UFP-QAPP, APP, SHSP, WP, IDW Management Plan) for a remedial investigation. The subject of the RI is a single MRA (MRA101, MRS SR001 – Small Arms Range). The MRA was recommended for further investigation under a Comprehensive Site Evaluation (CSE) Phase II. The objective of the RI was to further characterize the nature and extent of munitions constituents (MC)-related contamination in soil at MRA101. The suspected MC consists primarily of lead and small amounts antimony, arsenic, cadmium, copper, and zinc. As part of the RI, human health and ecological risk assessments are currently being performed to characterize the risk from site metals to humans and wildlife.

US Army Garrison, Hawaii, Hawaii Makua Military Reservation, HI, 2014-2015 – Contract Value \$45,000. Principal Risk Assessor. Produced a baseline HHRA in support of the Makua Military Reservation Live-Fire Training Area Supplemental Marine Resources Study of nearshore waters of Makua Beach, Kaena Point and Mokuleia Beach. The United States Army performed the Marine Resources Study to supplement an earlier 2009 Study. Biota samples for the analyses of constituents of concern were collected for two consecutive seasons at three locations from within the nearshore waters off Makua Beach, Ka'ena Point, and Mokule'ia Beach. The two analytical datasets were evaluated for human health risk from consumption of the seafood biota. Supported client at a public meeting by providing a presentation of risk results.

Engineering Remediation Resources Group (ERRG), Military Munitions Response Program, Remedial Investigation at Hickam Air Force Base, Joint Base Pearl Harbor Hickam, HI, 2013-2014 – Contract Value \$45,000. Assisted in preparing project documents (UFP-QAPP, APP, SHSP, WP, IDW Management Plan, Explosives Safety Plan) for a remedial investigation. Performed baseline human health and ecological risk assessments for munitions constituents (MC)-related contamination in soil, groundwater and sediment.

Army National Guard, Fort Ruger, HI, 2006-2007 – Contract Value \$3,000,000. Project Toxicologist: Conducted a site-specific lead risk assessment for a former rifle and pistol range. Receptors included children and adult visitors to the monument and onsite workers. Evaluated lead from several particle size fractions. Provided extensive technical

support in developing field sampling plan and data objectives. Extensively involved in determining options for site cleanup and remediation. Risk assessment compared results from USEPA IEUBK and the California Department of Toxic Substance Control lead models.

Environet Inc., Hawaii Undersea Military Munitions Assessment, HI, 2009-2010 – Contract Value \$40,000.

Principal Scientist: Dr. Okoji performed a human health risk assessment to support the U.S. Department of Defense's efforts to assess the potential risk to human health and the environment of an historic munitions disposal site located about 5 miles south of Pearl Harbor. Risk assessment was performed assuming recreational divers, adult and child subsistence fishermen, adult and child recreational fishermen and adult and child residents may be exposed to seafood contaminated with munitions-related compounds.

Environet Inc. Waikane Valley HHRA, Waianae, HI, 2008-2009 – Contract Value \$45,000.

Principal Toxicologist: Hawaii has a number of active and transferred military training areas that have been contaminated by unexploded ordnance (UXO). The government has continued the complex task of remediating these lands of the explosives hazards, but the process is slow and expensive. There are public concerns about the status of the water and soils on and near these lands, and questions about how they are affected by both the chemicals present inside the remaining UXO as well as large pieces of explosives (energetics) which can remain in or around an area following low order detonations. Very little emphasis has been given to the assessment of area groundwater, soil contamination, and the resulting risk to humans and the environment from these munitions constituents (MC), especially in sub-tropical volcanic soils. Provided a Tier IA and Tier II HHRA for this UXO site. The site was approximately 20 acres and partitioned into 5 independent DUs. Risk assessment was performed assuming receptors would be exposed to average surface soil concentrations as determined by MI sampling techniques. A supplemental assessment was also conducted which included biased discreet sampling data collected from the immediate area around identified lead bullets as well as the MI data. Biased samples were area-weighted to ensure those locations did not disproportionately represent the concentrations on site.

PVT Land Company, PVT Landfill, Nanakuli, HI, 2010-2012 – Contract Value \$50,000.

Principal in Charge: Produced a work plan and baseline human health risk assessment to evaluate recycling of construction and demolition (C&D) materials for use as fuel in a liquid gas manufacturing plant. The investigation was prepared to address Hawaii Department of Health (HDOH) concerns regarding the environmental and human health safety of recycling, including the use of a crushing/processing plant at the PVT Landfill Site. The proposed plant is part of a larger recycling initiative that when implemented will significantly reduce the volume of material going to landfill, provide the State with an additional renewable source of natural gas and align PVT operations with the State's Clean Energy Initiative and Integrated Solid Waste Management Plan. Specifically, the HDOH is concerned with the following potential impacts associated with the proposed recycling program: air/dust impacts during delivery of bulk material, air/dust impacts during mining of closed portions of the landfill for feedstock (bulk material), air/dust impacts during crushing and shredding of bulk material, air/dust impacts from onsite storage of processed material, leaching potential of stored feedstock or processed material.

Insight Environmental, Former Lowry AFB, Aurora, CO, 2013-2014 – Contract Value \$40,000.

Principal Toxicologist. Produced a human health risk assessment for the Former Lowry Titan I, Missile Site 1, Complex 1C site located on the Former Lowry Bombing Range, in Arapahoe County, Colorado. The HHRA evaluated potential chemical releases identified in two (2) distinct areas or Decision Units (DUs). The first DU was defined as the former Incinerator Area. The second DU was defined as the former Chemical Waste Clarifier Area. The goal of the HHRA was to determine if concentrations of chemical constituents at each DU presented an unacceptable risk to human health. The relevant data sets for the Incinerator and Waste Clarifier Areas were reviewed to ensure that all applicable data were included in the HHRA. The following previous investigations have been conducted at Titan 1C: 1998 Site Inspection (SI), 2000 Remedial Investigation (RI), and a 2014 Data Gaps Investigation (DGI) and Pilot Study Activities Report. The chemical boundaries for this HHRA were limited to polycyclic aromatic hydrocarbons (PAHs) at the former Incinerator Area and polychlorinated biphenyls (PCBs) at the former Chemical Waste Clarifier Area. Other chemicals such as metals, volatile organic compounds (VOCs), and total petroleum hydrocarbons (TPH) were characterized in previous investigations and determined to not be of concern at the Site.

Insynergy, USACE, JED, Sasebo, Japan, 2013-2014 – Contract Value \$40,000.

Principal Scientist. Conducted an air modeling study to evaluate ambient air quality concerns associated with an existing diesel boiler located adjacent to the proposed new E.J. King High School and Sasebo Elementary School at U.S. Fleet Activities Sasebo located in Sasebo, Nagasaki, Japan. This air modeling study was conducted to assess if the existing boiler plant poses a human health risk above regulatory levels of concern to students, teachers and workers at the proposed new high school and elementary school or if mitigation measures are required. In order to assess the air concentrations from the boiler, air dispersion modeling was conducted utilizing the United States Environmental Protection Agency regulatory model AERMOD Version 14134 (EPA, 2014a). Modeling input parameters, which consisted of nearby building dimensions, emission source parameters, meteorological data, and property boundary locations, were configured to run with the

AERMOD dispersion model to estimate air pollution concentrations at various locations surrounding the existing boiler. In addition to the existing diesel fueled boiler, an assessment was conducted assuming the conversion from diesel fuel to natural gas. Projected natural gas consumption was calculated assuming the natural gas boiler would require the same heat input as the existing diesel fuel boiler.

Insight Environmental, Vandenberg Air Force Base, CA, 2013-2020 – Contract Value \$75,000. Produced a Human Health Risk Assessment (HHRA) as part of the revised Feasibility Study (FS) for Vandenberg Air Force Base (VAFB) Installation Restoration Program (IRP) Site ST042 (Component Decontamination Facility). The purpose of the HHRA was to assess risk to human health from soil and soil gas and to identify whether further evaluation is warranted if these media present unacceptable risks to current and potential future receptors. Site ST042 consists of a square, 10,000 square foot (ft²), single-story, cement-block structure (Building 7501), surrounded by a 157,500 ft² asphalt-paved yard. The Site ST042 facility was used for testing Titan II rocket engines. Missile parts and missile service equipment contaminated with hypergolic fuels were also cleaned inside Building 7501 using trichloroethene (TCE), detergents, and water. After use, the spent solvent and water were directed to two USTs located beneath the paved area southeast of Building 7501. The two USTs were investigated and removed in 1992. Building 7501 is currently used to maintain tanker trucks that store and transport Jet Propellant No. 8 (JP-8). Site soil and soil gas were evaluated in the HHRA. Environmental data collected from 2007 to 2010 were deemed representative of current site conditions and were included in the data set. Maximum site soil concentrations were compared to residential U.S. Environmental Protection Agency (EPA) Regional Screening Levels (RSLs) (EPA, 2015a). Indoor air screening levels were sourced from the EPA RSL Table (EPA, 2014a) and DTSC Note 3 revised RSLs (DTSC, 2014a) and used to calculate subslab soil gas and contaminant source soil gas screening levels by applying the default attenuation factors of 0.05 for existing residential subslab soil gas and 0.001 for future residential contaminant source soil gas (DTSC, 2011). Developed Risk-Based Cleanup Goals for the Site.

SDV Engineering and Construction, NAVFAC Southwest, Marine Corps Air Station, Yuma, AZ, 2015 – Contract Value \$20,000. Produced a Tier IA screening level human health risk assessment (HHRA) for the KMEP Fuel Site, located at MCAS, Yuma, Arizona. This Tier IA HHRA was prepared as part of this investigation to determine the potential for risk to hypothetical future residents using the groundwater for drinking water purposes, or associated with vapor intrusion from groundwater to indoor air.

Environmental Science Corporation, Camp Zama Fuel Spill Characterization and Risk Assessment, Camp Zama, Japan, 2009-2010 – Contract Value \$45,000. Principal Scientist: Prepared a site-specific human health and ecological risk assessment for the Camp Zama underground FJ-1 fuel pipeline leak. The leak was associated with a 52,000 gallon capacity FJ-1 fuel tank (1024-n) which supplies fuel to an incinerator day tank (106 gallons) and boiler tank. The amount leaked was estimated at 2,000 gallons. Immediately following the identification of the leak, emergency remedial activities were undertaken to clean up visible oil at the leak site, the surface of the Camp Zama retention pond and downstream creeks and outfalls. The purpose of the human health risk evaluation was to estimate potential risks to human and ecological health, if any, that may be posed by residual FJ-1 fuel following emergency remedial activities. The site-specific human health risk assessment also included a qualitative uncertainty analysis. AMEC provided significant input into the sampling and analysis plan. Two deliverables were produced including a comprehensive baseline human health and ecological risk assessment and a “concise” public version. The site-specific risk assessment has undergone regulatory review and has been accepted.

Environmental Science International, US Navy, US Naval Base Yokosuka, Japan, 2011-2012 – Contract Value \$40,000. Principal Toxicologist: Produced a Tier I, (Risk Based Screening) and Tier II (Baseline Human Health Risk Assessment) for A Tier IA Risk-Based Screening and Tier II Site-specific Baseline Human Health Risk Assessment (BHHRA) were prepared for two separate sites proposed for the new Kinnick High School at Naval Base Yokosuka, Japan. The assessment was conducted using all available data collected during Site investigations by ESI in 2010 and from relevant previous investigations. Receptors evaluated in this HHRA included current and future industrial Site workers, future construction workers, future high school students and hypothetical residents. Exposure pathways considered in the Tier I screening level assessment included: ingestion of soil, dermal contact and absorption of chemicals in soils, leaching potential, inhalation of chemicals via fugitive dust and inhalation of volatiles emanating from soil. Media evaluated included surface and subsurface soil only. Data was provided for multi-increment samples. Chemicals evaluated in the risk assessment included heavy metals, PCBs, dioxins, SVOCs, VOCs, chlorinated pesticides and organophosphate herbicides. Childhood risks calculated using Age-Dependent Adjustment Factors for mutagenic compounds.

Element Environmental, US Navy, Sand Blast Grit Disposal Sites, Joint Base Pearl Harbor-Hickam, HI, 2012-2012 – Contract Value \$40,000. Principal Toxicologist: Performed a Tier IA and Tier II human health risk assessment (HHRA) as part of the remedial investigation (RI) at the Sandblast Grit Disposal Sites located on the Waipio Peninsula, Joint Base Pearl Harbor-Hickam (JBPHH), Hawaii. The HHRA evaluated potential cancer risks and noncancer hazards to hypothetical future onsite residents (to provide baseline risk information only), current and future industrial

site workers, future construction workers, and current and future trespassers/visitors. Based on the historical chemical data available for the Site, Site details and current and anticipated future Site use, the exposure routes evaluated included incidental ingestion, dermal contact with soil, and inhalation of fugitive dust from soil. The HHRA assumed that future soil removal or construction activities at the Site could bring subsurface soil to the surface. Each soil horizon was evaluated separately and assumed present at the surface available for exposure to all identified receptors.

Enviroquest Inc., USACE Japan Environmental District, Iwakuni Japan, 2010 – Contract Value \$30,000.

Principal Scientist: Provided a human health risk assessment for an existing Solid Waste Landfill site located at U.S. Marine Corps Air Station (MCAS), Iwakuni, Japan. The landfill was defined by four (4) distinct zones, three (3) of which are similar in size and one (1) that was slightly larger than the others. A total of fifteen (15) soil vapor samples were collected from the landfill. Three (3) soil vapor samples were collected from a medial transect of each of the (3) smaller zones, resulting in a total of nine (9) samples from the smaller zones, and six (6) were collected in the larger zone. In addition, nine (9) surface water samples were collected along various locations on the perimeter of the landfill.

The specific scenarios evaluated included hypothetical construction workers, golf course attendants and future users of the golf course. The human health risk assessment included a Tier IA: Risk Based Screening and Tier II: Baseline Human Health Risk Assessment and was performed in accordance with standard principles and approaches identified in the U.S. Navy Human Health Risk Assessment Guidance (Pioneer Technologies Corporation 2008) and the Department of Defense Vapor Intrusion Handbook (Tri-Service Environmental Risk Assessment Workgroup 2009), as well as the United States Environmental Protection Agency's (USEPA) Risk Assessment Guidance for Superfund (RAGS): Human Health Evaluation Manual, Part A (USEPA 1989) and other USEPA guidance documents. Risk assessment guidelines established by other federal agencies and state agencies were also considered when appropriate.

US Navy, Marine Corp Base Hawaii (MCBH), Kaneohe, HI, 2008-2009 – Contract Value \$25,000. Project Toxicologist: Performed a Tier IB site-specific human health risk assessment for property located in the vicinity of Mokapu Mall, between MacLachlan Street and McLennon Drive, at Marine Corps Base Hawai'i (MCBH) in Kane'ohe, Hawai'i. Specifically, the assessment evaluated health risks to human receptors that may work at or frequent a future Child Development Center proposed to be located at the Site.

US Navy, NAF Atsugi, Japan, 2004-2005 – Contract Value \$30,000. Project Toxicologist: Conducted a preliminary risk evaluation and site-specific assessment of surface and subsurface soils at a U.S. Naval facility in Atsugi, Japan. Contaminants of concern include PCBs, dioxin, arsenic, chlordane and DDD. Obtained regulatory site closure on a Naval base located outside the U.S. Risk assessment used to obtain No Further Action status.

US Navy, Pearl Harbor HI, 2004-2006 – Contract Value \$50,000. Project Manager: Provided extensive review and consulting on a previously conducted screening human health risk assessment for the site. Recalculated quantitative risk estimates using current and accepted EPA protocols and methodology. Provided technical support on the Site-specific Baseline Human Health Risk Assessment. Toxicological and risk assessment issues addressed include validity of modeling chemical concentrations in fish tissue from sediment concentrations, scientifically justifiable methodologies for estimating exposure point concentrations and the relevance of the TEF approach for estimating PCB risk. Risk assessment was used to make risk management decisions regarding the recreational use of the site.

RMA Insight JV for USAF, Malmstrom Air Force Base, Mt, 2013-2014 – Contract Value \$25,000. Principal in Charge: Produced a screening level ecological risk assessment (SLERA) as part of the Resource Conservation and Recovery Act (RCRA) facility investigation (RFI) for storm drainage ditch site SD010 located on Malmstrom Air Force Base (MAFB), Great Falls, Montana. Previous ecological risk assessments (ERAs) conducted for this Site have indicated that the potential for risk to benthic macroinvertebrates may exist due to residual contaminants (i.e., chlorinated pesticides and polychlorinated biphenyls [PCBs]) in the sediment of the Site. The SLERA provided an update to the previous ERAs and assessed the current potential for risk to ecological receptors at the Site as well as the potential for future risk due to the transport of contaminants by water erosion into the ditch from the adjacent upland soils.

PCR Environmental, Former Naval Station Agana, Guam, 2006-2007 – Contract Value \$30,000. Principal in Charge: A site-specific Tier II (Baseline Human Health Risk Assessment) was prepared for the POI-3 and POI-18 sites located at the Former Naval Air Station Agana, Tiyan, Guam. Human health risks were estimated for future construction workers if construction work were conducted at the Site. Although exposure pathways were considered incomplete for future industrial/commercial workers and hypothetical residents, risk were estimated for these receptors assuming impacted soils are brought to the surface. The risk assessment provided further characterization of human health risks from Site soils resulting from past activities associated with the operation and maintenance of the facilities. Risk assessment has lifted all land use restrictions from both Sites.

Okahara and Associates, Pohakuloa Training Area, HI, 2009-2010 – Contract Value \$60,000. Project Manager: Contracted by Okahara and Associates to provide EIS technical support for the State of Hawai'i Department of

Transportation expansion of Saddle Road on the Big Island of Hawai'i. Dr. Okoji was specifically tasked with determining the human health risk from potential depleted uranium originating from PTA during military training activities to receptors that may traverse the proposed roadway. Project involved depleted uranium surface soil sampling and air modeling to receptor locations. Project deliverables included a Sampling and Analysis Plan, the results of the surface soil sampling event, a source determination and background evaluation and Human Health Risk Assessment (HHRA) for uranium (U) isotopes. The assessment addressed the public's concern that depleted uranium originating from military operations at PTA may impact the health of those that may be involved in the construction of the proposed alignment as well as those that may use the road in the future. The risk assessment considered both chemical and radiological toxicity from uranium. Assisted Okahara in responding to community comments in the EIS at 2 public meetings.

US Navy, Orote Landfill, Guam, 2002-2006 – Contract Value >5,000,000. Senior Toxicologist: Performed a preliminary human health risk evaluation and baseline human health risk evaluation for seafood sourced from the Marine DU of the Orote Landfill Site. Chemicals of concern included PCBs, dioxins/furans, metals, chlorinated pesticides, PAHs and Ordnance compounds. Provided extensive technical support on PCB and Dioxin risk assessment on behalf of Navy clients in numerous face-to-face conferences with the EPA, Guam EPA, ATSDR and the public. Successful in negotiations with EPA Region 9 to make risk management decisions based on more realistic data supported by site-specific conditions rather than overly conservative default assumptions. Provided the Navy with technical arguments on the complexities of interpreting information from biomarker data as well as extensive toxicological support regarding the carcinogenic evaluation of PCBs. Significant participation in developing and evaluating data from a seafood consumption survey in the Agat Bay area on the island of Guam. Extensive involvement in development and implementation of a more comprehensive study to evaluate human health risks associated with the Orote Landfill site. Developed site conceptual models and exposure routes. Represented Navy client in numerous interactions with the people of Guam. Received commendations from the Navy and ATSDR for public support efforts. Risk assessments have released the Navy from potential liability along approximately three miles of coastline on the Orote Peninsula.

EnviroNet Inc., Ordnance Reef, HI, 2008-2010 – Contract Value \$150,000. Principal Scientist: Provided human health and ecological risk assessment support for an underwater munitions site off the Waianae Coast of Oahu, HI. Dr. Okoji was specifically tasked with reviewing and providing input on the project Sampling and Analysis Plan, development of the Conceptual Site Model and providing a human health and ecological risk assessment. The human health risk assessment addressed carcinogenic and noncarcinogenic risks to recreational divers, adult and child subsistence fishermen and adult and child recreational fishermen. Media evaluated included: sediment, water, fish and invertebrate tissues. Dr. Okoji and his staff designed and implemented a program to assess seafood consumption habits of the Waianae community. This data was accepted by regulatory agencies and used in the HHRA. Dr. Okoji also attended and present results of the risk assessment at various regulator and public meetings on behalf of EnviroNet and the USACE.

AMEC Earth and Environmental Inc, US Navy, Pearl City Fuel Annex, 2010-2011 – Contract Value \$48,000. Principal Toxicologist: Conducted a limited Tier II site-specific human health risk assessment for the Pearl City Fuel Annex site (PCFA), located in the Pearl Harbor Naval Complex (PHNC), Hawaii. Human health risks were estimated for a potential trespasser and maintenance worker scenario exposed to surficial soils. This risk assessment provided further characterization of human health risks from surface soil impacts resulting from past site activities associated with the operation and maintenance of the facility. Potential sources of contamination include: product releases, the sandblasting and painting of above-ground storage tanks (ASTs) and associated pipelines, and past tank sludge and condensate disposal practices. Conducted a Tier I, (Risk Based Screening) and Tier II (Baseline Human Health Risk Assessment) for the PCFA Site. Exposure pathways evaluated included dermal contact and oral ingestion of contaminated soils and inhalation of ambient air. 649 surface and subsurface soil samples from 9 total investigations are included in the analysis. Receptors include current and future industrial workers, construction workers, offsite residents and trespassers.

Environmental Science International, US Navy, Pearl Harbor Naval Complex, Building 35, HI, 2011-2012 – Contract Value \$40,000. Principal Toxicologist: Performed a Tier I, (Risk Based Screening) and Tier II (Baseline Human Health Risk Assessment) for an area north of Paint Shop Building 35 located in the Public Works Center (PWC) Geographic Study Area (GSA) within the Pearl Harbor Naval Complex (PHNC) on the island of Oahu, Hawaii. The risk assessment provided further characterization of human health risks from surface and subsurface soil impacts resulting from past site activities associated with the operation and maintenance of the Site. The assessment was conducted using all available data collected during Site investigations by ESI in December of 2009 and from relevant previous investigations. Receptors evaluated in this HHRA included current and future industrial Site workers, future construction workers and hypothetical residents. Exposure pathways considered in the Tier I screening level assessment included: ingestion of soil, dermal contact and absorption of chemicals in soils, leaching potential, inhalation of chemicals via fugitive dust and inhalation of volatiles emanating from soil. Media evaluated included

surface and subsurface soil only. The Site was treated as a single Decision Unit (i.e., receptors were assumed to be exposed to all areas of the Site and not just specific areas). Chemicals evaluated in the risk assessment included heavy metals, PCBs, acetone, ethylbenzene and toluene.

Environmental Science International, US Navy, Abandoned Small Arms Firing Range, Lualualei, HI, 2011-2012 – Contract Value \$40,000. Principal Toxicologist: Provided human health and ecological risk assessment support for a former abandoned small arms firing range. Risk assessment included a Tier IA and Tier II HHRA and ERA. Chemicals of potential concern included lead only. Child lead exposures were evaluated with USEPA's IEUBK Child Lead Model. Adult lead exposures were evaluated with USEPA's Adult Lead Model.

US Navy, Red Hill, HI, 2004-2006 – Contract Value \$50,000. Task Manager: Performed a comprehensive Exposure Assessment and Multimedia Preliminary Human Health Risk Evaluation for past and potential releases of petroleum compounds, including PAHs from the Navy's Red Hill Storage Tanks in the mountainside adjacent to and above Pearl Harbor. Tasks included the evaluation of risk from historical or accidental releases of hazardous substances and its impact to human and ecological health. Both site-specific concentrations as well as possible catastrophic release scenarios were evaluated. Modeling of potential releases required multidisciplinary input from toxicologists, geologist, GIS specialists, groundwater modelers, and remedial engineers. Pivotal in developing site conceptual models and exposure routes.

Rocketdyne Propulsion and Power, Santa Susana Field Laboratory (SSFL), CA, 2004-2006 – Contract Value \$150,000. Project Manager: Provided site-specific human health risk assessments for The Boeing Company, Rocketdyne Propulsion and Power, NASA and the DOE as part of the RCRA Corrective Action Program at the SSFL. The risk assessments were conducted in response to requirements specified in three Hazardous Waste Permits issued to Rocketdyne by DTSC. Chemicals of concern include Total Petroleum Hydrocarbons, PCBs, PAHs, benzene, toluene, ethylbenzene, xylene, naphthalene, volatile organic compounds, semivolatile organic compounds and metals.

U.S. Army Corp of Engineers, Fort Irwin, CA, 2008-2009 – Contract Value \$45,000. Project Toxicologist: Performed site-specific human health risk assessments at 14 Hazardous Waste Management Units at the U.S. Army National Training Center at Fort Irwin, California. Responsibilities include risk assessment approach negotiations with the Department of Toxic Substances Control Human and Ecological Risk Division and performance, standardization of methodology and performance of the risk assessments.

AMTRAK: Redondo Junction Site-Wide and Location Specific HHRA, Los Angeles, CA, 2006-2009 – Contract Value \$125,000. Principal Toxicologist. Assisted in the development of work plans and field sampling plans. Prepared site-specific human health risk assessments for the Amtrak Redondo Junction located in Los Angeles, California. Risk assessments were prepared to determine if chlorinated solvents and other volatile chemicals were posing an unacceptable indoor air human health risk to Amtrak workers at the facility as a whole as well as specifically in Building 18. Workers within various structures at the Site were evaluated for exposures to volatile chemicals resulting from subsurface vapor intrusion. Data assessed in the quantitative analysis included soil vapor data collected in a February 15, 2010 soil vapor investigation. In total, 9 soil vapor samples (8 primary samples and 1 duplicate) were collected at the perimeter of Building 18 and analyzed for the EPA TO-15 Super suite of compounds and Gasoline Range Total Petroleum Hydrocarbons (TPH). 80 other SV samples were collected from other areas of the Site. 19 constituents were detected in soil vapor at the Site. These chemicals include, TPH-Gasoline, BTEX, 1,1,1-Trichloroethane, PCE, and TCE.

Hawai'i Department of Health, Lead in Drinking Water Study at all DHS Licensed Child Care Centers, State of HI, 2007-2009 – Contract Value \$1,000,000. Program Manager: Provided technical and public relations support to the State of Hawai'i Department of Health's Safe Drinking Water Branch regarding a State-wide testing program of all drinking water sources at registered child care facilities. The federally-funded program was intended to help safeguard young children who are considered to be more vulnerable to lead exposure. With over 1,000 registered facilities this project is one of the largest drinking water sampling tasks of its kind in the State of Hawai'i. Produced a state of the art information technology resources database to manage everything from scheduling and routing, to correspondence management and results analysis and reporting. In coordination with the laboratory undertaking the analysis, Dr. Okoji implemented a highly automated system to manage the receipt and analysis of results. All results were automatically imported into an electronic database system and analyzed. If lead was found at levels above the acceptable limit, Dr. Okoji implemented a range of notification procedures to prevent further potential exposure of children to the lead and also provided in-depth lead abatement strategies to the facility owners and/or managers. As part of this process, a series of informational packets were prepared to update the multiple government entities, including the Safe Drinking Water Branch and the Department of Human Services. During this process, Dr. Okoji also served as the HDOH and DHS public media representative in a KHON news story.

Hawai'i State Department of Health, Keaukaha, HI, 2004-2005 – Contract Value \$30,000. Project Manager: Conducted an ambient air characterization study and baseline human health risk assessment of a light industrial district and airport. Industries present and areas of concern include airline industries, harbor facilities, diesel fueling station

and truck yard, auto paint shops, wood treatment plants, fiberglass shops, compressed gas industries, petroleum storage tanks, naphthalene storage tanks, propane storage tanks and an old sewage treatment facility. Ambient air monitoring utilized passive GoreSorber sampling devices as well as active Hi-vol samplers. GoreSorbors allowed evaluation of air impacts over a 7-day period. Traditional active samplers capture significantly shorter periods of time. Receptors evaluated include residents living in the nearby Hawaiian Homelands residential district. Assisted the Department of Health in communicating potential risks to residents at several public meetings.

W.H. Shipman Ltd, Kea'au, HI, 2002-2004 – Contract Value \$50,000. Project Manager: Performed a Phase 2 soil characterization and Phase 3 risk assessment of former sugar cane lands contaminated with arsenic, lead, pesticides and herbicides. Supporting client's efforts to develop land under a future residential use scenario. Using bioaccessibility data gathered for the site in arguments to the HDOH. Providing extensive community relations and regulatory agency support.

CSV Hospitality LLC, Kea'au, HI, 2004-2005 – Contract Value \$40,000. Project Manager: Performed site investigation and a site-specific risk assessment for a 5-acre site in Kea'au, HI. Site was formally used for agriculture and was heavily contaminated with high levels of arsenic. Provided extensive community relations and regulatory agency support over a 2 year period. Held public meetings in collaboration with the HDOH. Produced engineering cost analysis, mitigation and implementation plans. Successful in obtaining regulatory support for construction of a hotel and commercial facility at the site without soil removal.

Matsubara, Lee and Kotake, HI, 2004-2005 – Contract Value \$90,000. Project Manager: Provided litigation support regarding a property that was the site of an automobile dealership, a warehouse and a former wood treatment site. Chemicals of concern include pesticides used in wood preservation: arsenic, chromium, dioxins/furans, and pentachlorophenol as well as other heavy metals. Evaluated soil and groundwater data and attended meetings with plaintiffs' consultants. Risk assessment used to define the cleanup level goals and areas of remediation.

Hawai'i State Department of Health, PVT Landfill, HI, 2008-2009 – Contract Value \$60,000. Project Manager: Performed an air monitoring and human health risk assessment of a municipal solid waste and construction and demolition landfill. Chemicals evaluated include landfill gases and heavy metals. Receptors evaluated include nearby residents. Assisted Department of Health in communicating potential risks to the community.

City and County of Honolulu, Waimanalo Landfill, HI, 2008-2009 – Contract Value \$150,000. Project Manager: Prepared human health risk assessment of the beneficial use of municipal solid waste incinerator ash from the City and County of Honolulu's H-Power facility. The project considered the proposed use of the ash *in lieu* of clay as part of the final cover in the closure of a city-owned landfill. The risk assessment considered risks from lead, other heavy metals, and dioxin and furan congeners. Risks during and after the closure were evaluated under several potential scenarios. Receptors included workers, on-site trespassing children, and off-site children. Affected media included the ash, ash leachate, ash-derived dust, surface water and sediment in Pearl Harbor, and fish. Dust generation and dispersion modeling was performed as well as modeling of surface runoff of ash into nearby surface water and sediment. Ash-specific absorption adjustment factors were derived. On-going projects include risk evaluation of other beneficial uses of the ash, including use as daily cover at an operating municipal landfill and use as aggregate in the road materials.

City and County of Honolulu, Waipahu Incinerator, HI, 2004-2010 – Contract Value \$55,000. Project Manager: Performed a human health risk assessment of soil, municipal waste combustion ash, and debris present at the site of the former Waipahu Incinerator Complex and the adjacent Waipahu Ash Landfill. Receptors included City workers from who currently occupy the old incinerator building, nearby residents, and children who frequent the nearby Waipio Peninsula Soccer Complex. Designed and executed real-time monitoring of ambient airborne respirable dust levels indoor and outdoors. Prepared technical memorandums regarding penalties assessed by the State Department of Health. Developed supplemental environmental programs for the city for use in penalty negotiations. Completed work plans required for the closure of the Waipahu Incinerator Complex.

Costco Wholesale Corporation, HI, 2002-2003 – Contract Value \$40,000. Project Manager: Performed a site-specific human health risk assessment for a commercial property undergoing a site evaluation for property transfer. The former MGP site had a history of petroleum product releases. Contaminants of concern included Total Petroleum Hydrocarbons, PCBs, PAHs, benzene, toluene, ethylbenzene, xylene, naphthalene and heavy metals. Evaluated the potential carcinogenic and noncarcinogenic risks from contact with site soil and groundwater via ingestion and dermal absorption via TPH Working Group and State of Massachusetts methodologies. Assessed the health hazards of inhaling soil vapor in both ambient surroundings and within the warehouse store using laboratory-specific data as well as data obtained from mathematical modeling from free product, groundwater and soil concentrations. Derived chemical specific absorption factors for site chemicals including arsenic and several PAHs. Evaluated soil, soil vapor and groundwater data and advised Brewer Environmental consultants, Costco attorneys and parties involved in the land transfer on appropriate cleanup goals. Risk assessment successfully used by Costco to obtain letter of completion within the Hawai'i State Department of Health's Voluntary Response Program.

Honolulu Resource Recovery Venture, HI, 2004-2005 – Contract Value \$150,000. Evaluated the potential use of municipal solid waste incinerator ash as an aggregate in roadway materials. Performed data collection, summary and analysis of total and respirable particulates in air due to road demolition activities of ash-amended asphalt. Ambient air monitoring data and air-modeling techniques were used to estimate COPC concentrations in soil and air. Particulate deposition data was used to model COPC uptake into plants that could potentially be consumed by humans. Health risks were evaluated for potential receptors using estimated heavy metal content of site-specific media.

Sprint Lot Risk Assessment, HI, 2003-2004 – Contract Value \$40,000. Project Manager: Performed a site-specific human health risk assessment for a commercial property and office building. The former MGP site had a history of petroleum product releases, an onsite fuel pipeline and free product releases under the office building. Contaminants of concern included Total Petroleum Hydrocarbons, PAHs, benzene, toluene, ethylbenzene, xylene, naphthalene etc. Evaluated the potential carcinogenic and noncarcinogenic risks from contact with site soil, groundwater, soil vapor and weathered kerosene-like free product. Assessed the health hazards of inhaling soil vapor in both ambient surroundings and within the Sprint Office Building using laboratory-specific data as well as data obtained from mathematical modeling from free product, groundwater and soil concentrations. Derived chemical specific absorption factors for site chemicals including arsenic and several PAHs. Advised Brewer Environmental consultants and the owners of the property of potential health risks and remedial alternatives.

Native Hawaiian Veterans, USACE HED, Munitions Response Site Prioritization Protocol (MRSPP) for Defense Environmental Restoration Program, Formerly Used Defense Site (FUDS) of Opana Point Bombing Range, Opana Point, Island of Maui, Site No.H09HI027200 and Papohaku Target Range, Kaluakoi, Island of Molokai, Site No. H09HI0032, 2014- 2017 – Contract Value \$500,000. Principal in Charge: Executed MRSPP to determine the relative risks posed at each of the sites; assistance with data gathering from state and local repositories; collecting appropriate information necessary to eliminate from further consideration those releases that pose no significant threat to public health or the environment; determining potential need for removal action and collecting or developing additional data to complete the MRSPP. Prepared project documents (UFP-QAPP, SAP) for a remedial investigation. COCs included metals, explosives and semivolatile organic compounds. Risk to human health and ecological receptors are evaluated.

Long-Term Maintenance & Monitoring/ Remedial Action Operations for IRP Sites CF023, CG110, LF01, LF14, SS01, SS06, SS11, SS15 and Consolidation Unit at Joint Base Pearl Harbor – Hickam, HI, 2012-2017 – Contract Value \$500,000. Principal in Charge: Performed annual inspections/maintain, and optimized long-term maintenance and monitoring (LTM)/ Remedial Action Operations (RAO) (groundwater sampling) at eight Installation Restoration Program sites. The project consisted of inspecting, maintaining, and providing recommendations to optimize the existing remedies based on evaluation of all existing reports and recommendations for each site. Prepared all project documents including results of groundwater, soil vapor, landfill gas and apparent product thickness measurements.

Institutional Controls for Safety Awareness, Defense Environmental Restoration Program, Formerly Used Defense Sites at Various Windward Oahu Projects, Island of Oahu, HI, 2014-2017 – Contract Value \$500,000. Principal in Charge: Provided planning and producing institutional controls educational material for ensuring public safety from potential unexploded ordnance (UXO) at these sites. The institutional controls consist of materials oriented towards educating the public about the potential hazards from UXO found at these sites. Provided presentations to schools of affected areas and general public events.

Coca Cola Bottling Enterprises, Oahu, HI, 2000-2010 – Contract Value \$750,000. Project Manager: Conducted a Phase 2 and Phase 3 site investigation of soils and groundwater and site-specific risk assessment for the Coca Cola Bottling Facility. The site had undergone substantial remediation including removal of impacted soil, application of Oxygen Reaction Compounds (ORC) to groundwater and implementation of a Soil Vapor Extraction (SVE) System. Environmental Hazard Evaluation (Risk assessment) performed to determine the suitability of the property for future residential use. Chemicals of concern and pathways of concern include BTEX and fuel related compounds. Pathways of concern include direct contact with site media as well as vapor intrusion into buildings and ambient air.

- Phase I Environmental Site Assessment at multiple addresses located on Cooke Street, Auahi Street, and Pohukaina Street, Honolulu, Hawai'i. The property evaluated was identified by current Tax Map Key (1) 2-1-053:032 (lot consisting of 4.187 acres).
- Phase I Environmental Site Assessment at multiple addresses located on Ala Moana Boulevard, Coral Street, Keawe Street, and Auahi Street, Honolulu, Hawai'i. The property evaluated was identified by Tax Map Keys (1) 2-1-055:003 (lot consisting of 0.5306 acres), (1) 2-1-055:021 (lot consisting of 0.9256 acres), (1) 2-1-055:006 (lot consisting of 0.4904 acres), (1) 2-1-055:026 (lot consisting of 0.1148 acres), and (1) 2-1-055:038 (lot consisting of 0.8135 acres).
- Phase I Environmental Site Assessment at multiple addresses located on Kekuaaoa Street, Iolani Street, and Mililani Street in Hilo, Hawai'i. The property evaluated was identified by Tax Map Keys (3) 2-2-030:004

(lot consisting of 0.4171 acres), (3) 2-2-030:006 (lot consisting of 0.8245 acres), (3) 2-2-030:008 (lot consisting of 0.2686 acres), (3) 2-2-030:009 (lot consisting of 0.5165 acres), (3) 2-2-030:0010 (lot consisting of 0.2479 acres), (3) 2-2-030:0011 (lot consisting of 0.2365 acres), (3) 2-2-030:0012 (lot consisting of 0.8617 acres), and (3) 2-2-030:014 (lot consisting of 0.4018 acres).

Covanta Energy, EIS for 3rd Boiler, City and County of Honolulu H-Power Facility, HI, 2008-2009 – Contract Value \$1,000,000. EIS and Permitting Task Manager: Performed an Environmental Impact Statement to address the impact of a third combustion unit at the City and County of Honolulu H-Power waste to energy facility. Potential impacts addressed include noise, traffic, historical resources, soil, groundwater and surface water. Air impacts also addressed in a PSD permit. Additional permitting support required for operation and construction of the facility included the solid waste management permit, NPDES operation, Conditional Use Permit, Wastewater Discharge, Stormwater, water use permit, Air Navigation and Clearance for Work in Airport Hazard Area, grading and drainage, NPDES Construction, well construction and pump installation and a permit to operate a sewage treatment facility. Dr. Okoji was also tasked with performance of a comprehensive multimedia risk assessment according to USEPA Human Health Risk Assessment Guidance for Combustor Facilities to address the human and ecological health impacts of the proposed combustion unit on neighboring communities. Also produced a Material Separation Plan and collected data for use in a Lifecycle Analysis pertaining to the recycling waste stream for the City and County of Honolulu.

Covanta Energy, Stormwater Monitoring Plans, H-Power Facility, HI, 2011-2012 – Contract Value \$30,000. Principal in Charge: Produced stormwater management plans for the H-Power facility. Plans included the facility Stormwater Management Plan (SWMP), Stormwater Pollution Control Plan (SWPCP) and Spill Prevention, Control, and Countermeasure Plan (Oil And Petroleum Products). Represented Covanta Energy in meetings with the State Department of Health during site inspections.

East West Center, University of Hawaii, Manoa Campus, Honolulu, HI, 2013-2014 – Contract Value \$20,000. Principal in Charge: Completed the NPDES permit application (Appendix L) for the East West Center decorative Koi pond. Performed initial discharge sampling for inclusion in the application. Negotiated chemical of concern list with the HDOH Clean Water Branch and enforcement division.

FOPCO, Fort Shafter Building 145, Honolulu, HI, 2015-2016 – Contract Value \$25,000. Principal in Charge: Prepared the Spill Prevention, Control, and Countermeasure Plan (SPCCP) for the removal, decontamination and disposal of one 12,000 gallon UST at Fort Shafter Building 145. Petroleum releases from these tanks which may be discovered during construction are subject to regulation and Hawaii Department of Health oversight under Hawaii Revised Statutes Chapter 128D, Hawaii Environmental Response Law (HERL) and Hawaii Administrative Rules Title 11, Chapter 451, State Contingency Plan. Provided environmental professional (EP) services during tank removal. Authored closure report.

FOPCO, Schofield Barracks, Wahiawa, HI, 2015-2016 – Contract Value \$25,000. Currently preparing the Spill Prevention, Control, and Countermeasure Plan (SPCCP) for the removal, decontamination and disposal of one 3,000 gallon UST at Schofield Barracks Building 2072. Petroleum releases from these tanks which may be discovered during construction are subject to regulation and Hawaii Department of Health oversight under Hawaii Revised Statutes Chapter 128D, Hawaii Environmental Response Law (HERL) and Hawaii Administrative Rules Title 11, Chapter 451, State Contingency Plan. Provided environmental professional (EP) services during tank removal. Authored closure report.

Cloudbreak Hawaii LLC, Kapolei, O‘ahu HI, 2013-2014 – Contract Value \$35,000. Principal Planner: Prepared a HEPA and NEPA compliant EA for Cloudbreak Hawaii, LLC. The EA discussed the addition of affordable housing units to Hale Uhiwai Nalu, an 80-unit veterans housing and services building at Barbers Point. The project consisted of constructing additional structures on an adjacent parcel of land, approximately 6,000 square feet. The Proposed Action would add up to 72 affordable housing units for very low to moderate income households and make support services such as outreach, substance abuse treatment, employment training and placement, and housing transition easily accessible. The project was partially funded through the State Rental Housing Trust Fund (RHFT) and was conducted in collaboration with the Hawaii Housing Finance and Development Corporation and U.S. Department of Veteran Affairs. Public and various federal, state and city agencies were consulted during the EA process. Evaluations conducted as part of the planning initiative concentrated on the following potentially affected environments: Soils, Topography, and Geology, Ground and Surface Water, Air Quality and Climate, Biological Resources, Historic/Archaeological Resources, Land Use, Hazardous/Toxic Wastes, Utilities and Noise. No significant impacts were determined for the proposed project. Specific supplemental studies included an archeological inventory survey and site-specific biological resources survey.

American Piping and Boiler, Campbell Industrial Park, Kapolei, HI, 2012-2013 – Contract Value \$50,000. Principal in Charge: Prepared a Grading and Drainage Permit Application to convert a vacant lot to a construction laydown parcel for use in the H-Power expansion project. Project site is located in the City and County of Honolulu,

Special Management Area and Coastal Zone Management Area. Completed and submitted the SMA permit application which required that an environmental assessment be conducted for the project. ERA was successful in negotiations with the City and County Department of Environmental Services and the Land Use Approvals division to exempt the project from the Chapter 343 requirement. The exemption required consultation with multiple agencies including the State of Hawaii Historic Preservation Division, USFW, Land Use Approvals, DBEDT, DoA, OHA, etc. The exemption allowed the project to move forward without unnecessary delays due to the EA process. ERA also provided services for completion of a building permit for the construction of 2 driveways and an NPDES permit application for the Department of Health Clean Water Branch. NPDES permit application required completion of a Storm Water Pollution Prevention Plan.

City and County of Honolulu, Department of Environmental Services, H-Power, HI, 2015-2016 – Contract Value \$25,000. Principal in Charge: Prepared an Emergency Action Plan for the City and County facility for the H-Power facility located in Campbell Industrial Park. The plan was composed of a Level 1 plan and Level 2 conditions and requirements. The H-POWER Emergency Action Plan delineates the authorities, responsibilities and procedures to be followed by employees in effectively responding to a disaster within the facility. The primary function of the H-POWER Emergency Action Plan is to prepare the facility to respond effectively and quickly to emergencies that occur within the facility or within the community. The plan governs the facility and its employees in the event of an emergency or disaster.

Belt Collins, Island of Hawai'i. Kawaihae-Mamalahoa Connector Road EIS Technical Support, HI, 2008-2009 – Contract Value \$40,000. Project Manager: Provided EIS technical support for the construction and operation of a bypass road in the Mamalahoa, Waimea area of the Island of Hawai'i. Specifically subcontracted by Belt Collins to determine the environmental impacts of the proposed roadway on adjacent organic and conventional farm lands. Impacts assessed included the change in surface water potential and productivity of the land. Conversely, the assessment also evaluated the impact of farming practices on potential future users of the proposed road.

Kerr Mill, MA, 2000-2001 – Contract Value \$100,000. Task Manager: Performed data summary and risk assessment calculations on a historical petroleum product spill site. Contaminants of concern included volatile and semivolatile petroleum hydrocarbons including naphthalene, 2-methylnaphthalene, benzo(a)pyrene and anthracene. Risk assessment used to help define the cleanup level goals and areas of remediation.

Jan Chatten-Brown and Associates, CA, 2000-2001 – Contract Value \$10,000. Project Manager: Provided litigation support regarding a class action lawsuit claiming adverse health effects from exposure to organophosphate pesticides. Comprehensively evaluated and summarized toxicological data involving neurotoxicity, hepatotoxicity, renal toxicity and carcinogenesis.

Alston, Hunt, Floyd & Ing, HI, 2001-2002 – Contract Value \$25,000. Project Manager: Provided litigation support for a residential property that was contaminated with arsenic. Advised attorneys on the toxicity of arsenic compounds, reliable biomarkers of exposure, sampling methods and potential exposure to other toxic compounds or biological agents.

Confidential Client, GA, 2002-2003 – Contract Value \$20,000. Project Manager: Prepared toxicological summaries on creosote and related mixtures in support of litigation.

Confidential Client, AZ, 2002-2003 – Contract Value \$80,000. Project Manager: Performed a comprehensive review of a Monte-Carlo Based Risk assessment on a former MGP site in Arizona. Chemicals identified in samples from the Site include the semi-volatile organic chemicals called polynuclear aromatic hydrocarbons (PAHs) found in lampblack and volatile organic chemicals: benzene, toluene, ethylbenzene, and xylenes (BTEX) found in fuels.

California EPA, CA, 2002-2003 – Contract Value \$100,000. Project Manager: Performed comprehensive literature review and analysis on the toxic properties of ethyl chloride. Conclusions used for the quantitative estimation of risk for regulatory purposes.

Graduate Student Researcher for Dr. John Froines, Professor of Environmental Toxicology and Director of the Center for Occupational and Environmental Health, UCLA: Project Manager: Examined the toxicokinetic and molecular events involved in arsenic induced carcinogenesis. Collaborated with the National Institute of Environmental Health Sciences (NIEHS) and the National Toxicology Program (NTP) in designing and conducting subchronic and chronic NTP animal bioassays, pharmacokinetic analysis, pre-clinical, GLP pharmacology, toxicology and safety studies in animals with the goal of regulating arsenic in drinking water.

Undergraduate Researcher for Dr. Jonathon E. Ericson, Professor of Environmental Analysis & Design, University of California, Irvine: Project Manager: Performed comprehensive literature review and analysis on the toxic effects of lead. Identified potential health implications and possible initiatives for soil remediation.

Graduate Student Researcher for Dr. Michael Collins, Professor of Environmental Toxicology, UCLA: Project Manager: Researched the impact of nutritional deficiencies (i.e. folate, methionine, choline and vitamin B12) on the

occurrence of neural tube defects in rats and mice. Participated in the development of an animal model for abnormal neural tube closure using a combination of in vivo and in vitro cell culture techniques. Performed gross necropsies, folate measurements via the bacterial growth assay, choline measurements via GC-Mass Spectroscopy and homocysteine measurements via HPLC in serum and other bodily tissues.

Clinical Research Assistant for Dr. Marian Swendseid, Professor of Nutrition, UCLA: Project Manager: Provided scientific and laboratory support for a clinical nutrition study conducted by the Western Human Nutrition Research Center and UCLA on choline status dependence on folate nutriture.

Researcher: Dr. Ricardo De Leon, Professor of Environmental Analysis and Design, University of California, Irvine: Project Manager: Assisted in developing a PCR based assay for analyzing environmental water and soil samples containing infectious microorganisms. Compared the newly developed PCR method with the standard plaque assay.

Research: Dr. Roger Fujioka, Professor of Microbiology & Head of the Water Resources Research Center, University of Hawai'i at Manoa: Project Manager: Quantified E. Coli levels in soil samples. Quantified nitrogen, phosphorous, coliform and E.coli levels in environmental water samples.

Industrial Hygiene

Confidential Client/Confidential Site, Honolulu, HI: Principal Industrial Hygienist: Dr. Okoji and his team provided a COVID-19 Remediation Work Plan following a confirmed COVID-19 case at a large hotel chain located in Waikiki, Hawaii. The Work Plan was the first implemented in the State of Hawaii. Dr. Okoji researched standards of care and implemented a Remediation Work Plan that has since been validated and used at over 2 dozen sites in Hawaii. Additionally, waste disposal protocols were developed that included State, City and private entities. These protocols required extensive interaction with the Hawaii Department of Health scientists leading the COVID-19 response. Developed and performed the POST-REMEDIAL VERIFICATION assessment following remediation. As there was no available or viable COVID-19 environmental test, ERA utilized UV light and ATP testing to verify the presence or absence of biologicals to determine the effectiveness of the remediation. This method has since been validated and used on countless remediation projects throughout the world.

Confidential Clients/Confidential Sites, Oahu, HI: Principal Industrial Hygienist: Dr. Okoji and his team have provided site-specific COVID-19 Remediation Work Plans for over 2 dozen sites in Hawaii. Our plans are updated frequently as evolving information on the virus are received. Our plans have been reviewed and utilized by large hotel chains, large retail malls, the largest airlines in Hawaii, multiple large financial institutions, the Honolulu Rail, Hawaii Court Offices and a major shipping transporter.

Victoria Tower Fire Assessment, Honolulu, HI: Principal Scientist: Dr. Okoji and his team provided a comprehensive damage assessment and Remediation Work Plan for water damage and smoke and combustion by-products (CBPs) following a significant fire event at a 17-story residential condominium structure located in Honolulu, Hawaii. Represented client in multiple meetings with the insurance carrier. Performed combustion by-product indicator testing, asbestos and lead paint surveys for over 60 individual units. Project is ongoing and will consist of asbestos abatement clearance testing and post-remedial testing for CBPs.

MMI Realty Services Inc (Kahala Mall Flood), Honolulu, HI, Project Manager: Provided 24- hour/day on call support to MMI Realty Inc. following a significant flooding event in which the entire indoor mall was flooded to approximately 1-2 feet of storm water. Provided remedial workplans and specifications for immediate water removal and drying of the interior space. Instructed and oversaw mall representatives and their contractors during remedial efforts. Due to Dr. Okoji's disaster management efforts, the mall was reopened 4 days after the water intrusion event. Following emergency actions, MMI Realty retained Dr. Okoji's team to manage all non-emergency remediation at the mall. Non-emergency work included drying of internal wall spaces in mall common areas and later removal of significantly flood impacted building materials. Flood and mold assessments were conducted for all mall responsible areas as well as separately for tenant responsible areas. Work plans were provided to MMI Realty Inc, Kahala Mall tenants and their contractors detailing the specific protocols and precautions necessary during removal actions. Dr. Okoji created a database of every wall or building material affected by the flood. Data presented in tabular and graphic formats. Photodocumentation was also provided for all affected demising walls. Provided remedial oversight and post-remedial verification assessments during work activities. Ensured all contractors performed work to protocol and the appropriate standard of care. Periodically sampled building materials and air for mold to protect client from future claims. Provided hourly work logs and daily summaries to client ensuring they received maximum insurance reimbursement. Provided experts witness testimony during litigation proceedings including during appraisal hearings. Client received approximately 90% of their insurance claim in large part due to Dr, Okoji's testimonies. Project was one of the largest flood remediation jobs in the State of Hawaii.

A0578 Kihei L.P., Kihei, Maui, HI: Principal Industrial Hygienist: Dr. Okoji and his team provided a comprehensive damage assessment and Remediation Work Plan for smoke and combustion by-products following a massive fire incident that impacted nineteen (19) residential buildings, 2 community laundry buildings and one community resource center at a new residential development. Represented owners in over a dozen meetings with the insurance carrier. Following remediation, ERA performed a Post-Remedial Verification assessment of exteriors and interiors spaces.

AIG Insurance Company, Grand Wailea, Maui, HI, Principal Scientist: Provided on call principal level consulting services for a large insurance carrier addressing a mold remediation claim. Verified the necessity for mold remediation and corroborated claim against actual remediation. Provided detailed reports including HVAC system design recommendations to prevent recurrence. Services were provided over a 1-year period.

Honolulu Student Housing One, LLC (Hale Mahana), Honolulu, HI, Principal Scientist: Provided remedial workplan and specifications for mold remediation of 191 units. Performed remedial oversight and post-remedial verification assessments during work activities. Provided hourly work logs and daily summaries to client ensuring they received maximum insurance reimbursement. Provided on call principal level consulting services addressing mold remediation. Verified the necessity for mold remediation and corroborated claims against actual remediation. Provided detailed reports including HVAC system design recommendations to prevent recurrence.

Layton Construction Company, LLC (University of Hawaii at Mānoa, Life Sciences Building), Honolulu, HI, Principal Scientist: Provided remedial workplan and specifications for water removal and drying of the interior space during construction. Over 100 water intrusions were identified over a 6-month period. ERA evaluated each intrusion and provided recommendations for remedial action and post-remedial verification via visual, IR camera and moisture meter and verification spore trap air samples to protect client from future claims.

Layton Construction Company, LLC (University of Hawaii at Mānoa, Nagatani Athletic Academic Center), Honolulu, HI, Principal Scientist: Provided remedial workplan and specifications for water removal and drying of the interior space. Performed post-remedial verification assessments to protect client from future claims. ERA served as the primary interface and Industrial Hygienist representative for Layton Construction by attending weekly meetings over a span of four months.

Layton Construction Company, LLC (Block M – Ae`o Kaka`ako Tower), Honolulu, HI, Principal Scientist: Provided comprehensive moisture and mold assessments for over 30 units and common areas following water intrusion events. Performed dry standard and post-remedial verification assessments and litigation quality reports following remediation activities to ensure specifications were performed to industry standard.

Confidential Client and Location, Honolulu, HI, Principal Scientist: Provided litigation support for a property transfer. Evaluated for the presence of residual methamphetamine and chemicals related to its manufacturing. Collected wipe samples of left in place building material and belongings in the structure. Collected air samples for volatile constituents. Provided expert witness reports to validate the requirement for additional remediation.

Goodsill Anderson Quinn & Stifel, Confidential Site, Wailea, HI, Principal Scientist: At the request of counsel, Environmental Risk Analysis LLC (ERA) performed a comprehensive review of the available mold assessments and relevant home-inspector documents relating to the plaintiff's claims that the defendant intentionally or negligently misrepresented the water or mold condition of the property prior to sale. The plaintiffs alleged that undisclosed leaks in the shower areas of the condo caused mold/moisture issues which required remediation. ERA's review focuses on the validity of claims associated with water intrusion and mold noted in the various reports and the potential effect on health. ERA identified falsehoods or misleading claims of plaintiff experts reports and assessments.

Bays Lung Rose & Holma, Attorneys at Law, Confidential Site, Honolulu, HI, Principal Scientist: At the request of counsel, Dr. Okoji performed a comprehensive review of relevant medical documents related to the defendant's claim of significant health effects from a neighbors willful and illegal application of fipronil and bifenthrin. Reviewed relevant scientific literature and provided an expert witness report.

Monkeypod Kitchen, Ko Olina Station, Kapolei, HI, Principal Scientist: ERA was engaged to provide a water intrusion assessment and remediation work plan for the Monkeypod Kitchen located at 92-1048 Olani Street, Suite 4-107, Kapolei, HI 96707. According to Monkeypod Kitchen there have been multiple water intrusion events over the last year that are related to faulty construction. ERA used an Infrared camera, a Delmhorst pin-type moisture meter and visual assessment to evaluate the extent of water intrusion at the Site. Evidence of significant water intrusion was observed throughout the space. While water did not originate from a sewer line backup, the water intrusion event as observed and described was determined to be Category 3. Category 3 waters are defined by the Institute of Inspection, Cleaning and Restoration Certification (IICRC) as grossly contaminated and may contain pathogenic, toxigenic or other harmful agents. Wood flooring throughout the lower level of the restaurant was observed to be severely water impacted and was noted with elevated moisture, water staining and buckling. Significantly damaged wood flooring was removed and replaced with plywood in a several areas. These impacts are assumed to be the results of water

infiltration from the center island bar area that houses multiple sources of water including sinks, dishwashers and ice makers. Water is believed to exit the island bar area via infiltration through or over the cove base of the perimeter tiles. Additional areas of water impacts were noted in the kitchen area and upstairs bar and wine cellar. The wine cellar interstitial wall spaces were determined to be severely mold-impacted and due to inadequate insulation. ERA recommended immediate remedial actions at the Site. Following remedial actions, a through post-remedial verification assessment was conducted of each impacted space that included a moisture assessment of left-in place building materials, bacterial swab sampling and air testing for mold.

The Beall Corporation, Waikiki Pavilion, 1925 Kalakaua Ave, Honolulu, HI, Principal Scientist: On May 2, 2014 Environmental Risk Analysis LLC (ERA) was contacted to provide a water intrusion assessment and remediation work plan for the Waikiki Pavilion retail stores located at 1925 Kalakaua Ave, in Waikiki, Honolulu, Hawaii. Dr. Russell Okoji was onsite at approximately 9:15pm approximately 45 minutes following notification. According to the Beall Corporation, the origin of the water intrusion was a sewer line backup. Waialua Plumbing was observed in the loading area attempting to unclog the waste line. Four tenants occupied the retail area of the Waikiki Pavilion (ABC Store, Vitamin and Supplement, Subway and Vapor. According to tenant accounts, wastewater entered into the retail areas via plumbing lines connected to the main waste line shared with the Waikiki Pavilions Condominium. ERA used an Infrared camera, a Delmhorst pin-type moisture meter and visual assessment to evaluate the extent of water intrusion at the Site. Evidence of significant water intrusion in each of the four spaces were noted. The water intrusion event as observed and described was determined to be Category 3. Category 3 waters are defined by the Institute of Inspection, Cleaning and Restoration Certification (IICRC) as grossly contaminated and may contain pathogenic, toxigenic or other harmful agents. ERA recommended immediate implementation of remedial actions at the Site and provided detailed work plans for each space. Provided on-call remedial oversight and a post-remedial Category 3 water intrusion assessment

William Scottsman, Pearl City, HI, Principal Scientist: Performed a comprehensive moisture and mold assessment for 2 double wide modular trailers used by HECO at their modular trailer lot in Pearl City, Hawaii. HECO mold consultants were called to determine source of water and mold with no success. No overt sources of water intrusion were noted. ERA evaluated the space and determined that mold growth was a result of inappropriate temperature and humidity control. ERA provided work plans and specifications for remediation, remedial oversight and post-remedial verification. Dr. Okoji attended meetings on behalf of William Scottsman with HECO facility maintenance personnel. Provided recommendations to prevent recurrence including materials for build back and HVAC system controls.

John Bansemer Construction, Asbestos Survey, Kealakekua, HI, Principal in Charge: Environmental Risk Analysis, LLC (ERA) was retained by John Bansemer Construction Inc. to conduct an asbestos assessment of the space occupied by the University of Hawaii, West-Hawaii campus located at 81-964 Haleki'i Street in Kealakekua, Hawai'i. This survey was performed in accordance with federal, state, and local regulatory requirements.

Limberg Trust, Asbestos Survey, Kealakekua, HI, Principal in Charge: Environmental Risk Analysis, LLC (ERA) was retained by the Limberg Trust to conduct an asbestos assessment of the space occupied by the University of Hawaii, West-Hawaii campus located at 81-970 Haleki'i Street in Kealakekua, Hawai'i. This survey was performed in accordance with federal, state, and local regulatory requirements.

Occidental Insurance, Hazardous Materials Survey and Remediation, Honolulu, HI, Principal in Charge: Performed a comprehensive hazardous materials survey and asbestos remediation at a 10,000 square foot facility located at the current Occidental Insurance building. Provided air monitoring for the duration of the remediation process to verify that the remedial containment and High Efficiency Particulate Air (HEPA) exhaust filter were working efficiently. Asbestos results were within acceptable limits (less than or equal to 0.01 fibers per cubic centimeter of air sampled via Phase Contrast Microscopy (PCM)) for all air monitoring locations. Air monitoring locations were located at the containment entrance and at the exhaust output. Additional air samples collected from an adjacent office space (per tenant request) did indicate an elevated number of particulate fibers as analyzed using PCM. PCM does not differentiate between fiber types (asbestos, dust, cotton, fiber glass, etc.). Confirmation Transmission Electron Microscopy (TEM) analysis of these samples resulted in <0.0006 asbestos fibers per cubic centimeter of air, which is within acceptable limits. Clearance air samples collected at completion of the abatement activities were within acceptable limits (less than or equal to 0.01 fibers per cubic centimeter of air sampled). The abated space was cleared for reoccupancy. Post-remedial visual verification also confirmed that asbestos containing materials (as identified in the ERA March 2010, Asbestos Survey) were properly abated.

Hawai'i State Department of Accounting and General Services (DAGS), Kaneohe, HI, Project Manager: Interpreted lead and asbestos data collected at King Intermediate School classrooms and buildings. Worked closely with the DOH Asbestos Division to determine potential health risks and to determine a consistent health message for the public. Performed toxicological and environmental consulting in meetings with DAGS, the Department of Education (DOE) and King Intermediate staff. Presented a discussion of the health effects of lead and asbestos at a public meeting. Provide information fact sheets on the health effects of lead and asbestos. Provided justification

letters required for reoccupation of King Intermediate. Also instrumental in quelling fears of neighboring residents who may also have been exposed to low levels of asbestos and lead.

Department of Agriculture Lead-based Paint Survey, HI, Principal in Charge: Performed a lead paint survey at nine (9) Department of Agriculture facilities located on five (5) islands. The survey included field investigation and sampling, testing and analysis, report of findings, recommendations and a cost estimate of corrective measures. The lead paint assessment consisted of the use of an x-ray fluorescence (XRF) analyzer and confirmation lead paint chip samples. The XRF analyzer was used as a screening device on all internal and external painted surfaces of the facilities. Lead paint chip samples will be collected randomly to corroborate XRF results.

Whole Foods, Kahala Mall, Honolulu, HI, Project Manager: Conducted a comprehensive hazard materials assessment that included assessment for mold, asbestos, lead, PCBs and arsenic. Provided specification documents for remediation as well as request for proposal offerings on behalf of the client. Performed site walk with prospective remedial contractors. Performed oversight and ambient and personal air monitoring during remediation activities.

American Savings Bank, Kahului Branch, HI, Principal Scientist, Performed a facility wide hazardous materials survey for lead and asbestos containing materials. Provided remedial specifications for identified LBP and ACM. Procured remediation contractors and oversaw remedial efforts. Post-remedial verification report also provided.

Loveland Academy, Honolulu, HI: Principal in Charge: Environmental Risk Analysis LLC (ERA) was retained by Loveland Academy to conduct a Three-Year Asbestos Hazard Emergency Response Act (AHERA) asbestos re-inspection of the Loveland Academy campus buildings. The re-inspections were performed to comply with applicable Federal and State guidelines requiring that secondary schools (K-12) be re-inspected every three years for any changes in the condition of assumed and confirmed asbestos-containing building materials (ACBMs). ERA re-inspected accessible areas within each building and noted ACBM conditions using the seven AHERA assessment categories. ERA was then re-contracted by Loveland to perform third-party oversight of remedial activities.

O'Connor Playdon & Guben LLP, Kailua Kona, HI, Principal Toxicologist: ERA was hired to provide expert witness and consulting services in support of litigation. ERA was requested to review defendant expert witness reports and provide rebuttal. ERA provided multiple declarations to support plaintiff argument. Also provided sampling and analysis services for mold and sewage related organisms. Designed studies to determine source of water intrusion and was a resource to plaintiff medical experts regarding use of medical tests to help support the case. Project is Ongoing.

American Savings Bank, Kahului Branch, HI, Principal Scientist: Performed a facility wide mold and water intrusion assessment at the American Savings Bank, Kahului Branch. Assessment included over 30 distinct spaces within the structure including a separate loan office and former doctor's office space. Indoor air samples were collected from approximately 10 spaces presumed mold impacted. The assessment revealed significant and excess mold spores in a single area historically impacted by water intrusion. Provided mold remediation protocols and facilitated remedial efforts.

American Savings Bank, Lahaina, HI, Principal Scientist: Performed a facility-wide mold assessment of the American Savings Bank, Lahaina Branch. Provided an assessment report and mold remediation protocols. Provided third party oversight of remedial activities.

American Savings Bank, Kailua, HI, Principal Scientist: Performed a comprehensive moisture and mold assessment which included the HVAC system. Utilized bore scope cameras, infrared thermal imaging cameras, and direct handheld moisture meters to identify moisture impacted areas. Performed air sampling to identify potential health risks. Conducted Post-remedial verification assessments.

American Savings Bank, Kealahou Branch, HI, Principal Scientist: Performed a facility wide mold and water intrusion assessment. Indoor air samples were collected from 8 areas presumed mold impacted. The assessment revealed significant and excess mold spores in multiple areas. Provided mold remediation protocols and facilitated remedial efforts.

Li & Tsukazaki, Attorneys at Law, LLC, HI, Principal Scientist: Environmental Risk Analysis, LLC (ERA) was retained by Mr. William McCohnell through Philip Li, Esq to conduct a limited moisture and mold assessment of the condominium unit designated by Unit # 1302 at 19 Pohina Street, Wailuku, Maui, Hawaii. ERA provided a third party independent post-remedial verification assessment of the unit, visually assessed for the presence or absence of suspect visible mold growth (SVMG) collected tape lift samples for laboratory confirmation. Data was collected for potential litigation.

Kincaids (Restaurants Unlimited Inc.), Honolulu, HI, Project Manager: Provided initial sewage intrusion assessment and remediation protocol following a significant sewage backflow event of Kincaid's neighboring tenants at the Ward Warehouse Center. Protocol included standard of care procedures to remediate the area, protect public health and limit client's liability. Provided on-call 24-hr support during the critical first days of the sewage backup.

Hawai'i State Department of Accounting and General Services (DAGS), Records Warehouse, Honolulu, HI, Project Manager: Provided emergency on-call consulting services for the DAGs records warehouse in Mapunapuna, HI. Provided mold investigation and air sampling protocols, mold survey and remedial plan. Discussed potential risks with warehouse staff.

Hawai'i State Public Library System, HI, Project Manager: Currently providing the Hawai'i State Library System with open ended support for HVAC system evaluations, indoor air quality and mold assessments. Performed HVAC system evaluations and indoor air quality assessments. Provided detailed recommendations regarding HVAC system efficiency and upgrades, remediation protocols, and remediation oversight.

Hawai'i State Public Library System, HI, Project Manager: Performed a water intrusion and mold assessment at the Ewa Beach Public Library. Provided mold remediation work plans for books and building materials impacted by mold. Provided third party oversight during remedial activities and post-remedial verification following clean up.

Honolulu Sports Medical Center: Project Manager: Provided on-call 24-hour support to hospital staff after a "black" water flooding event at the facility. Provide a comprehensive moisture assessment to determine extent of impacts using handheld moisture meters and infrared cameras. Provided work plans for remediation and reviewed plans provided by the building manager's consultants. Oversaw remedial efforts and conducted air sampling. Ensured that remediation was performed according to the standard of care at the time the assessment was conducted

A&B Properties Inc., Stangenwald Building, 119 Merchant Street, HI, Principal Scientist: Provided a Category 3 Water Intrusion Initial Assessment, Remediation Work Plan and Post-remedial Assessment. ERA used an Infrared camera, a Delmhorst pin-type moisture meter and visual assessment to evaluate the extent of water intrusion at the Site. The Site consisted of the entire basement of the building as well as a large portion of the 1st floor ground level.

Aloha Petroleum, Kaneohe HI, Project Manager: First responder to a "black" water backflow event at an Aloha Petroleum MiniMart. Provided an impact assessment report and workplans for remediation. Provided remedial oversight and fecal coliform indicator post-remedial verification testing in air and on surfaces. Ensured cleanup and remediation were performed according to the proper stand of care in an effort to obtain maximum insurance reimbursement and to limit future liabilities. Provided expert witness deposition in case against the party responsible for the flood.

Confidential Client, Koloa, HI, Project Manager: Provided litigation support for a potential carbon monoxide exposure event. Provided and implemented workplans to simulate and/or mathematically model exposures to a gasoline powered concrete cutter.

Kona Sea Villas, Kailua-Kona, Hawai'i and Fairway Villas, Waikoloa, Hawai'i, Project Manager: Provided mold-sampling services to determine limited speciation of fungi found on site and recommended remedial actions. Confirmation sampling and consultation services continued through completion of construction activities. Provided detailed remediation plans, oversight and post-remedial verification.

Hospice of Kona, Kailua-Kona, Hawai'i: Project Manager: Performed mold-sampling services to determine limited speciation of fungi found on site. Provided informational training to employees and recommended remedial actions. Conducted HVAC system evaluation and provided specifications to prevent mold growth and recommendations to increase HVAC efficiency.

Kohala Coast Mold Assessment: Project Manager: Provided mold-sampling services for multiple structures to determine limited speciation of fungi found on site and recommended remedial actions. Provided detailed remediation plans and scopes of work. Evaluated HVAC system and quality of indoor air via spore trap analyses.

Lerma and Goya: Project Manager: Provided mold sampling and consulting services for a law office in Hilo, Hawai'i. Findings and Recommendations successfully used in claim against insurance company for damages related to a leaky toilet and substantial mold infestation in subfloors and adjoining walls.

Presentations/Publications

Building Owners and Management Association (BOMA Hawaii), Managing COVID-19: Response and Outcomes in the Property Management World, COVID-19 Remediation, Environmental Testing and Post-Remediation Verification Test Methods, October 2020.

Okoji, R.S. & Froines, J.R. Sodium arsenite administration via drinking water increases genome-wide and Ha-ras DNA methylation in methyl deficient C57Bl/6J mice. *Carcinogenesis*, **23**, 777-785.

Okoji, R.S., Hernandez, A., Leininger, J.R., Maronpot, R.R. & Froines, J.R. Subchronic animal bioassay of sodium arsenite in methyl-deficient male C57Bl/6J mice. Submitted to Environmental Research.

Okoji, R.S., Maronpot, R. & Froines, J.R. Chronic animal bioassay for sodium arsenite in methyl deficient C57Bl/6 mice. Submitted to *Environmental Health Perspectives*.

Okoji, R.S., Leininger, J. & Froines, J.R. Subchronic Toxicity Study of Sodium Arsenite in Methyl-Deficient Male C57Bl/6 Mice. In: *Arsenic Exposure and Health Effects*. 1999. (eds. Chappel, W.R., Abernathy, C.O. & Calderon, R.L.) Elsevier Science Ltd, Oxford, UK, pp. 225-232.

Froines, J., Collins, M., Fanning, E., McConnell, R., Robbins, W., Silver, K., Kun, H., Mutialu, R., **Okoji, R.,** Taber, R., Tareen, N. & Zandonella, C. 1998. Health and Environmental Assessment of MTBE. Report to the Governor and Legislature of the State of California as sponsored by SB 521. 1999: Volume II: Human Health Effects. An evaluation of the Scientific Peer-Reviewed Research and Literature on the Human Health Effects of MTBE, its Metabolites, Combustion Products and Substitute Compounds. University of California: available at <http://tsrtp.ucdavis.edu/>

Okoji, R.S., Hernandez, A., Cebrian, M. & Froines, J.R. Toxicokinetic profile of arsenic metabolites in C57Bl/6 mice maintained on methyl-deficient diets. In Progress.

Makua Military Reservation Community Meetings: Supported the USARMY Garrison in multiple public meeting venues specifically providing human health risk information to the public. (2014-2015).

Keaukaha Community Meeting: Air sampling in a residential neighborhood (2005).

Lead In Drinking Water KHON 2 News Story: Hawai'i Department of Health (2008).

King Intermediate School, Hawai'i State Department of Accounting and General Services/ Department of Education. Health effects of Lead and Asbestos (December 2004).

Orote Community Meeting, Guam: Health risks associated with the ingestion of seafood from Agat Bay (2003).

Ordnance Reef Community Meetings: Health risks from ingestion of seafood sourced from Ordnance Reef. (2010-2012).

University of Hawai'i: Guest Lecturer: Metal Toxicology (2000).

Lorman Education Services: Solving Water Intrusion and Mold problems in Hawai'i. Water Intrusion: The Standard Of Care, Health effects of Molds (2006).

Lorman Education Services, Solving Water Intrusion and Mold problems in Hawai'i. Health effects of Molds. 2005.

USEPA, San Francisco, CA: Health risks associated with recreational activities in Agat bay and the ingestion of seafood from Agat Bay, Guam.

Fourth International Conference on the Health Effects of Arsenic: Sodium arsenite administered in drinking water reduces DNA methylation in methyl-deficient C57Bl/6 mice, 2000.

Toxic Substances Research and Teaching Program (TSR&TP): 12th Annual Research Symposium. Presentation: Arsenic Induced Carcinogenesis: Perturbations in p53 and Ha-ras methylation patterns.

Toxic Substances Research and Teaching Program (TSR&TP): 11th Annual Research Symposium. Presentation: Arsenic Induced Carcinogenesis: A murine model for the induction of cancer in methyl-deficient C57Bl/6J mice.

Third International Conference on the Health Effects of Arsenic: Arsenic Induced Carcinogenesis: A murine model for the induction of cancer in methyl-deficient C57Bl/6J mice, 1999.

Commendations

- | | |
|-------------|--|
| 5/06 | Commendation Letter from the Operations Director at Kahala Mall for services performed during a severe flooding event. |
| 12/04 | Commendation letter from the Department of Accounting and General Services for risk communication support regarding asbestos and lead at King Intermediate School, Kaneohe, Hawai'i. |
| 8/00 – 9/04 | Multiple commendations from U.S. Navy and ATSDR for technical support in human health toxicological consulting and community relations |
| 5/99 | Recipient of the UCLA School of Public Health Raymond Goodman Scholarship for academic excellence |
| 6/95 | Recipient of the Gladys Emerson Award (UCLA) for research in toxicology and nutrition |

References

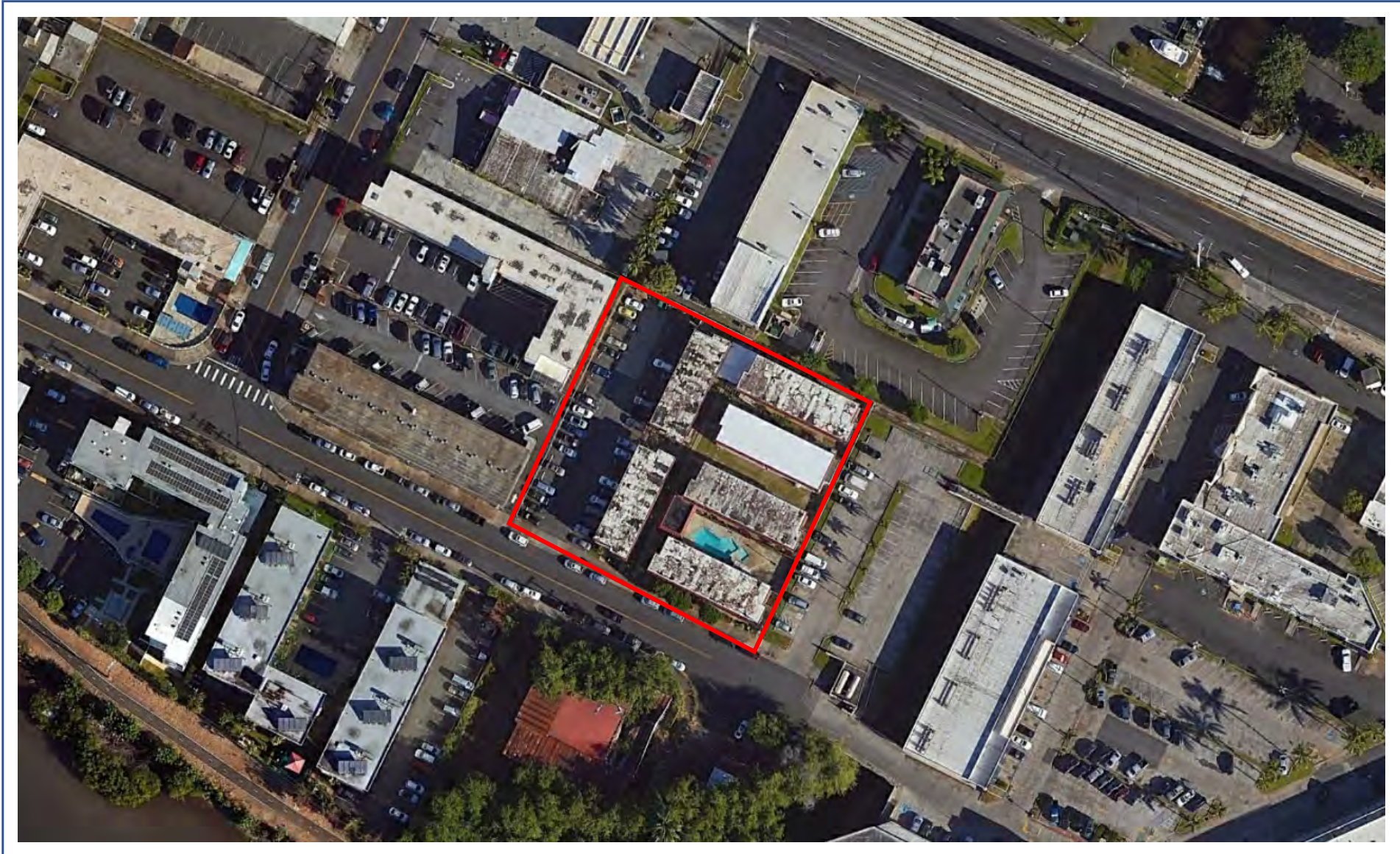
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Appendix **B**

AERIAL PHOTOGRAPHS



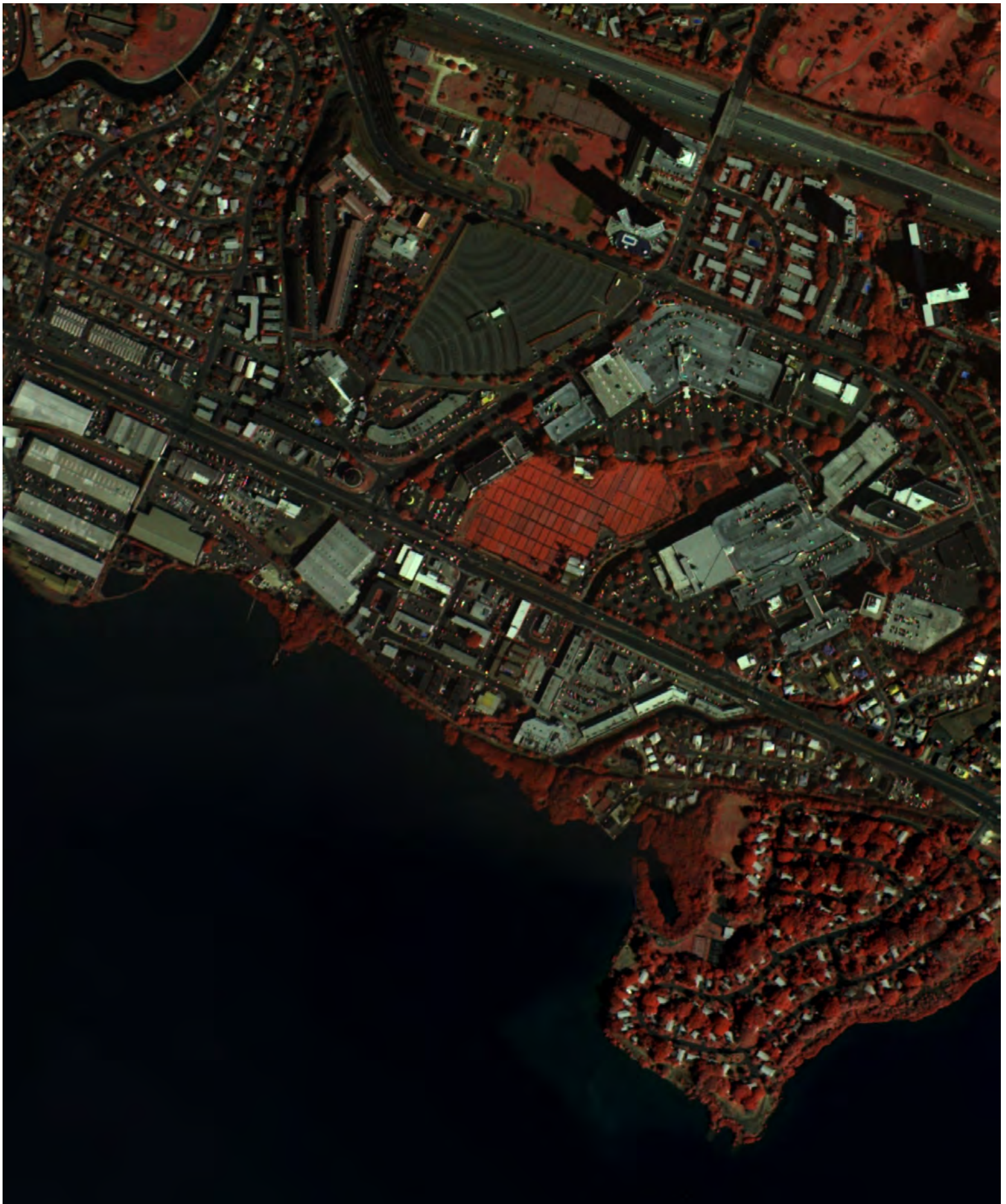
PROJECT NAME:

**Phase I Environmental Site Assessment
98-150 Lipoa Place
Aiea, HI 96701
TMK: (1) 9-8-014:021**

FIGURE TITLE:

2015 Aerial Photograph

Appendix B



INQUIRY #: 6816704.8

YEAR: 2001

— = 500'





INQUIRY # 6816704.8

YEAR: 1992

— = 500'



1-1-3



INQUIRY #: 6816704.8

YEAR: 1978

— = 500'



N



INQUIRY #: 6816704.8

YEAR: 1976

— = 500'





INQUIRY # 6816704.8

YEAR: 1968

— = 500'





INQUIRY # 6816704.8

YEAR: 1962

— = 500'





INQUIRY # 6816704.8

YEAR: 1952

— = 500'



Appendix **C**

**EDR REPORT,
SANBORN FIRE INSURANCE MAPS,
HISTORICAL TOPOGRAPHIC MAPS,
HISTORICAL AERIAL PHOTOGRAPHS AND
CITY DIRECTORY**

Hale Olipoa

98-150 Lipoa Place

Aiea, HI 96701

Inquiry Number: 6816704.2s

January 12, 2022

The EDR Radius Map™ Report with GeoCheck®



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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527-21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

98-150 LIPOA PLACE
AIEA, HI 96701

COORDINATES

Latitude (North): 21.3814840 - 21° 22' 53.34"
Longitude (West): 157.9442850 - 157° 56' 39.42"
Universal Transverse Mercator: Zone 4
UTM X (Meters): 609444.3
UTM Y (Meters): 2364597.0
Elevation: 7 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 9814487 WAIPAHU, HI
Version Date: 2017

South Map: 9814485 PEARL HARBOR, HI
Version Date: 2017

MAPPED SITES SUMMARY

Target Property Address:
98-150 LIPOA PLACE
AIEA, HI 96701

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
Reg	FORD ISLAND NAVAL ST		DOD	Same	2425, 0.459, South
Reg	PEARL HARBOR NAVAL S		DOD	Same	4694, 0.889, East
Reg	PEARL HARBOR NAVAL C	US NAVAL COMMAND	NPL, SEMS, US ENG CONTROLS, US INST CONTROLS, ROD	Same	3507, 0.664, ESE
1	HI-GRADE PLUMBING	98-151 LIPOA PL	HI SHWS, HI LUST, HI UST, HI ENG CONTROLS, HI INST...	Lower	125, 0.024, West
A2	EQUIPMENT YARD	98-155 KAMEHAMEHA HW	HI UST	Higher	197, 0.037, NNE
A3	SHELL SERVICE STATIO	86-003 FARRINGTON HW	RCRA NonGen / NLR, FINDS, ECHO	Higher	314, 0.059, NNW
B4	SEARS ROEBUCK & CO	98-180 KAMEHAMEHA HW	HI LUST, HI UST, HI Financial Assurance	Higher	412, 0.078, ENE
B5	SEARS AUTOMOTIVE CEN	98-180 KAMEHAMEHA HW	RCRA-VSQG, FINDS, ECHO	Higher	412, 0.078, ENE
C6	R & S VENTURE INC	98-121 KAMEHAMEHA HW	EDR Hist Auto	Higher	414, 0.078, NW
C7	IES RETAIL AIEA	98-121 KAMEHAMEHA HW	RCRA-VSQG	Higher	414, 0.078, NW
C8	FUJIS CHEVRON SERVIC	98-121 KAM HWY	EDR Hist Auto	Higher	414, 0.078, NW
C9	FUJIS CHEVRON SERVIC	98-121 KAM HWY	EDR Hist Auto	Higher	414, 0.078, NW
C10	PEARLRIDGE TEXACO 93	98-121 KAMEHAMEHA HW	HI UST, HI Financial Assurance	Higher	460, 0.087, NW
B11	MAHALO EXPRESS PEARL	98-189 KAMEHAMEHA HW	HI LUST, HI UST, HI Financial Assurance	Higher	479, 0.091, East
12	HI-GRADE PLUMBING, I	98-121 LIPOA PL	HI SHWS, HI LUST, HI UST, HI ENG CONTROLS, HI INST...	Lower	483, 0.091, WNW
C13	NATIONAL TIRE OF HAW	98-115 KAMEHAMEHA HW	EDR Hist Auto	Higher	553, 0.105, NW
D14	HAWAIIAN JIFFY INC	98-199 KAM HIGHWAY #	RCRA NonGen / NLR, FINDS, ECHO	Lower	639, 0.121, East
D15	HECO TRANSFORMER 520	98-199 KAMEHAMEHA HW	HI SHWS, HI SPILLS	Lower	639, 0.121, East
D16	C C CLEANERS	98-199 KAMEHAMEHA HW	EDR Hist Cleaner	Lower	639, 0.121, East
D17	KENS CLEANERS HAWAII	98-199 KAM HWY STE C	EDR Hist Cleaner	Lower	639, 0.121, East
E18	SHELL SERVICE STATIO	98-080 KAMEHAMEHA HW	RCRA NonGen / NLR	Higher	1072, 0.203, NW
E19	ALOHA PETROLEUM: YUN	98-135 KAMEHAMEHA HW	RCRA-VSQG	Higher	1072, 0.203, NW
E20	JIM SLEMONS VOLVO HI	98 075 KAM HWY	RCRA NonGen / NLR	Higher	1123, 0.213, NW
E21	ASSOCIATED STEEL WOR	98-085 KAMEHAMEHA HW	HI LUST, HI UST	Higher	1134, 0.215, NW
E22	SHELL SERVICE STATIO	98-080 KAMEHAMEHA HW	HI LUST, HI UST, HI SPILLS, HI Financial Assurance	Higher	1285, 0.243, NW
E23	VOLVO HAWAII	98-075 KAMEHAMEHA HW	HI LUST, HI UST	Higher	1332, 0.252, NW
24	HAWAII BAKING CO INC	98 736 MOANALUA LOOP	RCRA-VSQG, HI SHWS, HI LUST, HI UST, HI SPILLS,...	Higher	1416, 0.268, NW
F25	AIEA CUE (FORMERLY P	98-064 KAMEHAMEHA HW	HI LUST, HI UST, HI SPILLS, HI UIC	Higher	1553, 0.294, NW
F26	TONY HONDA PEARLRIDG	98-055 KAMEHAMEHA HW	HI LUST, HI UST, HI Financial Assurance	Higher	1733, 0.328, NW
27	PEARLRIDGE SHOPPING	98-1005 MOANALUA RD	HI SHWS, HI SPILLS	Higher	1887, 0.357, NE
28	J C PENNEY CO., INC.	98-1025 MOANALUA RD	HI LUST, HI UST	Higher	2042, 0.387, NE
29	HALAWA MEDIUM SECURI	99-902 MOANALUA HWY	HI LUST, HI UST	Higher	2427, 0.460, North
30	AIEA CENTRAL OFFICE	98-327 KAAMILO ST	HI LUST, HI UST, HI Financial Assurance	Higher	2543, 0.482, ESE
31	GOODYEAR AUTO SERVIC	98-1277 KAAHUMANU ST	HI SHWS, HI SPILLS	Higher	3897, 0.738, NW
32	PEARL CITY MIDAS	98-1234 KAAHUMANU ST	HI SHWS	Higher	3976, 0.753, NW
33	WAIU DRUM STORAGE		FUDS	Lower	4156, 0.787, WNW
34	AL PHILLIPS, THE CLE	98-1277 KAAHUMANU ST	HI SHWS	Higher	4174, 0.791, NW
35	406 KAMEHAMEHA HIGHW	406 KAMEHAMEHA HWY	HI SHWS	Higher	4902, 0.928, WNW
36	AIEA MILITARY RESERV		FUDS	Higher	4954, 0.938, ESE

MAPPED SITES SUMMARY

Target Property Address:
98-150 LIPOA PLACE
AIEA, HI 96701

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
37	ALOHA STADIUM STATIO	99-500 SALT LAKE BLV	HI SHWS	Higher	5031, 0.953, SE
38	RICHARDSON PARK		FUDS	Higher	5089, 0.964, SE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Lists of Federal Delisted NPL sites

Delisted NPL..... National Priority List Deletions

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY..... Federal Facility Site Information listing

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS..... Corrective Action Report

Lists of Federal RCRA TSD facilities

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Lists of Federal RCRA generators

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators

Federal institutional controls / engineering controls registries

LUCIS..... Land Use Control Information System

Federal ERNS list

ERNS..... Emergency Response Notification System

EXECUTIVE SUMMARY

Lists of state and tribal landfills and solid waste disposal facilities

HI SWF/LF..... Permitted Landfills in the State of Hawaii

Lists of state and tribal leaking storage tanks

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

Lists of state and tribal registered storage tanks

FEMA UST..... Underground Storage Tank Listing

INDIAN UST..... Underground Storage Tanks on Indian Land

Lists of state and tribal voluntary cleanup sites

HI VCP..... Voluntary Response Program Sites

INDIAN VCP..... Voluntary Cleanup Priority Listing

Lists of state and tribal brownfield sites

HI BROWNFIELDS..... Brownfields Sites

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

HI SWRCY..... SWRCY

INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands

ODI..... Open Dump Inventory

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

IHS OPEN DUMPS..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... Delisted National Clandestine Laboratory Register

HI CDL..... Clandestine Drug Lab Listing

US CDL..... National Clandestine Laboratory Register

Local Land Records

LIENS 2..... CERCLA Lien Information

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System

HI SPILLS 90..... SPILLS 90 data from FirstSearch

Other Ascertainable Records

SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing

EXECUTIVE SUMMARY

US FIN ASSUR.....	Financial Assurance Information
EPA WATCH LIST.....	EPA WATCH LIST
2020 COR ACTION.....	2020 Corrective Action Program List
TSCA.....	Toxic Substances Control Act
TRIS.....	Toxic Chemical Release Inventory System
SSTS.....	Section 7 Tracking Systems
RMP.....	Risk Management Plans
RAATS.....	RCRA Administrative Action Tracking System
PADS.....	PCB Activity Database System
ICIS.....	Integrated Compliance Information System
FTTS.....	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS.....	Material Licensing Tracking System
COAL ASH DOE.....	Steam-Electric Plant Operation Data
COAL ASH EPA.....	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER.....	PCB Transformer Registration Database
RADINFO.....	Radiation Information Database
HIST FTTS.....	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS.....	Incident and Accident Data
CONSENT.....	Superfund (CERCLA) Consent Decrees
INDIAN RESERV.....	Indian Reservations
FUSRAP.....	Formerly Utilized Sites Remedial Action Program
UMTRA.....	Uranium Mill Tailings Sites
LEAD SMELTERS.....	Lead Smelter Sites
US AIRS.....	Aerometric Information Retrieval System Facility Subsystem
US MINES.....	Mines Master Index File
ABANDONED MINES.....	Abandoned Mines
DOCKET HWC.....	Hazardous Waste Compliance Docket Listing
UXO.....	Unexploded Ordnance Sites
FUELS PROGRAM.....	EPA Fuels Program Registered Listing
HI AIRS.....	List of Permitted Facilities
HI DRYCLEANERS.....	Permitted Drycleaner Facility Listing
HI LEAD.....	LEAD
MINES MRDS.....	Mineral Resources Data System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP..... EDR Proprietary Manufactured Gas Plants

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

HI RGA HWS..... Recovered Government Archive State Hazardous Waste Facilities List
HI RGA LF..... Recovered Government Archive Solid Waste Facilities List
HI RGA LUST..... Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

EXECUTIVE SUMMARY

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: Also known as Superfund, the National Priority List database is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund program. The source of this database is the U.S. EPA.

A review of the NPL list, as provided by EDR, and dated 10/20/2021 has revealed that there is 1 NPL site within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>PEARL HARBOR NAVAL C</i> Cerclis ID:: 904481 EPA Id: HI4170090076	<i>US NAVAL COMMAND</i>	<i>ESE 1/2 - 1 (0.664 mi.)</i>	<i>0</i>	<i>8</i>

Lists of Federal RCRA generators

RCRA-VSQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

A review of the RCRA-VSQG list, as provided by EDR, and dated 09/13/2021 has revealed that there are 3 RCRA-VSQG sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>SEARS AUTOMOTIVE CEN</i> EPA ID:: HID981962731	<i>98-180 KAMEHAMEHA HW</i>	<i>ENE 0 - 1/8 (0.078 mi.)</i>	<i>B5</i>	<i>60</i>
<i>IES RETAIL AIEA</i> EPA ID:: HIR000136838	<i>98-121 KAMEHAMEHA HW</i>	<i>NW 0 - 1/8 (0.078 mi.)</i>	<i>C7</i>	<i>65</i>
<i>ALOHA PETROLEUM: YUN</i> EPA ID:: HIR000110874	<i>98-135 KAMEHAMEHA HW</i>	<i>NW 1/8 - 1/4 (0.203 mi.)</i>	<i>E19</i>	<i>87</i>

EXECUTIVE SUMMARY

Lists of state- and tribal hazardous waste facilities

HI SHWS: The State Hazardous Waste Sites records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The data come from the Department of Health.

A review of the HI SHWS list, as provided by EDR, and dated 08/17/2020 has revealed that there are 10 HI SHWS sites within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
HAWAII BAKING CO INC	98 736 MOANALUA LOOP	NW 1/4 - 1/2 (0.268 mi.)	24	100
PEARLRIDGE SHOPPING	98-1005 MOANALUA RD	NE 1/4 - 1/2 (0.357 mi.)	27	113
GOODYEAR AUTO SERVIC	98-1277 KAAHUMANU ST	NW 1/2 - 1 (0.738 mi.)	31	120
PEARL CITY MIDAS	98-1234 KAAHUMANU ST	NW 1/2 - 1 (0.753 mi.)	32	123
AL PHILLIPS, THE CLE	98-1277 KAAHUMANU ST	NW 1/2 - 1 (0.791 mi.)	34	125
406 KAMEHAMEHA HIGHW	406 KAMEHAMEHA HWY	WNW 1/2 - 1 (0.928 mi.)	35	125
ALOHA STADIUM STATIO	99-500 SALT LAKE BLV	SE 1/2 - 1 (0.953 mi.)	37	127
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
HI-GRADE PLUMBING	98-151 LIPOA PL	W 0 - 1/8 (0.024 mi.)	1	53
HI-GRADE PLUMBING, I	98-121 LIPOA PL	WNW 0 - 1/8 (0.091 mi.)	12	75
HECO TRANSFORMER 520	98-199 KAMEHAMEHA HW	E 0 - 1/8 (0.121 mi.)	D15	80

Lists of state and tribal leaking storage tanks

HI LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Health's Active Leaking Underground Storage Tank Log Listing.

A review of the HI LUST list, as provided by EDR, and dated 06/01/2021 has revealed that there are 13 HI LUST sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
SEARS ROEBUCK & CO Release ID: 940047 Facility Id: 9-201836 Facility Status: LUST Cleanup Initiated	98-180 KAMEHAMEHA HW	ENE 0 - 1/8 (0.078 mi.)	B4	59
MAHALO EXPRESS PEARL Release ID: 980080 Facility Id: 9-201723 Facility Status: Site Cleanup Completed (NFA)	98-189 KAMEHAMEHA HW	E 0 - 1/8 (0.091 mi.)	B11	72
ASSOCIATED STEEL WOR Release ID: 930006 Facility Id: 9-202700 Facility Status: Site Cleanup Completed (NFA)	98-085 KAMEHAMEHA HW	NW 1/8 - 1/4 (0.215 mi.)	E21	94
SHELL SERVICE STATIO Release ID: 030025 Release ID: 870003 Release ID: 030026	98-080 KAMEHAMEHA HW	NW 1/8 - 1/4 (0.243 mi.)	E22	95

EXECUTIVE SUMMARY

Facility Id: 9-201889

Facility Status: Site Cleanup Completed (NFA)

VOLVO HAWAII	98-075 KAMEHAMEHA HW	NW 1/4 - 1/2 (0.252 mi.)	E23	99
Release ID: 980257				
Facility Id: 9-200359				
Facility Status: Site Cleanup Completed (NFA)				
HAWAII BAKING CO INC	98 736 MOANALUA LOOP	NW 1/4 - 1/2 (0.268 mi.)	24	100
Release ID: 990157				
Facility Id: 9-200230				
Facility Status: Site Cleanup Completed (NFA)				
AIEA CUE (FORMERLY P	98-064 KAMEHAMEHA HW	NW 1/4 - 1/2 (0.294 mi.)	F25	109
Release ID: 930138				
Facility Id: 9-200293				
Facility Status: Site Cleanup Completed (NFA)				
TONY HONDA PEARLRIDG	98-055 KAMEHAMEHA HW	NW 1/4 - 1/2 (0.328 mi.)	F26	112
Release ID: 990072				
Facility Id: 9-201475				
Facility Status: Site Cleanup Completed (NFA)				
J C PENNEY CO., INC.	98-1025 MOANALUA RD	NE 1/4 - 1/2 (0.387 mi.)	28	116
Release ID: 010044				
Facility Id: 9-201541				
Facility Status: Site Cleanup Completed with EHE/EHMP				
HALAWA MEDIUM SECURI	99-902 MOANALUA HWY	N 1/4 - 1/2 (0.460 mi.)	29	117
Release ID: 990204				
Release ID: 880020				
Release ID: 000091				
Facility Id: 9-202153				
Facility Id: 9-202399				
Facility Status: Site Cleanup Completed (NFA)				
AIEA CENTRAL OFFICE	98-327 KAAMILO ST	ESE 1/4 - 1/2 (0.482 mi.)	30	119
Release ID: 920130				
Facility Id: 9-200491				
Facility Status: Site Cleanup Completed (NFA)				

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
HI-GRADE PLUMBING	98-151 LIPOA PL	W 0 - 1/8 (0.024 mi.)	1	53
Release ID: 910080				
Facility Id: 9-201389				
Facility Status: Site Cleanup Completed (NFA)				
HI-GRADE PLUMBING, I	98-121 LIPOA PL	WNW 0 - 1/8 (0.091 mi.)	12	75
Release ID: 020014				
Facility Id: 9-201529				
Facility Status: Site Cleanup Completed (NFA)				

Lists of state and tribal registered storage tanks

HI UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Health's Listing of Underground Storage Tanks.

A review of the HI UST list, as provided by EDR, and dated 06/01/2021 has revealed that there are 8

EXECUTIVE SUMMARY

HI UST sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
EQUIPMENT YARD Tank Status: Permanently Out of Use Facility Id: 9-201489	98-155 KAMEHAMEHA HW	NNE 0 - 1/8 (0.037 mi.)	A2	55
SEARS ROEBUCK & CO Tank Status: Permanently Out of Use Facility Id: 9-201836 Date Closed: 12/15/1993 Date Closed: 02/22/1994	98-180 KAMEHAMEHA HW	ENE 0 - 1/8 (0.078 mi.)	B4	59
PEARLRIDGE TEXACO 93 Tank Status: Permanently Out of Use Tank Status: Currently in Use Facility Id: 9-201226 Date Closed: 10/01/1991	98-121 KAMEHAMEHA HW	NW 0 - 1/8 (0.087 mi.)	C10	69
MAHALO EXPRESS PEARL Tank Status: Permanently Out of Use Facility Id: 9-201723 Date Closed: 06/14/2005	98-189 KAMEHAMEHA HW	E 0 - 1/8 (0.091 mi.)	B11	72
ASSOCIATED STEEL WOR Tank Status: Permanently Out of Use Facility Id: 9-202700 Date Closed: 10/12/1992	98-085 KAMEHAMEHA HW	NW 1/8 - 1/4 (0.215 mi.)	E21	94
SHELL SERVICE STATIO Tank Status: Permanently Out of Use Facility Id: 9-201889 Date Closed: 03/25/2003	98-080 KAMEHAMEHA HW	NW 1/8 - 1/4 (0.243 mi.)	E22	95

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
HI-GRADE PLUMBING Tank Status: Permanently Out of Use Facility Id: 9-201389 Date Closed: 07/30/1991	98-151 LIPOA PL	W 0 - 1/8 (0.024 mi.)	1	53
HI-GRADE PLUMBING, I Tank Status: Permanently Out of Use Facility Id: 9-201529 Date Closed: 01/28/2002	98-121 LIPOA PL	WNW 0 - 1/8 (0.091 mi.)	12	75

State and tribal institutional control / engineering control registries

HI ENG CONTROLS: A listing of sites with engineering controls in place.

A review of the HI ENG CONTROLS list, as provided by EDR, and dated 04/17/2019 has revealed that there are 2 HI ENG CONTROLS sites within approximately 0.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
HI-GRADE PLUMBING	98-151 LIPOA PL	W 0 - 1/8 (0.024 mi.)	1	53
HI-GRADE PLUMBING, I	98-121 LIPOA PL	WNW 0 - 1/8 (0.091 mi.)	12	75

EXECUTIVE SUMMARY

Voluntary Remediation Program and Brownfields sites with institutional controls in place.

A review of the HI INST CONTROL list, as provided by EDR, and dated 04/17/2019 has revealed that there are 2 HI INST CONTROL sites within approximately 0.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>HI-GRADE PLUMBING</i>	<i>98-151 LIPOA PL</i>	<i>W 0 - 1/8 (0.024 mi.)</i>	<i>1</i>	<i>53</i>
<i>HI-GRADE PLUMBING, I</i>	<i>98-121 LIPOA PL</i>	<i>WNW 0 - 1/8 (0.091 mi.)</i>	<i>12</i>	<i>75</i>

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 09/13/2021 has revealed that there are 4 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>SHELL SERVICE STATIO</i> EPA ID:: HIR000116061	<i>86-003 FARRINGTON HW</i>	<i>NNW 0 - 1/8 (0.059 mi.)</i>	<i>A3</i>	<i>55</i>
<i>SHELL SERVICE STATIO</i> EPA ID:: HIR000111708	<i>98-080 KAMEHAMEHA HW</i>	<i>NW 1/8 - 1/4 (0.203 mi.)</i>	<i>E18</i>	<i>84</i>
<i>JIM SLEMONS VOLVO HI</i> EPA ID:: HID982370512	<i>98 075 KAM HWY</i>	<i>NW 1/8 - 1/4 (0.213 mi.)</i>	<i>E20</i>	<i>91</i>

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>HAWAIIAN JIFFY INC</i> EPA ID:: HID982514382	<i>98-199 KAM HIGHWAY #</i>	<i>E 0 - 1/8 (0.121 mi.)</i>	<i>D14</i>	<i>77</i>

FUDS: The Listing includes locations of Formerly Used Defense Sites Properties where the US Army Corps Of Engineers is actively working or will take necessary cleanup actions.

A review of the FUDS list, as provided by EDR, and dated 08/10/2021 has revealed that there are 3 FUDS sites within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>AIEA MILITARY RESERV</i> <i>RICHARDSON PARK</i>		<i>ESE 1/2 - 1 (0.938 mi.)</i>	<i>36</i>	<i>126</i>
		<i>SE 1/2 - 1 (0.964 mi.)</i>	<i>38</i>	<i>128</i>

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>WAIU DRUM STORAGE</i>		<i>WNW 1/2 - 1 (0.787 mi.)</i>	<i>33</i>	<i>124</i>

EXECUTIVE SUMMARY

DOD: Consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

A review of the DOD list, as provided by EDR, and dated 12/31/2005 has revealed that there are 2 DOD sites within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
FORD ISLAND NAVAL ST		S 1/4 - 1/2 (0.459 mi.)	0	8
PEARL HARBOR NAVAL S		E 1/2 - 1 (0.889 mi.)	0	8

ROD: Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid the cleanup.

A review of the ROD list, as provided by EDR, and dated 10/20/2021 has revealed that there is 1 ROD site within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
PEARL HARBOR NAVAL C EPA ID:: HI4170090076	US NAVAL COMMAND	ESE 1/2 - 1 (0.664 mi.)	0	8

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR Hist Auto: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR Hist Auto list, as provided by EDR, has revealed that there are 4 EDR Hist Auto sites within approximately 0.125 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
R & S VENTURE INC	98-121 KAMEHAMEHA HW	NW 0 - 1/8 (0.078 mi.)	C6	64
FUJIS CHEVRON SERVIC	98-121 KAM HWY	NW 0 - 1/8 (0.078 mi.)	C8	68
FUJIS CHEVRON SERVIC	98-121 KAM HWY	NW 0 - 1/8 (0.078 mi.)	C9	68
NATIONAL TIRE OF HAW	98-115 KAMEHAMEHA HW	NW 0 - 1/8 (0.105 mi.)	C13	77

EXECUTIVE SUMMARY

EDR Hist Cleaner: EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR Hist Cleaner list, as provided by EDR, has revealed that there are 2 EDR Hist Cleaner sites within approximately 0.125 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
C C CLEANERS	98-199 KAMEHAMEHA HW	E 0 - 1/8 (0.121 mi.)	D16	83
KENS CLEANERS HAWAII	98-199 KAM HWY STE C	E 0 - 1/8 (0.121 mi.)	D17	83

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 30 records.

<u>Site Name</u>	<u>Database(s)</u>
AIEA STREAM	HI SHWS, HI ENG CONTROLS, HI INST CONTROL
SEARS PEARLRIDGE #1578 ELEVATOR JA	HI SHWS, HI ENG CONTROLS, HI INST CONTROL
HONOLULU PLANTATION COMPANY - SEED	HI SHWS
FORMER AIEA SUGAR MILL REMEDIAL LO	HI SHWS, HI VCP
FORMER AIEA SUGAR MILL REMEDIAL LO	HI SHWS, HI VCP
FORMER AIEA SUGAR MILL REMEDIAL LO	HI SHWS, HI VCP
AIEA HEIGHTS TANKS	HI SHWS
AIEA SUGAR MILL LOT 15 PARKING LOT	HI SHWS, HI INST CONTROL
AIEA SUGAR MILL AFFORDABLE HOUSING	HI SHWS, HI BROWNFIELDS
HONOLULU TRANSIT-ORIENTED DEVELOPM	HI SHWS, HI BROWNFIELDS
98-55 KAMEHAMEHA HIGHWAY	HI SHWS
PEARLRIDGE SHELL HYDRAULIC HOIST R	HI SHWS
DRY CLEAN EXPRESS	HI SHWS
HICKAM POL ST08, SPILL SITE ST08	HI SHWS
HICKAM POL ST20, SPILL SITE ST20	HI SHWS
SEARS PEARLRIDGE #1578 HYDRAULIC H	HI SHWS
WAIMALU ELEMENTARY SCHOOL BUILDING	HI SHWS
SCOTT ELEMENTARY SCHOOL BUILDING E	HI SHWS
AIEA ELEMENTARY SCHOOL BUILDING EX	HI SHWS
PEARL RIDGE ELEMENTARY SCHOOL BUIL	HI SHWS
HICKAM POL ST11, SPILL SITE ST11	HI SHWS
HICKAM POL ST15, SPILL SITE ST15	HI SHWS
AIEA FIRE STATION PCE RELEASE	HI SHWS
FORT KAMEHAMEHA	HI SHWS
HICKAM POL ST09, SPILL SITE ST09	HI SHWS
HICKAM POL ST17, SPILL SITE ST17	HI SHWS
HICKAM POL ST16, SPILL SITE ST16	HI SHWS
CHEVRON'S PIPELINE OIL SPILL - WAI	HI SHWS
DOT KEEHI BASEYARD	HI SWF/LF
PEARL CITY SHELL	HI LUST, HI UST, HI Financial Assurance

OVERVIEW MAP - 6816704.2S



-  Target Property
-  Sites at elevations higher than or equal to the target property
-  Sites at elevations lower than the target property
-  Manufactured Gas Plants
-  National Priority List Sites
-  Dept. Defense Sites
-  Indian Reservations BIA
-  Power transmission lines
-  Special Flood Hazard Area (1%)
-  0.2% Annual Chance Flood Hazard
-  National Wetland Inventory
-  State Wetlands








This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.






SITE NAME: Hale Olipoa
 ADDRESS: 98-150 Lipoa Place
 Aiea HI 96701
 LAT/LONG: 21.381484 / 157.944285

CLIENT: Environmental Risk Analysis, LLC
 CONTACT: Kristen Caskey
 INQUIRY #: 6816704.2s
 DATE: January 12, 2022 1:17 pm

DETAIL MAP - 6816704.2S



-  Target Property
-  Sites at elevations higher than or equal to the target property
-  Sites at elevations lower than the target property
-  Manufactured Gas Plants
-  Sensitive Receptors
-  National Priority List Sites
-  Dept. Defense Sites

-  Indian Reservations BIA
-  Special Flood Hazard Area (1%)
-  0.2% Annual Chance Flood Hazard
-  National Wetland Inventory
-  State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Hale Olipoa
 ADDRESS: 98-150 Lipoa Place
 Aiea HI 96701
 LAT/LONG: 21.381484 / 157.944285

CLIENT: Environmental Risk Analysis, LLC
 CONTACT: Kristen Caskey
 INQUIRY #: 6816704.2s
 DATE: January 12, 2022 1:18 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
<i>Lists of Federal NPL (Superfund) sites</i>								
NPL	1.000		0	0	0	1	NR	1
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
<i>Lists of Federal Delisted NPL sites</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Lists of Federal sites subject to CERCLA removals and CERCLA orders</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Lists of Federal CERCLA sites with NFRAP</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Lists of Federal RCRA facilities undergoing Corrective Action</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Lists of Federal RCRA TSD facilities</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Lists of Federal RCRA generators</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		2	1	NR	NR	NR	3
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	0.001		0	NR	NR	NR	NR	0
<i>Lists of state- and tribal hazardous waste facilities</i>								
HI SHWS	1.000		3	0	2	5	NR	10
<i>Lists of state and tribal landfills and solid waste disposal facilities</i>								
HI SWF/LF	0.500		0	0	0	NR	NR	0
<i>Lists of state and tribal leaking storage tanks</i>								
HI LUST	0.500		4	2	7	NR	NR	13

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
<i>Lists of state and tribal registered storage tanks</i>								
FEMA UST	0.250		0	0	NR	NR	NR	0
HI UST	0.250		6	2	NR	NR	NR	8
INDIAN UST	0.250		0	0	NR	NR	NR	0
<i>State and tribal institutional control / engineering control registries</i>								
HI ENG CONTROLS	0.500		2	0	0	NR	NR	2
HI INST CONTROL	0.500		2	0	0	NR	NR	2
<i>Lists of state and tribal voluntary cleanup sites</i>								
HI VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
<i>Lists of state and tribal brownfield sites</i>								
HI BROWNFIELDS	0.500		0	0	0	NR	NR	0
<u>ADDITIONAL ENVIRONMENTAL RECORDS</u>								
<i>Local Brownfield lists</i>								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
<i>Local Lists of Landfill / Solid Waste Disposal Sites</i>								
HI SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
<i>Local Lists of Hazardous waste / Contaminated Sites</i>								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HI CDL	0.001		0	NR	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
<i>Local Land Records</i>								
LIENS 2	0.001		0	NR	NR	NR	NR	0
<i>Records of Emergency Release Reports</i>								
HMIRS	0.001		0	NR	NR	NR	NR	0
HI SPILLS	0.001		0	NR	NR	NR	NR	0
HI SPILLS 90	0.001		0	NR	NR	NR	NR	0
<i>Other Ascertainable Records</i>								
RCRA NonGen / NLR	0.250		2	2	NR	NR	NR	4
FUDES	1.000		0	0	0	3	NR	3
DOD	1.000		0	0	1	1	NR	2

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	1	NR	1
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
HI AIRS	0.001		0	NR	NR	NR	NR	0
HI DRYCLEANERS	0.250		0	0	NR	NR	NR	0
HI Financial Assurance	0.001		0	NR	NR	NR	NR	0
CA HAZNET	TP		NR	NR	NR	NR	NR	0
HI LEAD	0.001		0	NR	NR	NR	NR	0
HI UIC	0.001		0	NR	NR	NR	NR	0
MINES MRDS	0.001		0	NR	NR	NR	NR	0

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		4	NR	NR	NR	NR	4
EDR Hist Cleaner	0.125		2	NR	NR	NR	NR	2

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

HI RGA HWS	0.001		0	NR	NR	NR	NR	0
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MAP FINDINGS SUMMARY

<u>Database</u>	<u>Search Distance (Miles)</u>	<u>Target Property</u>	<u>< 1/8</u>	<u>1/8 - 1/4</u>	<u>1/4 - 1/2</u>	<u>1/2 - 1</u>	<u>> 1</u>	<u>Total Plotted</u>
HI RGA LF	0.001		0	NR	NR	NR	NR	0
HI RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	27	7	10	11	0	55

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

DOD
Region
South
1/4-1/2
2425 ft.

FORD ISLAND NAVAL STATION ANNEX
FORD ISLAND NAVAL STATION (County), HI

DOD CUSA147750
N/A

DOD:

Feature 1: Navy DOD
Feature 2: Not reported
Feature 3: Not reported
URL: Not reported
Name 1: Ford Island Naval Station Annex
Name 2: Not reported
Name 3: Not reported
State: HI
DOD Site: Yes
Tile name: HIHONOLULU

DOD
Region
East
1/2-1
4694 ft.

PEARL HARBOR NAVAL STATION
PEARL HARBOR NAVAL STATIO (County), HI

DOD CUSA147748
N/A

DOD:

Feature 1: Navy DOD
Feature 2: Not reported
Feature 3: Not reported
URL: Not reported
Name 1: Pearl Harbor Naval Station
Name 2: Not reported
Name 3: Not reported
State: HI
DOD Site: Yes
Tile name: HIHONOLULU

NPL
Region
ESE
1/2-1
3507 ft.

PEARL HARBOR NAVAL COMPLEX
US NAVAL COMMAND
PEARL HARBOR, HI 96860

NPL 1000707626
SEMS HI4170090076
US ENG CONTROLS
US INST CONTROLS
ROD
PRP

NPL:

EPA Region: 9
EPA ID: HI4170090076
Site ID: 904481
Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
City,State,Zip: PEARL HARBOR, HI 96860
Federal: Y
Final Date: 1992-10-14 00:00:00
Latitude: 21.388889
Longitude: -157.983333
Site Score: 70.819999999999993
NAI: Not reported
Native American Entity: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

NPL:

NPL Status: Currently on the Final NPL
Substance ID: U220
CAS Number: 108-88-3
Substance: TOLUENE
Pathway: SOIL EXPOSURE PATHWAY
Scoring: 2

NPL Status: Currently on the Final NPL
Substance ID: U228
CAS Number: 79-01-6
Substance: TRICHLOROETHYLENE (TCE)
Pathway: SOIL EXPOSURE PATHWAY
Scoring: 2

NPL Status: Currently on the Final NPL
Substance ID: Not reported
CAS Number: Not reported
Substance: Not reported
Pathway: Not reported
Scoring: Not reported

NPL Status: Currently on the Final NPL
Substance ID: A023
CAS Number: 72-55-9
Substance: DDE
Pathway: SURFACE WATER PATHWAY
Scoring: 3

NPL Status: Currently on the Final NPL
Substance ID: A046
CAS Number: 1336-36-3
Substance: POLYCHLORINATED BIPHENYLS
Pathway: SURFACE WATER PATHWAY
Scoring: 3

NPL Status: Currently on the Final NPL
Substance ID: A059
CAS Number: 75-27-4
Substance: BROMODICHLOROMETHANE
Pathway: AIR PATHWAY
Scoring: 3

NPL Status: Currently on the Final NPL
Substance ID: A059
CAS Number: 75-27-4
Substance: BROMODICHLOROMETHANE
Pathway: SOIL EXPOSURE PATHWAY
Scoring: 4

NPL Status: Currently on the Final NPL
Substance ID: C049
CAS Number: 100-41-4
Substance: ETHYLBENZENE
Pathway: SOIL EXPOSURE PATHWAY
Scoring: 2

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

NPL Status:	Currently on the Final NPL
Substance ID:	C315
CAS Number:	7738-94-5
Substance:	CHROMIC ACID
Pathway:	NO PATHWAY INDICATED
Scoring:	1
NPL Status:	Currently on the Final NPL
Substance ID:	C320
CAS Number:	18540-29-9
Substance:	CHROMIUM, HEXAVALENT
Pathway:	NO PATHWAY INDICATED
Scoring:	1
NPL Status:	Currently on the Final NPL
Substance ID:	C460
CAS Number:	7439-97-6
Substance:	MERCURY
Pathway:	SURFACE WATER PATHWAY
Scoring:	4
NPL Status:	Currently on the Final NPL
Substance ID:	C497
CAS Number:	8052-41-3
Substance:	STODDARD SOLVENT
Pathway:	NO PATHWAY INDICATED
Scoring:	1
NPL Status:	Currently on the Final NPL
Substance ID:	C517
CAS Number:	108-38-3
Substance:	XYLENE, M-
Pathway:	SOIL EXPOSURE PATHWAY
Scoring:	2
NPL Status:	Currently on the Final NPL
Substance ID:	C525
CAS Number:	314-40-9
Substance:	BROMACIL
Pathway:	NO PATHWAY INDICATED
Scoring:	1
NPL Status:	Currently on the Final NPL
Substance ID:	C573
CAS Number:	333-41-5
Substance:	DIAZINON
Pathway:	NO PATHWAY INDICATED
Scoring:	1
NPL Status:	Currently on the Final NPL
Substance ID:	D004
CAS Number:	7440-38-2
Substance:	ARSENIC
Pathway:	GROUND WATER PATHWAY
Scoring:	3
NPL Status:	Currently on the Final NPL

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Substance ID:	P037
CAS Number:	60-57-1
Substance:	DIELDRIN
Pathway:	NO PATHWAY INDICATED
Scoring:	1
NPL Status:	Currently on the Final NPL
Substance ID:	U028
CAS Number:	117-81-7
Substance:	BIS(2-ETHYLHEXYL)PHTHALATE
Pathway:	SURFACE WATER PATHWAY
Scoring:	2
NPL Status:	Currently on the Final NPL
Substance ID:	U036
CAS Number:	57-74-9
Substance:	CHLORDANE
Pathway:	SURFACE WATER PATHWAY
Scoring:	3
NPL Status:	Currently on the Final NPL
Substance ID:	U037
CAS Number:	108-90-7
Substance:	CHLOROBENZENE
Pathway:	AIR PATHWAY
Scoring:	3
NPL Status:	Currently on the Final NPL
Substance ID:	U037
CAS Number:	108-90-7
Substance:	CHLOROBENZENE
Pathway:	SURFACE WATER PATHWAY
Scoring:	2
NPL Status:	Currently on the Final NPL
Substance ID:	U061
CAS Number:	50-29-3
Substance:	DDT
Pathway:	SURFACE WATER PATHWAY
Scoring:	3
NPL Status:	Currently on the Final NPL
Substance ID:	U079
CAS Number:	156-60-5
Substance:	TRANS-DICHLOROETHYLENE, 1,2-
Pathway:	AIR PATHWAY
Scoring:	3
NPL Status:	Currently on the Final NPL
Substance ID:	U079
CAS Number:	156-60-5
Substance:	TRANS-DICHLOROETHYLENE, 1,2-
Pathway:	GROUND WATER PATHWAY
Scoring:	3
NPL Status:	Currently on the Final NPL
Substance ID:	U079

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

CAS Number: 156-60-5
Substance: TRANS-DICHLOROETHYLENE, 1,2-
Pathway: SOIL EXPOSURE PATHWAY
Scoring: 4

NPL Status: Currently on the Final NPL
Substance ID: U210
CAS Number: 127-18-4
Substance: TETRACHLOROETHENE
Pathway: AIR PATHWAY
Scoring: 3

NPL Status: Currently on the Final NPL
Substance ID: U210
CAS Number: 127-18-4
Substance: TETRACHLOROETHENE
Pathway: SOIL EXPOSURE PATHWAY
Scoring: 4

Summary Details:

Conditions at Proposal July 29, 1991): The Pearl Harbor Naval Complex occupies at least 6,300 acres in Pearl Harbor on the Island of Oahu, Honolulu County, Hawaii. Land around the complex supports agriculture, aquaculture, industry, urban, and commercial uses. The complex consists of these major facilities: Naval Shipyard, Naval Supply Center, Naval Station, Submarine Base, Public Works Center, Inactive Ships, and Navy Magazine (Lualualei Westlock Branch and Waipio Peninsula). The Pearl Harbor Naval Complex began operation in 1901 when the Navy received an appropriation to acquire land for a naval station. After the attack by the Japanese on December 7, 1941, industrial activity at the complex skyrocketed, reaching 24,000 civilians by mid-1943. After World War II, activity declined and has fluctuated with the Navy's requirements. In 1983, the Navy identified 30 potential hazardous waste sources within the six facilities. Subsequently, an additional source was identified. The 31 sources include unlined landfills, pesticide disposal pits, chromic acid disposal areas, PCB disposal areas, mercury-contaminated harbor sediments, leaking underground solvent tanks, waste oil facilities, and numerous other types of sources resulting from industrial activities at the complex. Six of the sources were initially evaluated, based primarily on toxicity of contaminants present, availability of waste quantity information, sampling results, affected populations, and a documented release of a hazardous substance. Many investigations have found hazardous substances -- including mercury, chromium, PCBs, pesticides, trichloroethene, trans-1,2-dichloroethene, and other volatile organic compounds -- in soil in the six areas, thus exposing workers on the site (less than 100) to potential contamination. Many of these chemicals have also been found at the remaining 25 areas identified to date.) Tetrachloroethene was found 15.2 feet below ground surface in one area. Soils beneath the site are permeable, facilitating movement of contaminants into ground water. Approximately 110,700 people obtain drinking water from wells within 2 miles of the six sources. In 1988, the Navy detected bis(2-ethylhexyl)phthalate in sediment samples taken from a National Wildlife Refuge that borders an abandoned Navy landfill. The refuge contains habitat for four Federally endangered species, as well as wetlands. Pearl Harbor and nearby portions of the Pacific Ocean contain recreational and commercial fisheries, habitat for endangered species, wetlands, and water-contact recreation areas. The volatile organic compounds in on-site soil also create a potential for gases to be released to the atmosphere. Status October 1992): EPA and the Navy are

Map ID
Direction
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Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

planning to negotiate a Federal Facilities Agreement under CERCLA Section 120 to cover future activities at the site. The description of the site (release) is based on information available at the time the site was scored. The description may change as additional information is gathered on the sources and extent of contamination. See FR 5600, February 11, 1991 or subsequent FR notices.)

NPL:

NPL Status: Currently on the Final NPL
Category Description: Surface Water Adjacent To Site-Other-Unknown
Category Value: WETLAND

NPL:

NPL Name: PEARL HARBOR NAVAL COMPLEX

NPL:

EPA Region: 09
Site ID: 0904481
Site Status: F
Federal Site: Y
Date Deleted: Not reported
Date Finalized: 10/14/92
Date Proposed: 07/29/91

NPL:

Proposed Date: 07/29/1991
Final Date: 10/14/1992
Deleted Date: Not reported
NPL Status: Final

SEMS:

Site ID: 0904481
EPA ID: HI4170090076
Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
Address 2: Not reported
City, State, Zip: PEARL HARBOR, HI 96860
Cong District: 01
FIPS Code: 15003
Latitude: 21.388889
Longitude: -157.983333
FF: Y
NPL: Currently on the Final NPL
Non NPL Status: Not reported

SEMS Detail:

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 00
Action Code: NP

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Action Name: PROPOSED
SEQ: 1
Start Date: 1991-07-29 04:00:00
Finish Date: 7/29/1991 4:00:00 AM
Qual: Not reported
Current Action Lead: EPA Perf

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 00
Action Code: AR
Action Name: ADMIN REC
SEQ: 1
Start Date: 2000-10-24 04:00:00
Finish Date: Not reported
Qual: Not reported
Current Action Lead: EPA Perf

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 00
Action Code: DS
Action Name: DISCVRY
SEQ: 1
Start Date: 1980-10-01 04:00:00
Finish Date: 10/1/1980 4:00:00 AM
Qual: Not reported
Current Action Lead: EPA Perf

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 01
Action Code: LV
Action Name: FF RV
SEQ: 5
Start Date: 2000-01-03 05:00:00
Finish Date: 9/14/2010 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

FF: Y
OU: 12
Action Code: LV
Action Name: FF RV
SEQ: 3
Start Date: 1995-02-23 05:00:00
Finish Date: 4/1/1997 5:00:00 AM
Qual: P
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 10
Action Code: LW
Action Name: FF RI/FS
SEQ: 1
Start Date: 1994-08-23 04:00:00
Finish Date: 9/28/2006 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 12
Action Code: LY
Action Name: FF RA
SEQ: 2
Start Date: 2009-09-29 04:00:00
Finish Date: 1/20/2011 5:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 10
Action Code: RO
Action Name: ROD
SEQ: 3
Start Date: 2006-09-28 04:00:00
Finish Date: 9/28/2006 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 12
Action Code: RO
Action Name: ROD
SEQ: 5
Start Date: 2009-09-29 04:00:00
Finish Date: 9/29/2009 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 01
Action Code: RO
Action Name: ROD
SEQ: 13
Start Date: 2010-09-14 04:00:00
Finish Date: 9/14/2010 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 29
Action Code: LW
Action Name: FF RI/FS
SEQ: 25
Start Date: 2011-08-17 04:00:00
Finish Date: 9/14/2016 5:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 09
Action Code: LW
Action Name: FF RI/FS
SEQ: 22
Start Date: 2009-05-29 04:00:00
Finish Date: Not reported
Qual: Not reported
Current Action Lead: Fed Fac

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 29
Action Code: RO
Action Name: ROD
SEQ: 29
Start Date: 2016-09-14 05:00:00
Finish Date: 9/14/2016 5:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 22
Action Code: LW
Action Name: FF RI/FS
SEQ: 21
Start Date: 2009-03-13 04:00:00
Finish Date: 9/23/2013 5:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 12
Action Code: LV
Action Name: FF RV
SEQ: 7
Start Date: 2005-12-14 05:00:00
Finish Date: 7/19/2006 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 12
Action Code: LV
Action Name: FF RV
SEQ: 8
Start Date: 2006-06-02 04:00:00
Finish Date: 8/22/2006 4:00:00 AM

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	08
Action Code:	RO
Action Name:	ROD
SEQ:	2
Start Date:	2006-09-28 04:00:00
Finish Date:	9/28/2006 4:00:00 AM
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	06
Action Code:	RO
Action Name:	ROD
SEQ:	4
Start Date:	2010-07-02 05:00:00
Finish Date:	7/2/2010 5:00:00 AM
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	13
Action Code:	RO
Action Name:	ROD
SEQ:	6
Start Date:	2018-09-26 05:00:00
Finish Date:	9/26/2018 5:00:00 AM
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	16
Action Code:	LV
Action Name:	FF RV

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

SEQ: 9
Start Date: 2007-08-24 04:00:00
Finish Date: 9/27/2007 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 12
Action Code: RO
Action Name: ROD
SEQ: 17
Start Date: 2009-09-29 04:00:00
Finish Date: 9/29/2009 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 21
Action Code: LW
Action Name: FF RI/FS
SEQ: 19
Start Date: 2008-04-28 04:00:00
Finish Date: Not reported
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 24
Action Code: LW
Action Name: FF RI/FS
SEQ: 20
Start Date: 2009-03-03 05:00:00
Finish Date: 9/15/2014 5:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

OU: 03
Action Code: LY
Action Name: FF RA
SEQ: 1
Start Date: 2010-11-22 05:00:00
Finish Date: 8/23/2016 5:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 16
Action Code: RO
Action Name: ROD
SEQ: 14
Start Date: 2010-09-27 04:00:00
Finish Date: 9/27/2010 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 17
Action Code: RO
Action Name: ROD
SEQ: 21
Start Date: 2012-07-12 05:00:00
Finish Date: 7/12/2012 5:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 17
Action Code: LX
Action Name: FF RD
SEQ: 2
Start Date: 2012-07-12 05:00:00
Finish Date: 12/13/2014 5:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 30
Action Code: RO
Action Name: ROD
SEQ: 25
Start Date: 2013-03-29 04:00:00
Finish Date: 3/29/2013 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 27
Action Code: LW
Action Name: FF RI/FS
SEQ: 24
Start Date: 2011-07-21 05:00:00
Finish Date: 8/22/2016 5:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 16
Action Code: LW
Action Name: FF RI/FS
SEQ: 17
Start Date: 1993-09-30 04:00:00
Finish Date: 9/27/2010 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 00
Action Code: LZ
Action Name: FF CR
SEQ: 1
Start Date: 2005-05-03 04:00:00
Finish Date: Not reported
Qual: Not reported
Current Action Lead: Fed Fac

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 14
Action Code: LW
Action Name: FF RI/FS
SEQ: 14
Start Date: 1999-05-15 04:00:00
Finish Date: 9/27/2010 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 05
Action Code: RO
Action Name: ROD
SEQ: 15
Start Date: 2011-09-23 04:00:00
Finish Date: 9/23/2011 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 14
Action Code: RO
Action Name: ROD
SEQ: 18
Start Date: 2010-09-27 04:00:00
Finish Date: 9/27/2010 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 24
Action Code: LX
Action Name: FF RD
SEQ: 3
Start Date: 2014-09-15 05:00:00
Finish Date: 6/30/2015 4:00:00 AM

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	26
Action Code:	EE
Action Name:	EE/CA
SEQ:	2
Start Date:	2010-03-18 04:00:00
Finish Date:	3/18/2010 4:00:00 AM
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	11
Action Code:	LV
Action Name:	FF RV
SEQ:	2
Start Date:	1995-03-13 05:00:00
Finish Date:	10/30/1996 5:00:00 AM
Qual:	P
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	15
Action Code:	LW
Action Name:	FF RI/FS
SEQ:	15
Start Date:	1993-09-30 04:00:00
Finish Date:	Not reported
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	17
Action Code:	LW
Action Name:	FF RI/FS

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

SEQ:	16
Start Date:	1993-09-30 04:00:00
Finish Date:	7/12/2012 5:00:00 AM
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	24
Action Code:	RO
Action Name:	ROD
SEQ:	24
Start Date:	2014-09-15 05:00:00
Finish Date:	9/15/2014 5:00:00 AM
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	17
Action Code:	LY
Action Name:	FF RA
SEQ:	5
Start Date:	2014-12-13 05:00:00
Finish Date:	3/23/2015 4:00:00 AM
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	06
Action Code:	LY
Action Name:	FF RA
SEQ:	3
Start Date:	2011-08-10 04:00:00
Finish Date:	8/27/2012 5:00:00 AM
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

OU: 28
Action Code: LW
Action Name: FF RI/FS
SEQ: 23
Start Date: 2011-03-29 04:00:00
Finish Date: Not reported
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 13
Action Code: LW
Action Name: FF RI/FS
SEQ: 13
Start Date: 1995-09-19 04:00:00
Finish Date: 9/26/2018 5:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 01
Action Code: LW
Action Name: FF RI/FS
SEQ: 5
Start Date: 1993-09-30 04:00:00
Finish Date: 9/14/2010 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 09
Action Code: LW
Action Name: FF RI/FS
SEQ: 2
Start Date: 1993-09-30 04:00:00
Finish Date: Not reported
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076

Map ID
Direction
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Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 00
Action Code: SI
Action Name: SI
SEQ: 1
Start Date: 1989-08-21 04:00:00
Finish Date: 8/21/1989 4:00:00 AM
Qual: H
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 02
Action Code: LW
Action Name: FF RI/FS
SEQ: 3
Start Date: 1993-09-30 04:00:00
Finish Date: 4/5/2016 5:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 06
Action Code: LV
Action Name: FF RV
SEQ: 1
Start Date: 1995-07-17 04:00:00
Finish Date: 8/23/1996 4:00:00 AM
Qual: P
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 00
Action Code: NF
Action Name: NPL FINL
SEQ: 1
Start Date: 1992-10-14 04:00:00
Finish Date: 10/14/1992 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 00
Action Code: HR
Action Name: HAZRANK
SEQ: 1
Start Date: 1991-07-25 04:00:00
Finish Date: 7/25/1991 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 06
Action Code: LW
Action Name: FF RI/FS
SEQ: 8
Start Date: 1993-09-30 04:00:00
Finish Date: 7/2/2010 5:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 07
Action Code: LW
Action Name: FF RI/FS
SEQ: 9
Start Date: 1993-09-30 04:00:00
Finish Date: Not reported
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 24
Action Code: LY
Action Name: FF RA
SEQ: 6
Start Date: 2014-09-14 05:00:00
Finish Date: 10/9/2015 5:00:00 AM

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	31
Action Code:	BD
Action Name:	PRP RI/FS
SEQ:	1
Start Date:	2016-05-29 05:00:00
Finish Date:	Not reported
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	03
Action Code:	RO
Action Name:	ROD
SEQ:	10
Start Date:	2010-09-27 04:00:00
Finish Date:	9/27/2010 4:00:00 AM
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	01
Action Code:	RO
Action Name:	ROD
SEQ:	12
Start Date:	2007-09-28 04:00:00
Finish Date:	9/28/2007 4:00:00 AM
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	00
Action Code:	PA
Action Name:	PA

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

SEQ: 1
Start Date: 1986-04-01 05:00:00
Finish Date: 4/1/1986 5:00:00 AM
Qual: L
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 12
Action Code: LY
Action Name: FF RA
SEQ: 8
Start Date: 2009-09-29 04:00:00
Finish Date: 8/23/2016 5:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 05
Action Code: LY
Action Name: FF RA
SEQ: 7
Start Date: 2011-09-23 04:00:00
Finish Date: 8/23/2016 5:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 03
Action Code: LW
Action Name: FF RI/FS
SEQ: 4
Start Date: 1993-09-30 04:00:00
Finish Date: 9/27/2010 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

OU: 26
Action Code: LV
Action Name: FF RV
SEQ: 10
Start Date: 2010-05-07 05:00:00
Finish Date: 5/27/2011 5:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 12
Action Code: LW
Action Name: FF RI/FS
SEQ: 12
Start Date: 1999-06-10 04:00:00
Finish Date: 9/29/2009 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 22
Action Code: RO
Action Name: ROD
SEQ: 26
Start Date: 2013-09-23 05:00:00
Finish Date: 9/23/2013 5:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 01
Action Code: LY
Action Name: FF RA
SEQ: 4
Start Date: 2011-06-09 05:00:00
Finish Date: 7/11/2012 5:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 11
Action Code: LV
Action Name: FF RV
SEQ: 4
Start Date: 1993-04-01 05:00:00
Finish Date: 4/1/1994 5:00:00 AM
Qual: S
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 35
Action Code: NI
Action Name: FF FS
SEQ: 1
Start Date: 2017-03-10 05:00:00
Finish Date: 3/10/2017 5:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 35
Action Code: RO
Action Name: ROD
SEQ: 31
Start Date: 2017-03-10 05:00:00
Finish Date: 3/10/2017 5:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 05
Action Code: LW
Action Name: FF RI/FS
SEQ: 7
Start Date: 1993-09-30 04:00:00
Finish Date: 9/23/2011 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 08
Action Code: LW
Action Name: FF RI/FS
SEQ: 10
Start Date: 1993-09-30 04:00:00
Finish Date: 9/28/2006 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 27
Action Code: RO
Action Name: ROD
SEQ: 27
Start Date: 2016-08-22 05:00:00
Finish Date: 8/22/2016 5:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 03
Action Code: LX
Action Name: FF RD
SEQ: 1
Start Date: 2010-09-27 04:00:00
Finish Date: 10/25/2010 4:00:00 AM
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 11
Action Code: LW
Action Name: FF RI/FS
SEQ: 11
Start Date: 1995-08-01 04:00:00
Finish Date: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 20
Action Code: LW
Action Name: FF RI/FS
SEQ: 18
Start Date: 2006-06-26 04:00:00
Finish Date: Not reported
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 25
Action Code: EE
Action Name: EE/CA
SEQ: 1
Start Date: 2009-09-28 04:00:00
Finish Date: Not reported
Qual: Not reported
Current Action Lead: EPA Ovrsght

Site:
Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
Address 2: Not reported
City,State,Zip: PEARL HARBOR, HI 96860
Event Code: Not reported
Action Taken Date: 03/10/2017
EPA ID: HI4170090076
Action Name: Record of Decision
Action ID: 31
Operable Unit: 35
Contaminated Media: Solid Waste
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2017
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

Media:

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

EPA ID: HI4170090076
Contaminated Media: Soil
Action ID: 31
Operable Unit: 35
Action Name: Record of Decision
Action Taken Date: 03/10/2017
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2017
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Debris
Action ID: 12
Operable Unit: 01
Action Name: Record of Decision
Action Taken Date: 09/28/2007
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2007
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Soil
Action ID: 21
Operable Unit: 17
Action Name: Record of Decision
Action Taken Date: 07/12/2012
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2012
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Soil
Action ID: 4
Operable Unit: 06
Action Name: Record of Decision
Action Taken Date: 07/02/2010

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2010
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Groundwater
Action ID: 5
Operable Unit: 12
Action Name: Record of Decision
Action Taken Date: 09/29/2009
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2009
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Soil
Action ID: 10
Operable Unit: 03
Action Name: Record of Decision
Action Taken Date: 09/27/2010
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2010
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Soil
Action ID: 10
Operable Unit: 03
Action Name: Record of Decision
Action Taken Date: 09/27/2010
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2010

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Soil
Action ID: 14
Operable Unit: 16
Action Name: Record of Decision
Action Taken Date: 09/27/2010
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2010
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Groundwater
Action ID: 15
Operable Unit: 05
Action Name: Record of Decision
Action Taken Date: 09/23/2011
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2011
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Soil
Action ID: 15
Operable Unit: 05
Action Name: Record of Decision
Action Taken Date: 09/23/2011
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2011
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Contaminated Media:	Soil Gas
Action ID:	15
Operable Unit:	05
Action Name:	Record of Decision
Action Taken Date:	09/23/2011
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2011
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	17
Operable Unit:	12
Action Name:	Record of Decision
Action Taken Date:	09/29/2009
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2009
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	2
Operable Unit:	08
Action Name:	Record of Decision
Action Taken Date:	09/28/2006
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2006
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	1
Operable Unit:	03
Action Name:	Explanation of Significant Differences
Action Taken Date:	02/11/2016
Event Code:	Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2016
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Groundwater
Action ID: 2
Operable Unit: 08
Action Name: Record of Decision
Action Taken Date: 09/28/2006
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2006
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Groundwater
Action ID: 3
Operable Unit: 10
Action Name: Record of Decision
Action Taken Date: 09/28/2006
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2006
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Soil
Action ID: 4
Operable Unit: 06
Action Name: Record of Decision
Action Taken Date: 07/02/2010
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2010
NPL Status: Currently on the Final NPL

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	5
Operable Unit:	12
Action Name:	Record of Decision
Action Taken Date:	09/29/2009
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2009
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Groundwater
Action ID:	14
Operable Unit:	16
Action Name:	Record of Decision
Action Taken Date:	09/27/2010
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2010
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	15
Operable Unit:	05
Action Name:	Record of Decision
Action Taken Date:	09/23/2011
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2011
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Groundwater

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Action ID: 17
Operable Unit: 12
Action Name: Record of Decision
Action Taken Date: 09/29/2009
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2009
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Soil
Action ID: 26
Operable Unit: 22
Action Name: Record of Decision
Action Taken Date: 09/23/2013
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2013
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Soil
Action ID: 27
Operable Unit: 27
Action Name: Record of Decision
Action Taken Date: 08/22/2016
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2016
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Soil
Action ID: 29
Operable Unit: 29
Action Name: Record of Decision
Action Taken Date: 09/14/2016
Event Code: Not reported
Contact Name: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2016
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Groundwater
Action ID: 31
Operable Unit: 35
Action Name: Record of Decision
Action Taken Date: 03/10/2017
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2017
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Liquid Waste
Action ID: 17
Operable Unit: 12
Action Name: Record of Decision
Action Taken Date: 09/29/2009
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2009
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Debris
Action ID: 24
Operable Unit: 24
Action Name: Record of Decision
Action Taken Date: 09/15/2014
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2014
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	24
Operable Unit:	24
Action Name:	Record of Decision
Action Taken Date:	09/15/2014
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2014
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Groundwater
Action ID:	27
Operable Unit:	27
Action Name:	Record of Decision
Action Taken Date:	08/22/2016
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2016
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	3
Operable Unit:	10
Action Name:	Record of Decision
Action Taken Date:	09/28/2006
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2006
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	12

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Operable Unit: 01
Action Name: Record of Decision
Action Taken Date: 09/28/2007
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2007
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Surface Water
Action ID: 15
Operable Unit: 05
Action Name: Record of Decision
Action Taken Date: 09/23/2011
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2011
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Groundwater
Action ID: 25
Operable Unit: 30
Action Name: Record of Decision
Action Taken Date: 03/29/2013
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2013
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

EPA ID: HI4170090076
Contaminated Media: Solid Waste
Action ID: 31
Operable Unit: 35
Action Name: Record of Decision
Action Taken Date: 03/10/2017
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Event: Not reported
Federal Facility: Y
Fiscal Year: 2017
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

US INST CONTROLS:

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
Address 2: Not reported
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
Action Name: Record of Decision
Action ID: 5
Operable Unit: 12
Actual Date: 09/29/2009
Contaminated Media: Groundwater
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2009
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
Address 2: Not reported
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
Action Name: Record of Decision
Action ID: 5
Operable Unit: 12
Actual Date: 09/29/2009
Contaminated Media: Soil
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2009
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
Address 2: Not reported
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Action Name: Record of Decision
Action ID: 13
Operable Unit: 01
Actual Date: 09/14/2010
Contaminated Media: Buildings/Structures
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2010
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
Address 2: Not reported
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
Action Name: Record of Decision
Action ID: 13
Operable Unit: 01
Actual Date: 09/14/2010
Contaminated Media: Soil
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2010
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
Address 2: Not reported
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
Action Name: Record of Decision
Action ID: 4
Operable Unit: 06
Actual Date: 07/02/2010
Contaminated Media: Soil
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2010
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
Address 2: Not reported
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
Action Name: Record of Decision
Action ID: 15
Operable Unit: 05
Actual Date: 09/23/2011
Contaminated Media: Soil
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2011
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
Address 2: Not reported
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
Action Name: Record of Decision
Action ID: 18
Operable Unit: 14
Actual Date: 09/27/2010
Contaminated Media: Groundwater
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2010
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
Address 2: Not reported
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
Action Name: Record of Decision
Action ID: 18
Operable Unit: 14
Actual Date: 09/27/2010
Contaminated Media: Soil
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Fiscal Year:	2010
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
Address 2:	Not reported
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
Action Name:	Record of Decision
Action ID:	21
Operable Unit:	17
Actual Date:	07/12/2012
Contaminated Media:	Soil
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2012
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
Address 2:	Not reported
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
Action Name:	Record of Decision
Action ID:	24
Operable Unit:	24
Actual Date:	09/15/2014
Contaminated Media:	Debris
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2014
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
Address 2:	Not reported
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
Action Name:	Record of Decision
Action ID:	24
Operable Unit:	24
Actual Date:	09/15/2014

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Contaminated Media: Soil
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2014
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 21.388889
Longitude: -157.983333

ROD:

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
RG: 9
Site ID: 904481
Action: FF ESD
Operable Unit Number: PWC- MAKALAPA RINSATE PIT
SEQ ID: 1
Action Completion: 2016-02-11 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
RG: 9
Site ID: 904481
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: WESTLOCH BLDG 49
SEQ ID: 2
Action Completion: 2006-09-28 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
RG: 9
Site ID: 904481
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: MANANA STORAGE
SEQ ID: 3
Action Completion: 2006-09-28 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
RG: 9

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Site ID: 904481
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: NSY DRY DOCK #3
SEQ ID: 4
Action Completion: 2010-07-02 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
RG: 9
Site ID: 904481
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: FORD IS HAZ SITES (SANS LF)
SEQ ID: 5
Action Completion: 2009-09-29 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
RG: 9
Site ID: 904481
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: PH SEDIMENT
SEQ ID: 6
Action Completion: 2018-09-26 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
RG: 9
Site ID: 904481
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: PWC- MAKALAPA RINSATE PIT
SEQ ID: 10
Action Completion: 2010-09-27 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
RG: 9
Site ID: 904481
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: PCB THERMAL DESORPTION SITES
SEQ ID: 12
Action Completion: 2007-09-28 00:00:00

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

NPL Status: Final
Non NPL Status: Not reported

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
RG: 9
Site ID: 904481
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: PCB THERMAL DESORPTION SITES
SEQ ID: 13
Action Completion: 2010-09-14 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
RG: 9
Site ID: 904481
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: FORD ISLAND LANDFILL
SEQ ID: 15
Action Completion: 2011-09-23 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
RG: 9
Site ID: 904481
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: FORD IS HAZ SITES (SANS LF)
SEQ ID: 17
Action Completion: 2009-09-29 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
RG: 9
Site ID: 904481
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: PEARL CITY JUNCTION
SEQ ID: 18
Action Completion: 2010-09-27 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
RG: 9
Site ID: 904481
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: NSY BLDG 6, FORMER FOUNDRY
SEQ ID: 21
Action Completion: 2012-07-12 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
RG: 9
Site ID: 904481
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: WEST LOCH 4TH ST. CORAL PIT LF
SEQ ID: 24
Action Completion: 2014-09-15 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
RG: 9
Site ID: 904481
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: PWC BUILDING 35 - PAINT SHOP
SEQ ID: 26
Action Completion: 2013-09-23 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
RG: 9
Site ID: 904481
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: WEST LOCH OTTO FUEL WASTE STOR
SEQ ID: 27
Action Completion: 2016-08-22 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
RG: 9
Site ID: 904481
Action: FF ROD (RCRA Statement of Basis/RTC)

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARL HARBOR NAVAL COMPLEX (Continued)

1000707626

Operable Unit Number: BUILDING 992 OPEN AREA
SEQ ID: 29
Action Completion: 2016-09-14 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
RG: 9
Site ID: 904481
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: WEST LOCH VEHICLE MAINTENANCE
SEQ ID: 31
Action Completion: 2017-03-10 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
RG: 9
Site ID: 904481
Action: GOVT Decision Document (ROD)
Operable Unit Number: RICHARDSON- FFTF
SEQ ID: 14
Action Completion: 2010-09-27 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
City,State,Zip: PEARL HARBOR, HI 96860
EPA ID: HI4170090076
RG: 9
Site ID: 904481
Action: GOVT Decision Document (ROD)
Operable Unit Number: RAA 11 AND 13
SEQ ID: 25
Action Completion: 2013-03-29 00:00:00
NPL Status: Final
Non NPL Status: Not reported

PRP:

PRP Name: OAHU SUGAR COMPANY, LLC
OAHU SUGAR COMPANY, LLC

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

1
West
< 1/8
0.024 mi.
125 ft.

HI-GRADE PLUMBING
98-151 LIPOA PL
AIEA, HI 96701

HI SHWS **U003832863**
HI LUST **N/A**
HI UST
HI ENG CONTROLS
HI INST CONTROL
HI Financial Assurance

Relative:
Lower

Actual:
4 ft.

SHWS:

Name:	98-151 LIPOA PLACE
Address:	98-151 LIPOA PL
City,State,Zip:	AIEA, HI 96701
Supplemental Location:	Not reported
Island:	Not reported
Environmental Interest:	98-151 Lipoa Place
HID Number:	Not reported
Facility Registry Identifier:	Not reported
Lead Agency:	HEER Office
Program:	State
Project Manager:	Cal Miyahara
Hazard Priority:	NFA
Potential Hazards And Controls:	Hazard Managed With Controls
Island:	Not reported
SDAR Environmental Interest Name:	98-151 Lipoa Place
HID Number:	Not reported
Facility Registry Identifier:	Not reported
Lead Agency:	HEER Office
Potential Hazard And Controls:	Hazard Managed With Controls
Priority:	NFA
Assessment:	Response Necessary
Response:	Response Complete
Nature of Contamination:	Found: TPH-G, benzene, ethylbenzene, xylene, and naphthalene in soil above residential EAL for GC, DE and leaching. TPH-G and d, benz, ethylbenz, xyl, napth, and lead found in gw above residential EALs for AT and GC.
Nature of Residual Contamination:	Not reported
Use Restrictions:	Controls Required to Manage Contamination
Engineering Control:	Engineering Control Required
Description of Restrictions:	Not reported
Institutional Control:	Government - Hawaii Dept. of Health Letter Issued
Within Designated Areawide Contamination:	Not reported
Site Closure Type:	No Further Action Letter - Restricted Use
Document Date:	07/31/2013
Document Number:	2013-403-CMM
Document Subject:	Amended NFA letter for 98-151 Lipoa Pl, Aiea HI
Project Manager:	Cal Miyahara
Contact Information:	(808) 586-4249 2385 Waimano Home Rd, Pearl City, HI 96782
Facility ID:	2704
Location Description:	98-151 Lipoa Pl
Is Public:	True
Update On:	2019-05-31 00:00:00

LUST:

Name:	HI-GRADE PLUMBING
Address:	98-151 LIPOA PL
City,State,Zip:	AIEA, HI 96701
Facility ID:	9-201389
Facility Status:	Site Cleanup Completed (NFA)
Facility Status Date:	08/25/2005
Release ID:	910080

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HI-GRADE PLUMBING (Continued)

U003832863

Project Officer: Richard Takaba

UST:

Name: HI-GRADE PLUMBING
Address: 98-151 LIPOA PL
City,State,Zip: AIEA, HI 96701
Facility ID: 9-201389
Owner: UNOCAL CORPORATION
Owner Address: 3915 Mission Avenue #7416
Owner City,St,Zip: Aiea, 96701 96701
Latitude: 21.380987000000001
Longitude: -157.94460000000001
Horizontal Reference Datum Name: NAD83
Horizontal Collection Method Name: Address Matching

Tank ID: R-1
Date Installed: 01/01/1974
Tank Status: Permanently Out of Use
Date Closed: 07/30/1991
Tank Capacity: 1000
Substance: Gasoline

ENG CONTROLS:

Supplemental Location Text: Not reported
Zip Suffix: Not reported
Island: Oahu
Potential Hazards And Controls: Hazard Managed With Controls
Engineering Control: Engineering Control Required

INST CONTROL:

Potential hazards and controls: Hazard Managed With Controls
Supplemental Location: Not reported
Zip Suffix: Not reported
Island: Oahu
Institutional Control: Government - Hawaii Dept. of Health Letter Issued

HI Financial Assurance:

Name: HI-GRADE PLUMBING
Address: 98-151 LIPOA PL
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201389
Tank Id: R-1
Tank Status: Permanently Out of Use
FRTYPE: Self Insured
Expiration Date: Not reported
FR Archive: False

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

A2
NNE
 < 1/8
 0.037 mi.
 197 ft.

EQUIPMENT YARD
98-155 KAMEHAMEHA HWY
AIEA, HI 96701

HI UST **U003541837**
 N/A

Site 1 of 2 in cluster A

Relative:
Higher
Actual:
9 ft.

UST:
 Name: EQUIPMENT YARD
 Address: 98-155 KAMEHAMEHA HWY
 City,State,Zip: AIEA, HI 96701
 Facility ID: 9-201489
 Owner: ALOHA STATE CORPORATION
 Owner Address: 1150 S KING ST., SUITE 1103
 Owner City,St,Zip: Aiea, 96701 96701
 Latitude: Not reported
 Longitude: Not reported
 Horizontal Reference Datum Name: Not reported
 Horizontal Collection Method Name: Not reported

Tank ID: R-001
 Date Installed: 04/28/1966
Tank Status: Permanently Out of Use
 Date Closed: Not reported
 Tank Capacity: 3000
 Substance: Gasoline

A3
NNW
 < 1/8
 0.059 mi.
 314 ft.

SHELL SERVICE STATION SAP139578
86-003 FARRINGTON HWY
WAIANAE, HI 96792

RCRA NonGen / NLR **1005443249**
FINDS **HIR000116061**
ECHO

Site 2 of 2 in cluster A

Relative:
Higher
Actual:
13 ft.

RCRA NonGen / NLR:
 Date Form Received by Agency: 20181206
 Handler Name: SHELL SERVICE STATION SAP139578
 Handler Address: 86-003 FARRINGTON HWY
 Handler City,State,Zip: WAIANAE, HI 96792
 EPA ID: HIR000116061
 Contact Name: SCOTT BURKEY
 Contact Address: S. WILMINGTON AVE
 Contact City,State,Zip: CARSON, CA 90810
 Contact Telephone: 214-483-5460
 Contact Fax: Not reported
 Contact Email: WASTECOMPLIANCE@GHD.COM
 Contact Title: SR SGW RISK MGMT AND ADVOCACY SPECIALIST
 EPA Region: 09
 Land Type: Private
 Federal Waste Generator Description: Not a generator, verified
 Non-Notifier: Not reported
 Biennial Report Cycle: Not reported
 Accessibility: Not reported
 Active Site Indicator: Not reported
 State District Owner: Not reported
 State District: Not reported
 Mailing Address: S. WILMINGTON AVE
 Mailing City,State,Zip: CARSON, CA 90810
 Owner Name: EQUILON ENTERPRISES LLC DBA SHELL OIL PRODUCTS US
 Owner Type: Private
 Operator Name: EQUILON ENTERPRISES LLC DBA SHELL OIL PRODUCTS US
 Operator Type: Private

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

SHELL SERVICE STATION SAP139578 (Continued)

1005443249

Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20181211
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHELL SERVICE STATION SAP139578 (Continued)

1005443249

Hazardous Waste Summary:

Waste Code:	D000
Waste Description:	Not Defined
Waste Code:	D001
Waste Description:	IGNITABLE WASTE
Waste Code:	D018
Waste Description:	BENZENE

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	EQUILON ENTERPRISES LLC DBA SHELL OIL PRODUCTS US
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	20945 S. WILMINGTON AVE
Owner/Operator City,State,Zip:	CARSON, CA 90810
Owner/Operator Telephone:	214-483-5460
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	WASTECOMPLIANCE@GHD.COM

Owner/Operator Indicator:	Operator
Owner/Operator Name:	EQUILON ENTERPRISES LLC DBA SHELL OIL PRODUCTS US
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	20945 S. WILMINGTON AVE
Owner/Operator City,State,Zip:	CARSON, CA 90810
Owner/Operator Telephone:	214-483-5460
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	WASTECOMPLIANCE@GHD.COM

Owner/Operator Indicator:	Owner
Owner/Operator Name:	EQUILON ENT LLC DBA S O P US
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	P O BOX 2648
Owner/Operator City,State,Zip:	HOUSTON, TX 77252-2648
Owner/Operator Telephone:	713-241-5036
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20181206
Handler Name:	SHELL SERVICE STATION SAP139578
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHELL SERVICE STATION SAP139578 (Continued)

1005443249

Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No
Receive Date:	20020513
Handler Name:	SHELL SERVICE STATION
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Code:	447190
NAICS Description:	OTHER GASOLINE STATIONS
NAICS Code:	562910
NAICS Description:	REMEDIATION SERVICES

Facility Has Received Notices of Violations:

Violations: No Violations Found

Evaluation Action Summary:

Evaluations: No Evaluations Found

FINDS:

Registry ID: 110013777662

Click Here:

Environmental Interest/Information System:

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.
STATE MASTER

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1005443249
Registry ID:	110013777662
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110013777662
Name:	SHELL SERVICE STATION SAP139578
Address:	86 003 FARRINGTON HWY
City,State,Zip:	WAIANA, HI 96792

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

B4
ENE
 < 1/8
 0.078 mi.
 412 ft.

SEARS ROEBUCK & CO
98-180 KAMEHAMEHA HWY
AIEA, HI 96701

HI LUST **U001236415**
HI UST **N/A**
HI Financial Assurance

Site 1 of 3 in cluster B

Relative:
Higher
Actual:
10 ft.

LUST:
 Name: SEARS ROEBUCK & CO
 Address: 98-180 KAMEHAMEHA HWY
 City,State,Zip: AIEA, HI 96701
 Facility ID: 9-201836
 Facility Status: LUST Cleanup Initiated
 Facility Status Date: 02/26/2013
 Release ID: 940047
 Project Officer: Miranda Fleisher

UST:
 Name: SEARS ROEBUCK & CO
 Address: 98-180 KAMEHAMEHA HWY
 City,State,Zip: AIEA, HI 96701
 Facility ID: 9-201836
 Owner: SEARS ROEBUCK & COMPANY
 Owner Address: Not reported
 Owner City,St,Zip: Aiea, 96701 96701
 Latitude: 21.381632
 Longitude: -157.94201000000001
 Horizontal Reference Datum Name: NAD83
 Horizontal Collection Method Name: Address Matching

Tank ID: R-001
 Date Installed: 05/06/1974
Tank Status: Permanently Out of Use
 Date Closed: 12/15/1993
 Tank Capacity: 1000
 Substance: Used Oil

Name: SEARS ROEBUCK & CO
 Address: 98-180 KAMEHAMEHA HWY
 City,State,Zip: AIEA, HI 96701

Tank ID: R-001
 Date Installed: 05/06/1974
Tank Status: Permanently Out of Use
 Date Closed: 12/15/1993
 Tank Capacity: 1000
 Substance: Used Oil

Name: SEARS ROEBUCK & CO
 Address: 98-180 KAMEHAMEHA HWY
 City,State,Zip: AIEA, HI 96701

Tank ID: R-002
 Date Installed: 05/06/1974
Tank Status: Permanently Out of Use
 Date Closed: 02/22/1994
 Tank Capacity: 320
 Substance: Hazardous Substance

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

SEARS ROEBUCK & CO (Continued)

U001236415

HI Financial Assurance:

Name: SEARS ROEBUCK & CO
 Address: 98-180 KAMEHAMEHA HWY
 City,State,Zip: AIEA, HI 96701
 Alt Facility ID: 9-201836
 Tank Id: R-001
 Tank Status: Permanently Out of Use
 FRTYPE: Insurance
 Expiration Date: Not reported
 FR Archive: False

Name: SEARS ROEBUCK & CO
 Address: 98-180 KAMEHAMEHA HWY
 City,State,Zip: AIEA, HI 96701
 Alt Facility ID: 9-201836
 Tank Id: R-001
 Tank Status: Permanently Out of Use
 FRTYPE: Self Insured
 Expiration Date: Not reported
 FR Archive: False

Name: SEARS ROEBUCK & CO
 Address: 98-180 KAMEHAMEHA HWY
 City,State,Zip: AIEA, HI 96701
 Alt Facility ID: 9-201836
 Tank Id: R-002
 Tank Status: Permanently Out of Use
 FRTYPE: Insurance
 Expiration Date: Not reported
 FR Archive: False

Name: SEARS ROEBUCK & CO
 Address: 98-180 KAMEHAMEHA HWY
 City,State,Zip: AIEA, HI 96701
 Alt Facility ID: 9-201836
 Tank Id: R-002
 Tank Status: Permanently Out of Use
 FRTYPE: Self Insured
 Expiration Date: Not reported
 FR Archive: False

B5
ENE
 < 1/8
 0.078 mi.
 412 ft.

SEARS AUTOMOTIVE CENTER
98-180 KAMEHAMEHA HWY
AIEA, HI 96701
 Site 2 of 3 in cluster B

RCRA-VSQG 1000368981
FINDS HID981962731
ECHO

Relative:
Higher
Actual:
 10 ft.

RCRA-VSQG:
 Date Form Received by Agency: 19870205
 Handler Name: SEARS AUTOMOTIVE CENTER
 Handler Address: 98-180 KAMEHAMEHA HWY
 Handler City,State,Zip: AIEA, HI 96701
 EPA ID: HID981962731
 Contact Name: DARRELL HEEGER
 Contact Address: 98-180 KAMEHAMEHA HWY
 Contact City,State,Zip: AIEA, HI 96701
 Contact Telephone: 808-487-4211

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

SEARS AUTOMOTIVE CENTER (Continued)

1000368981

Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	KAMEHAMEHA HWY
Mailing City,State,Zip:	AIEA, HI 96701
Owner Name:	SEARS ROEBUCK & CO
Owner Type:	Private
Operator Name:	NOT REQUIRED
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SEARS AUTOMOTIVE CENTER (Continued)

1000368981

Groundwater Controls Indicator: N/A
Operating TSDU Universe: Not reported
Full Enforcement Universe: Not reported
Significant Non-Complier Universe: No
Unaddressed Significant Non-Complier Universe: No
Addressed Significant Non-Complier Universe: No
Significant Non-Complier With a Compliance Schedule Universe: No
Financial Assurance Required: Not reported
Handler Date of Last Change: 20000915
Recognized Trader-Importer: No
Recognized Trader-Exporter: No
Importer of Spent Lead Acid Batteries: No
Exporter of Spent Lead Acid Batteries: No
Recycler Activity Without Storage: No
Manifest Broker: No
Sub-Part P Indicator: No

Handler - Owner Operator:

Owner/Operator Indicator: Operator
Owner/Operator Name: NOT REQUIRED
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, ME 99999
Owner/Operator Telephone: 415-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: SEARS ROEBUCK & CO
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, ME 99999
Owner/Operator Telephone: 415-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:

Receive Date: 19870205
Handler Name: SEARS AUTOMOTIVE CENTER
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SEARS AUTOMOTIVE CENTER (Continued)

1000368981

List of NAICS Codes and Descriptions:

NAICS Code: 45211
NAICS Description: DEPARTMENT STORES

NAICS Code: 811111
NAICS Description: GENERAL AUTOMOTIVE REPAIR

Facility Has Received Notices of Violation:

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Evaluation Action Summary:

Evaluation Date: 19960401
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier: R9
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

SEARS AUTOMOTIVE CENTER (Continued)

1000368981

Date Response Received: Not reported
 Request Agency: Not reported
 Former Citation: Not reported

FINDS:

Registry ID: 110014039888

[Click Here:](#)

Environmental Interest/Information System:

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

STATE MASTER
 LEAKING UNDERGROUND STORAGE TANK - ARRA

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1000368981
 Registry ID: 110014039888
 DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110014039888>
 Name: SEARS AUTOMOTIVE CENTER
 Address: 98-180 KAMEHAMEHA HIGHWAY
 City,State,Zip: AIEA, HI 96701

**C6
 NW
 < 1/8
 0.078 mi.
 414 ft.**

**R & S VENTURE INC
 98-121 KAMEHAMEHA HWY
 AIEA, HI 96701
 Site 1 of 6 in cluster C**

**EDR Hist Auto 1022025369
 N/A**

**Relative:
 Higher**

EDR Hist Auto

**Actual:
 11 ft.**

Year:	Name:	Type:
1992	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1993	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1994	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1995	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1996	R & S VENTURE INC	Gasoline Service Stations
1997	R & S VENTURE INC	Gasoline Service Stations
1998	R & S VENTURE INC	Gasoline Service Stations
1999	R & S VENTURE INC	Gasoline Service Stations
2013	R & S VENTURE INC	Carwashes
2014	R & S VENTURE INC	Gasoline Service Stations, NEC

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

C7
NW
 < 1/8
 0.078 mi.
 414 ft.

IES RETAIL AIEA
98-121 KAMEHAMEHA HWY
AIEA, HI 96701

RCRA-VSQQ **1008880406**
HIR000136838

Site 2 of 6 in cluster C

Relative:
Higher
Actual:
11 ft.

RCRA-VSQQ:		20161028
Date Form Received by Agency:		20161028
Handler Name:	IES RETAIL AIEA	
Handler Address:		98-121 KAMEHAMEHA HWY
Handler City,State,Zip:		AIEA, HI 96701
EPA ID:		HIR000136838
Contact Name:		MARC DEXTER
Contact Address:		91-480 MALAKOLE ST.
Contact City,State,Zip:		KAPOLEI, HI 96707
Contact Telephone:		808-682-5711
Contact Fax:		808-682-2214
Contact Email:		MARC.DEXTER@ISLANDENERGYSERVICES.COM
Contact Title:		EHS MANAGER
EPA Region:		09
Land Type:		Private
Federal Waste Generator Description:		Conditionally Exempt Small Quantity Generator
Non-Notifier:		Not reported
Biennial Report Cycle:		Not reported
Accessibility:		Not reported
Active Site Indicator:		Handler Activities
State District Owner:		Not reported
State District:		Not reported
Mailing Address:		91-480 MALAKOLE ST.
Mailing City,State,Zip:		KAPOLEI, HI 96707
Owner Name:		IES RETAIL, LLC
Owner Type:		Private
Operator Name:		IES RETAIL, LLC
Operator Type:		Private
Short-Term Generator Activity:		No
Importer Activity:		No
Mixed Waste Generator:		No
Transporter Activity:		No
Transfer Facility Activity:		No
Recycler Activity with Storage:		No
Small Quantity On-Site Burner Exemption:		No
Smelting Melting and Refining Furnace Exemption:		No
Underground Injection Control:		No
Off-Site Waste Receipt:		No
Universal Waste Indicator:		No
Universal Waste Destination Facility:		No
Federal Universal Waste:		No
Active Site Fed-Reg Treatment Storage and Disposal Facility:		Not reported
Active Site Converter Treatment storage and Disposal Facility:		Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:		Not reported
Active Site State-Reg Handler:		---
Federal Facility Indicator:		Not reported
Hazardous Secondary Material Indicator:		N
Sub-Part K Indicator:		Not reported
Commercial TSD Indicator:		No
Treatment Storage and Disposal Type:		Not reported
2018 GPRA Permit Baseline:		Not on the Baseline
2018 GPRA Renewals Baseline:		Not on the Baseline
Permit Renewals Workload Universe:		Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

IES RETAIL AIEA (Continued)

1008880406

Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20161028
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D018
Waste Description:	BENZENE

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	CHEVRON USA INC
Legal Status:	Private
Date Became Current:	19540123
Date Ended Current:	Not reported
Owner/Operator Address:	PO BOX 6004
Owner/Operator City,State,Zip:	SAN RAMON, CA 94583
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	IES RETAIL, LLC
Legal Status:	Private
Date Became Current:	20161101
Date Ended Current:	Not reported
Owner/Operator Address:	30 ROCKEFELLER PLAZA
Owner/Operator City,State,Zip:	NEW YORK, NY 10112

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IES RETAIL AIEA (Continued)

1008880406

Owner/Operator Telephone: 212-605-6000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: IES RETAIL, LLC
Legal Status: Private
Date Became Current: 20161101
Date Ended Current: Not reported
Owner/Operator Address: 30 ROCKEFELLER PLAZA
Owner/Operator City,State,Zip: NEW YORK, NY 10112
Owner/Operator Telephone: 212-605-6000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: CHEVRON USA INC
Legal Status: Private
Date Became Current: 19540123
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:

Receive Date: 20050916
Handler Name: CHEVRON 93970
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20161028
Handler Name: IES RETAIL AIEA
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

IES RETAIL AIEA (Continued)

1008880406

List of NAICS Codes and Descriptions:

NAICS Code: 44711
 NAICS Description: GASOLINE STATIONS WITH CONVENIENCE STORES

Facility Has Received Notices of Violations:

Violations: No Violations Found

Evaluation Action Summary:

Evaluations: No Evaluations Found

**C8
 NW
 < 1/8
 0.078 mi.
 414 ft.**

**FUJIS CHEVRON SERVICE STATION
 98-121 KAM HWY
 AIEA, HI 96701
 Site 3 of 6 in cluster C**

**EDR Hist Auto 1021851069
 N/A**

**Relative:
 Higher**

EDR Hist Auto

**Actual:
 11 ft.**

Year:	Name:	Type:
1969	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1970	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1971	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1972	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations

**C9
 NW
 < 1/8
 0.078 mi.
 414 ft.**

**FUJIS CHEVRON SERVICE STATION
 98-121 KAM HWY
 AIEA, HI 96701
 Site 4 of 6 in cluster C**

**EDR Hist Auto 1021946013
 N/A**

**Relative:
 Higher**

EDR Hist Auto

**Actual:
 11 ft.**

Year:	Name:	Type:
1973	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1974	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1975	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1976	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1977	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1978	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1979	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1980	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1982	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1983	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1985	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1986	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1987	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1988	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1989	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations
1990	FUJIS CHEVRON SERVICE STATION	Gasoline Service Stations

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C10
NW
< 1/8
0.087 mi.
460 ft.

PEARLRIDGE TEXACO 93970
98-121 KAMEHAMEHA HWY
AIEA, HI 96701

HI UST
HI Financial Assurance
U004228177
N/A

Site 5 of 6 in cluster C

Relative:
Higher
Actual:
12 ft.

UST:
Name: PEARLRIDGE TEXACO 93970
Address: 98-121 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Facility ID: 9-201226
Owner: IES Retail, LLC
Owner Address: 91-480 Malakole Street
Owner City,St,Zip: Aiea, 96701 96701
Latitude: 21.3826
Longitude: -157.94517999999999
Horizontal Reference Datum Name: NAD83
Horizontal Collection Method Name: GPS

Tank ID: 1
Date Installed: 07/19/1983
Tank Status: **Currently in Use**
Date Closed: Not reported
Tank Capacity: 10000
Substance: Gasohol

Name: PEARLRIDGE TEXACO 93970
Address: 98-121 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701

Tank ID: 2
Date Installed: 07/19/1983
Tank Status: **Currently in Use**
Date Closed: Not reported
Tank Capacity: 10000
Substance: Gasohol

Name: PEARLRIDGE TEXACO 93970
Address: 98-121 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701

Tank ID: 3
Date Installed: 07/19/1983
Tank Status: **Currently in Use**
Date Closed: Not reported
Tank Capacity: 10000
Substance: Gasohol

Name: PEARLRIDGE TEXACO 93970
Address: 98-121 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701

Tank ID: R-4
Date Installed: 07/19/1983
Tank Status: **Permanently Out of Use**
Date Closed: 10/01/1991
Tank Capacity: 1000
Substance: Used Oil

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARLRIDGE TEXACO 93970 (Continued)

U004228177

HI Financial Assurance:

Name: PEARLRIDGE TEXACO 93970
Address: 98-121 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201226
Tank Id: 3
Tank Status: Currently in Use
FRTYPE: Other
Expiration Date: Not reported
FR Archive: True

Name: PEARLRIDGE TEXACO 93970
Address: 98-121 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201226
Tank Id: 1
Tank Status: Currently in Use
FRTYPE: Other
Expiration Date: Not reported
FR Archive: True

Name: PEARLRIDGE TEXACO 93970
Address: 98-121 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201226
Tank Id: R-4
Tank Status: Permanently Out of Use
FRTYPE: Other
Expiration Date: Not reported
FR Archive: True

Name: PEARLRIDGE TEXACO 93970
Address: 98-121 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201226
Tank Id: 2
Tank Status: Currently in Use
FRTYPE: Other
Expiration Date: Not reported
FR Archive: True

Name: PEARLRIDGE TEXACO 93970
Address: 98-121 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201226
Tank Id: 3
Tank Status: Currently in Use
FRTYPE: Self Insured
Expiration Date: 04/23/2010
FR Archive: True

Name: PEARLRIDGE TEXACO 93970
Address: 98-121 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201226
Tank Id: 1
Tank Status: Currently in Use

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARLRIDGE TEXACO 93970 (Continued)

U004228177

FRTYPE: Self Insured
Expiration Date: 04/23/2010
FR Archive: True

Name: PEARLRIDGE TEXACO 93970
Address: 98-121 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201226
Tank Id: 2
Tank Status: Currently in Use
FRTYPE: Self Insured
Expiration Date: 04/23/2010
FR Archive: True

Name: PEARLRIDGE TEXACO 93970
Address: 98-121 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201226
Tank Id: R-4
Tank Status: Permanently Out of Use
FRTYPE: Self Insured
Expiration Date: 04/23/2010
FR Archive: True

Name: PEARLRIDGE TEXACO 93970
Address: 98-121 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201226
Tank Id: R-4
Tank Status: Permanently Out of Use
FRTYPE: Guarantee
Expiration Date: 04/24/2015
FR Archive: True

Name: PEARLRIDGE TEXACO 93970
Address: 98-121 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201226
Tank Id: 3
Tank Status: Currently in Use
FRTYPE: Guarantee
Expiration Date: 04/24/2015
FR Archive: True

Name: PEARLRIDGE TEXACO 93970
Address: 98-121 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201226
Tank Id: 1
Tank Status: Currently in Use
FRTYPE: Guarantee
Expiration Date: 04/24/2015
FR Archive: True

Name: PEARLRIDGE TEXACO 93970
Address: 98-121 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

PEARLRIDGE TEXACO 93970 (Continued)

U004228177

Alt Facility ID: 9-201226
 Tank Id: 2
 Tank Status: Currently in Use
 FRTYPE: Guarantee
 Expiration Date: 04/24/2015
 FR Archive: True

Name: PEARLRIDGE TEXACO 93970
 Address: 98-121 KAMEHAMEHA HWY
 City,State,Zip: AIEA, HI 96701
 Alt Facility ID: 9-201226
 Tank Id: 2
 Tank Status: Currently in Use
 FRTYPE: Insurance
 Expiration Date: 11/01/2021
 FR Archive: False

Name: PEARLRIDGE TEXACO 93970
 Address: 98-121 KAMEHAMEHA HWY
 City,State,Zip: AIEA, HI 96701
 Alt Facility ID: 9-201226
 Tank Id: 1
 Tank Status: Currently in Use
 FRTYPE: Insurance
 Expiration Date: 11/01/2021
 FR Archive: False

Name: PEARLRIDGE TEXACO 93970
 Address: 98-121 KAMEHAMEHA HWY
 City,State,Zip: AIEA, HI 96701
 Alt Facility ID: 9-201226
 Tank Id: R-4
 Tank Status: Permanently Out of Use
 FRTYPE: Insurance
 Expiration Date: 11/01/2021
 FR Archive: False

Name: PEARLRIDGE TEXACO 93970
 Address: 98-121 KAMEHAMEHA HWY
 City,State,Zip: AIEA, HI 96701
 Alt Facility ID: 9-201226
 Tank Id: 3
 Tank Status: Currently in Use
 FRTYPE: Insurance
 Expiration Date: 11/01/2021
 FR Archive: False

B11
East
< 1/8
0.091 mi.
479 ft.

MAHALO EXPRESS PEARL KAI 12818
98-189 KAMEHAMEHA HWY
AIEA, HI 96701
Site 3 of 3 in cluster B

HI LUST U001236393
HI UST N/A
HI Financial Assurance

Relative:
Higher
Actual:
7 ft.

LUST:
 Name: MAHALO EXPRESS PEARL KAI 12818
 Address: 98-189 KAMEHAMEHA HWY
 City,State,Zip: AIEA, HI 96701
 Facility ID: 9-201723

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MAHALO EXPRESS PEARL KAI 12818 (Continued)

U001236393

Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 01/16/2013
Release ID: 980080
Project Officer: Josh Nagashima

UST:

Name: MAHALO EXPRESS PEARL KAI 12818
Address: 98-189 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Facility ID: 9-201723
Owner: U.S. RESTAURANT PROPERTIES, INC
Owner Address: 12240 INWOOD RD #200
Owner City,St,Zip: Aiea, 96701 96701
Latitude: 21.381271000000002
Longitude: -157.94216
Horizontal Reference Datum Name: NAD83
Horizontal Collection Method Name: GPS

Tank ID: R-89
Date Installed: 12/31/1988
Tank Status: Permanently Out of Use
Date Closed: 06/14/2005
Tank Capacity: 10000
Substance: Gasoline

Name: MAHALO EXPRESS PEARL KAI 12818
Address: 98-189 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701

Tank ID: r-87
Date Installed: 12/31/1988
Tank Status: Permanently Out of Use
Date Closed: 06/14/2005
Tank Capacity: 10000
Substance: Gasoline

Name: MAHALO EXPRESS PEARL KAI 12818
Address: 98-189 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701

Tank ID: r-92
Date Installed: 12/31/1988
Tank Status: Permanently Out of Use
Date Closed: 06/14/2005
Tank Capacity: 10000
Substance: Gasoline

HI Financial Assurance:

Name: MAHALO EXPRESS PEARL KAI 12818
Address: 98-189 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201723
Tank Id: r-87
Tank Status: Permanently Out of Use
FRTYPE: Other
Expiration Date: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MAHALO EXPRESS PEARL KAI 12818 (Continued)

U001236393

FR Archive: False

Name: MAHALO EXPRESS PEARL KAI 12818
Address: 98-189 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201723
Tank Id: R-89
Tank Status: Permanently Out of Use
FRTYPE: Insurance
Expiration Date: Not reported
FR Archive: False

Name: MAHALO EXPRESS PEARL KAI 12818
Address: 98-189 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201723
Tank Id: R-89
Tank Status: Permanently Out of Use
FRTYPE: Other
Expiration Date: Not reported
FR Archive: False

Name: MAHALO EXPRESS PEARL KAI 12818
Address: 98-189 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201723
Tank Id: r-92
Tank Status: Permanently Out of Use
FRTYPE: Insurance
Expiration Date: Not reported
FR Archive: False

Name: MAHALO EXPRESS PEARL KAI 12818
Address: 98-189 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201723
Tank Id: r-92
Tank Status: Permanently Out of Use
FRTYPE: Other
Expiration Date: Not reported
FR Archive: False

Name: MAHALO EXPRESS PEARL KAI 12818
Address: 98-189 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201723
Tank Id: r-87
Tank Status: Permanently Out of Use
FRTYPE: Insurance
Expiration Date: Not reported
FR Archive: False

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

12
 WNW
 < 1/8
 0.091 mi.
 483 ft.

HI-GRADE PLUMBING, INC.
98-121 LIPOA PL
AIEA, HI 96701

HI SHWS U001236373
HI LUST N/A
HI UST
HI ENG CONTROLS
HI INST CONTROL

Relative:
Lower
Actual:
3 ft.

SHWS:
 Name: 98-121 LIPOA PLACE
 Address: 98-121 LIPOA PL
 City,State,Zip: AIEA, HI 96701
 Supplemental Location: Former Hi-Grade Plumbing Facility
 Island: Not reported
 Environmental Interest: 98-121 Lipoa Place
 HID Number: Not reported
 Facility Registry Identifier: Not reported
 Lead Agency: HEER Office
 Program: State
 Project Manager: Cal Miyahara
 Hazard Priority: NFA
 Potential Hazards And Controls: Hazard Managed With Controls
 Island: Not reported
 SDAR Environmental Interest Name: 98-121 Lipoa Place
 HID Number: Not reported
 Facility Registry Identifier: Not reported
 Lead Agency: HEER Office
 Potential Hazard And Controls: Hazard Managed With Controls
 Priority: NFA
 Assessment: Response Necessary
 Response: Response Complete
 Nature of Contamination: Found: TPH-G and btex at 6.5 ft bgs in soil. TPH-G, benz, mtbe in sv. TPH-G in gw. All COC above Tier 1 EALs.
 Nature of Residual Contamination: Not reported
 Use Restrictions: Controls Required to Manage Contamination
 Engineering Control: Engineering Control Required
 Description of Restrictions: Not reported
 Institutional Control: Government - Hawaii Dept. of Health Letter Issued
 Within Designated Areawide Contamination: Not reported
 Site Closure Type: No Further Action Letter - Restricted Use
 Document Date: 07/31/2013
 Document Number: 2013-402-CMM
 Document Subject: Amended NFA letter for 98-121 Lipoa Pl, Aiea HI
 Project Manager: Cal Miyahara
 Contact Information: (808) 586-4249 2385 Waimano Home Rd, Pearl City, HI 96782
 Facility ID: 2703
 Location Description: 98-121 Lipoa Pl
 Is Public: True
 Update On: 2019-05-31 00:00:00

LUST:
 Name: HI-GRADE PLUMBING, INC.
 Address: 98-121 LIPOA PL
 City,State,Zip: AIEA, HI 96701
 Facility ID: 9-201529
 Facility Status: Site Cleanup Completed (NFA)
 Facility Status Date: 08/23/2005
 Release ID: 020014
 Project Officer: Richard Takaba

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HI-GRADE PLUMBING, INC. (Continued)

U001236373

UST:

Name: HI-GRADE PLUMBING, INC.
Address: 98-121 LIPOA PL
City,State,Zip: AIEA, HI 96701
Facility ID: 9-201529
Owner: HI-GRADE PLUMBING, INC.
Owner Address: 98-121 LIPOA PLACE
Owner City,St,Zip: Aiea, 96701 96701
Latitude: 21.381965000000001
Longitude: -157.946279
Horizontal Reference Datum Name: NAD83
Horizontal Collection Method Name: Address Matching

Tank ID: R-1
Date Installed: 05/15/1979
Tank Status: Permanently Out of Use
Date Closed: 01/28/2002
Tank Capacity: 1000
Substance: Gasoline

Name: HI-GRADE PLUMBING, INC.
Address: 98-121 LIPOA PL
City,State,Zip: AIEA, HI 96701

Tank ID: R-2
Date Installed: 05/14/1974
Tank Status: Permanently Out of Use
Date Closed: 01/28/2002
Tank Capacity: 1000
Substance: Gasoline

Name: HI-GRADE PLUMBING, INC.
Address: 98-121 LIPOA PL
City,State,Zip: AIEA, HI 96701

Tank ID: R-3
Date Installed: Not reported
Tank Status: Permanently Out of Use
Date Closed: 01/28/2002
Tank Capacity: 1000
Substance: Gasoline

ENG CONTROLS:

Supplemental Location Text: Former Hi-Grade Plumbing Facility
Zip Suffix: Not reported
Island: Oahu
Potential Hazards And Controls: Hazard Managed With Controls
Engineering Control: Engineering Control Required

INST CONTROL:

Potential hazards and controls: Hazard Managed With Controls
Supplemental Location: Former Hi-Grade Plumbing Facility
Zip Suffix: Not reported
Island: Oahu
Institutional Control: Government - Hawaii Dept. of Health Letter Issued

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

C13
NW
 < 1/8
 0.105 mi.
 553 ft.

NATIONAL TIRE OF HAWAII LTD
98-115 KAMEHAMEHA HWY
AIEA, HI 96701

EDR Hist Auto

1021489758
N/A

Relative:
Higher

EDR Hist Auto

Actual:
13 ft.

Year:	Name:	Type:
1998	NATIONAL TIRE OF HAWAII LTD	Auto And Home Supply Stores, NEC
1999	NATIONAL TIRE OF HAWAII LTD	Auto And Home Supply Stores, NEC
2000	NATIONAL TIRE OF HAWAII LTD	Auto And Home Supply Stores, NEC
2001	NATIONAL TIRE OF HAWAII LTD	Auto And Home Supply Stores, NEC
2002	LEX BRODIES TIRES	Auto And Home Supply Stores, NEC
2003	HILO TIRE COMPANY	Auto And Home Supply Stores, NEC
2004	HILO TIRE COMPANY	Auto And Home Supply Stores, NEC
2005	HAWAII TIRE CO LLC	Auto And Home Supply Stores, NEC
2006	HAWAII TIRE CO LLC	Auto And Home Supply Stores, NEC

Site 6 of 6 in cluster C

D14
East
 < 1/8
 0.121 mi.
 639 ft.

HAWAIIAN JIFFY INC
98-199 KAM HIGHWAY #G3
AIEA, HI 96701

RCRA NonGen / NLR
FINDS
ECHO

1000146701
HID982514382

Relative:
Lower

RCRA NonGen / NLR:

Actual:
6 ft.

Date Form Received by Agency:	19931126
Handler Name:	HAWAIIAN JIFFY INC
Handler Address:	98-199 KAM HIGHWAY #G3
Handler City,State,Zip:	AIEA, HI 96701
EPA ID:	HID982514382
Contact Name:	JEAN HO
Contact Address:	98-199 KAM HIGHWAY #G3
Contact City,State,Zip:	AIEA, HI 96701
Contact Telephone:	808-599-5433
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	09
Land Type:	Other
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	321 NORTH KUAKINI ST #612
Mailing City,State,Zip:	HONOLULU, HI 96817
Owner Name:	HAWAIIAN JIFFY INC
Owner Type:	Private
Operator Name:	NOT REQUIRED
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No

Site 1 of 4 in cluster D

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

HAWAIIAN JIFFY INC (Continued)

1000146701

Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRR Permit Baseline:	Not on the Baseline
2018 GPRR Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRR Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDs Where RCRA CA has Been Imposed Universe:	No
TSDs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSD Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20020729
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	HAWAIIAN JIFFY INC
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	NOT REQUIRED

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HAWAIIAN JIFFY INC (Continued)

1000146701

Owner/Operator City,State,Zip: NOT REQUIRED, ME 99999
Owner/Operator Telephone: 415-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: NOT REQUIRED
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, ME 99999
Owner/Operator Telephone: 415-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:

Receive Date: 19931126
Handler Name: HAWAIIAN JIFFY INC
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:

NAICS Code: 811198
NAICS Description: ALL OTHER AUTOMOTIVE REPAIR AND MAINTENANCE

Facility Has Received Notices of Violations:

Violations: No Violations Found

Evaluation Action Summary:

Evaluations: No Evaluations Found

FINDS:

Registry ID: 110005727160

Click Here:

Environmental Interest/Information System:

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

HAWAIIAN JIFFY INC (Continued)

1000146701

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1000146701
 Registry ID: 110005727160
 DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110005727160>
 Name: HAWAIIAN JIFFY INC
 Address: 98-199 KAM HIGHWAY #G3
 City,State,Zip: AIEA, HI 96701

D15
East
< 1/8
0.121 mi.
639 ft.

HECO TRANSFORMER 52091
98-199 KAMEHAMEHA HWY
AIEA, HI 96701

HI SHWS **S107025991**
HI SPILLS **N/A**

Site 2 of 4 in cluster D

Relative:
Lower
Actual:
6 ft.

SHWS:

Name: HECO TRANSFORMER 52091
 Address: 98-199 KAMEHAMEHA HWY
 City,State,Zip: AIEA, HI 96701
 Supplemental Location: Pearl Kai Shopping Center, across from Pearlridge
 Island: Not reported
 Environmental Interest: HECO Transformer 52091
 HID Number: Not reported
 Facility Registry Identifier: Not reported
 Lead Agency: HEER Office
 Program: State
 Project Manager: Unassigned
 Hazard Priority: Low
 Potential Hazards And Controls: Hazard Undetermined
 Island: Not reported
 SDAR Environmental Interest Name: HECO Transformer 52091
 HID Number: Not reported
 Facility Registry Identifier: Not reported
 Lead Agency: HEER Office
 Potential Hazard And Controls: Hazard Undetermined
 Priority: Low
 Assessment: Assessment Ongoing
 Response: Not reported
 Nature of Contamination: Presumed: Shell Diala Oil
 Nature of Residual Contamination: Not reported
 Use Restrictions: Undetermined
 Engineering Control: Not reported
 Description of Restrictions: Not reported
 Institutional Control: Not reported
 Within Designated Areawide Contamination: Not reported
 Site Closure Type: Not reported
 Document Date: Not reported
 Document Number: Not reported
 Document Subject: Not reported
 Project Manager: Unassigned
 Contact Information: (808) 586-4249 2385 Waimano Home Rd, Pearl City, HI 96782
 Facility ID: 2154
 Location Description: 98-199 Kamehameha Hwy
 Is Public: True
 Update On: 2020-01-18 00:00:00

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HECO TRANSFORMER 52091 (Continued)

S107025991

SPILLS:

Name: HECO TRANSFORMER 52091
Address: 98-199 KAMEHAMEHA HWY
Address 2: Not reported
City,State,Zip: AIEA, HI 96701
Island: Oahu
Supplemental Loc. Text: Pearl Kai Shopping Center, across from Pearlridge
Case Number: 20021121-1211
Facility Registry ID: Not reported
HID Number: Not reported
Lead and Program: HEER EP&R
ER: Site Visit
Less Or Greater Than: Not reported
Units: HECO Transformer 52091
Activity Type: Response
Activity Lead: Mike Cripps
Assignment End Date: 2003-09-29 00:00:00
Result: Refer to ISST
File Under: Hawaiian Electric Co., Inc. (HECO)
Substances: Shell Diala Oil
Quantity: 150
Units: Gallons
Reported Date: Not reported
Release Date: Not reported
Release Duration: Not reported
Media: Not reported
Waterbody: Not reported
Summary: Not reported

Is Noteworthy for Reports: Not reported
Is the Release a Fugitive Dumping: Not reported
Tax Map Key: Not reported
Assigned SOSC: Not reported
Notified Agencies: Not reported
Response Measures Taken: Not reported
Incident Report Number: Not reported
Coordination Needed: Not reported
Tier II Facility: Not reported
RMP: Not reported
Follow-up Received On: Not reported
Cost Recovery: Not reported
Invoice To: Not reported
Closed Date: Not reported
Comments: Not reported
Latitude: 21.381133999999999
Longitude: -157.941292

Name: HECO TRANSFORMER 52091
Address: 98-199 KAMEHAMEHA HWY
Address 2: Not reported
City,State,Zip: AIEA, HI 96701
Island: Oahu
Supplemental Loc. Text: Pearl Kai Shopping Center, across from Pearlridge
Case Number: 20021121-1211
Facility Registry ID: Not reported
HID Number: Not reported
Lead and Program: HEER EP&R

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HECO TRANSFORMER 52091 (Continued)

S107025991

ER:	Site Visit
Less Or Greater Than:	Not reported
Units:	HECO Transformer 52091
Activity Type:	Response
Activity Lead:	Mike Cripps
Assignment End Date:	2003-09-29 00:00:00
Result:	Refer to ISST
File Under:	Hawaiian Electric Co., Inc. (HECO)
Substances:	Shell Diala Oil
Quantity:	150
Units:	Gallons
Reported Date:	Not reported
Release Date:	Not reported
Release Duration:	Not reported
Media:	Not reported
Waterbody:	Not reported
Summary:	Not reported
Is Noteworthy for Reports:	Not reported
Is the Release a Fugitive Dumping:	Not reported
Tax Map Key:	Not reported
Assigned SOSOC:	Not reported
Notified Agencies:	Not reported
Response Measures Taken:	Not reported
Incident Report Number:	Not reported
Coordination Needed:	Not reported
Tier II Facility:	Not reported
RMP:	Not reported
Follow-up Received On:	Not reported
Cost Recovery:	Not reported
Invoice To:	Not reported
Closed Date:	Not reported
Comments:	Not reported
Latitude:	21.397516
Longitude:	-157.89628300000001
Name:	HECO TRANSFORMER 52091
Address:	98-199 KAMEHAMEHA HWY
Address 2:	Not reported
City,State,Zip:	AIEA, HI 96701
Island:	Oahu
Supplemental Loc. Text:	Pearl Kai Shopping Center, across from Pearlridge
Case Number:	20021121-1211
Facility Registry ID:	Not reported
HID Number:	Not reported
Lead and Program:	HEER EP&R
ER:	Site Visit
Less Or Greater Than:	Not reported
Units:	HECO Transformer 52091
Activity Type:	Response
Activity Lead:	Mike Cripps
Assignment End Date:	2003-09-29 00:00:00
Result:	Refer to ISST
File Under:	Hawaiian Electric Co., Inc. (HECO)
Substances:	Shell Diala Oil
Quantity:	150
Units:	Gallons

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

HECO TRANSFORMER 52091 (Continued)

S107025991

Reported Date:	Not reported
Release Date:	Not reported
Release Duration:	Not reported
Media:	Not reported
Waterbody:	Not reported
Summary:	Not reported
Is Noteworthy for Reports:	Not reported
Is the Release a Fugitive Dumping:	Not reported
Tax Map Key:	Not reported
Assigned SOSOC:	Not reported
Notified Agencies:	Not reported
Response Measures Taken:	Not reported
Incident Report Number:	Not reported
Coordination Needed:	Not reported
Tier II Facility:	Not reported
RMP:	Not reported
Follow-up Received On:	Not reported
Cost Recovery:	Not reported
Invoice To:	Not reported
Closed Date:	Not reported
Comments:	Not reported
Latitude:	21.380672000000001
Longitude:	-157.943395000000001

D16
 East
 < 1/8
 0.121 mi.
 639 ft.

C C CLEANERS
 98-199 KAMEHAMEHA HWY
 AIEA, HI 96701

EDR Hist Cleaner 1019946590
 N/A

Site 3 of 4 in cluster D

Relative: EDR Hist Cleaner
Lower

Actual: 6 ft.	Year: Name:	Type:
	2000 C C CLEANERS	Drycleaning Plants, Except Rugs
	2001 C C CLEANERS	Drycleaning Plants, Except Rugs
	2002 C C CLEANERS	Drycleaning Plants, Except Rugs
	2003 C C CLEANERS	Drycleaning Plants, Except Rugs

D17
 East
 < 1/8
 0.121 mi.
 639 ft.

KENS CLEANERS HAWAII INC
 98-199 KAM HWY STE C12
 AIEA, HI 96701

EDR Hist Cleaner 1018575428
 N/A

Site 4 of 4 in cluster D

Relative: EDR Hist Cleaner
Lower

Actual: 6 ft.	Year: Name:	Type:
	2006 KENS CLEANERS HAWAII INC	Laundry And Drycleaner Agents
	2007 KENS CLEANERS HAWAII INC	Laundry And Drycleaner Agents
	2008 KENS CLEANERS HAWAII INC	Laundry And Drycleaner Agents
	2009 KENS CLEANERS HAWAII INC	Laundry And Drycleaner Agents
	2010 KENS CLEANERS HAWAII INC	Laundry And Drycleaner Agents
	2011 KENS CLEANERS HAWAII INC	Laundry And Drycleaner Agents
	2012 KENS CLEANERS HAWAII INC	Laundry And Drycleaner Agents
	2013 KENS CLEANERS HAWAII INC	Laundry And Drycleaner Agents

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

KENS CLEANERS HAWAII INC (Continued)

1018575428

2014 KENS CLEANERS HAWAII INC

Laundry And Drycleaner Agents

E18
NW
 1/8-1/4
 0.203 mi.
 1072 ft.

SHELL SERVICE STATION SAP 139535
98-080 KAMEHAMEHA HWY
AIEA, HI 96701

RCRA NonGen / NLR

1005415822
HIR000111708

Site 1 of 6 in cluster E

Relative:
Higher
Actual:
 15 ft.

RCRA NonGen / NLR:	
Date Form Received by Agency:	20181206
Handler Name:	SHELL SERVICE STATION SAP 139535
Handler Address:	98-080 KAMEHAMEHA HWY
Handler City,State,Zip:	AIEA, HI 96701
EPA ID:	HIR000111708
Contact Name:	SCOTT BURKEY
Contact Address:	S. WILMINGTON AVE
Contact City,State,Zip:	CARSON, CA 90810
Contact Telephone:	214-483-5460
Contact Fax:	Not reported
Contact Email:	WASTECOMPLIANCE@GHD.COM
Contact Title:	SR SGW RISK MGMT AND ADVOCACY SPECIALIST
EPA Region:	09
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	S. WILMINGTON AVE
Mailing City,State,Zip:	CARSON, CA 90810
Owner Name:	EQUILON ENTERPRISES LLC DBA SHELL OIL PRODUCTS US
Owner Type:	Private
Operator Name:	EQUILON ENTERPRISES LLC DBA SHELL OIL PRODUCTS US
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

SHELL SERVICE STATION SAP 139535 (Continued)

1005415822

2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDf Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20181211
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	IGNITABLE WASTE
Waste Code:	D018
Waste Description:	BENZENE

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	EQUILON ENTERPRISES LLC DBA SHELL OIL PRODUCTS US
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	20945 S. WILMINGTON AVE
Owner/Operator City,State,Zip:	CARSON, CA 90810
Owner/Operator Telephone:	214-483-5460
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	WASTECOMPLIANCE@GHD.COM
Owner/Operator Indicator:	Owner

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHELL SERVICE STATION SAP 139535 (Continued)

1005415822

Owner/Operator Name: EQUILON ENTERPRISES L L C
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: P O BOX 2648
Owner/Operator City,State,Zip: HOUSTON, TX 77252-2648
Owner/Operator Telephone: 713-241-5036
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: EQUILON ENTERPRISES LLC DBA SHELL OIL PRODUCTS US
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 20945 S. WILMINGTON AVE
Owner/Operator City,State,Zip: CARSON, CA 90810
Owner/Operator Telephone: 214-483-5460
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: WASTECOMPLIANCE@GHD.COM

Historic Generators:

Receive Date: 20181206
Handler Name: SHELL SERVICE STATION SAP 139535
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20020124
Handler Name: SHELL SERVICE STATION
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:

NAICS Code: 447190
NAICS Description: OTHER GASOLINE STATIONS

NAICS Code: 562910
NAICS Description: REMEDIATION SERVICES

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

SHELL SERVICE STATION SAP 139535 (Continued)

1005415822

Facility Has Received Notices of Violations:
 Violations: No Violations Found

Evaluation Action Summary:
 Evaluations: No Evaluations Found

**E19
 NW
 1/8-1/4
 0.203 mi.
 1072 ft.**

**ALOHA PETROLEUM: YUNNIE'S SHELL
 98-135 KAMEHAMEHA HWY
 AIEA, HI 96701**

**RCRA-VSQQ 1004689078
 HIR000110874**

Site 2 of 6 in cluster E

**Relative:
 Higher
 Actual:
 15 ft.**

RCRA-VSQQ:
 Date Form Received by Agency: 20180706
 Handler Name: ALOHA PETROLEUM: YUNNIE'S SHELL
 Handler Address: 98-135 KAMEHAMEHA HWY
 Handler City,State,Zip: AIEA, HI 96701
 EPA ID: HIR000110874
 Contact Name: GREGORY MCCARTNEY
 Contact Address: 1132 BISHOP ST, SUITE 1700
 Contact City,State,Zip: HONOLULU, HI 96813
 Contact Telephone: 808-522-9704
 Contact Fax: 808-522-9707
 Contact Email: GMCCARTNEY@ALOHAGAS.COM
 Contact Title: EHS MANAGER
 EPA Region: 09
 Land Type: Private
 Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
 Non-Notifier: Not reported
 Biennial Report Cycle: Not reported
 Accessibility: Not reported
 Active Site Indicator: Handler Activities
 State District Owner: Not reported
 State District: Not reported
 Mailing Address: 98-135 KAMEHAMEHA HWY
 Mailing City,State,Zip: AIEA, HI 96701
 Owner Name: ALOHA PETROLEUM LTD
 Owner Type: Private
 Operator Name: ALOHA PETROLEUM LTD
 Operator Type: Private
 Short-Term Generator Activity: No
 Importer Activity: No
 Mixed Waste Generator: No
 Transporter Activity: No
 Transfer Facility Activity: No
 Recycler Activity with Storage: No
 Small Quantity On-Site Burner Exemption: No
 Smelting Melting and Refining Furnace Exemption: No
 Underground Injection Control: No
 Off-Site Waste Receipt: No
 Universal Waste Indicator: No
 Universal Waste Destination Facility: No
 Federal Universal Waste: No
 Active Site Fed-Reg Treatment Storage and Disposal Facility: Not reported
 Active Site Converter Treatment storage and Disposal Facility: Not reported
 Active Site State-Reg Treatment Storage and Disposal Facility: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ALOHA PETROLEUM: YUNNIE'S SHELL (Continued)

1004689078

Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDs Where RCRA CA has Been Imposed Universe:	No
TSDs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20180706
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	IGNITABLE WASTE

Waste Code:	D018
Waste Description:	BENZENE

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	ALOHA PETROLEUM LTD
Legal Status:	Private
Date Became Current:	19990301
Date Ended Current:	Not reported
Owner/Operator Address:	1132 BISHOP ST, SUITE 1700
Owner/Operator City,State,Zip:	HONOLULU, HI 96813

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ALOHA PETROLEUM: YUNNIE'S SHELL (Continued)

1004689078

Owner/Operator Telephone:	808-522-9700
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name:	ALOHA PETROLEUM LTD
Legal Status:	Private
Date Became Current:	19990301
Date Ended Current:	Not reported
Owner/Operator Address:	1132 BISHOP ST, SUITE 1700
Owner/Operator City,State,Zip:	HONOLULU, HI 96813
Owner/Operator Telephone:	808-522-9700
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name:	ALOHA PETROLEUM LTD
Legal Status:	Private
Date Became Current:	19990301
Date Ended Current:	Not reported
Owner/Operator Address:	1132 BISHOP ST, SUITE 1700
Owner/Operator City,State,Zip:	HONOLULU, HI 96813
Owner/Operator Telephone:	808-522-9700
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name:	ALOHA PETROLEUM LTD
Legal Status:	Private
Date Became Current:	19990301
Date Ended Current:	Not reported
Owner/Operator Address:	1132 BISHOP ST, SUITE 1700
Owner/Operator City,State,Zip:	HONOLULU, HI 96813
Owner/Operator Telephone:	808-522-9700
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name:	ALOHA PETROLEUM LTD
Legal Status:	Private
Date Became Current:	19990301
Date Ended Current:	Not reported
Owner/Operator Address:	1132 BISHOP ST, SUITE 1700
Owner/Operator City,State,Zip:	HONOLULU, HI 96813
Owner/Operator Telephone:	808-522-9700
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name:	EQUILON ENTERPRISES L L C
Legal Status:	Private
Date Became Current:	Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ALOHA PETROLEUM: YUNNIE'S SHELL (Continued)

1004689078

Date Ended Current: Not reported
Owner/Operator Address: P O BOX 2648
Owner/Operator City,State,Zip: HOUSTON, TX 77252-2648
Owner/Operator Telephone: 713-241-5036
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: ALOHA PETROLEUM LTD
Legal Status: Private
Date Became Current: 19990301
Date Ended Current: Not reported
Owner/Operator Address: 1132 BISHOP ST, SUITE 1700
Owner/Operator City,State,Zip: HONOLULU, HI 96813
Owner/Operator Telephone: 808-522-9700
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:

Receive Date: 20180612
Handler Name: YUNNIE'S SHELL
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20011220
Handler Name: SHELL SERVICE STATION
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20120301
Handler Name: YUNNIE'S SHELL
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ALOHA PETROLEUM: YUNNIE'S SHELL (Continued)

1004689078

Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20180706
Handler Name: ALOHA PETROLEUM: YUNNIE'S SHELL
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:

NAICS Code: 44711
NAICS Description: GASOLINE STATIONS WITH CONVENIENCE STORES

Facility Has Received Notices of Violations:

Violations: No Violations Found

Evaluation Action Summary:

Evaluations: No Evaluations Found

**E20
NW
1/8-1/4
0.213 mi.
1123 ft.**

**JIM SLEMONS VOLVO HI INC
98 075 KAM HWY
AIEA, HI 96701**

RCRA NonGen / NLR

**1000131914
HID982370512**

Site 3 of 6 in cluster E

**Relative:
Higher
Actual:
16 ft.**

RCRA NonGen / NLR:
Date Form Received by Agency: 19970625
Handler Name: JIM SLEMONS VOLVO HI INC
Handler Address: 98 075 KAM HWY
Handler City,State,Zip: AIEA, HI 96701
EPA ID: HID982370512
Contact Name: Not reported
Contact Address: Not reported
Contact City,State,Zip: Not reported
Contact Telephone: Not reported
Contact Fax: Not reported
Contact Email: Not reported
Contact Title: Not reported
EPA Region: 09
Land Type: Not reported
Federal Waste Generator Description: Not a generator, verified
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported
Active Site Indicator: Not reported
State District Owner: Not reported
State District: Not reported
Mailing Address: SEVENTY FIFTH KAM HWY

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

JIM SLEMONS VOLVO HI INC (Continued)

1000131914

Mailing City,State,Zip:	AIEA, HI 96701
Owner Name:	SLEMONS JIM
Owner Type:	Private
Operator Name:	NOT REQUIRED
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20000915
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

JIM SLEMONS VOLVO HI INC (Continued)

1000131914

Recycler Activity Without Storage: No
Manifest Broker: No
Sub-Part P Indicator: No

Handler - Owner Operator:

Owner/Operator Indicator: Operator
Owner/Operator Name: NOT REQUIRED
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, ME 99999
Owner/Operator Telephone: 415-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: SLEMONS JIM
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, ME 99999
Owner/Operator Telephone: 415-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:

Receive Date: 19970625
Handler Name: JIM SLEMONS VOLVO HI INC
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:

NAICS Codes: No NAICS Codes Found

Facility Has Received Notices of Violation:

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

JIM SLEMONS VOLVO HI INC (Continued)

1000131914

Scheduled Compliance Date: Not reported
 Enforcement Identifier: Not reported
 Date of Enforcement Action: Not reported
 Enforcement Responsible Agency: Not reported
 Enforcement Docket Number: Not reported
 Enforcement Attorney: Not reported
 Corrective Action Component: Not reported
 Appeal Initiated Date: Not reported
 Appeal Resolution Date: Not reported
 Disposition Status Date: Not reported
 Disposition Status: Not reported
 Disposition Status Description: Not reported
 Consent/Final Order Sequence Number: Not reported
 Consent/Final Order Respondent Name: Not reported
 Consent/Final Order Lead Agency: Not reported
 Enforcement Type: Not reported
 Enforcement Responsible Person: Not reported
 Enforcement Responsible Sub-Organization: Not reported
 SEP Sequence Number: Not reported
 SEP Expenditure Amount: Not reported
 SEP Scheduled Completion Date: Not reported
 SEP Actual Date: Not reported
 SEP Defaulted Date: Not reported
 SEP Type: Not reported
 SEP Type Description: Not reported
 Proposed Amount: Not reported
 Final Monetary Amount: Not reported
 Paid Amount: Not reported
 Final Count: Not reported
 Final Amount: Not reported

Evaluation Action Summary:

Evaluation Date: 19960401
 Evaluation Responsible Agency: State
 Found Violation: No
 Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
 Evaluation Responsible Person Identifier: R9
 Evaluation Responsible Sub-Organization: Not reported
 Actual Return to Compliance Date: Not reported
 Scheduled Compliance Date: Not reported
 Date of Request: Not reported
 Date Response Received: Not reported
 Request Agency: Not reported
 Former Citation: Not reported

**E21
 NW
 1/8-1/4
 0.215 mi.
 1134 ft.**

**ASSOCIATED STEEL WORKERS, LTD
 98-085 KAMEHAMEHA HWY
 AIEA, HI 96701**

**HI LUST U001236580
 HI UST N/A**

Site 4 of 6 in cluster E

**Relative:
 Higher
 Actual:
 16 ft.**

LUST:
 Name: ASSOCIATED STEEL WORKERS, LTD
 Address: 98-085 KAMEHAMEHA HWY
 City,State,Zip: AIEA, HI 96701
 Facility ID: 9-202700

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ASSOCIATED STEEL WORKERS, LTD (Continued)

U001236580

Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 11/28/1995
Release ID: 930006
Project Officer: Roger Brewer

UST:

Name: ASSOCIATED STEEL WORKERS, LTD
Address: 98-085 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Facility ID: 9-202700
Owner: ASSOCIATED STEEL WORKERS, LTD
Owner Address: 98-085 KAMEHAMEHA HIGHWAY
Owner City,St,Zip: Aiea, 96701 96701
Latitude: 21.383291
Longitude: -157.94757100000001
Horizontal Reference Datum Name: NAD83
Horizontal Collection Method Name: Address Matching

Tank ID: R-1
Date Installed: Not reported
Tank Status: Permanently Out of Use
Date Closed: 10/12/1992
Tank Capacity: 2000
Substance: Diesel

Name: ASSOCIATED STEEL WORKERS, LTD
Address: 98-085 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701

Tank ID: R-2
Date Installed: Not reported
Tank Status: Permanently Out of Use
Date Closed: 10/12/1992
Tank Capacity: 1000
Substance: Gasoline

Name: ASSOCIATED STEEL WORKERS, LTD
Address: 98-085 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701

Tank ID: R-3
Date Installed: Not reported
Tank Status: Permanently Out of Use
Date Closed: 10/12/1992
Tank Capacity: 1000
Substance: Diesel

E22
NW
1/8-1/4
0.243 mi.
1285 ft.

SHELL SERVICE STATION
98-080 KAMEHAMEHA HWY
AIEA, HI 96701
Site 5 of 6 in cluster E

HI LUST U001236426
HI UST N/A
HI SPILLS
HI Financial Assurance

Relative:
Higher
Actual:
20 ft.

LUST:
Name: SHELL SERVICE STATION
Address: 98-080 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHELL SERVICE STATION (Continued)

U001236426

Facility ID: 9-201889
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 10/24/2003
Release ID: 030025
Project Officer: Shaobin Li

Name: SHELL SERVICE STATION
Address: 98-080 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Facility ID: 9-201889
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 07/12/2001
Release ID: 870003
Project Officer: Shaobin Li

Name: SHELL SERVICE STATION
Address: 98-080 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Facility ID: 9-201889
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 10/24/2003
Release ID: 030026
Project Officer: Shaobin Li

UST:

Name: SHELL SERVICE STATION
Address: 98-080 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Facility ID: 9-201889
Owner: EQUILON ENTERPRISES, LLC DBA SHELL OIL PRODUCTS US
Owner Address: 2555 13TH AVE, SW
Owner City,St,Zip: Aiea, 96701 96701
Latitude: 21.384153000000001
Longitude: -157.94695999999999
Horizontal Reference Datum Name: NAD83
Horizontal Collection Method Name: Address Matching

Tank ID: R-1
Date Installed: 04/22/1985
Tank Status: Permanently Out of Use
Date Closed: 03/25/2003
Tank Capacity: 10000
Substance: Gasoline

Name: SHELL SERVICE STATION
Address: 98-080 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701

Tank ID: R-2
Date Installed: 04/22/1985
Tank Status: Permanently Out of Use
Date Closed: 03/25/2003
Tank Capacity: 10000
Substance: Gasoline

Name: SHELL SERVICE STATION
Address: 98-080 KAMEHAMEHA HWY

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHELL SERVICE STATION (Continued)

U001236426

City,State,Zip: AIEA, HI 96701
Tank ID: R-3
Date Installed: 04/22/1985
Tank Status: Permanently Out of Use
Date Closed: 03/25/2003
Tank Capacity: 10000
Substance: Gasoline
Name: SHELL SERVICE STATION
Address: 98-080 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701

Tank ID: R-4
Date Installed: 04/22/1985
Tank Status: Permanently Out of Use
Date Closed: 03/25/2003
Tank Capacity: 550
Substance: Used Oil

SPILLS:

Name: SHELL SERVICE STATION (PEARLRIDGE SHELL)
Address: 98-080 KAMEHAMEHA HWY
Address 2: Not reported
City,State,Zip: AIEA, HI 96701
Island: Oahu
Supplemental Loc. Text: Not reported
Case Number: 20030603-1503
Facility Registry ID: 110013777751
HID Number: Not reported
Lead and Program: HEER EP&R
ER: No
Less Or Greater Than: Not reported
Units: Two Hydraulic Hoist removed
Activity Type: Response
Activity Lead: Terry Corpus
Assignment End Date: Not reported
Result: Refer to ISST
File Under: Shell Oil Company
Substances: Hydraulic Oil
Quantity: 25
Units: Gallons
Reported Date: Not reported
Release Date: Not reported
Release Duration: Not reported
Media: Not reported
Waterbody: Not reported
Summary: Not reported
Is Noteworthy for Reports: Not reported
Is the Release a Fugitive Dumping: Not reported
Tax Map Key: Not reported
Assigned SOSC: Not reported
Notified Agencies: Not reported
Response Measures Taken: Not reported
Incident Report Number: Not reported
Coordination Needed: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHELL SERVICE STATION (Continued)

U001236426

Tier II Facility: Not reported
RMP: Not reported
Follow-up Received On: Not reported
Cost Recovery: Not reported
Invoice To: Not reported
Closed Date: Not reported
Comments: Not reported
Latitude: 21.397516
Longitude: -157.89628300000001

HI Financial Assurance:

Name: SHELL SERVICE STATION
Address: 98-080 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201889
Tank Id: R-3
Tank Status: Permanently Out of Use
FRTYPE: Other
Expiration Date: Not reported
FR Archive: False

Name: SHELL SERVICE STATION
Address: 98-080 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201889
Tank Id: R-4
Tank Status: Permanently Out of Use
FRTYPE: Other
Expiration Date: Not reported
FR Archive: False

Name: SHELL SERVICE STATION
Address: 98-080 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201889
Tank Id: R-4
Tank Status: Permanently Out of Use
FRTYPE: Insurance
Expiration Date: Not reported
FR Archive: False

Name: SHELL SERVICE STATION
Address: 98-080 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201889
Tank Id: R-1
Tank Status: Permanently Out of Use
FRTYPE: Insurance
Expiration Date: Not reported
FR Archive: False

Name: SHELL SERVICE STATION
Address: 98-080 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201889
Tank Id: R-3
Tank Status: Permanently Out of Use

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHELL SERVICE STATION (Continued)

U001236426

FRTYPE: Insurance
Expiration Date: Not reported
FR Archive: False

Name: SHELL SERVICE STATION
Address: 98-080 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201889
Tank Id: R-2
Tank Status: Permanently Out of Use
FRTYPE: Other
Expiration Date: Not reported
FR Archive: False

Name: SHELL SERVICE STATION
Address: 98-080 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201889
Tank Id: R-1
Tank Status: Permanently Out of Use
FRTYPE: Other
Expiration Date: Not reported
FR Archive: False

Name: SHELL SERVICE STATION
Address: 98-080 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201889
Tank Id: R-2
Tank Status: Permanently Out of Use
FRTYPE: Insurance
Expiration Date: Not reported
FR Archive: False

**E23
NW
1/4-1/2
0.252 mi.
1332 ft.**

**VOLVO HAWAII
98-075 KAMEHAMEHA HWY
AIEA, HI 96701
Site 6 of 6 in cluster E**

**HI LUST U001236138
HI UST N/A**

**Relative:
Higher
Actual:
15 ft.**

LUST:
Name: VOLVO HAWAII
Address: 98-075 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Facility ID: 9-200359
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 06/10/1999
Release ID: 980257
Project Officer: Jose Ruiz

UST:
Name: VOLVO HAWAII
Address: 98-075 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Facility ID: 9-200359
Owner: JIM SLEMONS HAWAII INC.
Owner Address: 98-075 KAMEHAMEHA HWY

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

VOLVO HAWAII (Continued)

U001236138

Owner City,St,Zip: Aiea, 96701 96701
 Latitude: 21.383717999999998
 Longitude: -157.94752700000001
 Horizontal Reference Datum Name: NAD83
 Horizontal Collection Method Name: Address Matching

Tank ID: R-1
 Date Installed: 05/19/1978
Tank Status: Permanently Out of Use
 Date Closed: 09/12/1998
 Tank Capacity: 550
 Substance: Used Oil

24
NW
 1/4-1/2
 0.268 mi.
 1416 ft.
 Relative:
 Higher
 Actual:
 32 ft.

HAWAII BAKING CO INC
98 736 MOANALUA LOOP
AIEA, HI 96701

RCRA-VSQQ 1000860471
HI SHWS HID984470013
HI LUST
HI UST
HI SPILLS
FINDS
ECHO
CA HAZNET

RCRA-VSQQ:
 Date Form Received by Agency: 19930628
 Handler Name: HAWAII BAKING CO INC
 Handler Address: 98 736 MOANALUA LOOP
 Handler City,State,Zip: AIEA, HI 96701
 EPA ID: HID984470013
 Contact Name: SHANNON SULLIVAN
 Contact Address: 98 736 MOANALUA LOOP
 Contact City,State,Zip: AIEA, HI 96701
 Contact Telephone: 714-671-7777
 Contact Fax: Not reported
 Contact Email: Not reported
 Contact Title: Not reported
 EPA Region: 09
 Land Type: Private
 Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
 Non-Notifier: Not reported
 Biennial Report Cycle: Not reported
 Accessibility: Not reported
 Active Site Indicator: Handler Activities
 State District Owner: Not reported
 State District: Not reported
 Mailing Address: 98 736 MOANALUA LOOP
 Mailing City,State,Zip: AIEA, HI 96701
 Owner Name: HAWAII BAKING CO INC
 Owner Type: Private
 Operator Name: Not reported
 Operator Type: Not reported
 Short-Term Generator Activity: No
 Importer Activity: No
 Mixed Waste Generator: No
 Transporter Activity: No
 Transfer Facility Activity: No
 Recycler Activity with Storage: No
 Small Quantity On-Site Burner Exemption: No
 Smelting Melting and Refining Furnace Exemption: No

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

HAWAII BAKING CO INC (Continued)

1000860471

Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDs Where RCRA CA has Been Imposed Universe:	No
TSDs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20020729
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	HAWAII BAKING CO INC
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	98 736 MOANALUA LOOP
Owner/Operator City,State,Zip:	AIEA, HI 96701

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HAWAII BAKING CO INC (Continued)

1000860471

Owner/Operator Telephone: 808-488-6871
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:

Receive Date: 19930628
Handler Name: HAWAII BAKING CO INC
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:

NAICS Code: 311812
NAICS Description: COMMERCIAL BAKERIES

Facility Has Received Notices of Violation:

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HAWAII BAKING CO INC (Continued)

1000860471

Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Evaluation Action Summary:

Evaluation Date: 19951211
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier: R9
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

SHWS:

Name: HAWAII BAKING COMPANY
Address: 98-736 MOANALUA LP
City,State,Zip: AIEA, HI 96701
Supplemental Location: Not reported
Island: Not reported
Environmental Interest: Hawaii Baking Company
HID Number: Not reported
Facility Registry Identifier: 110005728962
Lead Agency: HEER Office
Program: State
Project Manager: Richard Palmer
Hazard Priority: Low
Potential Hazards And Controls: Hazard Undetermined
Island: Not reported
SDAR Environmental Interest Name: Hawaii Baking Company
HID Number: Not reported
Facility Registry Identifier: 110005728962
Lead Agency: HEER Office
Potential Hazard And Controls: Hazard Undetermined
Priority: Low
Assessment: Assessment Ongoing
Response: Not reported
Nature of Contamination: Not reported
Nature of Residual Contamination: Not reported
Use Restrictions: Undetermined
Engineering Control: Not reported
Description of Restrictions: Not reported
Institutional Control: Not reported
Within Designated Areawide Contamination: Not reported
Site Closure Type: Not reported
Document Date: Not reported
Document Number: Not reported
Document Subject: Not reported
Project Manager: Richard Palmer

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HAWAII BAKING CO INC (Continued)

1000860471

Contact Information: (808) 586-4249 2385 Waimano Home Rd, Pearl City, HI 96782
Facility ID: 541
Location Description: 98-736 Moanalua Lp
Is Public: True
Update On: 2019-05-31 00:00:00

LUST:

Name: HAWAII BAKING CO INC
Address: 98-736 MOANALUA LP
City,State,Zip: AIEA, HI 96701
Facility ID: 9-200230
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 05/17/1999
Release ID: 990157
Project Officer: Renato Maniulit

UST:

Name: HAWAII BAKING CO INC
Address: 98-736 MOANALUA LP
City,State,Zip: AIEA, HI 96701
Facility ID: 9-200230
Owner: HAWAII BAKING CO., INC.
Owner Address: 98-736 MOANALUA LOOP
Owner City,St,Zip: Aiea, 96701 96701
Latitude: 21.384830000000001
Longitude: -157.946272999999999
Horizontal Reference Datum Name: NAD83
Horizontal Collection Method Name: GPS

Tank ID: R-GAS-1
Date Installed: 04/23/1971
Tank Status: Permanently Out of Use
Date Closed: 02/09/1999
Tank Capacity: 4000
Substance: Gasoline

SPILLS:

Name: HAWAII BAKING COMPANY
Address: 98-736 MOANALUA LP
Address 2: Not reported
City,State,Zip: AIEA, HI 96701
Island: Oahu
Supplemental Loc. Text: Not reported
Case Number: 19971015-0908
Facility Registry ID: 110005728962
HID Number: Not reported
Lead and Program: HEER EP&R
ER: Yes
Less Or Greater Than: Not reported
Units: Hawaii Baking Company
Activity Type: Response
Activity Lead: Mike Cripps
Assignment End Date: Not reported
Result: Refer to ISST
File Under: Hawaii Baking Company
Substances: PCB

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HAWAII BAKING CO INC (Continued)

1000860471

Quantity: Not reported
Units: Not reported
Reported Date: Not reported
Release Date: Not reported
Release Duration: Not reported
Media: Not reported
Waterbody: Not reported
Summary: Not reported

Is Noteworthy for Reports: Not reported
Is the Release a Fugitive Dumping: Not reported
Tax Map Key: Not reported
Assigned SOSOC: Not reported
Notified Agencies: Not reported
Response Measures Taken: Not reported
Incident Report Number: Not reported
Coordination Needed: Not reported
Tier II Facility: Not reported
RMP: Not reported
Follow-up Received On: Not reported
Cost Recovery: Not reported
Invoice To: Not reported
Closed Date: Not reported
Comments: Not reported
Latitude: 21.3841
Longitude: -157.946145

Name: HAWAII BAKING COMPANY
Address: 98-736 MOANALUA LP
Address 2: Not reported
City,State,Zip: AIEA, HI 96701
Island: Oahu
Supplemental Loc. Text: Not reported
Case Number: 19971015-0908
Facility Registry ID: 110005728962
HID Number: Not reported
Lead and Program: HEER EP&R
ER: Yes
Less Or Greater Than: Not reported
Units: Hawaii Baking Company
Activity Type: Response
Activity Lead: Mike Cripps
Assignment End Date: Not reported
Result: Refer to ISST
File Under: Hawaii Baking Company
Substances: PCB
Quantity: Not reported
Units: Not reported
Reported Date: Not reported
Release Date: Not reported
Release Duration: Not reported
Media: Not reported
Waterbody: Not reported
Summary: Not reported

Is Noteworthy for Reports: Not reported
Is the Release a Fugitive Dumping: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HAWAII BAKING CO INC (Continued)

1000860471

Tax Map Key:	Not reported
Assigned SOSC:	Not reported
Notified Agencies:	Not reported
Response Measures Taken:	Not reported
Incident Report Number:	Not reported
Coordination Needed:	Not reported
Tier II Facility:	Not reported
RMP:	Not reported
Follow-up Received On:	Not reported
Cost Recovery:	Not reported
Invoice To:	Not reported
Closed Date:	Not reported
Comments:	Not reported
Latitude:	21.397516
Longitude:	-157.89628300000001
Name:	HAWAII BAKING COMPANY
Address:	98-736 MOANALUA LP
Address 2:	Not reported
City,State,Zip:	AIEA, HI 96701
Island:	Oahu
Supplemental Loc. Text:	Not reported
Case Number:	19971015-0908
Facility Registry ID:	110005728962
HID Number:	Not reported
Lead and Program:	HEER EP&R
ER:	Yes
Less Or Greater Than:	Not reported
Units:	Hawaii Baking Company
Activity Type:	Response
Activity Lead:	Mike Cripps
Assignment End Date:	Not reported
Result:	Refer to ISST
File Under:	Hawaii Baking Company
Substances:	PCB
Quantity:	Not reported
Units:	Not reported
Reported Date:	Not reported
Release Date:	Not reported
Release Duration:	Not reported
Media:	Not reported
Waterbody:	Not reported
Summary:	Not reported
Is Noteworthy for Reports:	Not reported
Is the Release a Fugitive Dumping:	Not reported
Tax Map Key:	Not reported
Assigned SOSC:	Not reported
Notified Agencies:	Not reported
Response Measures Taken:	Not reported
Incident Report Number:	Not reported
Coordination Needed:	Not reported
Tier II Facility:	Not reported
RMP:	Not reported
Follow-up Received On:	Not reported
Cost Recovery:	Not reported
Invoice To:	Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HAWAII BAKING CO INC (Continued)

1000860471

Closed Date: Not reported
Comments: Not reported
Latitude: 21.385165000000001
Longitude: -157.946607

FINDS:

Registry ID: 110005728962

Click Here:

Environmental Interest/Information System:

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.
STATE MASTER

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1000860471
Registry ID: 110005728962
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110005728962>
Name: HAWAII BAKING CO INC
Address: 98 736 MOANALUA LOOP
City,State,Zip: AIEA, HI 96701

HAZNET:

Name: HAWAII BAKING CO INC
Address: 98 736 MOANALUA LOOP
Address 2: Not reported
City,State,Zip: AIEA, HI 967010000
Contact: HAWAII BAKING CO INC
Telephone: 7146717777
Mailing Name: Not reported
Mailing Address: 98 736 MOANALUA LOOP

Year: 1993
Gepaid: HID984470013
TSD EPA ID: CAD050806850
CA Waste Code: 741 - Liquids with halogenated organic compounds >= 1,000 Mg./L
Disposal Method: R01 - Recycler
Tons: 0.417

Year: 1993
Gepaid: HID984470013
TSD EPA ID: CAD080806850
CA Waste Code: 223 - Unspecified oil-containing waste
Disposal Method: T01 - Treatment, Tank
Tons: 2.7105

Year: 1993
Gepaid: HID984470013
TSD EPA ID: CAD050806850

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HAWAII BAKING CO INC (Continued)

1000860471

CA Waste Code: 343 - Unspecified organic liquid mixture
Disposal Method: R01 - Recycler
Tons: 0.51

Additional Info:

Year: 1993
Gen EPA ID: HID984470013

Shipment Date: 19930716
Creation Date: 9/12/1995 0:00:00
Receipt Date: 19930802
Manifest ID: 92753098
Trans EPA ID: HID982504706
Trans Name: Not reported
Trans 2 EPA ID: CAD006912620
Trans 2 Name: Not reported
TSDf EPA ID: CAD050806850
Trans Name: Not reported
TSDf Alt EPA ID: CAD080806850
TSDf Alt Name: Not reported
Waste Code Description: 223 - Unspecified oil-containing waste
RCRA Code: F002
Meth Code: T01 - Treatment, Tank
Quantity Tons: 2.7105
Waste Quantity: 650
Quantity Unit: G
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

Shipment Date: 19930716
Creation Date: 9/12/1995 0:00:00
Receipt Date: 19930802
Manifest ID: 92753100
Trans EPA ID: HID982504706
Trans Name: Not reported
Trans 2 EPA ID: CAD006912620
Trans 2 Name: Not reported
TSDf EPA ID: CAD050806850
Trans Name: Not reported
TSDf Alt EPA ID: CAD050806850
TSDf Alt Name: Not reported
Waste Code Description: 343 - Unspecified organic liquid mixture
RCRA Code: D001
Meth Code: R01 - Recycler
Quantity Tons: 0.51
Waste Quantity: 150
Quantity Unit: G
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

HAWAII BAKING CO INC (Continued)

1000860471

Shipment Date:	19930714
Creation Date:	9/12/1995 0:00:00
Receipt Date:	19930802
Manifest ID:	92753096
Trans EPA ID:	HID982504706
Trans Name:	Not reported
Trans 2 EPA ID:	CAD006912620
Trans 2 Name:	Not reported
TSDf EPA ID:	CAD050806850
Trans Name:	Not reported
TSDf Alt EPA ID:	CAD050806850
TSDf Alt Name:	Not reported
Waste Code Description:	741 - Liquids with halogenated organic compounds > 1000 mg/l
RCRA Code:	D001
Meth Code:	R01 - Recycler
Quantity Tons:	0.417
Waste Quantity:	100
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

**F25
 NW
 1/4-1/2
 0.294 mi.
 1553 ft.**

**AIEA CUE (FORMERLY PEARL AUTO SERVICE & SUPPLY)
 98-064 KAMEHAMEHA HWY
 AIEA, HI 96701**

**HI LUST U001236117
 HI UST N/A
 HI SPILLS
 HI UIC**

Site 1 of 2 in cluster F

**Relative:
 Higher
 Actual:
 19 ft.**

LUST:
 Name: AIEA CUE (FORMERLY PEARL AUTO SERVICE & SUPPLY)
 Address: 98-064 KAMEHAMEHA HWY
 City,State,Zip: AIEA, HI 96701
 Facility ID: 9-200293
 Facility Status: Site Cleanup Completed (NFA)
 Facility Status Date: 06/17/2009
 Release ID: 930138
 Project Officer: Josh Nagashima

UST:
 Name: AIEA CUE (FORMERLY PEARL AUTO SERVICE & SUPPLY)
 Address: 98-064 KAMEHAMEHA HWY
 City,State,Zip: AIEA, HI 96701
 Facility ID: 9-200293
 Owner: PEARL AUTO SERVICE & SUPPLY INC.
 Owner Address: P.O. BOX 1179
 Owner City,St,Zip: Aiea, 96701 96701
 Latitude: 21.384633999999998
 Longitude: -157.947968
 Horizontal Reference Datum Name: NAD83
 Horizontal Collection Method Name: Map

Tank ID: R-001
 Date Installed: 03/21/1965
Tank Status: Permanently Out of Use
 Date Closed: 08/27/1993

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

AIEA CUE (FORMERLY PEARL AUTO SERVICE & SUPPLY) (Continued)

U001236117

Tank Capacity: 2000
Substance: Gasoline

Name: AIEA CUE (FORMERLY PEARL AUTO SERVICE & SUPPLY)
Address: 98-064 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701

Tank ID: R-002
Date Installed: 03/21/1965
Tank Status: Permanently Out of Use
Date Closed: 08/27/1993
Tank Capacity: 2000
Substance: Gasoline

Name: AIEA CUE (FORMERLY PEARL AUTO SERVICE & SUPPLY)
Address: 98-064 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701

Tank ID: R-003
Date Installed: 03/22/1971
Tank Status: Permanently Out of Use
Date Closed: 09/07/1993
Tank Capacity: 6000
Substance: Gasoline

Name: AIEA CUE (FORMERLY PEARL AUTO SERVICE & SUPPLY)
Address: 98-064 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701

Tank ID: R-004
Date Installed: 03/22/1983
Tank Status: Permanently Out of Use
Date Closed: 09/07/1993
Tank Capacity: 500
Substance: Used Oil

SPILLS:

Name: HECO TRANSFORMER PAD-MOUNTED #69237 RELEASE
Address: 98-064 KAMEHAMEHA HWY
Address 2: Not reported
City,State,Zip: AIEA, HI 96701
Island: Oahu
Supplemental Loc. Text: Not reported
Case Number: 20121226-1413
Facility Registry ID: Not reported
HID Number: Not reported
Lead and Program: HEER EP&R
ER: None
Less Or Greater Than: >
Units: HECO Transformer Pad-Mounted #69237 Release
Activity Type: Response
Activity Lead: Curtis Martin
Assignment End Date: Not reported
Result: Not reported
File Under: Not reported
Substances: Transformer Oil
Quantity: 3

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

AIEA CUE (FORMERLY PEARL AUTO SERVICE & SUPPLY) (Continued)

U001236117

Units: Gallons
Reported Date: Not reported
Release Date: Not reported
Release Duration: Not reported
Media: Not reported
Waterbody: Not reported
Summary: Not reported

Is Noteworthy for Reports: Not reported
Is the Release a Fugitive Dumping: Not reported
Tax Map Key: Not reported
Assigned SOSC: Not reported
Notified Agencies: Not reported
Response Measures Taken: Not reported
Incident Report Number: Not reported
Coordination Needed: Not reported
Tier II Facility: Not reported
RMP: Not reported
Follow-up Received On: Not reported
Cost Recovery: Not reported
Invoice To: Not reported
Closed Date: Not reported
Comments: Not reported
Latitude: Not reported
Longitude: Not reported

UIC:

UIC Permit Number: UO-2561
Facility Id/Lat Long Minute Coordinates: 3-
Central Latitude Of The Site: 21 23 15
Central Longitude Of The Site: 155 57 1.
Flow In Gallons Per Day: Not reported
Total Number Of Inj. Well(S) On Permit: Not reported
Island: Oahu
Location In Relation To UIC Line: Not reported
Facility Type: SEW
Subclass: A
Facility Operator, Not Contract Opr: Wayne K. Choe
Operator Address: 1212 Punaho St., Apt. 1907, Honolulu, HI 96823
Facility Owner: Wayne K. Choe
Owner Address: Not reported
Tax Map Key Number: 1:9-8-010:090
Owner Of Land Property On Leasehold: Not reported
Consultant Serving The Application: Bow Engineering & Dev. Inc.
Receipt Of Initial Application: Not reported
Public Notice Date: Not reported
Approval-To-Construct Issuance Date: Not reported
Exemption Issuance Date: Not reported
1st Issuance Of Permit: Not reported
Last Issuance Of Permit: Not reported
Type: Not reported
Permit Expiration Date: Not reported
Date When File Is Closed: 6/15/2012
UIC Project Geologist: Not reported
Remarks: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

F26
NW
1/4-1/2
0.328 mi.
1733 ft.

TONY HONDA PEARLRIDGE
98-055 KAMEHAMEHA HWY
AIEA, HI 96701

HI LUST
HI UST
HI Financial Assurance

U003155028
N/A

Site 2 of 2 in cluster F

Relative:
Higher
Actual:
16 ft.

LUST:
Name: TONY HONDA PEARLRIDGE
Address: 98-055 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Facility ID: 9-201475
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 10/01/2004
Release ID: 990072
Project Officer: Randall Heu

UST:
Name: ISLAND LANDSCAPING
Address: 98-055 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701
Facility ID: 9-202918
Owner: ISLAND LANDSCAPING
Owner Address: 98-055 KAMEHAMEHA HWY
Owner City,St,Zip: Aiea, 96701 96701
Latitude: Not reported
Longitude: Not reported
Horizontal Reference Datum Name: Not reported
Horizontal Collection Method Name: Not reported

Tank ID: R-1
Date Installed: Not reported
Tank Status: **Permanently Out of Use**
Date Closed: 02/25/1994
Tank Capacity: 4000
Substance: Gasoline

Name: TONY HONDA PEARLRIDGE
Address: 98-055 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701

Tank ID: r-1
Date Installed: 03/19/1984
Tank Status: **Permanently Out of Use**
Date Closed: 11/21/1998
Tank Capacity: 550
Substance: Other

Name: TONY HONDA PEARLRIDGE
Address: 98-055 KAMEHAMEHA HWY
City,State,Zip: AIEA, HI 96701

Tank ID: r-2
Date Installed: 03/19/1984
Tank Status: **Permanently Out of Use**
Date Closed: 11/21/1998
Tank Capacity: 1000
Substance: Used Oil

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

TONY HONDA PEARLRIDGE (Continued)

U003155028

HI Financial Assurance:

Name: TONY HONDA PEARLRIDGE
 Address: 98-055 KAMEHAMEHA HWY
 City,State,Zip: AIEA, HI 96701
 Alt Facility ID: 9-201475
 Tank Id: r-2
 Tank Status: Permanently Out of Use
 FRTYPE: Insurance
 Expiration Date: Not reported
 FR Archive: False

Name: TONY HONDA PEARLRIDGE
 Address: 98-055 KAMEHAMEHA HWY
 City,State,Zip: AIEA, HI 96701
 Alt Facility ID: 9-201475
 Tank Id: r-1
 Tank Status: Permanently Out of Use
 FRTYPE: Insurance
 Expiration Date: Not reported
 FR Archive: False

27
NE
1/4-1/2
0.357 mi.
1887 ft.

PEARLRIDGE SHOPPING CENTER
98-1005 MOANALUA RD
AIEA, HI 96701

HI SHWS S106819700
HI SPILLS N/A

Relative:
Higher
Actual:
78 ft.

SHWS:

Name: FORMER JC PENNY AUTO CENTER
 Address: 98-1005 MOANALUA RD
 City,State,Zip: AIEA, HI 96701
 Supplemental Location: TMK 1-9-8-016:049
 Island: Not reported
 Environmental Interest: Former JC Penny Auto Center
 HID Number: Not reported
 Facility Registry Identifier: Not reported
 Lead Agency: HEER Office
 Program: State
 Project Manager: Amelia Hicks
 Hazard Priority: NFA
 Potential Hazards And Controls: No Hazard
 Island: Not reported
 SDAR Environmental Interest Name: Former JC Penny Auto Center
 HID Number: Not reported
 Facility Registry Identifier: Not reported
 Lead Agency: HEER Office
 Potential Hazard And Controls: No Hazard
 Priority: NFA
 Assessment: Response Necessary
 Response: Response Complete
 Nature of Contamination: Not reported
 Nature of Residual Contamination: TPH-O detected at 580 mg/kg in one sample; PAH not detected; PCB not detected
 Use Restrictions: No Hazard Present For Unrestricted Residential Use
 Engineering Control: Not reported
 Description of Restrictions: Not reported
 Institutional Control: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARLRIDGE SHOPPING CENTER (Continued)

S106819700

Within Designated Areawide Contamination: Not reported
Site Closure Type: No Further Action Letter - Unrestricted Residential Use
Document Date: 06/26/2012
Document Number: 2012-386-AH
Document Subject: No Further Action Unrestricted Use Determination for Former JC Penny Auto Center
Project Manager: Amelia Hicks
Contact Information: (808) 586-4249 2385 Waimano Home Rd, Pearl City, HI 96782
Facility ID: 2542
Location Description: 98-1005 Moanalua Rd
Is Public: True
Update On: 2020-04-01 00:00:00

SPILLS:

Name: PEARLRIDGE SHOPPING CENTER, PHONE CONTAMINANT
Address: 98-1005 MOANALUA RD
Address 2: Not reported
City,State,Zip: AIEA, HI 96701
Island: Oahu
Supplemental Loc. Text: Pearlridge Phase I
Case Number: 19990127-1845
Facility Registry ID: Not reported
HID Number: Not reported
Lead and Program: HEER EP&R
ER: Site Visit
Less Or Greater Than: Not reported
Units: Pearlridge Shopping Center, phone contaminant
Activity Type: Response
Activity Lead: Mike Cripps
Assignment End Date: Not reported
Result: SOSC NFA
File Under: Not reported
Substances: Not reported
Quantity: Not reported
Units: Not reported
Reported Date: Not reported
Release Date: Not reported
Release Duration: Not reported
Media: Not reported
Waterbody: Not reported
Summary: Not reported

Is Noteworthy for Reports: Not reported
Is the Release a Fugitive Dumping: Not reported
Tax Map Key: Not reported
Assigned SOSC: Not reported
Notified Agencies: Not reported
Response Measures Taken: Not reported
Incident Report Number: Not reported
Coordination Needed: Not reported
Tier II Facility: Not reported
RMP: Not reported
Follow-up Received On: Not reported
Cost Recovery: Not reported
Invoice To: Not reported
Closed Date: Not reported
Comments: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PEARLRIDGE SHOPPING CENTER (Continued)

S106819700

Latitude:	Not reported
Longitude:	Not reported
Name:	PEARLRIDGE SHOPPING CENTER
Address:	98-1005 MOANALUA RD
Address 2:	Not reported
City,State,Zip:	AIEA, HI 96701
Island:	Oahu
Supplemental Loc. Text:	Pearlridge Shopping Center
Case Number:	19930227
Facility Registry ID:	Not reported
HID Number:	Not reported
Lead and Program:	HEER EP&R
ER:	Not reported
Less Or Greater Than:	Not reported
Units:	Pearlridge Shopping Center
Activity Type:	Response
Activity Lead:	Not reported
Assignment End Date:	Not reported
Result:	SOSC NFA
File Under:	Not reported
Substances:	Not reported
Quantity:	Not reported
Units:	Not reported
Reported Date:	Not reported
Release Date:	Not reported
Release Duration:	Not reported
Media:	Not reported
Waterbody:	Not reported
Summary:	Not reported
Is Noteworthy for Reports:	Not reported
Is the Release a Fugitive Dumping:	Not reported
Tax Map Key:	Not reported
Assigned SOSC:	Not reported
Notified Agencies:	Not reported
Response Measures Taken:	Not reported
Incident Report Number:	Not reported
Coordination Needed:	Not reported
Tier II Facility:	Not reported
RMP:	Not reported
Follow-up Received On:	Not reported
Cost Recovery:	Not reported
Invoice To:	Not reported
Closed Date:	Not reported
Comments:	Not reported
Latitude:	Not reported
Longitude:	Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number
EPA ID Number

28
NE
1/4-1/2
0.387 mi.
2042 ft.

J C PENNEY CO., INC.
98-1025 MOANALUA RD
AIEA, HI 96701

HI LUST U001236371
HI UST N/A

Relative:
Higher

LUST:

Actual:
55 ft.

Name: J C PENNEY CO., INC.
Address: 98-1025 MOANALUA RD
City,State,Zip: AIEA, HI 96701
Facility ID: 9-201541
Facility Status: Site Cleanup Completed with EHE/EHMP
Facility Status Date: 02/27/2017
Release ID: 010044
Project Officer: Richard Takaba

UST:

Name: J C PENNEY CO., INC.
Address: 98-1025 MOANALUA RD
City,State,Zip: AIEA, HI 96701
Facility ID: 9-201541
Owner: J.C. PENNEY
Owner Address: P.O. BOX 10001
Owner City,St,Zip: Aiea, 96701 96701
Latitude: 21.385959
Longitude: -157.94080700000001
Horizontal Reference Datum Name: NAD83
Horizontal Collection Method Name: Address Matching

Tank ID: R-001
Date Installed: Not reported
Tank Status: Permanently Out of Use
Date Closed: 02/01/1982
Tank Capacity: 10000
Substance: Gasoline

Name: J C PENNEY CO., INC.
Address: 98-1025 MOANALUA RD
City,State,Zip: AIEA, HI 96701

Tank ID: R-002
Date Installed: Not reported
Tank Status: Permanently Out of Use
Date Closed: 02/01/1982
Tank Capacity: 10000
Substance: Gasoline

Name: J C PENNEY CO., INC.
Address: 98-1025 MOANALUA RD
City,State,Zip: AIEA, HI 96701

Tank ID: R-003
Date Installed: Not reported
Tank Status: Permanently Out of Use
Date Closed: 02/01/1982
Tank Capacity: 10000
Substance: Gasoline

Name: J C PENNEY CO., INC.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

J C PENNEY CO., INC. (Continued)

U001236371

Address: 98-1025 MOANALUA RD
City,State,Zip: AIEA, HI 96701

Tank ID: R-4
Date Installed: Not reported
Tank Status: Permanently Out of Use
Date Closed: 10/06/1994
Tank Capacity: 550
Substance: Used Oil

29
North
1/4-1/2
0.460 mi.
2427 ft.

HALAWA MEDIUM SECURITY CORRECTIONAL FACILITY
99-902 MOANALUA HWY
AIEA, HI 96701

HI LUST U003346405
HI UST N/A

Relative:
Higher
Actual:
94 ft.

LUST:
Name: HALAWA MEDIUM SECURITY CORRECTIONAL FACILITY
Address: 99-902 MOANALUA HWY
City,State,Zip: AIEA, HI 96701
Facility ID: 9-202153
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 06/07/2000
Release ID: 990204
Project Officer: Jose Ruiz

Name: HALAWA MEDIUM SECURITY CORRECTIONAL FACILITY
Address: 99-902 MOANALUA HWY
City,State,Zip: AIEA, HI 96701
Facility ID: 9-202153
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 06/07/2000
Release ID: 880020
Project Officer: Jose Ruiz

Name: HALAWA HIGH SECURITY CORRECTIONAL FACILITY
Address: 99-902 MOANALUA HWY
City,State,Zip: AIEA, HI 96701
Facility ID: 9-202399
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 08/11/2000
Release ID: 000091
Project Officer: Shaobin Li

UST:
Name: HALAWA HIGH SECURITY CORRECTIONAL FACILITY
Address: 99-902 MOANALUA HWY
City,State,Zip: AIEA, HI 96701
Facility ID: 9-202399
Owner: STATE PSD
Owner Address: 919 ALA MOANA BLVD, 4th Floor
Owner City,St,Zip: Aiea, 96701 96701
Latitude: 21.388521000000001
Longitude: -157.945119000000001
Horizontal Reference Datum Name: NAD83
Horizontal Collection Method Name: Address Matching

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HALAWA MEDIUM SECURITY CORRECTIONAL FACILITY (Continued)

U003346405

Tank ID:	R-1
Date Installed:	11/28/1974
Tank Status:	Permanently Out of Use
Date Closed:	03/03/1994
Tank Capacity:	2000
Substance:	Gasoline
Name:	HALAWA HIGH SECURITY CORRECTIONAL FACILITY
Address:	99-902 MOANALUA HWY
City,State,Zip:	AIEA, HI 96701
Tank ID:	R-2
Date Installed:	11/28/1974
Tank Status:	Permanently Out of Use
Date Closed:	03/03/1994
Tank Capacity:	2000
Substance:	Gasoline
Name:	HALAWA HIGH SECURITY CORRECTIONAL FACILITY
Address:	99-902 MOANALUA HWY
City,State,Zip:	AIEA, HI 96701
Tank ID:	R-3
Date Installed:	11/28/1977
Tank Status:	Permanently Out of Use
Date Closed:	02/28/1994
Tank Capacity:	550
Substance:	Diesel
Name:	HALAWA MEDIUM SECURITY CORRECTIONAL FACILITY
Address:	99-902 MOANALUA HWY
City,State,Zip:	AIEA, HI 96701
Tank ID:	R-M-1
Date Installed:	11/28/1984
Tank Status:	Permanently Out of Use
Date Closed:	04/20/1999
Tank Capacity:	2550
Substance:	Gasoline
Name:	HALAWA MEDIUM SECURITY CORRECTIONAL FACILITY
Address:	99-902 MOANALUA HWY
City,State,Zip:	AIEA, HI 96701
Tank ID:	R-M-2
Date Installed:	11/28/1984
Tank Status:	Permanently Out of Use
Date Closed:	04/20/1999
Tank Capacity:	2550
Substance:	Gasoline
Name:	HALAWA MEDIUM SECURITY CORRECTIONAL FACILITY
Address:	99-902 MOANALUA HWY
City,State,Zip:	AIEA, HI 96701
Tank ID:	R-M-3
Date Installed:	11/28/1984

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HALAWA MEDIUM SECURITY CORRECTIONAL FACILITY (Continued)

U001346405

Tank Status: Permanently Out of Use
Date Closed: 04/20/1999
Tank Capacity: 2550
Substance: Diesel

Name: HALAWA MEDIUM SECURITY CORRECTIONAL FACILITY
Address: 99-902 MOANALUA HWY
City,State,Zip: AIEA, HI 96701

Tank ID: R-M-4
Date Installed: 11/28/1984
Tank Status: Permanently Out of Use
Date Closed: 04/20/1999
Tank Capacity: 4000
Substance: Diesel

30
ESE
1/4-1/2
0.482 mi.
2543 ft.

AIEA CENTRAL OFFICE
98-327 KAAMILO ST
AIEA, HI 96701

HI LUST U001236141
HI UST N/A
HI Financial Assurance

Relative:
Higher
Actual:
52 ft.

LUST:
Name: AIEA CENTRAL OFFICE
Address: 98-327 KAAMILO ST
City,State,Zip: AIEA, HI 96701
Facility ID: 9-200491
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 01/23/1998
Release ID: 920130
Project Officer: Jose Ruiz

UST:
Name: AIEA CENTRAL OFFICE
Address: 98-327 KAAMILO ST
City,State,Zip: AIEA, HI 96701
Facility ID: 9-200491
Owner: Hawaiian Telcom
Owner Address: 1177 Bishop Street, Suite 20
Owner City,St,Zip: Aiea, 96701 96701
Latitude: 21.379429999999999
Longitude: -157.93661
Horizontal Reference Datum Name: NAD83
Horizontal Collection Method Name: GPS

Tank ID: M-1
Date Installed: 03/26/1992
Tank Status: Currently in Use
Date Closed: Not reported
Tank Capacity: 1000
Substance: Diesel

Name: AIEA CENTRAL OFFICE
Address: 98-327 KAAMILO ST
City,State,Zip: AIEA, HI 96701

Tank ID: R-1

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

AIEA CENTRAL OFFICE (Continued)

U001236141

Date Installed: 05/07/1978
Tank Status: Permanently Out of Use
Date Closed: 03/30/1992
Tank Capacity: 1000
Substance: Diesel

HI Financial Assurance:

Name: AIEA CENTRAL OFFICE
Address: 98-327 KAAMILO ST
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-200491
Tank Id: R-1
Tank Status: Permanently Out of Use
FRTYPE: Insurance
Expiration Date: 05/02/2015
FR Archive: True

Name: AIEA CENTRAL OFFICE
Address: 98-327 KAAMILO ST
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-200491
Tank Id: M-1
Tank Status: Currently in Use
FRTYPE: Insurance
Expiration Date: 05/02/2015
FR Archive: True

Name: AIEA CENTRAL OFFICE
Address: 98-327 KAAMILO ST
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-200491
Tank Id: M-1
Tank Status: Currently in Use
FRTYPE: Insurance
Expiration Date: 05/02/2021
FR Archive: False

Name: AIEA CENTRAL OFFICE
Address: 98-327 KAAMILO ST
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-200491
Tank Id: R-1
Tank Status: Permanently Out of Use
FRTYPE: Insurance
Expiration Date: 05/02/2021
FR Archive: False

31
NW
1/2-1
0.738 mi.
3897 ft.

GOODYEAR AUTO SERVICE
98-1277 KAAHUMANU ST
AIEA, HI 96701

HI SHWS S107026437
HI SPILLS N/A

Relative:
Higher
Actual:
17 ft.

SHWS:
Name: GOODYEAR AUTO SERVICE
Address: 98-1277 KAAHUMANU ST
City,State,Zip: AIEA, HI 96701

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

GOODYEAR AUTO SERVICE (Continued)

S107026437

Supplemental Location: Not reported
Island: Not reported
Environmental Interest: Not reported
HID Number: Not reported
Facility Registry Identifier: Not reported
Lead Agency: HEER Office
Program: State
Project Manager: Not reported
Hazard Priority: Not reported
Potential Hazards And Controls: Not reported
Island: Not reported
SDAR Environmental Interest Name: Not reported
HID Number: Not reported
Facility Registry Identifier: Not reported
Lead Agency: HEER Office
Potential Hazard And Controls: Not reported
Priority: Not reported
Assessment: Not reported
Response: Not reported
Nature of Contamination: Not reported
Nature of Residual Contamination: Not reported
Use Restrictions: Not reported
Engineering Control: Not reported
Description of Restrictions: Not reported
Institutional Control: Not reported
Within Designated Areawide Contamination: Not reported
Site Closure Type: Not reported
Document Date: Not reported
Document Number: Not reported
Document Subject: Not reported
Project Manager: Not reported
Contact Information: Not reported
Facility ID: 1986
Location Description: 98-1277 Kaahumanu St
Is Public: True
Update On: 2020-07-11 00:00:00

SPILLS:

Name: GOODYEAR AUTO SERVICE
Address: 98-1277 KAAHUMANU ST
Address 2: Not reported
City,State,Zip: AIEA, HI 96701
Island: Oahu
Supplemental Loc. Text: Not reported
Case Number: 20050601-0943
Facility Registry ID: Not reported
HID Number: Not reported
Lead and Program: HEER EP&R
ER: No
Less Or Greater Than: Not reported
Units: TPH Release
Activity Type: Response
Activity Lead: Curtis Martin
Assignment End Date: Not reported
Result: Not reported
File Under: Seacor
Substances: TPH

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

GOODYEAR AUTO SERVICE (Continued)

S107026437

Quantity: Not reported
Units: Not reported
Reported Date: Not reported
Release Date: Not reported
Release Duration: Not reported
Media: Not reported
Waterbody: Not reported
Summary: Not reported

Is Noteworthy for Reports: Not reported
Is the Release a Fugitive Dumping: Not reported
Tax Map Key: Not reported
Assigned SOSC: Not reported
Notified Agencies: Not reported
Response Measures Taken: Not reported
Incident Report Number: Not reported
Coordination Needed: Not reported
Tier II Facility: Not reported
RMP: Not reported
Follow-up Received On: Not reported
Cost Recovery: Not reported
Invoice To: Not reported
Closed Date: Not reported
Comments: Not reported
Latitude: 21.389796
Longitude: -157.952156

Name: GOODYEAR AUTO SERVICE
Address: 98-1277 KAAHUMANU ST
Address 2: Not reported
City,State,Zip: AIEA, HI 96701
Island: Oahu
Supplemental Loc. Text: Not reported
Case Number: 20050601-0943
Facility Registry ID: Not reported
HID Number: Not reported
Lead and Program: HEER EP&R
ER: No
Less Or Greater Than: Not reported
Units: TPH Release
Activity Type: Response
Activity Lead: Curtis Martin
Assignment End Date: 2005-10-28 00:00:00
Result: Refer to SDAR
File Under: Seacor
Substances: TPH
Quantity: Not reported
Units: Not reported
Reported Date: Not reported
Release Date: Not reported
Release Duration: Not reported
Media: Not reported
Waterbody: Not reported
Summary: Not reported

Is Noteworthy for Reports: Not reported
Is the Release a Fugitive Dumping: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

GOODYEAR AUTO SERVICE (Continued)

S107026437

Tax Map Key: Not reported
Assigned SOSC: Not reported
Notified Agencies: Not reported
Response Measures Taken: Not reported
Incident Report Number: Not reported
Coordination Needed: Not reported
Tier II Facility: Not reported
RMP: Not reported
Follow-up Received On: Not reported
Cost Recovery: Not reported
Invoice To: Not reported
Closed Date: Not reported
Comments: Not reported
Latitude: 21.389796
Longitude: -157.952156

**32
NW
1/2-1
0.753 mi.
3976 ft.**

**PEARL CITY MIDAS
98-1234 KAAHUMANU ST
PEARL CITY, HI 96782**

**HI SHWS S126283076
N/A**

**Relative:
Higher
Actual:
17 ft.**

SHWS:
Name: PEARL CITY MIDAS
Address: 98-1234 KAAHUMANU ST
City,State,Zip: PEARL CITY, HI 96782
Supplemental Location: Not reported
Island: Not reported
Environmental Interest: Not reported
HID Number: Not reported
Facility Registry Identifier: Not reported
Lead Agency: HEER Office
Program: State
Project Manager: Not reported
Hazard Priority: Not reported
Potential Hazards And Controls: Not reported
Island: Not reported
SDAR Environmental Interest Name: Not reported
HID Number: Not reported
Facility Registry Identifier: Not reported
Lead Agency: HEER Office
Potential Hazard And Controls: Not reported
Priority: Not reported
Assessment: Not reported
Response: Not reported
Nature of Contamination: Not reported
Nature of Residual Contamination: Not reported
Use Restrictions: Not reported
Engineering Control: Not reported
Description of Restrictions: Not reported
Institutional Control: Not reported
Within Designated Areawide Contamination: Not reported
Site Closure Type: Not reported
Document Date: Not reported
Document Number: Not reported
Document Subject: Not reported
Project Manager: Not reported
Contact Information: Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

PEARL CITY MIDAS (Continued)

S126283076

Facility ID: 2978
 Location Description: 98-1234 Kaahumanu St, Pearl City, HI 96782
 Is Public: True
 Update On: 2020-04-04 00:00:00

33
WNW
1/2-1
0.787 mi.
4156 ft.

WAI AU DRUM STORAGE

FUDS 1012129415
N/A

PEARL CITY, HI

Relative:
Lower
Actual:
5 ft.

FUDS:
 EPA Region: 9
 Installation ID: HI9799F407100
 Congressional District Number: 1
 Name: WAI AU DRUM STORAGE
 FUDS Number: H09HI0351
 City: PEARL CITY
 State: HI
 County: HONOLULU
 Object ID: 6440
 USACE Division: POD
 USACE District: Honolulu District (POH)
 Status: Properties with all projects at site closeout
 Current Owner: LOCAL: CITY SITE IS CALLED NEAL BLAISDELL PARK. , CITY SITE IS CALLED NEAL BLAISDELL PARK.
 EMS Map Link: <https://fudportal.usace.army.mil/ems/ems/inventory/map/map?id=54624>
 Eligibility: Eligible
 Has Projects: Yes
 NPL Status: Not on the NPL
 Property History: THE SITE CONTAINS AN UNDERGROUND OIL SEPARATOR TANK AND AN OIL BURNING PIT WHICH ARE POTENTIAL SOURCES OF ENVIRONMENTAL CONTAMINANTS
 Not reported
 Project Required: Yes
 Feature Description: Not reported
 Latitude: 21.385649999999998
 Longitude: -157.95603399999999

FUDS Detail as of Jan 2015:
 Fiscal Year: 2013
 Federal Facility ID: HI9799F4071
 RAB: Not reported
 NPL Status: Not Listed
 Description: 26 ACRE SITE ACQUIRED FOR THE PURPOSE OF ESTABLISHING AN EMPTY DRUM CLEANING AND STORAGE FACILITY.
 History: THE SITE CONTAINS AN UNDERGROUND OIL SEPARATOR TANK AND AN OIL BURNING PIT WHICH ARE POTENTIAL SOURCES OF ENVIRONMENTAL CONTAMINANTS.
 CTC: 530.5
 Current Program: Not reported
 Future Program: Not reported
 Institutional ID: 54624

MAP FINDINGS

Map ID
Direction
Distance
Elevation

Site

Database(s)

EDR ID Number
EPA ID Number

34
NW
1/2-1
0.791 mi.
4174 ft.

AL PHILLIPS, THE CLEANERS, INC
98-1277 KAAHUMANU ST
AIEA, HI 96701

HI SHWS S126282212
N/A

Relative:
Higher
Actual:
29 ft.

SHWS:
Name: AL PHILLIPS, THE CLEANERS, INC
Address: 98-1277 KAAHUMANU ST
City,State,Zip: AIEA, HI 96701
Supplemental Location: Not reported
Island: Not reported
Environmental Interest: Not reported
HID Number: Not reported
Facility Registry Identifier: Not reported
Lead Agency: HEER Office
Program: Consultation
Project Manager: Not reported
Hazard Priority: Not reported
Potential Hazards And Controls: Not reported
Island: Not reported
SDAR Environmental Interest Name: Not reported
HID Number: Not reported
Facility Registry Identifier: Not reported
Lead Agency: HEER Office
Potential Hazard And Controls: Not reported
Priority: Not reported
Assessment: Not reported
Response: Not reported
Nature of Contamination: Not reported
Nature of Residual Contamination: Not reported
Use Restrictions: Not reported
Engineering Control: Not reported
Description of Restrictions: Not reported
Institutional Control: Not reported
Within Designated Areawide Contamination: Not reported
Site Closure Type: Not reported
Document Date: Not reported
Document Number: Not reported
Document Subject: Not reported
Project Manager: Not reported
Contact Information: Not reported
Facility ID: 872
Location Description: 98-1277 Kaahumanu St
Is Public: True
Update On: 2019-05-31 00:00:00

35
WNW
1/2-1
0.928 mi.
4902 ft.

406 KAMEHAMEHA HIGHWAY
406 KAMEHAMEHA HWY
PEARL CITY, HI 96782

HI SHWS S118422781
N/A

Relative:
Higher
Actual:
16 ft.

SHWS:
Name: 406 KAMEHAMEHA HIGHWAY
Address: 406 KAMEHAMEHA HWY
City,State,Zip: PEARL CITY, HI 96782
Supplemental Location: Not reported
Island: Not reported
Environmental Interest: 406 Kamehameha Highway

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

406 KAMEHAMEHA HIGHWAY (Continued)

S118422781

HID Number:	Not reported
Facility Registry Identifier:	Not reported
Lead Agency:	HEER Office
Program:	State
Project Manager:	Cal Miyahara
Hazard Priority:	Medium
Potential Hazards And Controls:	Hazard Present
Island:	Not reported
SDAR Environmental Interest Name:	406 Kamehameha Highway
HID Number:	Not reported
Facility Registry Identifier:	Not reported
Lead Agency:	HEER Office
Potential Hazard And Controls:	Hazard Present
Priority:	Medium
Assessment:	Assessment Ongoing
Response:	Not reported
Nature of Contamination:	Found: TPH in soil and groundwater.
Nature of Residual Contamination:	Not reported
Use Restrictions:	Controls Required to Manage Contamination
Engineering Control:	Not reported
Description of Restrictions:	Not reported
Institutional Control:	Not reported
Within Designated Areawide Contamination:	Not reported
Site Closure Type:	Not reported
Document Date:	Not reported
Document Number:	Not reported
Document Subject:	Not reported
Project Manager:	Cal Miyahara
Contact Information:	(808) 586-4249 2385 Waimano Home Rd, Pearl City, HI 96782
Facility ID:	2699
Location Description:	406 Kamehameha Hwy
Is Public:	True
Update On:	2019-05-31 00:00:00

36
ESE
1/2-1
0.938 mi.
4954 ft.

AIEA MILITARY RESERVATION

FUDS 1007372710
N/A

AIEA, HI

Relative:
Higher
Actual:
49 ft.

FUDS:	
EPA Region:	9
Installation ID:	HI99799F375900
Congressional District Number:	1
Name:	AIEA MILITARY RESERVATION
FUDS Number:	H09HI0011
City:	AIEA
State:	HI
County:	HONOLULU
Object ID:	1967
USACE Division:	POD
USACE District:	Honolulu District (POH)
Status:	Properties with all projects at site closeout
Current Owner:	STATE: STATE HIGHWAYS, STADIUM FACILITY, RESIDENCES, STATE PARK , STATE HIGHWAYS, STADIUM FACILITY, RESIDENCES, STATE PARK PRIV: PRIVATE HIGHWAYS, STADIUM FACILITY, RESIDENCES, STATE PARK , PRIVATE HIGHWAYS, STADIUM FACILITY, RESIDENCES, STATE PARK
EMS Map Link:	https://fudportal.usace.army.mil/ems/ems/inventory/map/map?id=62506

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

AIEA MILITARY RESERVATION (Continued)

1007372710

<p>Eligibility: Has Projects: NPL Status: Property History:</p>	<p>Eligible Yes Not on the NPL The land was withdrawn by the U.S. from the Territory of Hawaii and set aside for military purposes. By Executive Order 8320, dated 15 January 1940, the description of the Aiea Military Reservation was amended to an area of 8.471 acres. The property having the Aiea Pumphouse was a former Navy facility and was turned over to the State of Hawaii in 1962. Since then, the buildings have been unoccupied and subject to vandalism.</p>
<p>Project Required: Feature Description: Latitude: Longitude:</p>	<p>Yes Not reported 21.3752 -157.93100000000001</p>
<p>FUDS Detail as of Jan 2015:</p>	
<p>Fiscal Year: Federal Facility ID: RAB: NPL Status: Description:</p>	<p>2013 HI9799F3759 Not reported Not Listed The Aiea Military Reservation comprises 274.07 acres and is located across from the Admiral's boathouse in Pearl Harbor, near Aiea State Park. The buildings were unoccupied and much vandalism has occurred including the unauthorized removal of mercury from the pump house which contaminated the Puu Momi subdivision. The State of Hawaii has secured the site to prohibit further access. The property is currently owned by the State of Hawaii.</p>
<p>History:</p>	<p>The land was withdrawn by the U.S. from the Territory of Hawaii and set aside for military purposes. By Executive Order 8320, dated 15 January 1940, the description of the Aiea Military Reservation was amended to an area of 8.471 acres. The property having the Aiea Pumphouse was a former Navy facility and was turned over to the State of Hawaii in 1962. Since then, the buildings have been unoccupied and subject to vandalism.</p>
<p>CTC: Current Program: Future Program: Institutional ID:</p>	<p>3231.6999999999998 Not reported Not reported 62506</p>

37
 SE
 1/2-1
 0.953 mi.
 5031 ft.

ALOHA STADIUM STATION
99-500 SALT LAKE BLVD
AIEA, HI 96818

HI SHWS S126282224
N/A

Relative:
Higher
Actual:
45 ft.

<p>SHWS: Name: Address: City,State,Zip: Supplemental Location: Island: Environmental Interest: HID Number: Facility Registry Identifier: Lead Agency: Program:</p>	<p>ALOHA STADIUM STATION 99-500 SALT LAKE BLVD AIEA, HI 96818 Not reported Not reported Not reported Not reported Not reported HEER Office State</p>
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Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

ALOHA STADIUM STATION (Continued)

S126282224

Project Manager:	Not reported
Hazard Priority:	Not reported
Potential Hazards And Controls:	Not reported
Island:	Not reported
SDAR Environmental Interest Name:	Not reported
HID Number:	Not reported
Facility Registry Identifier:	Not reported
Lead Agency:	HEER Office
Potential Hazard And Controls:	Not reported
Priority:	Not reported
Assessment:	Not reported
Response:	Not reported
Nature of Contamination:	Not reported
Nature of Residual Contamination:	Not reported
Use Restrictions:	Not reported
Engineering Control:	Not reported
Description of Restrictions:	Not reported
Institutional Control:	Not reported
Within Designated Areawide Contamination:	Not reported
Site Closure Type:	Not reported
Document Date:	Not reported
Document Number:	Not reported
Document Subject:	Not reported
Project Manager:	Not reported
Contact Information:	Not reported
Facility ID:	2827
Location Description:	Bound by Salt Lake Blvd. Kamehameha Highway, Alea Access Rd., and Moanalua Fwy
Is Public:	True
Update On:	2020-08-11 00:00:00

38
SE
1/2-1
0.964 mi.
5089 ft.

RICHARDSON PARK
PEARL CITY, HI

FUDS 1024902108
N/A

Relative:
Higher
Actual:
46 ft.

FUDS:	
EPA Region:	9
Installation ID:	HI99799F404300
Congressional District Number:	1
Name:	RICHARDSON PARK
FUDS Number:	H09HI0320
City:	PEARL CITY
State:	HI
County:	HONOLULU
Object ID:	5522
USACE Division:	POD
USACE District:	Honolulu District (POH)
Status:	Properties without projects
Current Owner:	Not reported
EMS Map Link:	https://fudsportal.usace.army.mil/ems/ems/inventory/map/map?id=62468
Eligibility:	Ineligible
Has Projects:	No
NPL Status:	Not on the NPL
Property History:	PROJECT SITE WAS A COASTAL 120mm ANTI-AIRCRAFT ARTILLERY (AAA) GUN BATTERY, KNOWN AS POSITION 438

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

RICHARDSON PARK (Continued)

1024902108

Project Required:	No
Feature Description:	Not reported
Latitude:	21.370000000000001
Longitude:	-157.935

Count: 30 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
AIEA	S123640159	HONOLULU PLANTATION COMPANY - SEED	99-197 AIEA HEIGHTS DR	96701	HI SHWS
AIEA	S126282418	FORMER AIEA SUGAR MILL REMEDIAL LO	99-193 AIEA HEIGHTS DR	96701	HI SHWS, HI VCP
AIEA	S126282419	FORMER AIEA SUGAR MILL REMEDIAL LO	99-193 AIEA HEIGHTS DR	96701	HI SHWS, HI VCP
AIEA	S126282417	FORMER AIEA SUGAR MILL REMEDIAL LO	99-193 AIEA HEIGHTS DR	96701	HI SHWS, HI VCP
AIEA	S126429942	AIEA HEIGHTS TANKS	99-1294 AIEA HEIGHTS DR	96701	HI SHWS
AIEA	S120822091	AIEA SUGAR MILL LOT 15 PARKING LOT	99-193 AIEA HEIGHTS DR	96701	HI SHWS, HI INST CONTROL
AIEA	S121405756	AIEA STREAM	99-193 AIEA HEIGHTS DR	96701	HI SHWS, HI ENG CONTROLS, HI INST CONTROL
AIEA	S126429943	AIEA SUGAR MILL AFFORDABLE HOUSING	HAKINA ST	96701	HI SHWS, HI BROWNFIELDS
AIEA	S123640162	HONOLULU TRANSIT-ORIENTED DEVELOPM	98-87 KAMEHAMEHA HWY		HI SHWS, HI BROWNFIELDS
AIEA	S121405754	98-55 KAMEHAMEHA HIGHWAY	98-55 KAMEHAMEHA HWY	96701	HI SHWS
AIEA	S126283083	PEARLRIDGE SHELL HYDRAULIC HOIST R	98-080 KAMEHAMEHA HWY	96701	HI SHWS
AIEA	S118422855	SEARS PEARLRIDGE #1578 ELEVATOR JA	98-180 KAMEHAMEHA HWY	96701	HI SHWS, HI ENG CONTROLS, HI INST CONTROL
AIEA	S126282393	DRY CLEAN EXPRESS	98-020 KAMEHAMEHA HWY	96701	HI SHWS
AIEA	S110061542	HICKAM POL ST08, SPILL SITE ST08	KAMEHAMEHA HWY & RADFORD DR	96701	HI SHWS
AIEA	U004289815	PEARL CITY SHELL	98-135 KAMEHAMEHA HWY	96701	HI LUST, HI UST, HI Financial Assurance
AIEA	S110061554	HICKAM POL ST20, SPILL SITE ST20	KAMEHAMEHA HWY & MCGREW LP	96701	HI SHWS
AIEA	S118422856	SEARS PEARLRIDGE #1578 HYDRAULIC H	98-180 KAMEHAMEHA HWY	96701	HI SHWS
AIEA	S126283221	WAIMALU ELEMENTARY SCHOOL BUILDING	98-825 MOANALUA RD	96701	HI SHWS
AIEA	S126283155	SCOTT ELEMENTARY SCHOOL BUILDING E	98-1230 MOANALUA RD	96701	HI SHWS
AIEA	S126282162	AIEA ELEMENTARY SCHOOL BUILDING EX	99-370 MOANALUA RD	96701	HI SHWS
AIEA	S126283082	PEARL RIDGE ELEMENTARY SCHOOL BUIL	98-940 MOANALUA RD	96701	HI SHWS
AIEA	S110061545	HICKAM POL ST11, SPILL SITE ST11	EAST OF KAONOHI ST & KAMEHAMEH	96701	HI SHWS
AIEA	S110061549	HICKAM POL ST15, SPILL SITE ST15	EAST OF KAMEHAMEHA HWY & HEKAH	96701	HI SHWS
AIEA	S126282163	AIEA FIRE STATION PCE RELEASE	98-1239 ULUNE ST	96701	HI SHWS
HONOLULU	S126501011	DOT KEEHI BASEYARD	BENEATH H-1 FREEWAY, KEEHI VIA		HI SWF/LF
HONOLULU	S126282428	FORT KAMEHAMEHA	FORT KAMEHAMEHA RD	96818	HI SHWS
HONOLULU COUNTY	S110061543	HICKAM POL ST09, SPILL SITE ST09	S OF H1/H2 INTERCHANGE, N OF K		HI SHWS
HONOLULU COUNTY	S110061551	HICKAM POL ST17, SPILL SITE ST17	S OF H1/H2 INTERCHANGE, N OF K		HI SHWS
PEARL CITY	S110061550	HICKAM POL ST16, SPILL SITE ST16	BETWEEN KULEANA RD & ENTRANCE	96782	HI SHWS
PEARL HARBOR	S126282349	CHEVRON'S PIPELINE OIL SPILL - WAI	KAMEHAMEHA HWY	96782	HI SHWS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/20/2021	Source: EPA
Date Data Arrived at EDR: 11/05/2021	Telephone: N/A
Date Made Active in Reports: 11/29/2021	Last EDR Contact: 12/29/2021
Number of Days to Update: 24	Next Scheduled EDR Contact: 04/11/2022
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 10/20/2021	Source: EPA
Date Data Arrived at EDR: 11/05/2021	Telephone: N/A
Date Made Active in Reports: 11/29/2021	Last EDR Contact: 12/29/2021
Number of Days to Update: 24	Next Scheduled EDR Contact: 04/11/2022
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/20/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 24

Source: EPA
Telephone: N/A
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/11/2022
Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 05/25/2021
Date Data Arrived at EDR: 06/24/2021
Date Made Active in Reports: 09/20/2021
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/11/2022
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/20/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 24

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/01/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 10/20/2021	Source: EPA
Date Data Arrived at EDR: 11/05/2021	Telephone: 800-424-9346
Date Made Active in Reports: 11/29/2021	Last EDR Contact: 12/01/2021
Number of Days to Update: 24	Next Scheduled EDR Contact: 01/24/2022
	Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/13/2021	Source: EPA
Date Data Arrived at EDR: 09/15/2021	Telephone: 800-424-9346
Date Made Active in Reports: 10/12/2021	Last EDR Contact: 12/17/2021
Number of Days to Update: 27	Next Scheduled EDR Contact: 04/04/2022
	Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 09/13/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/15/2021	Telephone: (415) 495-8895
Date Made Active in Reports: 10/12/2021	Last EDR Contact: 12/17/2021
Number of Days to Update: 27	Next Scheduled EDR Contact: 04/04/2022
	Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/13/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/15/2021	Telephone: (415) 495-8895
Date Made Active in Reports: 10/12/2021	Last EDR Contact: 12/17/2021
Number of Days to Update: 27	Next Scheduled EDR Contact: 04/04/2022
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 09/13/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/15/2021	Telephone: (415) 495-8895
Date Made Active in Reports: 10/12/2021	Last EDR Contact: 12/17/2021
Number of Days to Update: 27	Next Scheduled EDR Contact: 04/04/2022
	Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/13/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/15/2021	Telephone: (415) 495-8895
Date Made Active in Reports: 10/12/2021	Last EDR Contact: 12/17/2021
Number of Days to Update: 27	Next Scheduled EDR Contact: 04/04/2022
	Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 07/12/2021	Source: Department of the Navy
Date Data Arrived at EDR: 08/06/2021	Telephone: 843-820-7326
Date Made Active in Reports: 10/22/2021	Last EDR Contact: 11/08/2021
Number of Days to Update: 77	Next Scheduled EDR Contact: 02/21/2022
	Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/23/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/23/2021	Telephone: 703-603-0695
Date Made Active in Reports: 11/12/2021	Last EDR Contact: 11/18/2021
Number of Days to Update: 81	Next Scheduled EDR Contact: 03/06/2022
	Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 08/23/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/23/2021	Telephone: 703-603-0695
Date Made Active in Reports: 11/12/2021	Last EDR Contact: 11/19/2021
Number of Days to Update: 81	Next Scheduled EDR Contact: 03/07/2022
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/13/2021	Source: National Response Center, United States Coast Guard
Date Data Arrived at EDR: 09/21/2021	Telephone: 202-267-2180
Date Made Active in Reports: 12/15/2021	Last EDR Contact: 12/16/2021
Number of Days to Update: 85	Next Scheduled EDR Contact: 04/04/2022
	Data Release Frequency: Quarterly

Lists of state- and tribal hazardous waste facilities

SHWS: Sites List

Facilities, sites or areas in which the Office of Hazard Evaluation and Emergency Response has an interest, has investigated or may investigate under HRS 128D (includes CERCLIS sites).

Date of Government Version: 08/17/2020	Source: Department of Health
Date Data Arrived at EDR: 09/09/2020	Telephone: 808-586-4249
Date Made Active in Reports: 12/01/2020	Last EDR Contact: 12/03/2021
Number of Days to Update: 83	Next Scheduled EDR Contact: 03/21/2022
	Data Release Frequency: Semi-Annually

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF: Permitted Landfills in the State of Hawaii

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/15/2021	Source: Department of Health
Date Data Arrived at EDR: 09/30/2021	Telephone: 808-586-4245
Date Made Active in Reports: 11/08/2021	Last EDR Contact: 12/14/2021
Number of Days to Update: 39	Next Scheduled EDR Contact: 04/04/2022
	Data Release Frequency: Varies

Lists of state and tribal leaking storage tanks

LUST: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 06/01/2021	Source: Department of Health
Date Data Arrived at EDR: 06/03/2021	Telephone: 808-586-4228
Date Made Active in Reports: 08/25/2021	Last EDR Contact: 11/19/2021
Number of Days to Update: 83	Next Scheduled EDR Contact: 03/07/2022
	Data Release Frequency: Semi-Annually

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 05/27/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/11/2021	Telephone: 415-972-3372
Date Made Active in Reports: 09/07/2021	Last EDR Contact: 11/15/2021
Number of Days to Update: 88	Next Scheduled EDR Contact: 01/31/2022
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/27/2021	Source: EPA Region 8
Date Data Arrived at EDR: 06/11/2021	Telephone: 303-312-6271
Date Made Active in Reports: 09/07/2021	Last EDR Contact: 11/15/2021
Number of Days to Update: 88	Next Scheduled EDR Contact: 01/31/2022
	Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 06/01/2021	Source: EPA Region 7
Date Data Arrived at EDR: 06/11/2021	Telephone: 913-551-7003
Date Made Active in Reports: 09/07/2021	Last EDR Contact: 11/15/2021
Number of Days to Update: 88	Next Scheduled EDR Contact: 01/31/2022
	Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/28/2021	Source: EPA Region 1
Date Data Arrived at EDR: 06/11/2021	Telephone: 617-918-1313
Date Made Active in Reports: 09/07/2021	Last EDR Contact: 11/15/2021
Number of Days to Update: 88	Next Scheduled EDR Contact: 01/31/2022
	Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/06/2021	Source: EPA, Region 5
Date Data Arrived at EDR: 06/11/2021	Telephone: 312-886-7439
Date Made Active in Reports: 09/07/2021	Last EDR Contact: 11/15/2021
Number of Days to Update: 88	Next Scheduled EDR Contact: 01/31/2022
	Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 05/28/2021	Source: EPA Region 4
Date Data Arrived at EDR: 06/22/2021	Telephone: 404-562-8677
Date Made Active in Reports: 09/20/2021	Last EDR Contact: 11/15/2021
Number of Days to Update: 90	Next Scheduled EDR Contact: 01/31/2022
	Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/27/2021	Source: EPA Region 10
Date Data Arrived at EDR: 06/11/2021	Telephone: 206-553-2857
Date Made Active in Reports: 09/07/2021	Last EDR Contact: 11/15/2021
Number of Days to Update: 88	Next Scheduled EDR Contact: 01/31/2022
	Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/17/2021	Source: EPA Region 6
Date Data Arrived at EDR: 06/11/2021	Telephone: 214-665-6597
Date Made Active in Reports: 09/07/2021	Last EDR Contact: 11/15/2021
Number of Days to Update: 88	Next Scheduled EDR Contact: 01/31/2022
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Lists of state and tribal registered storage tanks

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/29/2021	Source: FEMA
Date Data Arrived at EDR: 02/17/2021	Telephone: 202-646-5797
Date Made Active in Reports: 03/22/2021	Last EDR Contact: 12/18/2021
Number of Days to Update: 33	Next Scheduled EDR Contact: 04/18/2022
	Data Release Frequency: Varies

UST: Underground Storage Tank Database

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 06/01/2021	Source: Department of Health
Date Data Arrived at EDR: 06/03/2021	Telephone: 808-586-4228
Date Made Active in Reports: 08/25/2021	Last EDR Contact: 11/19/2021
Number of Days to Update: 83	Next Scheduled EDR Contact: 03/07/2022
	Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/28/2021	Source: EPA, Region 1
Date Data Arrived at EDR: 06/11/2021	Telephone: 617-918-1313
Date Made Active in Reports: 09/07/2021	Last EDR Contact: 11/15/2021
Number of Days to Update: 88	Next Scheduled EDR Contact: 01/31/2022
	Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/27/2021	Source: EPA Region 10
Date Data Arrived at EDR: 06/11/2021	Telephone: 206-553-2857
Date Made Active in Reports: 09/07/2021	Last EDR Contact: 11/15/2021
Number of Days to Update: 88	Next Scheduled EDR Contact: 01/31/2022
	Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/06/2021	Source: EPA Region 5
Date Data Arrived at EDR: 06/11/2021	Telephone: 312-886-6136
Date Made Active in Reports: 09/07/2021	Last EDR Contact: 11/15/2021
Number of Days to Update: 88	Next Scheduled EDR Contact: 01/31/2022
	Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 06/01/2021	Source: EPA Region 7
Date Data Arrived at EDR: 06/11/2021	Telephone: 913-551-7003
Date Made Active in Reports: 09/07/2021	Last EDR Contact: 11/15/2021
Number of Days to Update: 88	Next Scheduled EDR Contact: 01/31/2022
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/27/2021	Source: EPA Region 8
Date Data Arrived at EDR: 06/11/2021	Telephone: 303-312-6137
Date Made Active in Reports: 09/07/2021	Last EDR Contact: 11/15/2021
Number of Days to Update: 88	Next Scheduled EDR Contact: 01/31/2022
	Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 05/27/2021	Source: EPA Region 9
Date Data Arrived at EDR: 06/11/2021	Telephone: 415-972-3368
Date Made Active in Reports: 09/07/2021	Last EDR Contact: 11/15/2021
Number of Days to Update: 88	Next Scheduled EDR Contact: 01/31/2022
	Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/17/2021	Source: EPA Region 6
Date Data Arrived at EDR: 06/11/2021	Telephone: 214-665-7591
Date Made Active in Reports: 09/07/2021	Last EDR Contact: 11/15/2021
Number of Days to Update: 88	Next Scheduled EDR Contact: 01/31/2022
	Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 05/28/2021	Source: EPA Region 4
Date Data Arrived at EDR: 06/22/2021	Telephone: 404-562-9424
Date Made Active in Reports: 09/20/2021	Last EDR Contact: 11/15/2021
Number of Days to Update: 90	Next Scheduled EDR Contact: 01/31/2022
	Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

ENG CONTROLS: Engineering Control Sites

A listing of sites with engineering controls in place.

Date of Government Version: 04/17/2019	Source: Department of Health
Date Data Arrived at EDR: 05/21/2019	Telephone: 404-586-4249
Date Made Active in Reports: 05/30/2019	Last EDR Contact: 12/03/2021
Number of Days to Update: 9	Next Scheduled EDR Contact: 03/21/2022
	Data Release Frequency: Varies

INST CONTROL: Sites with Institutional Controls

Voluntary Remediation Program and Brownfields sites with institutional controls in place.

Date of Government Version: 04/17/2019	Source: Department of Health
Date Data Arrived at EDR: 05/21/2019	Telephone: 808-586-4249
Date Made Active in Reports: 05/30/2019	Last EDR Contact: 12/03/2021
Number of Days to Update: 9	Next Scheduled EDR Contact: 03/21/2022
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Lists of state and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 07/08/2021
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015	Source: EPA, Region 1
Date Data Arrived at EDR: 09/29/2015	Telephone: 617-918-1102
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 12/14/2021
Number of Days to Update: 142	Next Scheduled EDR Contact: 04/04/2022
	Data Release Frequency: Varies

VCP: Voluntary Response Program Sites

Sites participating in the Voluntary Response Program. The purpose of the VRP is to streamline the cleanup process in a way that will encourage prospective developers, lenders, and purchasers to voluntarily cleanup properties.

Date of Government Version: 08/17/2020	Source: Department of Health
Date Data Arrived at EDR: 09/09/2020	Telephone: 808-586-4249
Date Made Active in Reports: 12/01/2020	Last EDR Contact: 12/03/2021
Number of Days to Update: 83	Next Scheduled EDR Contact: 03/21/2022
	Data Release Frequency: Varies

Lists of state and tribal brownfield sites

BROWNFIELDS: Brownfields Sites

With certain legal exclusions and additions, the term 'brownfield site' means real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

Date of Government Version: 08/17/2020	Source: Department of Health
Date Data Arrived at EDR: 09/09/2020	Telephone: 808-586-4249
Date Made Active in Reports: 12/01/2020	Last EDR Contact: 12/03/2021
Number of Days to Update: 83	Next Scheduled EDR Contact: 03/21/2022
	Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/10/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/10/2021	Telephone: 202-566-2777
Date Made Active in Reports: 08/17/2021	Last EDR Contact: 12/08/2021
Number of Days to Update: 68	Next Scheduled EDR Contact: 03/28/2022
	Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: SWRCY

A listing of recycling and drop-off facilities located in Hawaii.

Date of Government Version: 09/15/2021	Source: Department of Health
Date Data Arrived at EDR: 09/30/2021	Telephone: 808-586-4226
Date Made Active in Reports: 11/08/2021	Last EDR Contact: 12/14/2021
Number of Days to Update: 39	Next Scheduled EDR Contact: 04/04/2022
	Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/03/2007	Telephone: 703-308-8245
Date Made Active in Reports: 01/24/2008	Last EDR Contact: 10/22/2021
Number of Days to Update: 52	Next Scheduled EDR Contact: 02/07/2022
	Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/09/2004	Telephone: 800-424-9346
Date Made Active in Reports: 09/17/2004	Last EDR Contact: 06/09/2004
Number of Days to Update: 39	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009	Source: EPA, Region 9
Date Data Arrived at EDR: 05/07/2009	Telephone: 415-947-4219
Date Made Active in Reports: 09/21/2009	Last EDR Contact: 10/14/2021
Number of Days to Update: 137	Next Scheduled EDR Contact: 01/31/2022
	Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014	Source: Department of Health & Human Services, Indian Health Service
Date Data Arrived at EDR: 08/06/2014	Telephone: 301-443-1452
Date Made Active in Reports: 01/29/2015	Last EDR Contact: 10/28/2021
Number of Days to Update: 176	Next Scheduled EDR Contact: 02/07/2022
	Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 05/18/2021	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 05/18/2021	Telephone: 202-307-1000
Date Made Active in Reports: 08/03/2021	Last EDR Contact: 11/16/2021
Number of Days to Update: 77	Next Scheduled EDR Contact: 03/07/2022
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CDL: Clandestine Drug Lab Listing

A listing of clandestine drug lab site locations.

Date of Government Version: 08/04/2010

Date Data Arrived at EDR: 09/10/2010

Date Made Active in Reports: 10/22/2010

Number of Days to Update: 42

Source: Department of Health

Telephone: 808-586-4249

Last EDR Contact: 12/02/2021

Next Scheduled EDR Contact: 03/21/2022

Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/18/2021

Date Data Arrived at EDR: 05/18/2021

Date Made Active in Reports: 08/03/2021

Number of Days to Update: 77

Source: Drug Enforcement Administration

Telephone: 202-307-1000

Last EDR Contact: 11/16/2021

Next Scheduled EDR Contact: 03/07/2022

Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 10/20/2021

Date Data Arrived at EDR: 11/05/2021

Date Made Active in Reports: 11/29/2021

Number of Days to Update: 24

Source: Environmental Protection Agency

Telephone: 202-564-6023

Last EDR Contact: 12/29/2021

Next Scheduled EDR Contact: 04/11/2022

Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/12/2021

Date Data Arrived at EDR: 09/13/2021

Date Made Active in Reports: 09/28/2021

Number of Days to Update: 15

Source: U.S. Department of Transportation

Telephone: 202-366-4555

Last EDR Contact: 12/16/2021

Next Scheduled EDR Contact: 04/04/2022

Data Release Frequency: Quarterly

SPILLS: Release Notifications

Releases of hazardous substances to the environment reported to the Office of Hazard Evaluation and Emergency Response since 1988.

Date of Government Version: 03/25/2021

Date Data Arrived at EDR: 03/25/2021

Date Made Active in Reports: 06/15/2021

Number of Days to Update: 82

Source: Department of Health

Telephone: 808-586-4249

Last EDR Contact: 11/11/2021

Next Scheduled EDR Contact: 02/28/2022

Data Release Frequency: Varies

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/10/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/11/2013
Number of Days to Update: 39

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/17/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 08/10/2021
Date Data Arrived at EDR: 08/17/2021
Date Made Active in Reports: 10/22/2021
Number of Days to Update: 66

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 11/16/2021
Next Scheduled EDR Contact: 02/28/2022
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/15/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/07/2022
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 11/08/2021
Next Scheduled EDR Contact: 02/21/2022
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 09/28/2021
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 12/17/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 11/01/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 11/05/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/17/2020
Date Made Active in Reports: 09/10/2020
Number of Days to Update: 85

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/17/2021
Next Scheduled EDR Contact: 03/28/2022
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 08/14/2020
Date Made Active in Reports: 11/04/2020
Number of Days to Update: 82

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 11/16/2021
Next Scheduled EDR Contact: 02/28/2022
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 10/18/2021
Date Data Arrived at EDR: 10/20/2021
Date Made Active in Reports: 01/10/2022
Number of Days to Update: 82

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/20/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 10/20/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 24

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 12/01/2021
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 10/20/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 11/12/2021
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/18/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/20/2021	Source: EPA
Date Data Arrived at EDR: 11/05/2021	Telephone: 202-564-6023
Date Made Active in Reports: 12/15/2021	Last EDR Contact: 12/01/2021
Number of Days to Update: 40	Next Scheduled EDR Contact: 02/14/2022
	Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 11/19/2020	Source: EPA
Date Data Arrived at EDR: 01/08/2021	Telephone: 202-566-0500
Date Made Active in Reports: 03/22/2021	Last EDR Contact: 01/07/2022
Number of Days to Update: 73	Next Scheduled EDR Contact: 04/18/2022
	Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/23/2016	Telephone: 202-564-2501
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 12/29/2021
Number of Days to Update: 79	Next Scheduled EDR Contact: 04/18/2022
	Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009	Source: EPA
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/29/2021	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 08/24/2021	Telephone: 301-415-7169
Date Made Active in Reports: 11/19/2021	Last EDR Contact: 10/18/2021
Number of Days to Update: 87	Next Scheduled EDR Contact: 01/31/2022
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2019	Source: Department of Energy
Date Data Arrived at EDR: 12/01/2020	Telephone: 202-586-8719
Date Made Active in Reports: 02/09/2021	Last EDR Contact: 11/30/2021
Number of Days to Update: 70	Next Scheduled EDR Contact: 03/14/2022
	Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/05/2019	Telephone: N/A
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 12/02/2021
Number of Days to Update: 251	Next Scheduled EDR Contact: 03/14/2022
	Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/06/2019	Telephone: 202-566-0517
Date Made Active in Reports: 02/10/2020	Last EDR Contact: 11/05/2021
Number of Days to Update: 96	Next Scheduled EDR Contact: 02/14/2022
	Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2019	Telephone: 202-343-9775
Date Made Active in Reports: 09/23/2019	Last EDR Contact: 12/27/2021
Number of Days to Update: 84	Next Scheduled EDR Contact: 04/11/2022
	Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transportation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/26/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2021
Date Data Arrived at EDR: 10/13/2021
Date Made Active in Reports: 01/10/2022
Number of Days to Update: 89

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/03/2022
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 12/14/2021
Number of Days to Update: 90

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 12/17/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/04/2022
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 07/26/2021
Date Data Arrived at EDR: 07/27/2021
Date Made Active in Reports: 10/22/2021
Number of Days to Update: 87

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 11/01/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 12/09/2021
Next Scheduled EDR Contact: 02/28/2022
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 10/20/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 24

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/11/2022
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/09/2021
Date Data Arrived at EDR: 08/24/2021
Date Made Active in Reports: 11/19/2021
Number of Days to Update: 87

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 11/22/2021
Next Scheduled EDR Contact: 03/07/2022
Data Release Frequency: Semi-Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/30/2021
Date Data Arrived at EDR: 07/01/2021
Date Made Active in Reports: 09/28/2021
Number of Days to Update: 89

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 12/20/2021
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: Quarterly

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/27/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 78

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/22/2021
Next Scheduled EDR Contact: 03/07/2022
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/22/2021
Next Scheduled EDR Contact: 03/07/2022
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/14/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 12/15/2021
Number of Days to Update: 91

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 12/14/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 05/05/2021
Date Data Arrived at EDR: 05/18/2021
Date Made Active in Reports: 08/17/2021
Number of Days to Update: 91

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 11/22/2021
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 01/01/2022
Date Data Arrived at EDR: 01/04/2022
Date Made Active in Reports: 01/10/2022
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 01/04/2022
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2018	Source: Department of Defense
Date Data Arrived at EDR: 07/02/2020	Telephone: 703-704-1564
Date Made Active in Reports: 09/17/2020	Last EDR Contact: 01/11/2022
Number of Days to Update: 77	Next Scheduled EDR Contact: 04/25/2022
	Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/21/2021	Telephone: 202-564-0527
Date Made Active in Reports: 08/11/2021	Last EDR Contact: 11/23/2021
Number of Days to Update: 82	Next Scheduled EDR Contact: 03/07/2022
	Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/13/2021	Source: EPA
Date Data Arrived at EDR: 08/13/2021	Telephone: 800-385-6164
Date Made Active in Reports: 10/22/2021	Last EDR Contact: 11/15/2021
Number of Days to Update: 70	Next Scheduled EDR Contact: 02/28/2022
	Data Release Frequency: Quarterly

AIRS: List of Permitted Facilities

A listing of permitted facilities in the state.

Date of Government Version: 03/31/2021	Source: Department of Health
Date Data Arrived at EDR: 04/01/2021	Telephone: 808-586-4200
Date Made Active in Reports: 06/22/2021	Last EDR Contact: 01/07/2022
Number of Days to Update: 82	Next Scheduled EDR Contact: 04/11/2022
	Data Release Frequency: Varies

DRYCLEANERS: Permitted Drycleaner Facility Listing

A listing of permitted drycleaner facilities in the state.

Date of Government Version: 03/31/2021	Source: Department of Health
Date Data Arrived at EDR: 04/01/2021	Telephone: 808-586-4200
Date Made Active in Reports: 06/22/2021	Last EDR Contact: 01/07/2022
Number of Days to Update: 82	Next Scheduled EDR Contact: 04/11/2022
	Data Release Frequency: Varies

Financial Assurance: Financial Assurance Information Listing

A listing of financial assurance information for underground storage tank facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 09/01/2021	Source: Department of Health
Date Data Arrived at EDR: 09/15/2021	Telephone: 808-586-4226
Date Made Active in Reports: 12/10/2021	Last EDR Contact: 12/14/2021
Number of Days to Update: 86	Next Scheduled EDR Contact: 03/21/2022
	Data Release Frequency: Varies

LEAD: Lead Inspection Listing

Lead inspections

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/14/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 09/22/2021
Number of Days to Update: 7

Source: Department of Health
Telephone: 808-586-5800
Last EDR Contact: 12/28/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Varies

UIC: Underground Injection Wells Listing
A listing of underground injection well locations.

Date of Government Version: 02/07/2013
Date Data Arrived at EDR: 02/12/2013
Date Made Active in Reports: 04/09/2013
Number of Days to Update: 56

Source: Department of Health
Telephone: 808-586-4258
Last EDR Contact: 11/16/2021
Next Scheduled EDR Contact: 03/07/2022
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System
Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 11/23/2021
Next Scheduled EDR Contact: 03/07/2022
Data Release Frequency: Varies

PCS INACTIVE: Listing of Inactive PCS Permits
An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Semi-Annually

PCS ENF: Enforcement data
No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Semi-Annually

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Health in Hawaii.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/08/2014
Number of Days to Update: 191

Source: Department of Health
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Health in Hawaii.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/17/2014
Number of Days to Update: 200

Source: Department of Health
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists.

Compiled from Records formerly available from the Department of Health in Hawaii.

Date of Government Version: N/A

Source: Department of Health

Date Data Arrived at EDR: 07/01/2013

Telephone: N/A

Date Made Active in Reports: 01/03/2014

Last EDR Contact: 06/01/2012

Number of Days to Update: 186

Next Scheduled EDR Contact: N/A

Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data

Source: Endeavor Business Media

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory

Source: Office of Planning

Telephone: 808-587-2895

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK® - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

HALE OLIPOA
98-150 LIPOA PLACE
AIEA, HI 96701

TARGET PROPERTY COORDINATES

Latitude (North):	21.381484 - 21° 22' 53.34"
Longitude (West):	157.944285 - 157° 56' 39.43"
Universal Transverse Mercator:	Zone 4
UTM X (Meters):	609444.3
UTM Y (Meters):	2364597.0
Elevation:	7 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	9814487 WAIPAHU, HI
Version Date:	2017

South Map:	9814485 PEARL HARBOR, HI
Version Date:	2017

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

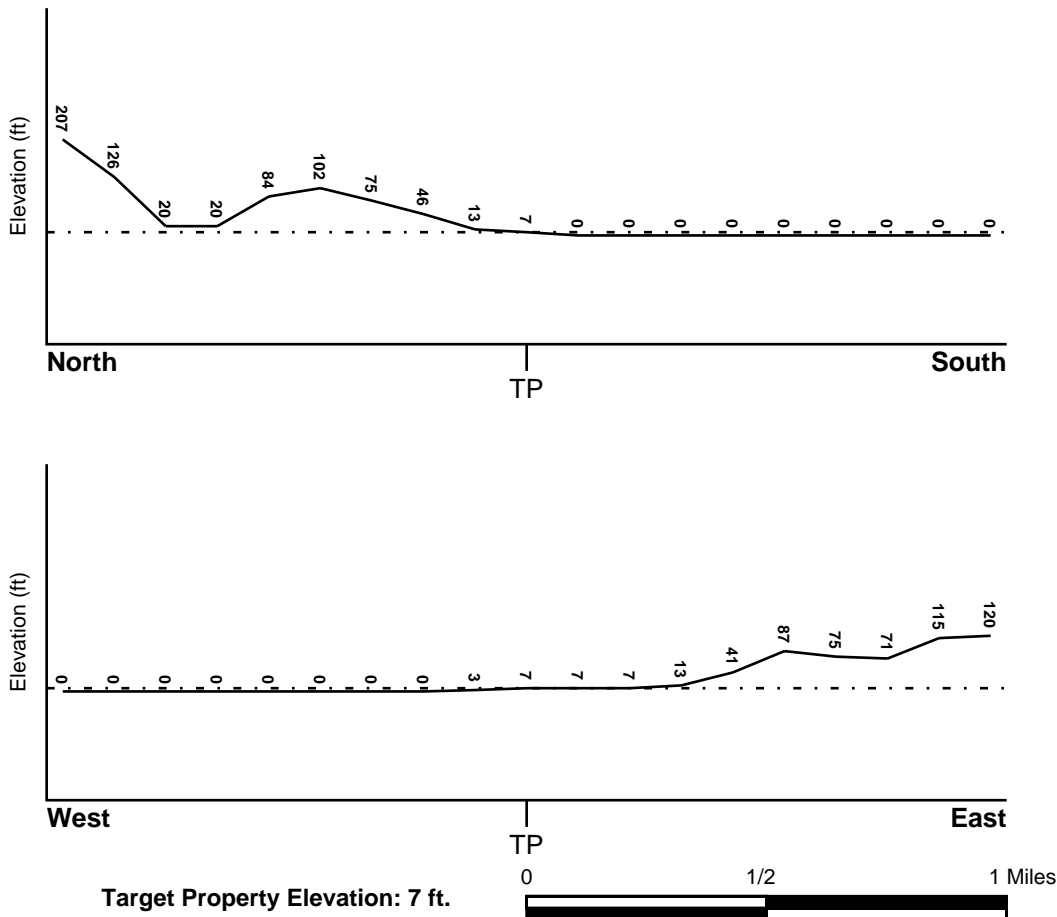
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General South

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
15003C0243H	FEMA FIRM Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
15003C0244G	FEMA FIRM Flood data
15003C0331H	FEMA FIRM Flood data
15003C0332H	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u>	<u>NWI Electronic Data Coverage</u>
WAIPAHU	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era: -
System: -
Series: -
Code: N/A (*decoded above as Era, System & Series*)

GEOLOGIC AGE IDENTIFICATION

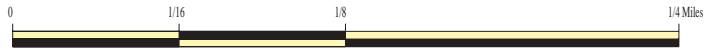
Category: -

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 6816704.2s



- ★ Target Property
- SSURGO Soil
- Water



SITE NAME: Hale Olipoa
ADDRESS: 98-150 Lipoa Place
Aiea HI 96701
LAT/LONG: 21.381484 / 157.944285

CLIENT: Environmental Risk Analysis, LLC
CONTACT: Kristen Caskey
INQUIRY #: 6816704.2s
DATE: January 12, 2022 1:18 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Keaau

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 70 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	14 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141.14	Max: 8.4 Min: 7.9
2	14 inches	33 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141.14	Max: 8.4 Min: 7.9
3	33 inches	38 inches	cemented material	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141.14	Max: 8.4 Min: 7.9

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
4	38 inches	57 inches	sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141.14	Max: 8.4 Min: 7.9

Soil Map ID: 2

Soil Component Name: Pearl Harbor

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 30 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	11 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Highly organic soils, Peat.	Max: 0.42 Min: 0.01	Max: 7.8 Min: 7.4
2	11 inches	31 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Highly organic soils, Peat.	Max: 0.42 Min: 0.01	Max: 7.8 Min: 7.4

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
3	31 inches	48 inches	muck	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Highly organic soils, Peat.	Max: 0.42 Min: 0.01	Max: 7.8 Min: 7.4

Soil Map ID: 3

Soil Component Name: Tropaquepts

Soil Surface Texture: mucky silt loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 31 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	9 inches	mucky silt loam	Not reported	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4.23	Max: 6.5 Min: 5.6
2	9 inches	18 inches	silty clay loam	Not reported	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4.23	Max: 6.5 Min: 5.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
3	18 inches	59 inches	silty clay	Not reported	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4.23	Max: 6.5 Min: 5.6

Soil Map ID: 4

Soil Component Name: Water > 40 acres

Soil Surface Texture: mucky silt loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Unknown

Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 5

Soil Component Name: Honouliuli

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	14 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.41 Min: 0.01	Max: 7.8 Min: 6.6
2	14 inches	68 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.41 Min: 0.01	Max: 7.8 Min: 6.6

Soil Map ID: 6

Soil Component Name: Waipahu

Soil Surface Texture: silty clay

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	11 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 4.23 Min: 0.42	Max: 6.5 Min: 6.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
2	11 inches	70 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 4.23 Min: 0.42	Max: 6.5 Min: 6.1

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
B2	USGS40000270276	0 - 1/8 Mile NE
A4	USGS40000270271	0 - 1/8 Mile West
C5	USGS40000270283	0 - 1/8 Mile NNW
D7	USGS40000270270	0 - 1/8 Mile East
E10	USGS40000270273	0 - 1/8 Mile West
E11	USGS40000270274	0 - 1/8 Mile West
C12	USGS40000270280	1/8 - 1/4 Mile WNW
E15	USGS40000270275	1/8 - 1/4 Mile West
F16	USGS40000270286	1/8 - 1/4 Mile NW
G18	USGS40000270267	1/8 - 1/4 Mile East
H20	USGS40000270295	1/8 - 1/4 Mile NE
I21	USGS40000270300	1/8 - 1/4 Mile North
F24	USGS40000270290	1/8 - 1/4 Mile NW
H26	USGS40000270299	1/4 - 1/2 Mile NNE
J29	USGS40000270296	1/4 - 1/2 Mile NW
L36	USGS40000270258	1/4 - 1/2 Mile ESE
J37	USGS40000270292	1/4 - 1/2 Mile WNW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
M39	USGS40000270330	1/4 - 1/2 Mile NNE
N41	USGS40000270279	1/4 - 1/2 Mile East
O44	USGS40000270225	1/4 - 1/2 Mile SSE
P46	USGS40000270353	1/4 - 1/2 Mile North
P47	USGS40000270354	1/4 - 1/2 Mile North
P49	USGS40000270352	1/4 - 1/2 Mile NNE
P50	USGS40000270358	1/4 - 1/2 Mile North
Q53	USGS40000270369	1/2 - 1 Mile NNW
Q55	USGS40000270375	1/2 - 1 Mile NNW
Q57	USGS40000270392	1/2 - 1 Mile NNW
Q58	USGS40000270391	1/2 - 1 Mile NNW
R60	USGS40000270264	1/2 - 1 Mile East
R61	USGS40000270265	1/2 - 1 Mile East
R62	USGS40000270266	1/2 - 1 Mile East
Q65	USGS40000270398	1/2 - 1 Mile NNW
Q66	USGS40000270399	1/2 - 1 Mile NNW
S69	USGS40000270406	1/2 - 1 Mile NNW
S70	USGS40000270407	1/2 - 1 Mile NNW
73	USGS40000270331	1/2 - 1 Mile WNW
T74	USGS40000270416	1/2 - 1 Mile NNW
U77	USGS40000270441	1/2 - 1 Mile North
U79	USGS40000270430	1/2 - 1 Mile North
U81	USGS40000270442	1/2 - 1 Mile North
U82	USGS40000270439	1/2 - 1 Mile North
U83	USGS40000270440	1/2 - 1 Mile North
84	USGS40000270206	1/2 - 1 Mile SE
V86	USGS40000270393	1/2 - 1 Mile NW
W90	USGS40000270238	1/2 - 1 Mile ESE
Y93	USGS40000270212	1/2 - 1 Mile SE
Y94	USGS40000270214	1/2 - 1 Mile SE
Y95	USGS40000270215	1/2 - 1 Mile SE
Z96	USGS40000270360	1/2 - 1 Mile WNW
Y102	USGS40000270213	1/2 - 1 Mile SE
X103	USGS40000270311	1/2 - 1 Mile ENE
X104	USGS40000270312	1/2 - 1 Mile ENE
X105	USGS40000270313	1/2 - 1 Mile ENE
AA108	USGS40000270408	1/2 - 1 Mile NW
AA110	USGS40000270409	1/2 - 1 Mile NW
AB111	USGS40000270242	1/2 - 1 Mile ESE
Z113	USGS40000270361	1/2 - 1 Mile WNW
AB114	USGS40000270241	1/2 - 1 Mile ESE
AB116	USGS40000270236	1/2 - 1 Mile ESE
AB117	USGS40000270237	1/2 - 1 Mile ESE
AA119	USGS40000270410	1/2 - 1 Mile NW
AB121	USGS40000270233	1/2 - 1 Mile ESE
AB123	USGS40000270230	1/2 - 1 Mile ESE
AC125	USGS40000270461	1/2 - 1 Mile NNE
AC126	USGS40000270462	1/2 - 1 Mile NNE
AC128	USGS40000270470	1/2 - 1 Mile NNE
AD130	USGS40000270355	1/2 - 1 Mile WNW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
P45	HI0000331	1/4 - 1/2 Mile North

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
A1	HI1200000001615	0 - 1/8 Mile SSW
B3	HI1200000001570	0 - 1/8 Mile NE
C6	HI1200000001569	0 - 1/8 Mile NNW
D8	HI1200000001571	0 - 1/8 Mile East
E9	HI1200000001574	0 - 1/8 Mile West
C13	HI1200000001576	1/8 - 1/4 Mile WNW
E14	HI1200000001575	1/8 - 1/4 Mile WNW
F17	HI1200000001568	1/8 - 1/4 Mile NW
G19	HI1200000001572	1/8 - 1/4 Mile East
H22	HI1200000001612	1/8 - 1/4 Mile NNE
I23	HI1200000001610	1/8 - 1/4 Mile North
F25	HI1200000001635	1/4 - 1/2 Mile NW
H27	HI1200000001611	1/4 - 1/2 Mile NNE
H28	HI1200000001634	1/4 - 1/2 Mile NE
K30	HI1200000001630	1/4 - 1/2 Mile NE
K31	HI1200000001631	1/4 - 1/2 Mile NE
K32	HI1200000001633	1/4 - 1/2 Mile NE
K33	HI1200000001632	1/4 - 1/2 Mile NE
J34	HI1200000001637	1/4 - 1/2 Mile NW
L35	HI1200000001573	1/4 - 1/2 Mile ESE
J38	HI1200000001656	1/4 - 1/2 Mile WNW
M40	HI1200000001616	1/4 - 1/2 Mile NNE
N42	HI1200000001565	1/4 - 1/2 Mile East
O43	HI1200000001414	1/4 - 1/2 Mile SSE
P48	HI1200000001626	1/4 - 1/2 Mile North
P51	HI1200000001625	1/4 - 1/2 Mile NNE
P52	HI1200000001629	1/4 - 1/2 Mile North
Q54	HI1200000001627	1/2 - 1 Mile NNW
Q56	HI1200000001617	1/2 - 1 Mile NNW
Q59	HI1200000001609	1/2 - 1 Mile NNW
R63	HI1200000001608	1/2 - 1 Mile East
R64	HI1200000001607	1/2 - 1 Mile East
Q67	HI1200000001621	1/2 - 1 Mile North
Q68	HI1200000001624	1/2 - 1 Mile North
S71	HI1200000001628	1/2 - 1 Mile NNW
S72	HI1200000001566	1/2 - 1 Mile NNW
U75	HI1200000001614	1/2 - 1 Mile North
U76	HI1200000001613	1/2 - 1 Mile North
T78	HI1200000001654	1/2 - 1 Mile NNW
U80	HI1200000001577	1/2 - 1 Mile North
U85	HI1200000001567	1/2 - 1 Mile North
V87	HI1200000001640	1/2 - 1 Mile NW
V88	HI1200000001653	1/2 - 1 Mile NW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
W89	HI1200000001413	1/2 - 1 Mile ESE
X91	HI1200000001622	1/2 - 1 Mile ENE
Y92	HI1200000001423	1/2 - 1 Mile SE
Z97	HI1200000001641	1/2 - 1 Mile WNW
AA98	HI1200000001657	1/2 - 1 Mile NW
Y99	HI1200000001422	1/2 - 1 Mile SE
Y100	HI1200000001420	1/2 - 1 Mile SE
Y101	HI1200000001421	1/2 - 1 Mile SE
AA106	HI1200000001658	1/2 - 1 Mile NW
X107	HI1200000001623	1/2 - 1 Mile ENE
Z109	HI1200000001642	1/2 - 1 Mile WNW
AB112	HI1200000001415	1/2 - 1 Mile ESE
AB115	HI1200000001416	1/2 - 1 Mile ESE
AB118	HI1200000001417	1/2 - 1 Mile ESE
AB120	HI1200000001418	1/2 - 1 Mile ESE
AB122	HI1200000001419	1/2 - 1 Mile ESE
AC124	HI1200000001619	1/2 - 1 Mile NNE
AC127	HI1200000001620	1/2 - 1 Mile NNE
AD129	HI1200000001655	1/2 - 1 Mile WNW

PHYSICAL SETTING SOURCE MAP - 6816704.2s



- County Boundary
- Major Roads
- Contour Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location

SITE NAME: Hale Olipoa
 ADDRESS: 98-150 Lipoa Place
 Aiea HI 96701
 LAT/LONG: 21.381484 / 157.944285

CLIENT: Environmental Risk Analysis, LLC
 CONTACT: Kristen Caskey
 INQUIRY #: 6816704.2s
 DATE: January 12, 2022 1:18 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

A1
SSW
0 - 1/8 Mile
Lower

HI WELLS HI120000001615

Well #:	3-2356-051	Pump Rate (g/m):	0
Well Owner:	Pacific Islands Water Science Center, USGS, U.S. Geological Survey		
Land Owner:	Kamehameha Schools, KS		
Well Use:	Abandoned-Lost	Well Name:	Pearl Harbor
Original Well Name:	Not Reported		
Driller:	Goodfellow Construction, Inc. Corporate		
Well Construction Type:	Not Reported	Casing Diameter (in):	6
Ground Elevation (ft):	5	Well Depth (ft):	1308
Solid Casing Depth:	91	Perforated Casing Depth:	0
Major Well Use:	Abandoned-Lost	Initial Water Level (ft):	1.5
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	0	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	0
Test Chloride Content (MG/L):	0	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	0
Draft Year:	Not Reported	Hole Bottom Elevation:	-1303
Solid Casing Bottom Elevation:	-86	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	01-JAN-58
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

B2
NE
0 - 1/8 Mile
Higher

FED USGS USGS40000270276

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-06 T124	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19421101
Well Depth:	65	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

B3
NE
0 - 1/8 Mile
Higher

HI WELLS HI120000001570

Well #:	3-2356-006	Pump Rate (g/m):	0
Well Owner:	Naval Facilities Engineering Command Hawaii, NAVFAC-Hawaii		
Land Owner:	Kamehameha Schools, KS		
Well Use:	Not Reported	Well Name:	Pearl Harbor
Original Well Name:	Not Reported		
Driller:	Curtis Wong (Naval Facilities Engineering Command Hawaii, Asset Management, NAVFAC Hawaii)		
Well Construction Type:	Not Reported	Casing Diameter (in):	0
Ground Elevation (ft):	6	Well Depth (ft):	65

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Solid Casing Depth:	0	Perforated Casing Depth:	0
Major Well Use:	Not Reported	Initial Water Level (ft):	0
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	0	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	0
Test Chloride Content (MG/L):	0	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	0
Draft Year:	Not Reported	Hole Bottom Elevation:	-59
Solid Casing Bottom Elevation:	0	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	Not Reported
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

**A4
West
0 - 1/8 Mile
Lower**

FED USGS USGS40000270271

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-51 T67 AIEA	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19580101
Well Depth:	1308	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

**C5
NNW
0 - 1/8 Mile
Higher**

FED USGS USGS40000270283

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-05 T123	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19421101
Well Depth:	62	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

**C6
NNW
0 - 1/8 Mile
Higher**

HI WELLS HI1200000001569

Well #:	3-2356-005	Pump Rate (g/m):	0
Well Owner:	Naval Facilities Engineering Command Hawaii, NAVFAC-Hawaii		
Land Owner:	Kamehameha Schools, KS		
Well Use:	Not Reported	Well Name:	Pearl Harbor
Original Well Name:	Not Reported		
Driller:	Curtis Wong (Naval Facilities Engineering Command Hawaii, Asset Management, NAVFAC Hawaii)		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Well Construction Type:	Not Reported	Casing Diameter (in):	0
Ground Elevation (ft):	6	Well Depth (ft):	62
Solid Casing Depth:	0	Perforated Casing Depth:	0
Major Well Use:	Not Reported	Initial Water Level (ft):	0
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	0	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	0
Test Chloride Content (MG/L):	0	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	0
Draft Year:	Not Reported	Hole Bottom Elevation:	-56
Solid Casing Bottom Elevation:	0	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	Not Reported
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

**D7
East
0 - 1/8 Mile
Higher**

FED USGS USGS40000270270

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-07 T125	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19421101
Well Depth:	73	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

**D8
East
0 - 1/8 Mile
Higher**

HI WELLS HI1200000001571

Well #:	3-2356-007	Pump Rate (g/m):	0
Well Owner:	Naval Facilities Engineering Command Hawaii, NAVFAC-Hawaii	Well Use:	Not Reported
Land Owner:	Not Reported	Original Well Name:	Not Reported
Well Name:	Pearl Harbor		
Driller:	Curtis Wong (Naval Facilities Engineering Command Hawaii, Asset Management, NAVFAC Hawaii)		
Well Construction Type:	Not Reported	Casing Diameter (in):	0
Ground Elevation (ft):	6	Well Depth (ft):	73
Solid Casing Depth:	0	Perforated Casing Depth:	0
Major Well Use:	Not Reported	Initial Water Level (ft):	0
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	0	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	0
Test Chloride Content (MG/L):	0	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	0
Draft Year:	Not Reported	Hole Bottom Elevation:	-67
Solid Casing Bottom Elevation:	0	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	Not Reported
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

E9
West
0 - 1/8 Mile
Lower

HI WELLS HI120000001574

Well #:	3-2356-010	Pump Rate (g/m):	0
Well Owner:	Naval Facilities Engineering Command Hawaii, NAVFAC-Hawaii		
Land Owner:	Kamehameha Schools, KS		
Well Use:	Not Reported	Well Name:	Pearl Harbor
Original Well Name:	Not Reported		
Driller:	Curtis Wong (Naval Facilities Engineering Command Hawaii, Asset Management, NAVFAC Hawaii)		
Well Construction Type:	Not Reported	Casing Diameter (in):	0
Ground Elevation (ft):	6	Well Depth (ft):	55
Solid Casing Depth:	0	Perforated Casing Depth:	0
Major Well Use:	Not Reported	Initial Water Level (ft):	0
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	0	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	0
Test Chloride Content (MG/L):	0	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	0
Draft Year:	Not Reported	Hole Bottom Elevation:	-49
Solid Casing Bottom Elevation:	0	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	Not Reported
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

E10
West
0 - 1/8 Mile
Lower

FED USGS USGS40000270273

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-10 TO 12	Type:	Well: Multiple wells
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

E11
West
0 - 1/8 Mile
Lower

FED USGS USGS40000270274

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-10 T127-1	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19421101
Well Depth:	55	Well Depth Units:	ft

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Well Hole Depth: Not Reported Well Hole Depth Units: Not Reported

**C12
WNW
1/8 - 1/4 Mile
Higher**

FED USGS USGS40000270280

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-12 T127-3	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19421101
Well Depth:	65	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

**C13
WNW
1/8 - 1/4 Mile
Higher**

HI WELLS HI1200000001576

Well #:	3-2356-012	Pump Rate (g/m):	0
Well Owner:	Naval Facilities Engineering Command Hawaii, NAVFAC-Hawaii	Well Use:	Not Reported
Land Owner:	Not Reported	Original Well Name:	Not Reported
Well Name:	Pearl Harbor	Driller:	Curtis Wong (Naval Facilities Engineering Command Hawaii, Asset Management, NAVFAC Hawaii)
Well Construction Type:	Not Reported	Casing Diameter (in):	0
Ground Elevation (ft):	8	Well Depth (ft):	65
Solid Casing Depth:	0	Perforated Casing Depth:	0
Major Well Use:	Not Reported	Initial Water Level (ft):	0
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	0	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	0
Test Chloride Content (MG/L):	0	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	0
Draft Year:	Not Reported	Hole Bottom Elevation:	-57
Solid Casing Bottom Elevation:	0	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	Not Reported
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

**E14
WNW
1/8 - 1/4 Mile
Lower**

HI WELLS HI1200000001575

Well #:	3-2356-011	Pump Rate (g/m):	0
Well Owner:	Naval Facilities Engineering Command Hawaii, NAVFAC-Hawaii	Well Name:	Pearl Harbor
Land Owner:	Kamehameha Schools, KS	Original Well Name:	Not Reported
Well Use:	Not Reported	Driller:	Curtis Wong (Naval Facilities Engineering Command Hawaii, Asset Management, NAVFAC Hawaii)
Well Construction Type:	Not Reported	Casing Diameter (in):	0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground Elevation (ft):	6	Well Depth (ft):	70
Solid Casing Depth:	0	Perforated Casing Depth:	0
Major Well Use:	Not Reported	Initial Water Level (ft):	0
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	0	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	0
Test Chloride Content (MG/L):	0	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	0
Draft Year:	Not Reported	Hole Bottom Elevation:	-64
Solid Casing Bottom Elevation:	0	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	Not Reported
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

E15
West
1/8 - 1/4 Mile
Lower

FED USGS USGS40000270275

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-11 T127-2	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19421101
Well Depth:	70	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

F16
NW
1/8 - 1/4 Mile
Higher

FED USGS USGS40000270286

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-04 T122	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19421101
Well Depth:	100	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

F17
NW
1/8 - 1/4 Mile
Higher

HI WELLS HI1200000001568

Well #:	3-2356-004	Pump Rate (g/m):	0
Well Owner:	Naval Facilities Engineering Command Hawaii, NAVFAC-Hawaii		
Land Owner:	Kamehameha Schools, KS		
Well Use:	Not Reported	Well Name:	Pearl Harbor
Original Well Name:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Driller:	Curtis Wong (Naval Facilities Engineering Command Hawaii, Asset Management, NAVFAC Hawaii)		
Well Construction Type:	Not Reported	Casing Diameter (in):	0
Ground Elevation (ft):	18	Well Depth (ft):	100
Solid Casing Depth:	0	Perforated Casing Depth:	0
Major Well Use:	Not Reported	Initial Water Level (ft):	0
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	0	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	0
Test Chloride Content (MG/L):	0	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	0
Draft Year:	Not Reported	Hole Bottom Elevation:	-82
Solid Casing Bottom Elevation:	0	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	Not Reported
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

G18
East
1/8 - 1/4 Mile
Lower

FED USGS USGS40000270267

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-08 T126	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19421101
Well Depth:	79	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

G19
East
1/8 - 1/4 Mile
Lower

HI WELLS HI120000001572

Well #:	3-2356-008	Pump Rate (g/m):	0
Well Owner:	Naval Facilities Engineering Command Hawaii, NAVFAC-Hawaii		
Land Owner:	Kamehameha Schools, KS		
Well Use:	Not Reported	Well Name:	Pearl Harbor
Original Well Name:	Not Reported		
Driller:	Curtis Wong (Naval Facilities Engineering Command Hawaii, Asset Management, NAVFAC Hawaii)		
Well Construction Type:	Not Reported	Casing Diameter (in):	0
Ground Elevation (ft):	6	Well Depth (ft):	79
Solid Casing Depth:	0	Perforated Casing Depth:	0
Major Well Use:	Not Reported	Initial Water Level (ft):	0
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	0	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	0
Test Chloride Content (MG/L):	0	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	0
Draft Year:	Not Reported	Hole Bottom Elevation:	-73
Solid Casing Bottom Elevation:	0	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

**H20
NE
1/8 - 1/4 Mile
Higher**

FED USGS USGS40000270295

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-48 T62	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19480101
Well Depth:	51	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

**I21
North
1/8 - 1/4 Mile
Higher**

FED USGS USGS40000270300

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-46 T60	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19481109
Well Depth:	61	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

**H22
NNE
1/8 - 1/4 Mile
Higher**

HI WELLS HI1200000001612

Well #:	3-2356-048	Pump Rate (g/m):	0
Well Owner:	Naval Facilities Engineering Command Hawaii, NAVFAC-Hawaii		
Land Owner:	Kamehameha Schools, KS		
Well Use:	Abandoned-Sealed		
Well Name:	Aiea	Original Well Name:	Not Reported
Driller:	Not Reported	Well Construction Type:	Not Reported
Casing Diameter (in):	0	Ground Elevation (ft):	21
Well Depth (ft):	51	Solid Casing Depth:	0
Perforated Casing Depth:	0	Major Well Use:	Abandoned-Sealed
Initial Water Level (ft):	12.5	Water Level After Drilling:	0
Water Level After Install:	0	Chloride Content (mg/L):	0
Date Tested:	Not Reported	Test Pump Rate (g/m):	0
Test Drawdown Rate(ft):	0	Test Chloride Content (MG/L):	0
Test Water Temp:	0	Temp Unit:	Not Reported
Max Chloride Level:	Not Reported	Minimum Chloride Level:	Not Reported
Year Installed:	0	Draft Year:	Not Reported
Hole Bottom Elevation:	-30	Solid Casing Bottom Elevation:	0
Perforated Casing Bottom Elevation:	0	Pump Capacity (MM gal/day):	0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Pump Intake Depth:	0	Latest Head:	Not Reported
Latest WCR1 Report:	01-JAN-48	Latest WCR2 Report:	Not Reported
Transmissivity:	0	Min to Pump 5 Volumes:	0

I23
North
1/8 - 1/4 Mile
Higher

HI WELLS HI120000001610

Well #:	3-2356-046	Pump Rate (g/m):	0
Well Owner:	Naval Facilities Engineering Command Hawaii, NAVFAC-Hawaii	Well Use:	Not Reported
Land Owner:	State of Hawaii	Original Well Name:	Not Reported
Well Name:	Aiea	Well Construction Type:	Not Reported
Driller:	Not Reported	Ground Elevation (ft):	33
Casing Diameter (in):	0	Solid Casing Depth:	0
Well Depth (ft):	61	Major Well Use:	Not Reported
Perforated Casing Depth:	0	Water Level After Drilling:	0
Initial Water Level (ft):	14.5	Chloride Content (mg/L):	0
Water Level After Install:	0	Test Pump Rate (g/m):	0
Date Tested:	Not Reported	Test Chloride Content (MG/L):	0
Test Drawdown Rate(ft):	0	Temp Unit:	Not Reported
Test Water Temp:	0	Minimum Chloride Level:	Not Reported
Max Chloride Level:	Not Reported	Draft Year:	Not Reported
Year Installed:	0	Solid Casing Bottom Elevation:	0
Hole Bottom Elevation:	-28	Pump Capacity (MM gal/day):	0
Perforated Casing Bottom Elevation:	0	Latest Head:	Not Reported
Pump Intake Depth:	0	Latest WCR2 Report:	Not Reported
Latest WCR1 Report:	01-JAN-48	Min to Pump 5 Volumes:	0
Transmissivity:	0		

F24
NW
1/8 - 1/4 Mile
Higher

FED USGS USGS40000270290

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2357-01 T121 WAIU	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19721101
Well Depth:	90	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

F25
NW
1/4 - 1/2 Mile
Higher

HI WELLS HI120000001635

Well #:	3-2357-001	Pump Rate (g/m):	0
Well Owner:	Naval Facilities Engineering Command Hawaii, NAVFAC-Hawaii	Well Use:	Not Reported
Land Owner:	Not Reported	Original Well Name:	Not Reported
Well Name:	Pearl Harbor	Casing Diameter (in):	0
Driller:	Curtis Wong (Naval Facilities Engineering Command Hawaii, Asset Management, NAVFAC Hawaii)		
Well Construction Type:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground Elevation (ft):	8	Well Depth (ft):	90
Solid Casing Depth:	0	Perforated Casing Depth:	0
Major Well Use:	Not Reported	Initial Water Level (ft):	0
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	0	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	0
Test Chloride Content (MG/L):	0	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	0
Draft Year:	Not Reported	Hole Bottom Elevation:	-82
Solid Casing Bottom Elevation:	0	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	Not Reported
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

H26
NNE
1/4 - 1/2 Mile
Higher

FED USGS USGS40000270299

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-47 T61	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19480101
Well Depth:	73	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

H27
NNE
1/4 - 1/2 Mile
Higher

HI WELLS HI1200000001611

Well #:	3-2356-047	Pump Rate (g/m):	0
Well Owner:	Naval Facilities Engineering Command Hawaii, NAVFAC-Hawaii		
Land Owner:	Kamehameha Schools, KS		
Well Use:	Abandoned-Sealed		
Well Name:	Aiea	Original Well Name:	Not Reported
Driller:	Not Reported	Well Construction Type:	Not Reported
Casing Diameter (in):	0	Ground Elevation (ft):	42
Well Depth (ft):	73	Solid Casing Depth:	0
Perforated Casing Depth:	0	Major Well Use:	Abandoned-Sealed
Initial Water Level (ft):	15	Water Level After Drilling:	0
Water Level After Install:	0	Chloride Content (mg/L):	0
Date Tested:	Not Reported	Test Pump Rate (g/m):	0
Test Drawdown Rate(ft):	0	Test Chloride Content (MG/L):	0
Test Water Temp:	0	Temp Unit:	Not Reported
Max Chloride Level:	Not Reported	Minimum Chloride Level:	Not Reported
Year Installed:	0	Draft Year:	Not Reported
Hole Bottom Elevation:	-31	Solid Casing Bottom Elevation:	0
Perforated Casing Bottom Elevation:	0	Pump Capacity (MM gal/day):	0
Pump Intake Depth:	0	Latest Head:	Not Reported
Latest WCR1 Report:	01-JAN-48	Latest WCR2 Report:	Not Reported
Transmissivity:	0	Min to Pump 5 Volumes:	0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

H28
NE
1/4 - 1/2 Mile
Higher

HI WELLS HI120000001634

Well #:	3-2356-070	Pump Rate (g/m):	80
Well Owner:	Anthony DeLuze (Kaonohi Farms)		
Land Owner:	Kamehameha Schools, KS		
Well Use:	Agriculture-Crops and Processing		
Well Name:	Lau Farm	Original Well Name:	Not Reported
Driller:	Roscoe Moss Hawaii Inc		
Well Construction Type:	Percussion	Casing Diameter (in):	8
Ground Elevation (ft):	0	Well Depth (ft):	261
Solid Casing Depth:	170	Perforated Casing Depth:	220
Major Well Use:	Agriculture-Crops and Processing		
Initial Water Level (ft):	0	Water Level After Drilling:	0
Water Level After Install:	0	Chloride Content (mg/L):	451
Date Tested:	Not Reported	Test Pump Rate (g/m):	0
Test Drawdown Rate(ft):	0	Test Chloride Content (MG/L):	0
Test Water Temp:	0	Temp Unit:	Not Reported
Max Chloride Level:	Not Reported	Minimum Chloride Level:	Not Reported
Year Installed:	1987	Draft Year:	Not Reported
Hole Bottom Elevation:	0	Solid Casing Bottom Elevation:	0
Perforated Casing Bottom Elevation:	0	Pump Capacity (MM gal/day):	.115
Pump Intake Depth:	0	Latest Head:	Not Reported
Latest WCR1 Report:	01-JAN-87	Latest WCR2 Report:	01-JAN-87
Transmissivity:	0	Min to Pump 5 Volumes:	0

J29
NW
1/4 - 1/2 Mile
Higher

FED USGS USGS40000270296

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2357-03 W192 WAIU	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	18870101
Well Depth:	314	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

K30
NE
1/4 - 1/2 Mile
Higher

HI WELLS HI120000001630

Well #:	3-2356-066	Pump Rate (g/m):	0
Well Owner:	B P Bishop Trust Estate		
Land Owner:	B P Bishop Trust Estate		
Well Use:	Not Reported	Well Name:	Pearlridge B
Original Well Name:	Not Reported	Driller:	Roscoe Moss Hawaii Inc
Well Construction Type:	Percussion	Casing Diameter (in):	0
Ground Elevation (ft):	0	Well Depth (ft):	0
Solid Casing Depth:	0	Perforated Casing Depth:	0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Major Well Use:	Not Reported	Initial Water Level (ft):	0
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	0	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	0
Test Chloride Content (MG/L):	0	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	0
Draft Year:	Not Reported	Hole Bottom Elevation:	0
Solid Casing Bottom Elevation:	0	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	01-JAN-77
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

K31
NE
1/4 - 1/2 Mile
Higher

HI WELLS HI120000001631

Well #:	3-2356-067	Pump Rate (g/m):	0
Well Owner:	JC Penney	Land Owner:	Not Reported
Well Use:	Abandoned-Sealed		
Well Name:	Pearlridge J	Original Well Name:	Not Reported
Driller:	Roscoe Moss Hawaii Inc		
Well Construction Type:	Percussion	Casing Diameter (in):	8
Ground Elevation (ft):	0	Well Depth (ft):	0
Solid Casing Depth:	0	Perforated Casing Depth:	0
Major Well Use:	Abandoned-Sealed		
Initial Water Level (ft):	0	Water Level After Drilling:	0
Water Level After Install:	0	Chloride Content (mg/L):	0
Date Tested:	Not Reported	Test Pump Rate (g/m):	0
Test Drawdown Rate(ft):	0	Test Chloride Content (MG/L):	0
Test Water Temp:	0	Temp Unit:	Not Reported
Max Chloride Level:	Not Reported	Minimum Chloride Level:	Not Reported
Year Installed:	0	Draft Year:	Not Reported
Hole Bottom Elevation:	0	Solid Casing Bottom Elevation:	0
Perforated Casing Bottom Elevation:	0	Pump Capacity (MM gal/day):	0
Pump Intake Depth:	0	Latest Head:	Not Reported
Latest WCR1 Report:	01-JAN-77	Latest WCR2 Report:	Not Reported
Transmissivity:	0	Min to Pump 5 Volumes:	0

K32
NE
1/4 - 1/2 Mile
Higher

HI WELLS HI120000001633

Well #:	3-2356-069	Pump Rate (g/m):	0
Well Owner:	B P Bishop Trust Estate		
Land Owner:	B P Bishop Trust Estate		
Well Use:	Not Reported	Well Name:	Pearlridge K1
Original Well Name:	Not Reported	Driller:	Roscoe Moss Hawaii Inc
Well Construction Type:	Percussion	Casing Diameter (in):	0
Ground Elevation (ft):	0	Well Depth (ft):	0
Solid Casing Depth:	0	Perforated Casing Depth:	0
Major Well Use:	Not Reported	Initial Water Level (ft):	0
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	0	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Test Chloride Content (MG/L):	0	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	0
Draft Year:	Not Reported	Hole Bottom Elevation:	0
Solid Casing Bottom Elevation:	0	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	01-JAN-78
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

K33
NE
1/4 - 1/2 Mile
Higher

HI WELLS HI1200000001632

Well #:	3-2356-068	Pump Rate (g/m):	0
Well Owner:	JC Penney	Land Owner:	Not Reported
Well Use:	Abandoned-Sealed	Original Well Name:	Not Reported
Well Name:	Pearlridge K	Casing Diameter (in):	8
Driller:	Roscoe Moss Hawaii Inc	Well Depth (ft):	0
Well Construction Type:	Percussion	Perforated Casing Depth:	0
Ground Elevation (ft):	0	Water Level After Drilling:	0
Solid Casing Depth:	0	Chloride Content (mg/L):	0
Major Well Use:	Abandoned-Sealed	Test Pump Rate (g/m):	0
Initial Water Level (ft):	0	Test Chloride Content (MG/L):	0
Water Level After Install:	0	Temp Unit:	Not Reported
Date Tested:	Not Reported	Minimum Chloride Level:	Not Reported
Test Drawdown Rate(ft):	0	Draft Year:	Not Reported
Test Water Temp:	0	Solid Casing Bottom Elevation:	0
Max Chloride Level:	Not Reported	Pump Capacity (MM gal/day):	0
Year Installed:	0	Latest Head:	Not Reported
Hole Bottom Elevation:	0	Latest WCR1 Report:	Not Reported
Perforated Casing Bottom Elevation:	0	Transmissivity:	0
Pump Intake Depth:	0		
Latest WCR1 Report:	01-JAN-77		

J34
NW
1/4 - 1/2 Mile
Higher

HI WELLS HI1200000001637

Well #:	3-2357-003	Pump Rate (g/m):	0
Well Owner:	Waimalu Development	Well Use:	Abandoned-Sealed
Land Owner:	Not Reported	Original Well Name:	Not Reported
Well Name:	Kalauao	Well Construction Type:	Not Reported
Driller:	L. McCandless	Ground Elevation (ft):	25
Casing Diameter (in):	10	Solid Casing Depth:	47
Well Depth (ft):	314	Major Well Use:	Abandoned-Sealed
Perforated Casing Depth:	0	Water Level After Drilling:	0
Initial Water Level (ft):	21.5	Chloride Content (mg/L):	590
Water Level After Install:	0	Test Pump Rate (g/m):	0
Date Tested:	Not Reported	Test Chloride Content (MG/L):	0
Test Drawdown Rate(ft):	0	Temp Unit:	Not Reported
Test Water Temp:	0	Minimum Chloride Level:	Not Reported
Max Chloride Level:	Not Reported	Draft Year:	Not Reported
Year Installed:	0	Solid Casing Bottom Elevation:	-22
Hole Bottom Elevation:	-289		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Perforated Casing Bottom Elevation:	0	Pump Capacity (MM gal/day):	0
Pump Intake Depth:	0	Latest Head:	Not Reported
Latest WCR1 Report:	01-JAN-87	Latest WCR2 Report:	Not Reported
Transmissivity:	0	Min to Pump 5 Volumes:	0

**L35
ESE
1/4 - 1/2 Mile
Higher**

HI WELLS HI120000001573

Well #:	3-2356-009	Pump Rate (g/m):	0
Well Owner:	Naval Facilities Engineering Command Hawaii, NAVFAC-Hawaii	Well Use:	Not Reported
Land Owner:	Not Reported	Original Well Name:	Not Reported
Well Name:	Pearl Harbor	Driller:	Curtis Wong (Naval Facilities Engineering Command Hawaii, Asset Management, NAVFAC Hawaii)
Well Construction Type:	Not Reported	Casing Diameter (in):	0
Ground Elevation (ft):	6	Well Depth (ft):	75
Solid Casing Depth:	0	Perforated Casing Depth:	0
Major Well Use:	Not Reported	Initial Water Level (ft):	0
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	0	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	0
Test Chloride Content (MG/L):	0	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	0
Draft Year:	Not Reported	Hole Bottom Elevation:	-69
Solid Casing Bottom Elevation:	0	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	Not Reported
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

**L36
ESE
1/4 - 1/2 Mile
Higher**

FED USGS USGS40000270258

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-09 T127	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19421101
Well Depth:	75	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

**J37
WNW
1/4 - 1/2 Mile
Higher**

FED USGS USGS40000270292

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2357-22 W192-1	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19651101
Well Depth:	200	Well Depth Units:	ft
Well Hole Depth:	200	Well Hole Depth Units:	ft
Ground water levels, Number of Measurements: 1		Level reading date:	1965-11-17
Feet below surface:	-13.28	Feet to sea level:	Not Reported
Note:	Not Reported		

**J38
WNW
1/4 - 1/2 Mile
Higher**

HI WELLS HI120000001656

Well #:	3-2357-022	Pump Rate (g/m):	0
Well Owner:	Schiltz Brew	Land Owner:	Not Reported
Well Use:	Abandoned-Sealed		
Well Name:	Kalauao	Original Well Name:	Not Reported
Driller:	Samson & Zerbe	Well Construction Type:	Not Reported
Casing Diameter (in):	12	Ground Elevation (ft):	7
Well Depth (ft):	200	Solid Casing Depth:	137
Perforated Casing Depth:	0	Major Well Use:	Abandoned-Sealed
Initial Water Level (ft):	17.6	Water Level After Drilling:	0
Water Level After Install:	0	Chloride Content (mg/L):	371
Date Tested:	Not Reported	Test Pump Rate (g/m):	0
Test Drawdown Rate(ft):	0	Test Chloride Content (MG/L):	0
Test Water Temp:	21	Temp Unit:	C
Max Chloride Level:	Not Reported	Minimum Chloride Level:	Not Reported
Year Installed:	0	Draft Year:	Not Reported
Hole Bottom Elevation:	-193	Solid Casing Bottom Elevation:	-130
Perforated Casing Bottom Elevation:	0	Pump Capacity (MM gal/day):	0
Pump Intake Depth:	0	Latest Head:	Not Reported
Latest WCR1 Report:	01-JAN-65	Latest WCR2 Report:	Not Reported
Transmissivity:	0	Min to Pump 5 Volumes:	0

**M39
NNE
1/4 - 1/2 Mile
Higher**

FED USGS USGS40000270330

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-52 T74 AIEA	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19590101
Well Depth:	172	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

M40
NNE
1/4 - 1/2 Mile
Higher

HI WELLS HI1200000001616

Well #:	3-2356-052	Pump Rate (g/m):	0
Well Owner:	Honolulu Board of Water Supply, BWS	Well Use:	Abandoned-Sealed
Land Owner:	Not Reported	Original Well Name:	Not Reported
Well Name:	Pearl Harbor	Well Construction Type:	Not Reported
Driller:	Samson/Smock	Ground Elevation (ft):	87
Casing Diameter (in):	16	Solid Casing Depth:	101
Well Depth (ft):	172	Major Well Use:	Abandoned-Sealed
Perforated Casing Depth:	0	Water Level After Drilling:	0
Initial Water Level (ft):	16.2	Chloride Content (mg/L):	109
Water Level After Install:	0	Test Pump Rate (g/m):	1500
Date Tested:	Not Reported	Test Chloride Content (MG/L):	0
Test Drawdown Rate(ft):	2.5	Temp Unit:	Not Reported
Test Water Temp:	0	Minimum Chloride Level:	Not Reported
Max Chloride Level:	Not Reported	Draft Year:	Not Reported
Year Installed:	0	Solid Casing Bottom Elevation:	-14
Hole Bottom Elevation:	-85	Pump Capacity (MM gal/day):	0
Perforated Casing Bottom Elevation:	0	Latest Head:	Not Reported
Pump Intake Depth:	0	Latest WCR2 Report:	Not Reported
Latest WCR1 Report:	01-JAN-59	Min to Pump 5 Volumes:	0
Transmissivity:	0		

N41
East
1/4 - 1/2 Mile
Higher

FED USGS USGS40000270279

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-01 W191	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

N42
East
1/4 - 1/2 Mile
Higher

HI WELLS HI1200000001565

Well #:	3-2356-001	Pump Rate (g/m):	0
Well Owner:	BRE & Pearlrige LLC	Well Name:	Aiea
Land Owner:	BRE & Pearlrige LLC	Driller:	Not Reported
Well Use:	Abandoned-Lost	Casing Diameter (in):	0
Original Well Name:	Not Reported	Well Depth (ft):	0
Well Construction Type:	Not Reported	Perforated Casing Depth:	0
Ground Elevation (ft):	0	Initial Water Level (ft):	0
Solid Casing Depth:	0	Water Level After Install:	0
Major Well Use:	Abandoned-Lost		
Water Level After Drilling:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Chloride Content (mg/L):	0	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	0
Test Chloride Content (MG/L):	0	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	0
Draft Year:	Not Reported	Hole Bottom Elevation:	0
Solid Casing Bottom Elevation:	0	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	Not Reported
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

**O43
SSE
1/4 - 1/2 Mile
Higher**

HI WELLS HI1200000001414

Well #:	3-2256-004	Pump Rate (g/m):	0
Well Owner:	Naval Facilities Engineering Command Hawaii, NAVFAC-Hawaii		
Land Owner:	U.S. Department of the Navy, Navy Region Hawaii		
Well Use:	Abandoned-Sealed		
Well Name:	Pearl Harbor	Original Well Name:	Not Reported
Driller:	Not Reported	Well Construction Type:	Not Reported
Casing Diameter (in):	6	Ground Elevation (ft):	23
Well Depth (ft):	290	Solid Casing Depth:	200
Perforated Casing Depth:	0	Major Well Use:	Abandoned-Sealed
Initial Water Level (ft):	24	Water Level After Drilling:	0
Water Level After Install:	0	Chloride Content (mg/L):	88
Date Tested:	Not Reported	Test Pump Rate (g/m):	0
Test Drawdown Rate(ft):	0	Test Chloride Content (MG/L):	0
Test Water Temp:	0	Temp Unit:	Not Reported
Max Chloride Level:	Not Reported	Minimum Chloride Level:	Not Reported
Year Installed:	0	Draft Year:	Not Reported
Hole Bottom Elevation:	-267	Solid Casing Bottom Elevation:	-177
Perforated Casing Bottom Elevation:	0	Pump Capacity (MM gal/day):	0
Pump Intake Depth:	0	Latest Head:	Not Reported
Latest WCR1 Report:	01-JAN-89	Latest WCR2 Report:	Not Reported
Transmissivity:	0	Min to Pump 5 Volumes:	0

**O44
SSE
1/4 - 1/2 Mile
Higher**

FED USGS USGS40000270225

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2256-04 W190	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	18890101
Well Depth:	290	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

P45
North
1/4 - 1/2 Mile
Higher

FRDS PWS HI0000331

Epa region:	09	State:	HI
Pwsid:	HI0000331	Pwsname:	HNL-WINDWARD-PEARL HARBOR
Cityserved:	HONOLULU-WINDWARD-PEARLHARBOR	Stateserved:	HI
Ziperved:	Not Reported	Fipscounty:	Not Reported
Status:	Active	Retpopsrvd:	665735
Pwssvconn:	104070	Psource longname:	Groundwater
Pwstype:	CWS	Owner:	Local_Govt
Contact:	KAWATA, ERWIN	Contactorgname:	KAWATA, ERWIN
Contactphone:	808-748-5080	Contactaddress1:	Honolulu Board of Water Supply
Contactaddress2:	630 S. Beretania St., Rm. 308	Contactcity:	HONOLULU
Contactstate:	HI	Contactzip:	96843
Pwsactivitycode:	A		
Pwsid:	HI0000331	Facid:	1185
Facname:	PUNALUU II P4	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1194
Facname:	BERETANIA PUMPING STATION CHLORINATOR	Facactivitycode:	A
Factype:	Treatment_plant	Trtprocess:	gaseous chlorination, pre
Trtobjective:	organics removal		
Factypecode:	TP		
Pwsid:	HI0000331	Facid:	1195
Facname:	BERETANIA TP 4	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1196
Facname:	BERETANIA TP 5	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1197
Facname:	BERETANIA TP 6	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1198
Facname:	BERETANIA TP 7	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1199
Facname:	BERETANIA TP 8	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1200
Facname:	BERETANIA TP 9	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1201

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Facname:	BERETANIA TP 2	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1202
Facname:	BERETANIA TP 3	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1258
Facname:	KAHALUU TUNNEL & WELL CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1259
Facname:	KAHALUU WELL	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1260
Facname:	KAHANA PUMP 2	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1267
Facname:	KALIHAI AERATOR WELL	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1270
Facname:	KALIHAI TP 2	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	disinfection
Trtprocess:	gaseous chlorination, post	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1271
Facname:	KALIHAI TP 4	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1274
Facname:	KALIHAI TP 5	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1284
Facname:	LULUKU	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1285
Facname:	LULUKU TUNNEL AND WELL CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1286
Facname:	MAKIKI SPRING A	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1287
Facname:	MAKIKI SPRING B	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1297
Facname:	NUUANU AERATOR UPPER A	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1299
Facname:	NUUANU AERATOR LOWER B	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1300
Facname:	NUUANU AERATOR UPPER B	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1302
Facname:	NUUANU AERATOR LOWER A	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1304
Facname:	PEARL CITY SHAFT CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1305
Facname:	PEARL CITY I PUMP 1	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1317
Facname:	WAIMANALO TUNNEL III	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1318
Facname:	WAIMANALO TUNNEL II	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1319
Facname:	WAIMANALO TUNNEL I-IV CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1320
Facname:	WAIMANALO TUNNEL IV	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1581
Facname:	AIEA WELLS PUMP 1 & 2 (260) CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1582
Facname:	HALAWA WELLS CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Pwsid:	HI0000331	Facid:	1584
Facname:	HAUULA WELL CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1585
Facname:	HECO WAI AU WELLS CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1587
Facname:	KA AHUMANU WELLS CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1588
Facname:	KAAMILO WELLS CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1591
Facname:	KAPALAMA WELLS CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1592
Facname:	KULIOUOU WELL CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1593
Facname:	KUOU WELLS I CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1594
Facname:	KUOU WELLS II CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1596
Facname:	MAAKUA WELL CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1597
Facname:	KAIMUKI PUMPING STATION CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1598
Facname:	HALAWA SHAFT CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1599
Facname:	AINA KOA WELLS 1 CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1604
Facname:	MANOA WELLS II CHLORINATOR	Factype:	Treatment_plant

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1605
Facname:	MANANA WELL CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1606
Facname:	MOANALUA WELLS CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1607
Facname:	NEWTOWN WELLS CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1610
Facname:	PEARL CITY WELLS I CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1611
Facname:	PEARL CITY WELLS II CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1612
Facname:	PUNALUU WELLS I CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1613
Facname:	PUNALUU WELLS II CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1614
Facname:	WAI AU WELLS CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1615
Facname:	WAIHEE TUNN + INCLINED WELLS CHLORINATOR	Facactivitycode:	A
Factype:	Treatment_plant	Trtprocess:	chlorination (frds-1.5)
Trtobjective:	disinfection		
Factypecode:	TP		
Pwsid:	HI0000331	Facid:	1616
Facname:	WAILUPE WELL CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1617
Facname:	WAIMANALO WELLS II CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1630
Facname:	KUOU WELLS III CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	1631
Facname:	KALAUAO WELLS CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	chlorination (frds-1.5)	Factypecode:	TP
Pwsid:	HI0000331	Facid:	214
Facname:	PUNANANI PUMP 1	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	215
Facname:	PUNANANI PUMP 2	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	216
Facname:	PUNANANI PUMP 4	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	217
Facname:	PUNANANI PUMP 3	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	218
Facname:	PUNANANI PUMP 5	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	221
Facname:	PEARL CITY I P2	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	222
Facname:	IOLEKAA WELL CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	223
Facname:	PEARL CITY WELLS III CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	225
Facname:	WAIHEE TUNNEL	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	227
Facname:	WAIHEE INCLINED 1	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	228
Facname:	WAIHEE INCLINED 2	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Pwsid:	HI0000331	Facid:	229
Facname:	WAIHEE INCLINED 3	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	230
Facname:	WAIHEE INCLINED 4	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	231
Facname:	WAIHEE PUMP 1	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	disinfection
Trtprocess:	gaseous chlorination, post	Factypecode:	TP
Pwsid:	HI0000331	Facid:	232
Facname:	WAIHEE PUMP 2	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	disinfection
Trtprocess:	gaseous chlorination, post	Factypecode:	TP
Pwsid:	HI0000331	Facid:	233
Facname:	KAHANA PUMP 1	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	235
Facname:	PUNALUU WELLS III CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	236
Facname:	PUNALUU III P2	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	237
Facname:	PUNALUU II P6	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	238
Facname:	PUNALUU II P3	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	239
Facname:	PUNALUU II P2	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	240
Facname:	PUNALUU II P1	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	241
Facname:	PUNALUU II P5	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	242
Facname:	PALOLO WELL CHLORINATOR	Factype:	Treatment_plant

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	243
Facname:	WILDER 3	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	244
Facname:	WILDER 1	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	245
Facname:	WILDER WELLS CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	246
Facname:	WILDER 2	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	247
Facname:	KALIHI SHAFT CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	248
Facname:	PALOLO TUNNEL CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	249
Facname:	MANOA TUNNEL III CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	253
Facname:	KALIHI STATION TP	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	254
Facname:	KALIHI TP 3	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	256
Facname:	KALIHI TP 7	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	257
Facname:	KALIHI PUMPING STATION CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	270
Facname:	HALAWA WELL 2	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Pwsid:	HI0000331	Facid:	271
Facname:	HALAWA WELL 3	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	272
Facname:	HALAWA WELL 1	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	275
Facname:	AIEA GULCH WELLS PUMP 1 CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	276
Facname:	AIEA GULCH WELLS PUMP2 CHLORINATOR	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	277
Facname:	AIEA PUMP 1	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	278
Facname:	AIEA PUMP 2	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	279
Facname:	KALAUAO PUMP 1	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	280
Facname:	KALAUAO PUMP 2	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	281
Facname:	KALAUAO PUMP 3	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	282
Facname:	KALAUAO PUMP 4	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	284
Facname:	KALAUAO PUMP 5	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	285
Facname:	KALAUAO PUMP 6	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	286
Facname:	KAONOHI WELLS I CHLORINATOR	Factype:	Treatment_plant

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	287
Facname:	KAONOH I PUMP 1	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	288
Facname:	KAONOH II P2	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	289
Facname:	KAONOH II P3	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	290
Facname:	KAONOH II P1	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	291
Facname:	HAIKU TUNNEL AND WELL CHLORINATOR	Factypecode:	A
Factype:	Treatment_plant	Trtprocess:	gaseous chlorination, pre
Trtobjective:	organics removal		
Factypecode:	TP		
Pwsid:	HI0000331	Facid:	292
Facname:	HAIKU WELL	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	293
Facname:	NEWTOWN PUMP 1	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	294
Facname:	NEWTOWN PUMP 2	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	295
Facname:	NEWTOWN PUMP 3	Factype:	Treatment_plant
Facactivitycode:	I	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	296
Facname:	PEARL CITY II P1	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	297
Facname:	PEARL CITY II P2	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	298
Facname:	PEARL CITY II P3	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	HI0000331	Facid:	299
Facname:	PUNANANI WELLS CHLORINATOR	Facactivitycode:	A
Factype:	Treatment_plant	Trtprocess:	gaseous chlorination, pre
Trtobjective:	organics removal		
Factypecode:	TP		
Pwsid:	HI0000331	Facid:	40T
Facname:	KALIHI STATION 6 1952-19	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	gaseous chlorination, post		
Factypecode:	TP		
Pwsid:	HI0000331	Facid:	894
Facname:	MANOA II	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	organics removal
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
PWS ID:	HI0000331	PWS name:	HONOLULU-WINDWARD-PEARL HARBOR
Address:	630 SOUTH BERETANIA	Care of:	630 S BERETANIA STREET
City:	HONOLULU, OANU	State:	HI
Zip:	96843	Owner:	HONOLULU-WINDWARD-PEARL HARBOR
Source code:	Ground water	Population:	645741
PWS ID:	HI0000331	PWS type:	System Owner/Responsible Party
PWS name:	MR. KAZU HAYASHIDA	PWS address:	BOARD OF WATER SUPPLY
PWS address:	630 SOUTH BERETANIA STREET		
PWS city:	HONOLULU	PWS state:	HI
PWS zip:	96843	County:	HONOLULU
Source:	Ground water	Treatment Objective:	DISINFECTION
Process:	GASEOUS CHLORINATION, POST		
Population:	645741		
County:	HONOLULU	Source:	Ground water
Treatment Objective:	DISINFECTION	Process:	CHLORINATION (FRDS-1.5)
Population:	645741		
PWS ID:	HI0000331	Activity status:	Active
Date system activated:	7706	Date system deactivated:	Not Reported
Retail population:	00645741	System name:	HONOLULU-WINDWARD-PEARL HARBOR
System address:	630 S BERETANIA STREET	System address:	630 SOUTH BERETANIA
System city:	HONOLULU, OANU	System state:	HI
System zip:	96843		
County FIPS:	003	City served:	AIEA
County FIPS:	003	City served:	PEARL CITY
County FIPS:	003	City served:	KANEOHE
County FIPS:	003	City served:	KAILUA
County FIPS:	Not Reported	City served:	HONO-WINDW-PEAR
County FIPS:	003	City served:	HONOLULU
Population served:	over 100,000 Persons	Treatment:	Mixed (treated and untreated)
Latitude:	211813	Longitude:	1574947
Latitude:	211813	Longitude:	1574947

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Latitude:	211831	Longitude:	1575120
Latitude:	211831	Longitude:	1575120
Latitude:	211831	Longitude:	1575143
Latitude:	211831	Longitude:	1575120
Latitude:	211831	Longitude:	1575120
Latitude:	211831	Longitude:	1575120
Latitude:	211831	Longitude:	1575120
Latitude:	211833	Longitude:	1575123
Latitude:	211958	Longitude:	1574358
Latitude:	211936	Longitude:	1574627
Latitude:	211959	Longitude:	1574733
Latitude:	211959	Longitude:	1574818
Latitude:	211953	Longitude:	1575227
Latitude:	211953	Longitude:	1575227
Latitude:	211953	Longitude:	1575227
Latitude:	211953	Longitude:	1575227
Latitude:	211953	Longitude:	1575227
Latitude:	211953	Longitude:	1575227
Latitude:	211953	Longitude:	1575227
Latitude:	211953	Longitude:	1575227
Latitude:	212007	Longitude:	1574444
Latitude:	212012	Longitude:	1574455
Latitude:	212014	Longitude:	1574501
Latitude:	212011	Longitude:	1574512
Latitude:	212002	Longitude:	1575208
Latitude:	212152	Longitude:	1574811
Latitude:	212117	Longitude:	1574840
Latitude:	212116	Longitude:	1574914
Latitude:	212127	Longitude:	1574905
Latitude:	212120	Longitude:	1575355
Latitude:	212120	Longitude:	1575354

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Latitude:	212119	Longitude:	1575354
Latitude:	212235	Longitude:	1574955
Latitude:	212228	Longitude:	1574949
Latitude:	212256	Longitude:	1574935
Latitude:	212258	Longitude:	1574935
Latitude:	212214	Longitude:	1575011
Latitude:	212257	Longitude:	1575514
Latitude:	212257	Longitude:	1575514
Latitude:	212257	Longitude:	1575514
Latitude:	212322	Longitude:	1574852
Latitude:	212305	Longitude:	1574831
Latitude:	213441	Longitude:	1574917
Latitude:	212342	Longitude:	1574909
Latitude:	212305	Longitude:	1575426
Latitude:	212322	Longitude:	1575503
Latitude:	212322	Longitude:	1575503
Latitude:	212313	Longitude:	1575535
Latitude:	212313	Longitude:	1275535
Latitude:	212338	Longitude:	1575555
Latitude:	212339	Longitude:	1575555
Latitude:	212339	Longitude:	1575554
Latitude:	212339	Longitude:	1575553
Latitude:	212338	Longitude:	1575554
Latitude:	212337	Longitude:	1575553
Latitude:	212342	Longitude:	1575647
Latitude:	212348	Longitude:	1575622
Latitude:	212349	Longitude:	1575622
Latitude:	212320	Longitude:	1575603
Latitude:	212320	Longitude:	1575603
Latitude:	212327	Longitude:	1575643
Latitude:	212327	Longitude:	1575647

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Latitude:	212338	Longitude:	1575649
Latitude:	212337	Longitude:	1575725
Latitude:	212337	Longitude:	1575727
Latitude:	212437	Longitude:	1575008
Latitude:	212435	Longitude:	1575002
Latitude:	212412	Longitude:	1575647
Latitude:	212411	Longitude:	1575646
Latitude:	212410	Longitude:	1575645
Latitude:	212439	Longitude:	1575759
Latitude:	212439	Longitude:	1575759
Latitude:	212439	Longitude:	1575759
Latitude:	212414	Longitude:	1575706
Latitude:	212414	Longitude:	1575706
Latitude:	212414	Longitude:	1575706
Latitude:	212414	Longitude:	1575706
Latitude:	212414	Longitude:	1575706
Latitude:	212414	Longitude:	1575706
Latitude:	212414	Longitude:	1575706
Latitude:	212414	Longitude:	1585725
Latitude:	212413	Longitude:	1585724
Latitude:	212412	Longitude:	1585723
Latitude:	212407	Longitude:	1575825
Latitude:	212413	Longitude:	1575812
Latitude:	212413	Longitude:	1575812
Latitude:	212507	Longitude:	1574941
Latitude:	212553	Longitude:	1575731
Latitude:	212616	Longitude:	1575132
Latitude:	212658	Longitude:	1575140
Latitude:	212616	Longitude:	1575123
Latitude:	213639	Longitude:	1575212
Latitude:	212639	Longitude:	1575212
Latitude:	212639	Longitude:	1575212

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Latitude:	212639	Longitude:	1575212
Latitude:	212703	Longitude:	1575138
Latitude:	212702	Longitude:	1575141
Latitude:	213314	Longitude:	1575308
Latitude:	213315	Longitude:	1575311
Latitude:	213439	Longitude:	1575347
Latitude:	213441	Longitude:	1575344
Latitude:	213527	Longitude:	1575359
Latitude:	213522	Longitude:	1575353
Latitude:	213517	Longitude:	1575349
Latitude:	213517	Longitude:	1575346
Latitude:	213527	Longitude:	1575359
Latitude:	211753	Longitude:	1574519
Latitude:	213450	Longitude:	1575312
Latitude:	212052	Longitude:	1575236
Latitude:	211713	Longitude:	1574653
Latitude:	211707	Longitude:	1574617
Latitude:	211719	Longitude:	1574736
Latitude:	211727	Longitude:	1574858
Latitude:	211727	Longitude:	1574858
Latitude:	211217	Longitude:	1574858
Latitude:	211727	Longitude:	1574858
Latitude:	211727	Longitude:	1574858
Latitude:	211727	Longitude:	1574858
Latitude:	211727	Longitude:	1574858
Latitude:	211727	Longitude:	1574858
Latitude:	211837	Longitude:	1574729
Latitude:	211613	Longitude:	1574947
Latitude:	211813	Longitude:	1574947
State:	HI	Latitude degrees:	21
Latitude minutes:	12	Latitude seconds:	17.0000
Longitude degrees:	157	Longitude minutes:	48
Longitude seconds:	58.0000		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

State:	HI	Latitude degrees:	21
Latitude minutes:	16	Latitude seconds:	13.0000
Longitude degrees:	157	Longitude minutes:	49
Longitude seconds:	47.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	17	Latitude seconds:	7.0000
Longitude degrees:	157	Longitude minutes:	46
Longitude seconds:	17.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	17	Latitude seconds:	13.0000
Longitude degrees:	157	Longitude minutes:	46
Longitude seconds:	53.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	17	Latitude seconds:	19.0000
Longitude degrees:	157	Longitude minutes:	47
Longitude seconds:	36.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	17	Latitude seconds:	27.0000
Longitude degrees:	157	Longitude minutes:	48
Longitude seconds:	58.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	17	Latitude seconds:	53.0000
Longitude degrees:	157	Longitude minutes:	45
Longitude seconds:	19.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	18	Latitude seconds:	13.0000
Longitude degrees:	157	Longitude minutes:	49
Longitude seconds:	47.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	18	Latitude seconds:	31.0000
Longitude degrees:	157	Longitude minutes:	51
Longitude seconds:	20.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	18	Latitude seconds:	31.0000
Longitude degrees:	157	Longitude minutes:	51
Longitude seconds:	43.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	18	Latitude seconds:	33.0000
Longitude degrees:	157	Longitude minutes:	51
Longitude seconds:	23.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	18	Latitude seconds:	37.0000
Longitude degrees:	157	Longitude minutes:	47
Longitude seconds:	29.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	19	Latitude seconds:	36.0000
Longitude degrees:	157	Longitude minutes:	46
Longitude seconds:	27.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	19	Latitude seconds:	53.0000

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Longitude degrees:	157	Longitude minutes:	52
Longitude seconds:	27.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	19	Latitude seconds:	58.0000
Longitude degrees:	157	Longitude minutes:	43
Longitude seconds:	58.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	19	Latitude seconds:	59.0000
Longitude degrees:	157	Longitude minutes:	47
Longitude seconds:	33.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	19	Latitude seconds:	59.0000
Longitude degrees:	157	Longitude minutes:	48
Longitude seconds:	18.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	20	Latitude seconds:	2.0000
Longitude degrees:	157	Longitude minutes:	52
Longitude seconds:	8.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	20	Latitude seconds:	7.0000
Longitude degrees:	157	Longitude minutes:	44
Longitude seconds:	44.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	20	Latitude seconds:	11.0000
Longitude degrees:	157	Longitude minutes:	45
Longitude seconds:	12.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	20	Latitude seconds:	12.0000
Longitude degrees:	157	Longitude minutes:	44
Longitude seconds:	55.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	20	Latitude seconds:	14.0000
Longitude degrees:	157	Longitude minutes:	45
Longitude seconds:	1.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	20	Latitude seconds:	52.0000
Longitude degrees:	157	Longitude minutes:	52
Longitude seconds:	36.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	21	Latitude seconds:	16.0000
Longitude degrees:	157	Longitude minutes:	49
Longitude seconds:	14.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	21	Latitude seconds:	17.0000
Longitude degrees:	157	Longitude minutes:	48
Longitude seconds:	40.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	21	Latitude seconds:	19.0000
Longitude degrees:	157	Longitude minutes:	53
Longitude seconds:	54.0000		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

State:	HI	Latitude degrees:	21
Latitude minutes:	21	Latitude seconds:	20.0000
Longitude degrees:	157	Longitude minutes:	53
Longitude seconds:	54.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	21	Latitude seconds:	20.0000
Longitude degrees:	157	Longitude minutes:	53
Longitude seconds:	55.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	21	Latitude seconds:	27.0000
Longitude degrees:	157	Longitude minutes:	49
Longitude seconds:	5.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	21	Latitude seconds:	52.0000
Longitude degrees:	157	Longitude minutes:	48
Longitude seconds:	11.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	22	Latitude seconds:	14.0000
Longitude degrees:	157	Longitude minutes:	50
Longitude seconds:	11.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	22	Latitude seconds:	28.0000
Longitude degrees:	157	Longitude minutes:	49
Longitude seconds:	49.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	22	Latitude seconds:	35.0000
Longitude degrees:	157	Longitude minutes:	49
Longitude seconds:	55.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	22	Latitude seconds:	56.0000
Longitude degrees:	157	Longitude minutes:	49
Longitude seconds:	35.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	22	Latitude seconds:	57.0000
Longitude degrees:	157	Longitude minutes:	55
Longitude seconds:	14.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	22	Latitude seconds:	58.0000
Longitude degrees:	157	Longitude minutes:	49
Longitude seconds:	35.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	5.0000
Longitude degrees:	157	Longitude minutes:	48
Longitude seconds:	31.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	5.0000
Longitude degrees:	157	Longitude minutes:	54
Longitude seconds:	26.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	13.0000

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Longitude degrees:	127	Longitude minutes:	55
Longitude seconds:	35.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	13.0000
Longitude degrees:	157	Longitude minutes:	55
Longitude seconds:	35.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	20.0000
Longitude degrees:	157	Longitude minutes:	56
Longitude seconds:	3.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	22.0000
Longitude degrees:	157	Longitude minutes:	48
Longitude seconds:	52.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	22.0000
Longitude degrees:	157	Longitude minutes:	55
Longitude seconds:	3.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	27.0000
Longitude degrees:	157	Longitude minutes:	56
Longitude seconds:	43.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	27.0000
Longitude degrees:	157	Longitude minutes:	56
Longitude seconds:	47.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	37.0000
Longitude degrees:	157	Longitude minutes:	55
Longitude seconds:	53.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	37.0000
Longitude degrees:	157	Longitude minutes:	57
Longitude seconds:	25.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	37.0000
Longitude degrees:	157	Longitude minutes:	57
Longitude seconds:	27.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	38.0000
Longitude degrees:	157	Longitude minutes:	55
Longitude seconds:	54.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	38.0000
Longitude degrees:	157	Longitude minutes:	55
Longitude seconds:	55.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	38.0000
Longitude degrees:	157	Longitude minutes:	56
Longitude seconds:	49.0000		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	39.0000
Longitude degrees:	157	Longitude minutes:	55
Longitude seconds:	53.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	39.0000
Longitude degrees:	157	Longitude minutes:	55
Longitude seconds:	54.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	39.0000
Longitude degrees:	157	Longitude minutes:	55
Longitude seconds:	55.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	42.0000
Longitude degrees:	157	Longitude minutes:	49
Longitude seconds:	49	Longitude seconds:	9.0000
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	42.0000
Longitude degrees:	157	Longitude minutes:	56
Longitude seconds:	47.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	48.0000
Longitude degrees:	157	Longitude minutes:	56
Longitude seconds:	22.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	23	Latitude seconds:	49.0000
Longitude degrees:	157	Longitude minutes:	56
Longitude seconds:	22.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	24	Latitude seconds:	7.0000
Longitude degrees:	157	Longitude minutes:	58
Longitude seconds:	25.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	24	Latitude seconds:	10.0000
Longitude degrees:	157	Longitude minutes:	56
Longitude seconds:	45.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	24	Latitude seconds:	11.0000
Longitude degrees:	157	Longitude minutes:	56
Longitude seconds:	46.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	24	Latitude seconds:	12.0000
Longitude degrees:	157	Longitude minutes:	56
Longitude seconds:	47.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	24	Latitude seconds:	12.0000
Longitude degrees:	158	Longitude minutes:	57
Longitude seconds:	23.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	24	Latitude seconds:	13.0000

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Longitude degrees: 157	Longitude minutes: 58
Longitude seconds: 12.0000	
State: HI	Latitude degrees: 21
Latitude minutes: 24	Latitude seconds: 13.0000
Longitude degrees: 158	Longitude minutes: 57
Longitude seconds: 24.0000	
State: HI	Latitude degrees: 21
Latitude minutes: 24	Latitude seconds: 14.0000
Longitude degrees: 157	Longitude minutes: 57
Longitude seconds: 6.0000	
State: HI	Latitude degrees: 21
Latitude minutes: 24	Latitude seconds: 14.0000
Longitude degrees: 158	Longitude minutes: 57
Longitude seconds: 25.0000	
State: HI	Latitude degrees: 21
Latitude minutes: 24	Latitude seconds: 35.0000
Longitude degrees: 157	Longitude minutes: 50
Longitude seconds: 2.0000	
State: HI	Latitude degrees: 21
Latitude minutes: 24	Latitude seconds: 37.0000
Longitude degrees: 157	Longitude minutes: 50
Longitude seconds: 8.0000	
State: HI	Latitude degrees: 21
Latitude minutes: 24	Latitude seconds: 39.0000
Longitude degrees: 157	Longitude minutes: 57
Longitude seconds: 59.0000	
State: HI	Latitude degrees: 21
Latitude minutes: 25	Latitude seconds: 7.0000
Longitude degrees: 157	Longitude minutes: 49
Longitude seconds: 41.0000	
State: HI	Latitude degrees: 21
Latitude minutes: 25	Latitude seconds: 53.0000
Longitude degrees: 157	Longitude minutes: 57
Longitude seconds: 31.0000	
State: HI	Latitude degrees: 21
Latitude minutes: 26	Latitude seconds: 16.0000
Longitude degrees: 157	Longitude minutes: 51
Longitude seconds: 23.0000	
State: HI	Latitude degrees: 21
Latitude minutes: 26	Latitude seconds: 16.0000
Longitude degrees: 157	Longitude minutes: 51
Longitude seconds: 32.0000	
State: HI	Latitude degrees: 21
Latitude minutes: 26	Latitude seconds: 39.0000
Longitude degrees: 157	Longitude minutes: 52
Longitude seconds: 12.0000	
State: HI	Latitude degrees: 21
Latitude minutes: 26	Latitude seconds: 58.0000
Longitude degrees: 157	Longitude minutes: 51
Longitude seconds: 40.0000	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

State:	HI	Latitude degrees:	21
Latitude minutes:	27	Latitude seconds:	2.0000
Longitude degrees:	157	Longitude minutes:	51
Longitude seconds:	41.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	27	Latitude seconds:	3.0000
Longitude degrees:	157	Longitude minutes:	51
Longitude seconds:	38.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	33	Latitude seconds:	14.0000
Longitude degrees:	157	Longitude minutes:	53
Longitude seconds:	8.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	33	Latitude seconds:	15.0000
Longitude degrees:	157	Longitude minutes:	53
Longitude seconds:	11.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	34	Latitude seconds:	39.0000
Longitude degrees:	157	Longitude minutes:	53
Longitude seconds:	47.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	34	Latitude seconds:	41.0000
Longitude degrees:	157	Longitude minutes:	49
Longitude seconds:	17.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	34	Latitude seconds:	41.0000
Longitude degrees:	157	Longitude minutes:	53
Longitude seconds:	44.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	34	Latitude seconds:	50.0000
Longitude degrees:	157	Longitude minutes:	53
Longitude seconds:	12.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	35	Latitude seconds:	17.0000
Longitude degrees:	157	Longitude minutes:	53
Longitude seconds:	46.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	35	Latitude seconds:	17.0000
Longitude degrees:	157	Longitude minutes:	53
Longitude seconds:	49.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	35	Latitude seconds:	22.0000
Longitude degrees:	157	Longitude minutes:	53
Longitude seconds:	53.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	35	Latitude seconds:	27.0000
Longitude degrees:	157	Longitude minutes:	53
Longitude seconds:	59.0000		
State:	HI	Latitude degrees:	21
Latitude minutes:	36	Latitude seconds:	39.0000

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Longitude degrees: 157
Longitude seconds: 12.0000

Longitude minutes: 52

Violation id: 8310290
State: HI
Contamination code: 1005
Violation code: 03
Rule code: 332
Violation measur: Not Reported
State mcl: Not Reported
Cmp edt: 12/31/2010

Orig code: S
Violation Year: 2008
Contamination Name: Arsenic
Violation name: Monitoring, Regular
Rule name: Arsenic
Unit of measure: Not Reported
Cmp bdt: 01/01/2008

Violation id: 8310291
State: HI
Contamination code: 1010
Violation code: 03
Rule code: 333
Violation measur: Not Reported
State mcl: Not Reported
Cmp edt: 12/31/2010

Orig code: S
Violation Year: 2008
Contamination Name: Barium
Violation name: Monitoring, Regular
Rule name: Other IOC
Unit of measure: Not Reported
Cmp bdt: 01/01/2008

Violation id: 8310292
State: HI
Contamination code: 1015
Violation code: 03
Rule code: 333
Violation measur: Not Reported
State mcl: Not Reported
Cmp edt: 12/31/2010

Orig code: S
Violation Year: 2008
Contamination Name: Cadmium
Violation name: Monitoring, Regular
Rule name: Other IOC
Unit of measure: Not Reported
Cmp bdt: 01/01/2008

Violation id: 8310293
State: HI
Contamination code: 1020
Violation code: 03
Rule code: 333
Violation measur: Not Reported
State mcl: Not Reported
Cmp edt: 12/31/2010

Orig code: S
Violation Year: 2008
Contamination Name: Chromium
Violation name: Monitoring, Regular
Rule name: Other IOC
Unit of measure: Not Reported
Cmp bdt: 01/01/2008

Violation id: 8310294
State: HI
Contamination code: 1035
Violation code: 03
Rule code: 333
Violation measur: Not Reported
State mcl: Not Reported
Cmp edt: 12/31/2010

Orig code: S
Violation Year: 2008
Contamination Name: Mercury
Violation name: Monitoring, Regular
Rule name: Other IOC
Unit of measure: Not Reported
Cmp bdt: 01/01/2008

Violation id: 8310295
State: HI
Contamination code: 1036
Violation code: 03
Rule code: 333
Violation measur: Not Reported
State mcl: Not Reported
Cmp edt: 12/31/2010

Orig code: S
Violation Year: 2008
Contamination Name: Nickel
Violation name: Monitoring, Regular
Rule name: Other IOC
Unit of measure: Not Reported
Cmp bdt: 01/01/2008

Violation id: 8310296
State: HI
Contamination code: 1074
Violation code: 03
Rule code: 333

Orig code: S
Violation Year: 2008
Contamination Name: Antimony, Total
Violation name: Monitoring, Regular
Rule name: Other IOC

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310297	Orig code:	S
State:	HI	Violation Year:	2008
Contamination code:	1075	Contamination Name:	Beryllium, Total
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	333	Rule name:	Other IOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310298	Orig code:	S
State:	HI	Violation Year:	2008
Contamination code:	1085	Contamination Name:	Thallium, Total
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	333	Rule name:	Other IOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310299	Orig code:	S
State:	HI	Violation Year:	2008
Contamination code:	1045	Contamination Name:	Selenium
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	333	Rule name:	Other IOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310300	Orig code:	S
State:	HI	Violation Year:	2008
Contamination code:	1025	Contamination Name:	Fluoride
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	333	Rule name:	Other IOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310301	Orig code:	S
State:	HI	Violation Year:	2008
Contamination code:	1040	Contamination Name:	Nitrate
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	331	Rule name:	Nitrates
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310302	Orig code:	S
State:	HI	Violation Year:	2008
Contamination code:	1041	Contamination Name:	Nitrite
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	331	Rule name:	Nitrates
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310303	Orig code:	S
State:	HI	Violation Year:	2008
Contamination code:	2378	Contamination Name:	1,2,4-Trichlorobenzene
Violation code:	03	Violation name:	Monitoring, Regular

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Rule code: 310
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: 12/31/2010

Rule name: VOC
 Unit of measure: Not Reported
 Cmp bdt: 01/01/2008

Violation id: 8310304
 State: HI
 Contamination code: 2380
 Violation code: 03
 Rule code: 310
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: 12/31/2010

Orig code: S
 Violation Year: 2008
 Contamination Name: cis-1,2-Dichloroethylene
 Violation name: Monitoring, Regular
 Rule name: VOC
 Unit of measure: Not Reported
 Cmp bdt: 01/01/2008

Violation id: 8310305
 State: HI
 Contamination code: 2955
 Violation code: 03
 Rule code: 310
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: 12/31/2010

Orig code: S
 Violation Year: 2008
 Contamination Name: Xylenes, Total
 Violation name: Monitoring, Regular
 Rule name: VOC
 Unit of measure: Not Reported
 Cmp bdt: 01/01/2008

Violation id: 8310306
 State: HI
 Contamination code: 2964
 Violation code: 03
 Rule code: 310
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: 12/31/2010

Orig code: S
 Violation Year: 2008
 Contamination Name: DICHLOROMETHANE
 Violation name: Monitoring, Regular
 Rule name: VOC
 Unit of measure: Not Reported
 Cmp bdt: 01/01/2008

Violation id: 8310307
 State: HI
 Contamination code: 2968
 Violation code: 03
 Rule code: 310
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: 12/31/2010

Orig code: S
 Violation Year: 2008
 Contamination Name: o-Dichlorobenzene
 Violation name: Monitoring, Regular
 Rule name: VOC
 Unit of measure: Not Reported
 Cmp bdt: 01/01/2008

Violation id: 8310308
 State: HI
 Contamination code: 2969
 Violation code: 03
 Rule code: 310
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: 12/31/2010

Orig code: S
 Violation Year: 2008
 Contamination Name: p-Dichlorobenzene
 Violation name: Monitoring, Regular
 Rule name: VOC
 Unit of measure: Not Reported
 Cmp bdt: 01/01/2008

Violation id: 8310309
 State: HI
 Contamination code: 2976
 Violation code: 03
 Rule code: 310
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: 12/31/2010

Orig code: S
 Violation Year: 2008
 Contamination Name: Vinyl chloride
 Violation name: Monitoring, Regular
 Rule name: VOC
 Unit of measure: Not Reported
 Cmp bdt: 01/01/2008

Violation id: 8310310
 State: HI
 Contamination code: 2977

Orig code: S
 Violation Year: 2008
 Contamination Name: 1,1-Dichloroethylene

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310311	Orig code:	S
State:	HI	Violation Year:	2008
Contamination code:	2979	Contamination Name:	trans-1,2-Dichloroethylene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310312	Orig code:	S
State:	HI	Violation Year:	2008
Contamination code:	2980	Contamination Name:	1,2-Dichloroethane
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310313	Orig code:	S
State:	HI	Violation Year:	2008
Contamination code:	2981	Contamination Name:	1,1,1-Trichloroethane
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310314	Orig code:	S
State:	HI	Violation Year:	2008
Contamination code:	2982	Contamination Name:	Carbon tetrachloride
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310315	Orig code:	S
State:	HI	Violation Year:	2008
Contamination code:	2983	Contamination Name:	1,2-Dichloropropane
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310316	Orig code:	S
State:	HI	Violation Year:	2008
Contamination code:	2984	Contamination Name:	Trichloroethylene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310317	Orig code:	S
State:	HI	Violation Year:	2008

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Contamination code:	2985	Contamination Name:	1,1,2-Trichloroethane
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310318	Orig code:	S
State:	HI	Violation Year:	2008
Contamination code:	2987	Contamination Name:	Tetrachloroethylene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310319	Orig code:	S
State:	HI	Violation Year:	2008
Contamination code:	2989	Contamination Name:	CHLOROBENZENE
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310320	Orig code:	S
State:	HI	Violation Year:	2008
Contamination code:	2990	Contamination Name:	Benzene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310321	Orig code:	S
State:	HI	Violation Year:	2008
Contamination code:	2991	Contamination Name:	Toluene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310322	Orig code:	S
State:	HI	Violation Year:	2008
Contamination code:	2992	Contamination Name:	Ethylbenzene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310323	Orig code:	S
State:	HI	Violation Year:	2008
Contamination code:	2996	Contamination Name:	Styrene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	12/31/2010		
Violation id:	8310324	Orig code:	S

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State: HI
 Contamination code: 2034
 Violation code: 03
 Rule code: 320
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: 12/31/2010

Violation Year: 2008
 Contamination Name: Glyphosate
 Violation name: Monitoring, Regular
 Rule name: SOC
 Unit of measure: Not Reported
 Cmp bdt: 01/01/2008

Violation id: 8310325
 State: HI
 Contamination code: 2036
 Violation code: 03
 Rule code: 320
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: 12/31/2010

Orig code: S
 Violation Year: 2008
 Contamination Name: OXAMYL
 Violation name: Monitoring, Regular
 Rule name: SOC
 Unit of measure: Not Reported
 Cmp bdt: 01/01/2008

Violation id: 8310326
 State: HI
 Contamination code: 2046
 Violation code: 03
 Rule code: 320
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: 12/31/2010

Orig code: S
 Violation Year: 2008
 Contamination Name: Carbofuran
 Violation name: Monitoring, Regular
 Rule name: SOC
 Unit of measure: Not Reported
 Cmp bdt: 01/01/2008

Violation id: 8310327
 State: HI
 Contamination code: 2051
 Violation code: 03
 Rule code: 320
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: 12/31/2010

Orig code: S
 Violation Year: 2008
 Contamination Name: LASSO
 Violation name: Monitoring, Regular
 Rule name: SOC
 Unit of measure: Not Reported
 Cmp bdt: 01/01/2008

Violation id: 8310328
 State: HI
 Contamination code: 2931
 Violation code: 03
 Rule code: 320
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: 12/31/2010

Orig code: S
 Violation Year: 2008
 Contamination Name: 1,2-DIBROMO-3-CHLOROPROPANE
 Violation name: Monitoring, Regular
 Rule name: SOC
 Unit of measure: Not Reported
 Cmp bdt: 01/01/2008

Violation id: 8310329
 State: HI
 Contamination code: 2946
 Violation code: 03
 Rule code: 320
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: 12/31/2010

Orig code: S
 Violation Year: 2008
 Contamination Name: ETHYLENE DIBROMIDE
 Violation name: Monitoring, Regular
 Rule name: SOC
 Unit of measure: Not Reported
 Cmp bdt: 01/01/2008

Violation id: 8310330
 State: HI
 Contamination code: 3100
 Violation code: 21
 Rule code: 110
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: 10/31/2013

Orig code: S
 Violation Year: 2013
 Contamination Name: Coliform (TCR)
 Violation name: MCL, Acute (TCR)
 Rule name: TCR
 Unit of measure: Not Reported
 Cmp bdt: 10/01/2013

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Violation ID:	8310290	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310290	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310290	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310291	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310291	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310291	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310292	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310292	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310292	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310293	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310293	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310293	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310294	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310294	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310294	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310295	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013

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Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310295	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310295	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310296	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310296	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310296	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310297	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310297	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310297	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310298	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310298	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310298	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310299	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310299	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310299	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310300	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal

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Violation ID:	8310300	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310300	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310301	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310301	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310301	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310302	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310302	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310302	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310303	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310303	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310303	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310304	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310304	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310304	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310305	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310305	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013

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Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310305	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310306	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310306	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310306	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310307	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310307	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310307	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310308	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310308	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310308	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310309	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310309	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310309	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310310	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310310	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Violation ID:	8310310	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310311	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310311	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310311	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310312	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310312	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310312	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310313	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310313	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310313	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310314	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310314	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310314	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310315	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310315	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310315	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310316	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310316	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310316	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310317	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310317	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310317	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310318	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310318	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310318	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310319	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310319	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310319	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310320	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310320	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310320	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Violation ID:	8310321	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310321	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310321	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310322	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310322	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310322	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310323	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310323	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310323	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310324	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310324	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310324	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310325	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310325	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310325	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310326	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310326	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310326	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310327	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310327	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310327	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310328	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310328	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310328	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310329	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/01/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310329	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/16/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310329	Orig Code:	S
Enforcemnt FY:	2013	Enforcement Action:	07/31/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	8310330	Orig Code:	S
Enforcemnt FY:	2014	Enforcement Action:	10/18/2013
Enforcement Detail:	St Violation/Reminder Notice	Enforcement Category:	Informal
Violation ID:	8310330	Orig Code:	S
Enforcemnt FY:	2014	Enforcement Action:	10/19/2013
Enforcement Detail:	St Public Notif received	Enforcement Category:	Informal
Violation ID:	8310330	Orig Code:	S
Enforcemnt FY:	2014	Enforcement Action:	10/19/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

P46
North
1/4 - 1/2 Mile
Higher

FED USGS USGS40000270353

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-61,62,65 KA0	Type:	Well: Multiple wells
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

P47
North
1/4 - 1/2 Mile
Higher

FED USGS USGS40000270354

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-62 KAONOHI II	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19751101
Well Depth:	340	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

P48
North
1/4 - 1/2 Mile
Higher

HI WELLS HI1200000001626

Well #:	3-2356-062	Pump Rate (g/m):	700
Well Owner:	Honolulu Board of Water Supply, BWS	Well Use:	Unused
Land Owner:	State of Hawaii	Original Well Name:	Not Reported
Well Name:	KaonoHI II-2	Driller:	Water Resources International, Inc.
Well Construction Type:	Rotary	Casing Diameter (in):	16
Ground Elevation (ft):	117	Well Depth (ft):	340
Solid Casing Depth:	200	Perforated Casing Depth:	0
Major Well Use:	Unused	Initial Water Level (ft):	15.34
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	0	Date Tested:	01-DEC-75
Test Pump Rate (g/m):	700	Test Drawdown Rate(ft):	1.2
Test Chloride Content (MG/L):	48	Test Water Temp:	19.9
Temp Unit:	C	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	1978
Draft Year:	Not Reported	Hole Bottom Elevation:	-223
Solid Casing Bottom Elevation:	-83	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	1.008	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	20-NOV-75
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

P49
NNE
1/4 - 1/2 Mile
Higher

FED USGS USGS40000270352

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-61 KAONOHI II	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19750201
Well Depth:	334	Well Depth Units:	ft
Well Hole Depth:	334	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	1	Level reading date:	1975-02-28
Feet below surface:	94.00	Feet to sea level:	Not Reported
Note:	Not Reported		

P50
North
1/4 - 1/2 Mile
Higher

FED USGS USGS40000270358

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-65 KAONOHI II	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19751201
Well Depth:	335	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

P51
NNE
1/4 - 1/2 Mile
Higher

HI WELLS HI1200000001625

Well #:	3-2356-061	Pump Rate (g/m):	700
Well Owner:	Honolulu Board of Water Supply, BWS	Well Use:	Unused
Land Owner:	State of Hawaii	Original Well Name:	Not Reported
Well Name:	Kaonohi II-1	Driller:	Water Resources International, Inc.
Well Construction Type:	Rotary	Casing Diameter (in):	16
Ground Elevation (ft):	112	Well Depth (ft):	330
Solid Casing Depth:	190	Perforated Casing Depth:	0
Major Well Use:	Unused	Initial Water Level (ft):	18
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	57	Date Tested:	04-MAR-75
Test Pump Rate (g/m):	1000	Test Drawdown Rate(ft):	2
Test Chloride Content (MG/L):	60	Test Water Temp:	20
Temp Unit:	C	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	1978
Draft Year:	Not Reported	Hole Bottom Elevation:	-218
Solid Casing Bottom Elevation:	-78	Perforated Casing Bottom Elevation:	0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Pump Capacity (MM gal/day):	1.008	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	07-MAR-75
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

P52
North
1/4 - 1/2 Mile
Higher

HI WELLS HI1200000001629

Well #:	3-2356-065	Pump Rate (g/m):	700
Well Owner:	Honolulu Board of Water Supply, BWS	Well Use:	Unused
Land Owner:	State of Hawaii	Original Well Name:	Not Reported
Well Name:	Kaonohe II-3	Driller:	Water Resources International, Inc.
Well Construction Type:	Rotary	Casing Diameter (in):	16
Ground Elevation (ft):	112	Well Depth (ft):	335
Solid Casing Depth:	195	Perforated Casing Depth:	0
Major Well Use:	Unused	Initial Water Level (ft):	15.95
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	0	Date Tested:	10-DEC-75
Test Pump Rate (g/m):	1200	Test Drawdown Rate(ft):	2.1
Test Chloride Content (MG/L):	0	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	1978
Draft Year:	Not Reported	Hole Bottom Elevation:	-223
Solid Casing Bottom Elevation:	-83	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	1.008	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	01-JAN-75
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

Q53
NNW
1/2 - 1 Mile
Higher

FED USGS USGS40000270369

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-63 WAIMALU II	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19750901
Well Depth:	240	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Q54
NNW
1/2 - 1 Mile
Higher

HI WELLS HI1200000001627

Well #:	3-2356-063	Pump Rate (g/m):	500
Well Owner:	Honolulu Board of Water Supply, BWS	Well Use:	Unused
Land Owner:	Not Reported	Original Well Name:	Not Reported
Well Name:	Waimalu II-2		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Driller:	Roscoe Moss Hawaii Inc	Casing Diameter (in):	16
Well Construction Type:	Percussion	Well Depth (ft):	240
Ground Elevation (ft):	26	Perforated Casing Depth:	0
Solid Casing Depth:	100	Initial Water Level (ft):	15.18
Major Well Use:	Unused	Water Level After Install:	0
Water Level After Drilling:	0	Date Tested:	03-SEP-75
Chloride Content (mg/L):	0	Test Drawdown Rate(ft):	3.5
Test Pump Rate (g/m):	1200	Test Water Temp:	20.4
Test Chloride Content (MG/L):	140	Max Chloride Level:	Not Reported
Temp Unit:	C	Year Installed:	1978
Minimum Chloride Level:	Not Reported	Hole Bottom Elevation:	-214
Draft Year:	Not Reported	Perforated Casing Bottom Elevation:	0
Solid Casing Bottom Elevation:	-74	Pump Intake Depth:	0
Pump Capacity (MM gal/day):	.72	Latest WCR1 Report:	01-AUG-75
Latest Head:	Not Reported	Transmissivity:	0
Latest WCR2 Report:	Not Reported		
Min to Pump 5 Volumes:	0		

**Q55
NNW
1/2 - 1 Mile
Higher**

FED USGS USGS40000270375

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-53 T75 AIEA	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19590101
Well Depth:	250	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

**Q56
NNW
1/2 - 1 Mile
Higher**

HI WELLS HI1200000001617

Well #:	3-2356-053	Pump Rate (g/m):	0
Well Owner:	Honolulu Board of Water Supply, BWS		
Land Owner:	City & County of Honolulu, C&CH		
Well Use:	Water Level Observaiton		
Well Name:	Aiea T-75	Original Well Name:	Not Reported
Driller:	Goodfellow Construction, Inc. Corporate		
Well Construction Type:	Not Reported	Casing Diameter (in):	6
Ground Elevation (ft):	26	Well Depth (ft):	250
Solid Casing Depth:	75	Perforated Casing Depth:	0
Major Well Use:	Water Level Observaiton		
Initial Water Level (ft):	17.3	Water Level After Drilling:	0
Water Level After Install:	0	Chloride Content (mg/L):	97
Date Tested:	Not Reported	Test Pump Rate (g/m):	0
Test Drawdown Rate(ft):	0	Test Chloride Content (MG/L):	0
Test Water Temp:	0	Temp Unit:	Not Reported
Max Chloride Level:	Not Reported	Minimum Chloride Level:	Not Reported
Year Installed:	0	Draft Year:	Not Reported
Hole Bottom Elevation:	-224	Solid Casing Bottom Elevation:	-49
Perforated Casing Bottom Elevation:	0	Pump Capacity (MM gal/day):	0
Pump Intake Depth:	0	Latest Head:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Latest WCR1 Report:	01-JAN-59	Latest WCR2 Report:	Not Reported
Transmissivity:	0	Min to Pump 5 Volumes:	0

**Q57
NNW
1/2 - 1 Mile
Higher**

FED USGS USGS40000270392

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-45 T25	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19450101
Well Depth:	177	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

**Q58
NNW
1/2 - 1 Mile
Higher**

FED USGS USGS40000270391

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-57 AIEA	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19710930
Well Depth:	250	Well Depth Units:	ft
Well Hole Depth:	250	Well Hole Depth Units:	ft

Ground water levels, Number of Measurements:	1	Level reading date:	1971-09-28
Feet below surface:	30.49	Feet to sea level:	Not Reported
Note:	Not Reported		

**Q59
NNW
1/2 - 1 Mile
Higher**

HI WELLS HI1200000001609

Well #:	3-2356-045	Pump Rate (g/m):	0
Well Owner:	Honolulu Board of Water Supply, BWS		
Land Owner:	City & County of Honolulu, C&CH		
Well Use:	Abandoned-Sealed		
Well Name:	Aiea	Original Well Name:	Not Reported
Driller:	W. Mullin	Well Construction Type:	Not Reported
Casing Diameter (in):	12	Ground Elevation (ft):	25
Well Depth (ft):	177	Solid Casing Depth:	42
Perforated Casing Depth:	0	Major Well Use:	Abandoned-Sealed
Initial Water Level (ft):	15.8	Water Level After Drilling:	0
Water Level After Install:	0	Chloride Content (mg/L):	59
Date Tested:	Not Reported	Test Pump Rate (g/m):	0
Test Drawdown Rate(ft):	0	Test Chloride Content (MG/L):	0
Test Water Temp:	0	Temp Unit:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Max Chloride Level:	Not Reported	Minimum Chloride Level:	Not Reported
Year Installed:	0	Draft Year:	Not Reported
Hole Bottom Elevation:	-152	Solid Casing Bottom Elevation:	-17
Perforated Casing Bottom Elevation:	0	Pump Capacity (MM gal/day):	0
Pump Intake Depth:	0	Latest Head:	Not Reported
Latest WCR1 Report:	01-JAN-45	Latest WCR2 Report:	Not Reported
Transmissivity:	0	Min to Pump 5 Volumes:	0

R60
East
1/2 - 1 Mile
Higher

FED USGS USGS40000270264

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-43 ,44	Type:	Well: Multiple wells
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

R61
East
1/2 - 1 Mile
Higher

FED USGS USGS40000270265

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-43 W190-1A	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19410101
Well Depth:	100	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

R62
East
1/2 - 1 Mile
Higher

FED USGS USGS40000270266

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-44 W190-1B	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19410101
Well Depth:	100	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

R63
East
1/2 - 1 Mile
Higher

HI WELLS HI1200000001608

Well #:	3-2356-044	Pump Rate (g/m):	0
Well Owner:	W. Ridley	Land Owner:	Not Reported
Well Use:	Abandoned-Sealed		
Well Name:	Aiea	Original Well Name:	Not Reported
Driller:	W. Mullin	Well Construction Type:	Not Reported
Casing Diameter (in):	8	Ground Elevation (ft):	81
Well Depth (ft):	100	Solid Casing Depth:	34
Perforated Casing Depth:	0	Major Well Use:	Abandoned-Sealed
Initial Water Level (ft):	21.4	Water Level After Drilling:	0
Water Level After Install:	0	Chloride Content (mg/L):	160
Date Tested:	Not Reported	Test Pump Rate (g/m):	0
Test Drawdown Rate(ft):	0	Test Chloride Content (MG/L):	0
Test Water Temp:	0	Temp Unit:	Not Reported
Max Chloride Level:	Not Reported	Minimum Chloride Level:	Not Reported
Year Installed:	0	Draft Year:	Not Reported
Hole Bottom Elevation:	-19	Solid Casing Bottom Elevation:	47
Perforated Casing Bottom Elevation:	0	Pump Capacity (MM gal/day):	0
Pump Intake Depth:	0	Latest Head:	Not Reported
Latest WCR1 Report:	01-JAN-41	Latest WCR2 Report:	Not Reported
Transmissivity:	0	Min to Pump 5 Volumes:	0

R64
East
1/2 - 1 Mile
Higher

HI WELLS HI1200000001607

Well #:	3-2356-043	Pump Rate (g/m):	0
Well Owner:	W. Ridley	Land Owner:	Not Reported
Well Use:	Abandoned-Sealed		
Well Name:	Aiea	Original Well Name:	Not Reported
Driller:	W. Mullin	Well Construction Type:	Not Reported
Casing Diameter (in):	12	Ground Elevation (ft):	81
Well Depth (ft):	100	Solid Casing Depth:	0
Perforated Casing Depth:	0	Major Well Use:	Abandoned-Sealed
Initial Water Level (ft):	22.3	Water Level After Drilling:	0
Water Level After Install:	0	Chloride Content (mg/L):	139
Date Tested:	Not Reported	Test Pump Rate (g/m):	0
Test Drawdown Rate(ft):	0	Test Chloride Content (MG/L):	0
Test Water Temp:	0	Temp Unit:	Not Reported
Max Chloride Level:	Not Reported	Minimum Chloride Level:	Not Reported
Year Installed:	0	Draft Year:	Not Reported
Hole Bottom Elevation:	-19	Solid Casing Bottom Elevation:	0
Perforated Casing Bottom Elevation:	0	Pump Capacity (MM gal/day):	0
Pump Intake Depth:	0	Latest Head:	Not Reported
Latest WCR1 Report:	01-JAN-41	Latest WCR2 Report:	Not Reported
Transmissivity:	0	Min to Pump 5 Volumes:	0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

Q65
NNW
1/2 - 1 Mile
Higher

FED USGS USGS40000270398

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-60 WAIMALU II	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19750201
Well Depth:	240	Well Depth Units:	ft
Well Hole Depth:	240	Well Hole Depth Units:	ft

Ground water levels, Number of Measurements:	1	Level reading date:	1975-02-07
Feet below surface:	4.62	Feet to sea level:	Not Reported
Note:	Not Reported		

Q66
NNW
1/2 - 1 Mile
Higher

FED USGS USGS40000270399

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-60,63,64 KAO	Type:	Well: Multiple wells
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Q67
North
1/2 - 1 Mile
Higher

HI WELLS HI1200000001621

Well #:	3-2356-057	Pump Rate (g/m):	0
Well Owner:	Honolulu Board of Water Supply, BWS	Well Use:	Observation
Land Owner:	Not Reported	Original Well Name:	Not Reported
Well Name:	Waimalu		
Driller:	Roscoe Moss Hawaii Inc	Casing Diameter (in):	10
Well Construction Type:	Percussion	Well Depth (ft):	250
Ground Elevation (ft):	22	Perforated Casing Depth:	0
Solid Casing Depth:	77	Initial Water Level (ft):	14.99
Major Well Use:	Observation	Water Level After Install:	0
Water Level After Drilling:	0	Date Tested:	28-SEP-71
Chloride Content (mg/L):	0	Test Drawdown Rate(ft):	7.9
Test Pump Rate (g/m):	1111	Test Water Temp:	0
Test Chloride Content (MG/L):	174	Max Chloride Level:	Not Reported
Temp Unit:	Not Reported	Year Installed:	0
Minimum Chloride Level:	Not Reported	Hole Bottom Elevation:	-228
Draft Year:	Not Reported	Perforated Casing Bottom Elevation:	0
Solid Casing Bottom Elevation:	-55		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	30-SEP-71
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

Q68
North
1/2 - 1 Mile
Higher

HI WELLS HI1200000001624

Well #:	3-2356-060	Pump Rate (g/m):	500
Well Owner:	Honolulu Board of Water Supply, BWS	Well Use:	Unused
Land Owner:	Not Reported	Original Well Name:	Not Reported
Well Name:	Waimalu II-1	Driller:	Water Resources International, Inc.
Well Construction Type:	Rotary	Casing Diameter (in):	16
Ground Elevation (ft):	23	Well Depth (ft):	240
Solid Casing Depth:	100	Perforated Casing Depth:	0
Major Well Use:	Unused	Initial Water Level (ft):	18.42
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	0	Date Tested:	07-FEB-75
Test Pump Rate (g/m):	800	Test Drawdown Rate(ft):	72.8
Test Chloride Content (MG/L):	116	Test Water Temp:	20.8
Temp Unit:	C	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	1978
Draft Year:	Not Reported	Hole Bottom Elevation:	-217
Solid Casing Bottom Elevation:	-77	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	.72	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	01-FEB-75
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

S69
NNW
1/2 - 1 Mile
Higher

FED USGS USGS40000270406

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-02 W193	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	399	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

S70
NNW
1/2 - 1 Mile
Higher

FED USGS USGS40000270407

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-64 WAIMALU II	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19751110
Well Depth:	240	Well Depth Units:	ft
Well Hole Depth:	240	Well Hole Depth Units:	ft

**S71
NNW
1/2 - 1 Mile
Higher**

HI WELLS HI1200000001628

Well #:	3-2356-064	Pump Rate (g/m):	500
Well Owner:	Honolulu Board of Water Supply, BWS	Well Use:	Unused
Land Owner:	Not Reported	Original Well Name:	Not Reported
Well Name:	Waimalu II-3		
Driller:	Roscoe Moss Hawaii Inc		
Well Construction Type:	Percussion	Casing Diameter (in):	16
Ground Elevation (ft):	20	Well Depth (ft):	240
Solid Casing Depth:	163	Perforated Casing Depth:	0
Major Well Use:	Unused	Initial Water Level (ft):	14.5
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	87	Date Tested:	10-NOV-75
Test Pump Rate (g/m):	700	Test Drawdown Rate(ft):	10.6
Test Chloride Content (MG/L):	102	Test Water Temp:	20.7
Temp Unit:	C	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	1978
Draft Year:	Not Reported	Hole Bottom Elevation:	-220
Solid Casing Bottom Elevation:	-143	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	.72	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	01-NOV-75
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

**S72
NNW
1/2 - 1 Mile
Higher**

HI WELLS HI1200000001566

Well #:	3-2356-002	Pump Rate (g/m):	0
Well Owner:	You & Shimizu	Land Owner:	Not Reported
Well Use:	Abandoned-Sealed		
Well Name:	Aiea	Original Well Name:	Not Reported
Driller:	Not Reported	Well Construction Type:	Not Reported
Casing Diameter (in):	10	Ground Elevation (ft):	23
Well Depth (ft):	399	Solid Casing Depth:	69
Perforated Casing Depth:	0	Major Well Use:	Abandoned-Sealed
Initial Water Level (ft):	22.8	Water Level After Drilling:	0
Water Level After Install:	0	Chloride Content (mg/L):	102
Date Tested:	Not Reported	Test Pump Rate (g/m):	0
Test Drawdown Rate(ft):	0	Test Chloride Content (MG/L):	0
Test Water Temp:	0	Temp Unit:	Not Reported
Max Chloride Level:	Not Reported	Minimum Chloride Level:	Not Reported
Year Installed:	0	Draft Year:	Not Reported
Hole Bottom Elevation:	-376	Solid Casing Bottom Elevation:	-46
Perforated Casing Bottom Elevation:	0	Pump Capacity (MM gal/day):	0
Pump Intake Depth:	0	Latest Head:	Not Reported
Latest WCR1 Report:	Not Reported	Latest WCR2 Report:	Not Reported
Transmissivity:	0	Min to Pump 5 Volumes:	0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

73
WNW
1/2 - 1 Mile
Higher

FED USGS USGS40000270331

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2357-19 W197-2	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19500101
Well Depth:	444	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

T74
NNW
1/2 - 1 Mile
Lower

FED USGS USGS40000270416

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2357-20 W193-1	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19560101
Well Depth:	420	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

U75
North
1/2 - 1 Mile
Higher

HI WELLS HI1200000001614

Well #:	3-2356-050	Pump Rate (g/m):	325
Well Owner:	Honolulu Board of Water Supply, BWS		
Land Owner:	City & County of Honolulu, C&CH		
Well Use:	Unused	Well Name:	Waimalu I-2
Original Well Name:	Not Reported	Driller:	Samson/Smock
Well Construction Type:	Not Reported	Casing Diameter (in):	12
Ground Elevation (ft):	102	Well Depth (ft):	327
Solid Casing Depth:	127	Perforated Casing Depth:	0
Major Well Use:	Unused	Initial Water Level (ft):	0
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	61	Date Tested:	Not Reported
Test Pump Rate (g/m):	1200	Test Drawdown Rate(ft):	10.6
Test Chloride Content (MG/L):	0	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	1977
Draft Year:	Not Reported	Hole Bottom Elevation:	-225
Solid Casing Bottom Elevation:	-25	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	.468	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	01-JAN-55
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

U76
North
1/2 - 1 Mile
Higher

HI WELLS HI120000001613

Well #:	3-2356-049	Pump Rate (g/m):	325
Well Owner:	Honolulu Board of Water Supply, BWS		
Land Owner:	City & County of Honolulu, C&CH		
Well Use:	Abandoned-Sealed		
Well Name:	Waimalu I-1	Original Well Name:	Not Reported
Driller:	Samson/Smock	Well Construction Type:	Not Reported
Casing Diameter (in):	12	Ground Elevation (ft):	102
Well Depth (ft):	327	Solid Casing Depth:	129
Perforated Casing Depth:	0	Major Well Use:	Abandoned-Sealed
Initial Water Level (ft):	0	Water Level After Drilling:	0
Water Level After Install:	0	Chloride Content (mg/L):	58
Date Tested:	Not Reported	Test Pump Rate (g/m):	325
Test Drawdown Rate(ft):	.8	Test Chloride Content (MG/L):	0
Test Water Temp:	0	Temp Unit:	Not Reported
Max Chloride Level:	Not Reported	Minimum Chloride Level:	Not Reported
Year Installed:	1977	Draft Year:	Not Reported
Hole Bottom Elevation:	-225	Solid Casing Bottom Elevation:	-27
Perforated Casing Bottom Elevation:	0	Pump Capacity (MM gal/day):	.468
Pump Intake Depth:	0	Latest Head:	Not Reported
Latest WCR1 Report:	01-JAN-54	Latest WCR2 Report:	Not Reported
Transmissivity:	0	Min to Pump 5 Volumes:	0

U77
North
1/2 - 1 Mile
Higher

FED USGS USGS40000270441

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-50 Waimalu Wells I, no. 2, Oahu, HI		
Type:	Well		
Description:	former W195-1B,NAWQA entry ver. 05/15/2002 Hunt C		
HUC:	20060000	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Units:	Not Reported	Aquifer:	Hawaii volcanic-rock aquifers
Formation Type:	Koolau Volcanic Series, Lava Flows		
Aquifer Type:	Unconfined single aquifer	Construction Date:	19550101
Well Depth:	327	Well Depth Units:	ft
Well Hole Depth:	327	Well Hole Depth Units:	ft

T78
NNW
1/2 - 1 Mile
Lower

HI WELLS HI120000001654

Well #:	3-2357-020	Pump Rate (g/m):	0
Well Owner:	State of Hawaii	Land Owner:	State of Hawaii
Well Use:	Abandoned-Sealed		
Well Name:	Waiau	Original Well Name:	Not Reported
Driller:	Goodfellow Construction, Inc. Corporate		
Well Construction Type:	Not Reported	Casing Diameter (in):	5
Ground Elevation (ft):	14	Well Depth (ft):	420

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Solid Casing Depth:	80	Perforated Casing Depth:	0
Major Well Use:	Abandoned-Sealed	Water Level After Drilling:	0
Initial Water Level (ft):	19.1	Chloride Content (mg/L):	92
Water Level After Install:	0	Test Pump Rate (g/m):	0
Date Tested:	Not Reported	Test Chloride Content (MG/L):	0
Test Drawdown Rate(ft):	0	Temp Unit:	Not Reported
Test Water Temp:	0	Minimum Chloride Level:	Not Reported
Max Chloride Level:	Not Reported	Draft Year:	Not Reported
Year Installed:	0	Solid Casing Bottom Elevation:	-66
Hole Bottom Elevation:	-406	Pump Capacity (MM gal/day):	0
Perforated Casing Bottom Elevation:	0	Latest Head:	Not Reported
Pump Intake Depth:	0	Latest WCR2 Report:	Not Reported
Latest WCR1 Report:	01-JAN-56	Min to Pump 5 Volumes:	0
Transmissivity:	0		

U79
North
1/2 - 1 Mile
Higher

FED USGS USGS40000270430

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-13 W194	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	18950101
Well Depth:	257	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

U80
North
1/2 - 1 Mile
Higher

HI WELLS HI1200000001577

Well #:	3-2356-013	Pump Rate (g/m):	0
Well Owner:	You & Shimizu	Land Owner:	Not Reported
Well Use:	Abandoned-Sealed	Original Well Name:	Not Reported
Well Name:	Aiea	Well Construction Type:	Not Reported
Driller:	L. McCandless	Ground Elevation (ft):	24
Casing Diameter (in):	6	Solid Casing Depth:	79
Well Depth (ft):	257	Major Well Use:	Abandoned-Sealed
Perforated Casing Depth:	0	Water Level After Drilling:	0
Initial Water Level (ft):	21	Chloride Content (mg/L):	77
Water Level After Install:	0	Test Pump Rate (g/m):	0
Date Tested:	Not Reported	Test Chloride Content (MG/L):	0
Test Drawdown Rate(ft):	0	Temp Unit:	Not Reported
Test Water Temp:	0	Minimum Chloride Level:	Not Reported
Max Chloride Level:	Not Reported	Draft Year:	Not Reported
Year Installed:	0	Solid Casing Bottom Elevation:	-55
Hole Bottom Elevation:	-233	Pump Capacity (MM gal/day):	0
Perforated Casing Bottom Elevation:	0	Latest Head:	Not Reported
Pump Intake Depth:	0	Latest WCR2 Report:	Not Reported
Latest WCR1 Report:	01-JAN-95	Min to Pump 5 Volumes:	0
Transmissivity:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

U81
North
1/2 - 1 Mile
Higher

FED USGS USGS40000270442

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-03 W195	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	356	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

U82
North
1/2 - 1 Mile
Higher

FED USGS USGS40000270439

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-49 ,50	Type:	Well: Multiple wells
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

U83
North
1/2 - 1 Mile
Higher

FED USGS USGS40000270440

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-49 W195-1A	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19540101
Well Depth:	327	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

84
SE
1/2 - 1 Mile
Lower

FED USGS USGS40000270206

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-34 TO 42	Type:	Well: Multiple wells
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

**U85
North
1/2 - 1 Mile
Higher**

HI WELLS HI1200000001567

Well #:	3-2356-003	Pump Rate (g/m):	0
Well Owner:	H. Nakata	Land Owner:	Not Reported
Well Use:	Abandoned-Sealed		
Well Name:	Aiea	Original Well Name:	Not Reported
Driller:	L. McCandless	Well Construction Type:	Not Reported
Casing Diameter (in):	1	Ground Elevation (ft):	30
Well Depth (ft):	356	Solid Casing Depth:	337
Perforated Casing Depth:	347	Major Well Use:	Abandoned-Sealed
Initial Water Level (ft):	17.4	Water Level After Drilling:	0
Water Level After Install:	0	Chloride Content (mg/L):	57
Date Tested:	Not Reported	Test Pump Rate (g/m):	0
Test Drawdown Rate(ft):	0	Test Chloride Content (MG/L):	0
Test Water Temp:	0	Temp Unit:	Not Reported
Max Chloride Level:	Not Reported	Minimum Chloride Level:	Not Reported
Year Installed:	0	Draft Year:	Not Reported
Hole Bottom Elevation:	-326	Solid Casing Bottom Elevation:	-307
Perforated Casing Bottom Elevation:	-317	Pump Capacity (MM gal/day):	0
Pump Intake Depth:	0	Latest Head:	Not Reported
Latest WCR1 Report:	Not Reported	Latest WCR2 Report:	Not Reported
Transmissivity:	0	Min to Pump 5 Volumes:	0

**V86
NW
1/2 - 1 Mile
Higher**

FED USGS USGS40000270393

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2357-06 W197-1 WAI	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19340101
Well Depth:	239	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

**V87
NW
1/2 - 1 Mile
Higher**

HI WELLS HI1200000001640

Well #:	3-2357-006	Pump Rate (g/m):	0
Well Owner:	Oahu Sugar Co., Ltd., OSCo.		
Land Owner:	Not Reported	Well Use:	Abandoned-Sealed
Well Name:	Waiau	Original Well Name:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Driller:	Hobart	Well Construction Type:	Not Reported
Casing Diameter (in):	6	Ground Elevation (ft):	12
Well Depth (ft):	239	Solid Casing Depth:	92
Perforated Casing Depth:	0	Major Well Use:	Abandoned-Sealed
Initial Water Level (ft):	0	Water Level After Drilling:	0
Water Level After Install:	0	Chloride Content (mg/L):	0
Date Tested:	Not Reported	Test Pump Rate (g/m):	0
Test Drawdown Rate(ft):	0	Test Chloride Content (MG/L):	0
Test Water Temp:	0	Temp Unit:	Not Reported
Max Chloride Level:	Not Reported	Minimum Chloride Level:	Not Reported
Year Installed:	0	Draft Year:	Not Reported
Hole Bottom Elevation:	-227	Solid Casing Bottom Elevation:	-80
Perforated Casing Bottom Elevation:	0	Pump Capacity (MM gal/day):	0
Pump Intake Depth:	0	Latest Head:	Not Reported
Latest WCR1 Report:	01-JAN-34	Latest WCR2 Report:	Not Reported
Transmissivity:	0	Min to Pump 5 Volumes:	0

**V88
NW
1/2 - 1 Mile
Higher**

HI WELLS HI120000001653

Well #:	3-2357-019	Pump Rate (g/m):	0
Well Owner:	J. Inafuku	Land Owner:	Not Reported
Well Use:	Abandoned-Sealed		
Well Name:	Waiau	Original Well Name:	Not Reported
Driller:	W. Mullin	Well Construction Type:	Not Reported
Casing Diameter (in):	6	Ground Elevation (ft):	9
Well Depth (ft):	444	Solid Casing Depth:	96
Perforated Casing Depth:	0	Major Well Use:	Abandoned-Sealed
Initial Water Level (ft):	20	Water Level After Drilling:	0
Water Level After Install:	0	Chloride Content (mg/L):	54
Date Tested:	Not Reported	Test Pump Rate (g/m):	0
Test Drawdown Rate(ft):	0	Test Chloride Content (MG/L):	0
Test Water Temp:	0	Temp Unit:	Not Reported
Max Chloride Level:	Not Reported	Minimum Chloride Level:	Not Reported
Year Installed:	0	Draft Year:	Not Reported
Hole Bottom Elevation:	-435	Solid Casing Bottom Elevation:	-87
Perforated Casing Bottom Elevation:	0	Pump Capacity (MM gal/day):	0
Pump Intake Depth:	0	Latest Head:	Not Reported
Latest WCR1 Report:	01-JAN-50	Latest WCR2 Report:	Not Reported
Transmissivity:	0	Min to Pump 5 Volumes:	0

**W89
ESE
1/2 - 1 Mile
Higher**

HI WELLS HI120000001413

Well #:	3-2256-003	Pump Rate (g/m):	0
Well Owner:	Soto Mission of Aiea		
Land Owner:	Soto Mission of Aiea		
Well Use:	Abandoned-Lost	Well Name:	Aiea
Original Well Name:	Not Reported	Driller:	Not Reported
Well Construction Type:	Not Reported	Casing Diameter (in):	0
Ground Elevation (ft):	10	Well Depth (ft):	275
Solid Casing Depth:	0	Perforated Casing Depth:	0
Major Well Use:	Abandoned-Lost	Initial Water Level (ft):	0
Water Level After Drilling:	0	Water Level After Install:	0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Chloride Content (mg/L):	73	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	0
Test Chloride Content (MG/L):	0	Test Water Temp:	23.9
Temp Unit:	C	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	0
Draft Year:	Not Reported	Hole Bottom Elevation:	-265
Solid Casing Bottom Elevation:	0	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	Not Reported
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

**W90
ESE
1/2 - 1 Mile
Higher**

FED USGS USGS40000270238

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2256-03 W188	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	275	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

**X91
ENE
1/2 - 1 Mile
Higher**

HI WELLS HI1200000001622

Well #:	3-2356-058	Pump Rate (g/m):	840
Well Owner:	Honolulu Board of Water Supply, BWS		
Land Owner:	Honolulu Board of Water Supply, BWS		
Well Use:	County	Well Name:	Kaamilo 1
Original Well Name:	Not Reported	Driller:	Roscoe Moss Hawaii Inc
Well Construction Type:	Percussion	Casing Diameter (in):	16
Ground Elevation (ft):	147.7	Well Depth (ft):	341
Solid Casing Depth:	190	Perforated Casing Depth:	0
Major Well Use:	County	Initial Water Level (ft):	13.4
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	99	Date Tested:	13-SEP-73
Test Pump Rate (g/m):	2550	Test Drawdown Rate(ft):	1.2
Test Chloride Content (MG/L):	99	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	1977
Draft Year:	Not Reported	Hole Bottom Elevation:	-193.3
Solid Casing Bottom Elevation:	-42.3	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	1.21	Pump Intake Depth:	158
Latest Head:	Not Reported	Latest WCR1 Report:	01-SEP-73
Latest WCR2 Report:	01-MAR-17	Transmissivity:	0
Min to Pump 5 Volumes:	26.47924197		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

Y92
SE
1/2 - 1 Mile
Higher

HI WELLS HI120000001423

Well #:	3-2256-013	Pump Rate (g/m):	0
Well Owner:	Naval Facilities Engineering Command Hawaii, NAVFAC-Hawaii		
Land Owner:	U.S. Department of the Navy, Navy Region Hawaii		
Well Use:	Abandoned-Sealed		
Well Name:	Aiea	Original Well Name:	Not Reported
Driller:	W. Mullin	Well Construction Type:	Not Reported
Casing Diameter (in):	16	Ground Elevation (ft):	16
Well Depth (ft):	275	Solid Casing Depth:	154
Perforated Casing Depth:	0	Major Well Use:	Abandoned-Sealed
Initial Water Level (ft):	22.6	Water Level After Drilling:	0
Water Level After Install:	0	Chloride Content (mg/L):	165
Date Tested:	Not Reported	Test Pump Rate (g/m):	0
Test Drawdown Rate(ft):	0	Test Chloride Content (MG/L):	0
Test Water Temp:	0	Temp Unit:	Not Reported
Max Chloride Level:	Not Reported	Minimum Chloride Level:	Not Reported
Year Installed:	0	Draft Year:	Not Reported
Hole Bottom Elevation:	-259	Solid Casing Bottom Elevation:	-138
Perforated Casing Bottom Elevation:	0	Pump Capacity (MM gal/day):	0
Pump Intake Depth:	0	Latest Head:	Not Reported
Latest WCR1 Report:	01-JAN-43	Latest WCR2 Report:	Not Reported
Transmissivity:	0	Min to Pump 5 Volumes:	0

Y93
SE
1/2 - 1 Mile
Higher

FED USGS USGS40000270212

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2256-11 W187-A	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19230101
Well Depth:	210	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported
Ground water levels,Number of Measurements:	1	Level reading date:	1928-01-16
Feet below surface:	-12.80	Feet to sea level:	Not Reported
Note:	Not Reported		

Y94
SE
1/2 - 1 Mile
Higher

FED USGS USGS40000270214

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2256-12 Aiea US Navy (187-C), Oahu, HI	Description:	Not Reported
Type:	Well	Drainage Area:	Not Reported
HUC:	20060000	Contrib Drainage Area:	Not Reported
Drainage Area Units:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Contrib Drainage Area Unts:	Not Reported	Aquifer:	Hawaii volcanic-rock aquifers
Formation Type:	Koolau Volcanic Series, Lava Flows	Construction Date:	19230401
Aquifer Type:	Unconfined single aquifer	Well Depth Units:	ft
Well Depth:	182	Well Hole Depth Units:	ft
Well Hole Depth:	182		

Ground water levels,Number of Measurements:	24	Level reading date:	2002-09-17
Feet below surface:	Not Reported	Feet to sea level:	14.84
Note:	The site was flowing, but the head could not be measured without additional equipment.		

Level reading date:	2002-07-18	Feet below surface:	Not Reported
Feet to sea level:	14.92		
Note:	The site was flowing, but the head could not be measured without additional equipment.		

Level reading date:	2002-05-16	Feet below surface:	Not Reported
Feet to sea level:	15.28		
Note:	The site was flowing, but the head could not be measured without additional equipment.		

Level reading date:	2002-03-25	Feet below surface:	Not Reported
Feet to sea level:	15.06		
Note:	The site was flowing, but the head could not be measured without additional equipment.		

Level reading date:	2001-12-27	Feet below surface:	Not Reported
Feet to sea level:	14.86		
Note:	The site was flowing, but the head could not be measured without additional equipment.		

Level reading date:	2001-10-12	Feet below surface:	Not Reported
Feet to sea level:	14.20		
Note:	The site was flowing, but the head could not be measured without additional equipment.		

Level reading date:	2001-09-25	Feet below surface:	Not Reported
Feet to sea level:	Not Reported		
Note:	The site was flowing, but the head could not be measured without additional equipment.		

Level reading date:	2001-08-08	Feet below surface:	Not Reported
Feet to sea level:	Not Reported		
Note:	The site was flowing, but the head could not be measured without additional equipment.		

Level reading date:	2001-06-14	Feet below surface:	Not Reported
Feet to sea level:	14.62		
Note:	The site was flowing, but the head could not be measured without additional equipment.		

Level reading date:	2001-03-15	Feet below surface:	Not Reported
Feet to sea level:	14.77		
Note:	The site was flowing, but the head could not be measured without additional equipment.		

Level reading date:	2000-11-07	Feet below surface:	Not Reported
Feet to sea level:	14.95		
Note:	The site was flowing, but the head could not be measured without additional equipment.		

Level reading date:	2000-09-20	Feet below surface:	Not Reported
Feet to sea level:	14.87	Note:	Not Reported

Level reading date:	2000-07-21	Feet below surface:	Not Reported
Feet to sea level:	14.94	Note:	Not Reported

Level reading date:	2000-05-23	Feet below surface:	Not Reported
Feet to sea level:	15.18	Note:	Not Reported

Level reading date:	2000-04-04	Feet below surface:	Not Reported
Feet to sea level:	15.58	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	2000-01-06	Feet below surface:	Not Reported
Feet to sea level:	15.83	Note:	Not Reported
Level reading date:	1999-11-08	Feet below surface:	Not Reported
Feet to sea level:	15.43	Note:	Not Reported
Level reading date:	1999-09-13	Feet below surface:	Not Reported
Feet to sea level:	15.33	Note:	Not Reported
Level reading date:	1999-07-29	Feet below surface:	Not Reported
Feet to sea level:	15.63	Note:	Not Reported
Level reading date:	1999-06-04	Feet below surface:	Not Reported
Feet to sea level:	15.39	Note:	Not Reported
Level reading date:	1999-02-05	Feet below surface:	Not Reported
Feet to sea level:	15.58	Note:	Not Reported
Level reading date:	1998-12-02	Feet below surface:	Not Reported
Feet to sea level:	15.31	Note:	Not Reported
Level reading date:	1998-10-19	Feet below surface:	Not Reported
Feet to sea level:	14.84	Note:	Not Reported
Level reading date:	1928-01-16	Feet below surface:	-16.87
Feet to sea level:	Not Reported	Note:	Not Reported

**Y95
SE
1/2 - 1 Mile
Higher**

FED USGS USGS40000270215

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2256-13 W187-D	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19430101
Well Depth:	275	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1943-03-12
Feet below surface:	-6.09	Feet to sea level:	Not Reported
Note:	Not Reported		

**Z96
WNW
1/2 - 1 Mile
Higher**

FED USGS USGS40000270360

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2357-07 W198-1 WAI	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19380101
Well Depth:	212	Well Depth Units:	ft

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Well Hole Depth: Not Reported Well Hole Depth Units: Not Reported

**Z97
WNW
1/2 - 1 Mile
Higher**

HI WELLS HI1200000001641

Well #:	3-2357-007	Pump Rate (g/m):	0
Well Owner:	Great Pearl Land Company, LLC		
Land Owner:	Great Pearl Land Company, LLC		
Well Use:	Unused	Well Name:	Waiau
Original Well Name:	Not Reported	Driller:	W. Mullin
Well Construction Type:	Not Reported	Casing Diameter (in):	6
Ground Elevation (ft):	22.5	Well Depth (ft):	212
Solid Casing Depth:	124	Perforated Casing Depth:	0
Major Well Use:	Unused	Initial Water Level (ft):	14.5
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	384	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	0
Test Chloride Content (MG/L):	0	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	0
Draft Year:	Not Reported	Hole Bottom Elevation:	-189.5
Solid Casing Bottom Elevation:	-101.5	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	01-JAN-38
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

**AA98
NW
1/2 - 1 Mile
Higher**

HI WELLS HI1200000001657

Well #:	3-2357-023	Pump Rate (g/m):	700
Well Owner:	Honolulu Board of Water Supply, BWS		
Land Owner:	Not Reported	Well Use:	County
Well Name:	Kaahumanu I-2	Original Well Name:	Not Reported
Driller:	Water Resources International, Inc.		
Well Construction Type:	Rotary	Casing Diameter (in):	16
Ground Elevation (ft):	49	Well Depth (ft):	230
Solid Casing Depth:	90	Perforated Casing Depth:	0
Major Well Use:	County	Initial Water Level (ft):	17.3
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	0	Date Tested:	06-JAN-75
Test Pump Rate (g/m):	1020	Test Drawdown Rate(ft):	17.3
Test Chloride Content (MG/L):	246	Test Water Temp:	21.7
Temp Unit:	C	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	1978
Draft Year:	Not Reported	Hole Bottom Elevation:	-181
Solid Casing Bottom Elevation:	-41	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	1.008	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	05-JAN-75
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

Y99
SE
1/2 - 1 Mile
Higher

HI WELLS HI120000001422

Well #:	3-2256-012	Pump Rate (g/m):	0
Well Owner:	NAVFAC Pacific	Land Owner:	NAVFAC Pacific
Well Use:	Observation	Well Name:	FW 3
Original Well Name:	Aiea	Driller:	L. McCandless
Well Construction Type:	Not Reported	Casing Diameter (in):	12
Ground Elevation (ft):	11	Well Depth (ft):	182
Solid Casing Depth:	139	Perforated Casing Depth:	0
Major Well Use:	Observation	Initial Water Level (ft):	23
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	99	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	0
Test Chloride Content (MG/L):	0	Test Water Temp:	23
Temp Unit:	C	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	0
Draft Year:	Not Reported	Hole Bottom Elevation:	-171
Solid Casing Bottom Elevation:	-128	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	01-JAN-23
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

Y100
SE
1/2 - 1 Mile
Higher

HI WELLS HI120000001420

Well #:	3-2256-010	Pump Rate (g/m):	0
Well Owner:	State of Hawaii	Land Owner:	State of Hawaii
Well Use:	Observation	Well Name:	FW 1
Original Well Name:	Aiea	Driller:	L. McCandless
Well Construction Type:	Not Reported	Casing Diameter (in):	12
Ground Elevation (ft):	11	Well Depth (ft):	173
Solid Casing Depth:	143	Perforated Casing Depth:	0
Major Well Use:	Observation	Initial Water Level (ft):	23
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	130	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	0
Test Chloride Content (MG/L):	0	Test Water Temp:	23.5
Temp Unit:	C	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	0
Draft Year:	Not Reported	Hole Bottom Elevation:	-162
Solid Casing Bottom Elevation:	-132	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	01-JAN-22
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

Y101
SE
1/2 - 1 Mile
Higher

HI WELLS HI1200000001421

Well #:	3-2256-011	Pump Rate (g/m):	0
Well Owner:	State of Hawaii	Land Owner:	State of Hawaii
Well Use:	Unused	Well Name:	FW 2
Original Well Name:	Aiea	Driller:	L. McCandless
Well Construction Type:	Not Reported	Casing Diameter (in):	12
Ground Elevation (ft):	14	Well Depth (ft):	210
Solid Casing Depth:	144	Perforated Casing Depth:	0
Major Well Use:	Unused	Initial Water Level (ft):	23
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	98	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	0
Test Chloride Content (MG/L):	0	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	0
Draft Year:	Not Reported	Hole Bottom Elevation:	-196
Solid Casing Bottom Elevation:	-130	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	01-JAN-23
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

Y102
SE
1/2 - 1 Mile
Higher

FED USGS USGS40000270213

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2256-10 Aiea US Navy, (187-B), Oahu, HI	Description:	Not Reported
Type:	Well	Drainage Area:	Not Reported
HUC:	20060000	Contrib Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Aquifer:	Hawaii volcanic-rock aquifers
Contrib Drainage Area Unts:	Not Reported	Construction Date:	19230301
Formation Type:	Koolau Volcanic Series, Lava Flows	Well Depth Units:	ft
Aquifer Type:	Confined single aquifer	Well Hole Depth Units:	ft
Well Depth:	173		
Well Hole Depth:	173		

Ground water levels,Number of Measurements:	25	Level reading date:	2002-09-17
Feet below surface:	Not Reported	Feet to sea level:	14.83
Note:	The site was flowing, but the head could not be measured without additional equipment.		

Level reading date:	2002-07-18	Feet below surface:	Not Reported
Feet to sea level:	14.95		
Note:	The site was flowing, but the head could not be measured without additional equipment.		

Level reading date:	2002-05-16	Feet below surface:	Not Reported
Feet to sea level:	15.30		
Note:	The site was flowing, but the head could not be measured without additional equipment.		

Level reading date:	2002-03-25	Feet below surface:	Not Reported
Feet to sea level:	15.04		
Note:	The site was flowing, but the head could not be measured without additional equipment.		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	2001-12-27	Feet below surface:	Not Reported
Feet to sea level:	14.89		
Note:	The site was flowing, but the head could not be measured without additional equipment.		
Level reading date:	2001-10-12	Feet below surface:	Not Reported
Feet to sea level:	14.19		
Note:	The site was flowing, but the head could not be measured without additional equipment.		
Level reading date:	2001-09-25	Feet below surface:	Not Reported
Feet to sea level:	Not Reported		
Note:	The site was flowing, but the head could not be measured without additional equipment.		
Level reading date:	2001-08-08	Feet below surface:	Not Reported
Feet to sea level:	Not Reported		
Note:	The site was flowing, but the head could not be measured without additional equipment.		
Level reading date:	2001-06-14	Feet below surface:	Not Reported
Feet to sea level:	Not Reported		
Note:	The site was flowing, but the head could not be measured without additional equipment.		
Level reading date:	2001-03-15	Feet below surface:	Not Reported
Feet to sea level:	14.78		
Note:	The site was flowing, but the head could not be measured without additional equipment.		
Level reading date:	2001-03-13	Feet below surface:	Not Reported
Feet to sea level:	Not Reported		
Note:	The site was flowing, but the head could not be measured without additional equipment.		
Level reading date:	2000-11-07	Feet below surface:	Not Reported
Feet to sea level:	14.93		
Note:	The site was flowing, but the head could not be measured without additional equipment.		
Level reading date:	2000-09-20	Feet below surface:	Not Reported
Feet to sea level:	14.91		
Note:	A nearby site that taps the same aquifer was flowing.		
Level reading date:	2000-07-21	Feet below surface:	Not Reported
Feet to sea level:	14.98		
Note:	A nearby site that taps the same aquifer was flowing.		
Level reading date:	2000-05-23	Feet below surface:	Not Reported
Feet to sea level:	15.21		
Note:	A nearby site that taps the same aquifer was flowing.		
Level reading date:	2000-04-04	Feet below surface:	Not Reported
Feet to sea level:	15.57		
Note:	A nearby site that taps the same aquifer was flowing.		
Level reading date:	2000-01-06	Feet below surface:	Not Reported
Feet to sea level:	15.85		
Note:	A nearby site that taps the same aquifer was flowing.		
Level reading date:	1999-11-08	Feet below surface:	Not Reported
Feet to sea level:	15.58		
Note:	A nearby site that taps the same aquifer was flowing.		
Level reading date:	1999-09-13	Feet below surface:	Not Reported
Feet to sea level:	15.35	Note:	Not Reported
Level reading date:	1999-07-29	Feet below surface:	Not Reported
Feet to sea level:	15.60	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1999-07-13	Feet below surface:	Not Reported
Feet to sea level:	15.54	Note:	Not Reported
Level reading date:	1999-06-09	Feet below surface:	Not Reported
Feet to sea level:	15.53	Note:	Not Reported
Level reading date:	1999-02-05	Feet below surface:	Not Reported
Feet to sea level:	15.6	Note:	Not Reported
Level reading date:	1998-10-19	Feet below surface:	Not Reported
Feet to sea level:	14.89	Note:	Not Reported
Level reading date:	1928-01-16	Feet below surface:	-16.00
Feet to sea level:	Not Reported	Note:	Not Reported

X103
ENE
1/2 - 1 Mile
Higher

FED USGS USGS40000270311

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-58 ,59	Type:	Well: Multiple wells
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

X104
ENE
1/2 - 1 Mile
Higher

FED USGS USGS40000270312

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-58 AIEA	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19730913
Well Depth:	341	Well Depth Units:	ft
Well Hole Depth:	341	Well Hole Depth Units:	ft

X105
ENE
1/2 - 1 Mile
Higher

FED USGS USGS40000270313

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-59	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19731103

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Well Depth:	345	Well Depth Units:	ft
Well Hole Depth:	345	Well Hole Depth Units:	ft

**AA106
NW
1/2 - 1 Mile
Higher**

HI WELLS HI1200000001658

Well #:	3-2357-024	Pump Rate (g/m):	700
Well Owner:	Honolulu Board of Water Supply, BWS		
Land Owner:	Not Reported	Well Use:	County
Well Name:	Kaahumanu I-1	Original Well Name:	Not Reported
Driller:	Water Resources International, Inc.		
Well Construction Type:	Rotary	Casing Diameter (in):	16
Ground Elevation (ft):	45	Well Depth (ft):	265
Solid Casing Depth:	125	Perforated Casing Depth:	0
Major Well Use:	County	Initial Water Level (ft):	14
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	0	Date Tested:	Not Reported
Test Pump Rate (g/m):	800	Test Drawdown Rate(ft):	9.8
Test Chloride Content (MG/L):	206	Test Water Temp:	21.8
Temp Unit:	C	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	1978
Draft Year:	Not Reported	Hole Bottom Elevation:	-220
Solid Casing Bottom Elevation:	-80	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	1.008	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	01-JAN-75
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

**X107
ENE
1/2 - 1 Mile
Higher**

HI WELLS HI1200000001623

Well #:	3-2356-059	Pump Rate (g/m):	1500
Well Owner:	Honolulu Board of Water Supply, BWS		
Land Owner:	Honolulu Board of Water Supply, BWS		
Well Use:	County	Well Name:	Kaamilo 2
Original Well Name:	Not Reported	Driller:	Roscoe Moss Hawaii Inc
Well Construction Type:	Percussion	Casing Diameter (in):	16
Ground Elevation (ft):	148	Well Depth (ft):	340
Solid Casing Depth:	190	Perforated Casing Depth:	0
Major Well Use:	County	Initial Water Level (ft):	8.7
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	98	Date Tested:	22-OCT-73
Test Pump Rate (g/m):	3000	Test Drawdown Rate(ft):	.9
Test Chloride Content (MG/L):	98	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	1977
Draft Year:	Not Reported	Hole Bottom Elevation:	-192
Solid Casing Bottom Elevation:	-42	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	2.16	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	01-NOV-73
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

AA108
NW
1/2 - 1 Mile
Higher

FED USGS USGS40000270408

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2357-23 WAIU	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19741201
Well Depth:	230	Well Depth Units:	ft
Well Hole Depth:	341	Well Hole Depth Units:	ft

Ground water levels, Number of Measurements:	1	Level reading date:	1975-01-06
Feet below surface:	31.70	Feet to sea level:	Not Reported
Note:	Not Reported		

Z109
WNW
1/2 - 1 Mile
Higher

HI WELLS HI1200000001642

Well #:	3-2357-008	Pump Rate (g/m):	0
Well Owner:	R K J Lee Properties	Well Use:	Unused
Land Owner:	Not Reported	Original Well Name:	Not Reported
Well Name:	Waiau	Well Construction Type:	Not Reported
Driller:	W. Mullin	Ground Elevation (ft):	22
Casing Diameter (in):	6	Solid Casing Depth:	20
Well Depth (ft):	72	Major Well Use:	Unused
Perforated Casing Depth:	0	Water Level After Drilling:	0
Initial Water Level (ft):	0	Chloride Content (mg/L):	116
Water Level After Install:	0	Test Pump Rate (g/m):	0
Date Tested:	Not Reported	Test Chloride Content (MG/L):	0
Test Drawdown Rate(ft):	0	Temp Unit:	Not Reported
Test Water Temp:	0	Minimum Chloride Level:	Not Reported
Max Chloride Level:	Not Reported	Draft Year:	Not Reported
Year Installed:	0	Solid Casing Bottom Elevation:	2
Hole Bottom Elevation:	-50	Pump Capacity (MM gal/day):	0
Perforated Casing Bottom Elevation:	0	Latest Head:	Not Reported
Pump Intake Depth:	0	Latest WCR2 Report:	Not Reported
Latest WCR1 Report:	01-JAN-38	Min to Pump 5 Volumes:	0
Transmissivity:	0		

AA110
NW
1/2 - 1 Mile
Higher

FED USGS USGS40000270409

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2357-23,24 WAIU	Type:	Well: Multiple wells
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

AB111
ESE
1/2 - 1 Mile
Higher

FED USGS USGS40000270242

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2256-05 W189-A	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19080101
Well Depth:	344	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

AB112
ESE
1/2 - 1 Mile
Higher

HI WELLS HI1200000001415

Well #:	3-2256-005	Pump Rate (g/m):	0
Well Owner:	Oahu Sugar Co., Ltd., OSCo.	Well Use:	Abandoned-Sealed
Land Owner:	Not Reported	Original Well Name:	Aiea 5
Well Name:	Aiea	Well Construction Type:	Not Reported
Driller:	Not Reported	Ground Elevation (ft):	38
Casing Diameter (in):	12	Solid Casing Depth:	87
Well Depth (ft):	344	Major Well Use:	Abandoned-Sealed
Perforated Casing Depth:	0	Water Level After Drilling:	0
Initial Water Level (ft):	0	Chloride Content (mg/L):	0
Water Level After Install:	0	Test Pump Rate (g/m):	0
Date Tested:	Not Reported	Test Chloride Content (MG/L):	0
Test Drawdown Rate(ft):	0	Temp Unit:	Not Reported
Test Water Temp:	0	Minimum Chloride Level:	Not Reported
Max Chloride Level:	Not Reported	Draft Year:	Not Reported
Year Installed:	0	Solid Casing Bottom Elevation:	-49
Hole Bottom Elevation:	-306	Pump Capacity (MM gal/day):	0
Perforated Casing Bottom Elevation:	0	Latest Head:	Not Reported
Pump Intake Depth:	0	Latest WCR2 Report:	Not Reported
Latest WCR1 Report:	01-JAN-08	Min to Pump 5 Volumes:	0
Transmissivity:	0		

Z113
WNW
1/2 - 1 Mile
Higher

FED USGS USGS40000270361

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2357-08 W198-2 WAI	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer Type:	Not Reported	Construction Date:	19380101
Well Depth:	72	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

AB114
ESE
1/2 - 1 Mile
Higher

FED USGS USGS40000270241

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2256-06 W189-B	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19080101
Well Depth:	338	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

AB115
ESE
1/2 - 1 Mile
Higher

HI WELLS HI1200000001416

Well #:	3-2256-006	Pump Rate (g/m):	0
Well Owner:	Oahu Sugar Co., Ltd., OSCo.	Well Use:	Abandoned-Sealed
Land Owner:	Not Reported	Original Well Name:	Not Reported
Well Name:	Aiea	Well Construction Type:	Not Reported
Driller:	Not Reported	Ground Elevation (ft):	38
Casing Diameter (in):	12	Solid Casing Depth:	93
Well Depth (ft):	338	Major Well Use:	Abandoned-Sealed
Perforated Casing Depth:	0	Water Level After Drilling:	0
Initial Water Level (ft):	0	Chloride Content (mg/L):	0
Water Level After Install:	0	Test Pump Rate (g/m):	0
Date Tested:	Not Reported	Test Chloride Content (MG/L):	0
Test Drawdown Rate(ft):	0	Temp Unit:	Not Reported
Test Water Temp:	0	Minimum Chloride Level:	Not Reported
Max Chloride Level:	Not Reported	Draft Year:	Not Reported
Year Installed:	0	Solid Casing Bottom Elevation:	-55
Hole Bottom Elevation:	-300	Pump Capacity (MM gal/day):	0
Perforated Casing Bottom Elevation:	0	Latest Head:	Not Reported
Pump Intake Depth:	0	Latest WCR2 Report:	Not Reported
Latest WCR1 Report:	01-JAN-08	Min to Pump 5 Volumes:	0
Transmissivity:	0		

AB116
ESE
1/2 - 1 Mile
Higher

FED USGS USGS40000270236

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2256-05 TO 09	Type:	Well: Multiple wells
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

AB117
ESE
1/2 - 1 Mile
Higher

FED USGS USGS40000270237

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2256-07 W189-C	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19080101
Well Depth:	345	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

AB118
ESE
1/2 - 1 Mile
Higher

HI WELLS HI1200000001417

Well #:	3-2256-007	Pump Rate (g/m):	0
Well Owner:	Oahu Sugar Co., Ltd., OSCo.	Well Use:	Abandoned-Sealed
Land Owner:	Not Reported	Original Well Name:	Not Reported
Well Name:	Aiea	Well Construction Type:	Not Reported
Driller:	Not Reported	Ground Elevation (ft):	38
Casing Diameter (in):	12	Solid Casing Depth:	71
Well Depth (ft):	345	Major Well Use:	Abandoned-Sealed
Perforated Casing Depth:	0	Water Level After Drilling:	0
Initial Water Level (ft):	0	Chloride Content (mg/L):	0
Water Level After Install:	0	Test Pump Rate (g/m):	0
Date Tested:	Not Reported	Test Chloride Content (MG/L):	0
Test Drawdown Rate(ft):	0	Temp Unit:	Not Reported
Test Water Temp:	0	Minimum Chloride Level:	Not Reported
Max Chloride Level:	Not Reported	Draft Year:	Not Reported
Year Installed:	0	Solid Casing Bottom Elevation:	-33
Hole Bottom Elevation:	-307	Pump Capacity (MM gal/day):	0
Perforated Casing Bottom Elevation:	0	Latest Head:	Not Reported
Pump Intake Depth:	0	Latest WCR2 Report:	Not Reported
Latest WCR1 Report:	01-JAN-08	Min to Pump 5 Volumes:	0
Transmissivity:	0		

AA119
NW
1/2 - 1 Mile
Higher

FED USGS USGS40000270410

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2357-24 WAI AU	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer Type:	Not Reported	Construction Date:	19750901
Well Depth:	266	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels, Number of Measurements:	1	Level reading date:	1975-09-24
Feet below surface:	31.60	Feet to sea level:	Not Reported
Note:	Not Reported		

AB120
ESE
1/2 - 1 Mile
Higher

HI WELLS HI1200000001418

Well #:	3-2256-008	Pump Rate (g/m):	0
Well Owner:	Oahu Sugar Co., Ltd., OSCo.	Well Use:	Abandoned-Sealed
Land Owner:	Not Reported	Original Well Name:	Not Reported
Well Name:	Aiea	Well Construction Type:	Not Reported
Driller:	Not Reported	Ground Elevation (ft):	38
Casing Diameter (in):	12	Solid Casing Depth:	98
Well Depth (ft):	359	Major Well Use:	Abandoned-Sealed
Perforated Casing Depth:	0	Water Level After Drilling:	0
Initial Water Level (ft):	0	Chloride Content (mg/L):	0
Water Level After Install:	0	Test Pump Rate (g/m):	0
Date Tested:	Not Reported	Test Chloride Content (MG/L):	0
Test Drawdown Rate(ft):	0	Temp Unit:	Not Reported
Test Water Temp:	0	Minimum Chloride Level:	Not Reported
Max Chloride Level:	Not Reported	Draft Year:	Not Reported
Year Installed:	0	Solid Casing Bottom Elevation:	-60
Hole Bottom Elevation:	-321	Pump Capacity (MM gal/day):	0
Perforated Casing Bottom Elevation:	0	Latest Head:	Not Reported
Pump Intake Depth:	0	Latest WCR2 Report:	Not Reported
Latest WCR1 Report:	01-JAN-08	Min to Pump 5 Volumes:	0
Transmissivity:	0		

AB121
ESE
1/2 - 1 Mile
Higher

FED USGS USGS40000270233

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2256-08 W189-D	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19080101
Well Depth:	359	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

AB122
ESE
1/2 - 1 Mile
Higher

HI WELLS HI1200000001419

Well #:	3-2256-009	Pump Rate (g/m):	0
Well Owner:	Oahu Sugar Co., Ltd., OSCo.		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Land Owner:	Not Reported	Well Use:	Abandoned-Sealed
Well Name:	Aiea	Original Well Name:	Not Reported
Driller:	Not Reported	Well Construction Type:	Not Reported
Casing Diameter (in):	12	Ground Elevation (ft):	45
Well Depth (ft):	0	Solid Casing Depth:	80
Perforated Casing Depth:	98	Major Well Use:	Abandoned-Sealed
Initial Water Level (ft):	0	Water Level After Drilling:	0
Water Level After Install:	0	Chloride Content (mg/L):	0
Date Tested:	Not Reported	Test Pump Rate (g/m):	0
Test Drawdown Rate(ft):	0	Test Chloride Content (MG/L):	0
Test Water Temp:	0	Temp Unit:	Not Reported
Max Chloride Level:	Not Reported	Minimum Chloride Level:	Not Reported
Year Installed:	0	Draft Year:	Not Reported
Hole Bottom Elevation:	0	Solid Casing Bottom Elevation:	-35
Perforated Casing Bottom Elevation:	-53	Pump Capacity (MM gal/day):	0
Pump Intake Depth:	0	Latest Head:	Not Reported
Latest WCR1 Report:	01-JAN-08	Latest WCR2 Report:	Not Reported
Transmissivity:	0	Min to Pump 5 Volumes:	0

AB123

ESE
1/2 - 1 Mile
Higher

FED USGS

USGS40000270230

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2256-09 W189-E	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19080101
Well Depth:	346	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

AC124

NNE
1/2 - 1 Mile
Higher

HI WELLS

HI1200000001619

Well #:	3-2356-055	Pump Rate (g/m):	1500
Well Owner:	Honolulu Board of Water Supply, BWS		
Land Owner:	Honolulu Board of Water Supply, BWS		
Well Use:	County	Well Name:	Kaonohi I-2
Original Well Name:	Not Reported	Driller:	Layne International
Well Construction Type:	Not Reported	Casing Diameter (in):	16
Ground Elevation (ft):	252	Well Depth (ft):	542
Solid Casing Depth:	289	Perforated Casing Depth:	0
Major Well Use:	County	Initial Water Level (ft):	0
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	0	Date Tested:	Not Reported
Test Pump Rate (g/m):	2600	Test Drawdown Rate(ft):	9.9
Test Chloride Content (MG/L):	0	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	1977
Draft Year:	Not Reported	Hole Bottom Elevation:	-290
Solid Casing Bottom Elevation:	-37	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	2.16	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	01-JAN-66

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

AC125
NNE
1/2 - 1 Mile
Higher

FED USGS USGS40000270461

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-55 ,56	Type:	Well: Multiple wells
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

AC126
NNE
1/2 - 1 Mile
Higher

FED USGS USGS40000270462

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-55 W191-3A AI	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19660101
Well Depth:	542	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

AC127
NNE
1/2 - 1 Mile
Higher

HI WELLS HI1200000001620

Well #:	3-2356-056	Pump Rate (g/m):	1500
Well Owner:	Honolulu Board of Water Supply, BWS		
Land Owner:	Honolulu Board of Water Supply, BWS		
Well Use:	County	Well Name:	Kaonoahi I-1
Original Well Name:	Not Reported	Driller:	Layne International
Well Construction Type:	Not Reported	Casing Diameter (in):	16
Ground Elevation (ft):	252	Well Depth (ft):	549
Solid Casing Depth:	296	Perforated Casing Depth:	0
Major Well Use:	County	Initial Water Level (ft):	8.6
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	174	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	7.8
Test Chloride Content (MG/L):	0	Test Water Temp:	0
Temp Unit:	Not Reported	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	1977
Draft Year:	Not Reported	Hole Bottom Elevation:	-297
Solid Casing Bottom Elevation:	-44	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	2.16	Pump Intake Depth:	0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Latest Head:	Not Reported	Latest WCR1 Report:	01-JAN-66
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

AC128
NNE
1/2 - 1 Mile
Higher

FED USGS USGS40000270470

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2356-56 W191-3B AE	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19660101
Well Depth:	549	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

AD129
WNW
1/2 - 1 Mile
Higher

HI WELLS HI1200000001655

Well #:	3-2357-021	Pump Rate (g/m):	0
Well Owner:	Honolulu Laundry Company, LTD		
Land Owner:	Honolulu Laundry Company, LTD		
Well Use:	Abandoned-Lost	Well Name:	Waiau
Original Well Name:	Not Reported		
Driller:	Goodfellow Construction, Inc. Corporate		
Well Construction Type:	Not Reported	Casing Diameter (in):	8
Ground Elevation (ft):	11	Well Depth (ft):	167
Solid Casing Depth:	67	Perforated Casing Depth:	0
Major Well Use:	Abandoned-Lost	Initial Water Level (ft):	17.3
Water Level After Drilling:	0	Water Level After Install:	0
Chloride Content (mg/L):	229	Date Tested:	Not Reported
Test Pump Rate (g/m):	0	Test Drawdown Rate(ft):	0
Test Chloride Content (MG/L):	0	Test Water Temp:	21
Temp Unit:	C	Max Chloride Level:	Not Reported
Minimum Chloride Level:	Not Reported	Year Installed:	0
Draft Year:	Not Reported	Hole Bottom Elevation:	-156
Solid Casing Bottom Elevation:	-56	Perforated Casing Bottom Elevation:	0
Pump Capacity (MM gal/day):	0	Pump Intake Depth:	0
Latest Head:	Not Reported	Latest WCR1 Report:	01-JAN-63
Latest WCR2 Report:	Not Reported	Transmissivity:	0
Min to Pump 5 Volumes:	0		

AD130
WNW
1/2 - 1 Mile
Higher

FED USGS USGS40000270355

Organization ID:	USGS-HI	Organization Name:	USGS Hawaii Water Science Center
Monitor Location:	3-2357-21 W198-3	Type:	Well
Description:	Not Reported	HUC:	20060000
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Hawaii volcanic-rock aquifers	Aquifer Type:	Not Reported
Formation Type:	Not Reported	Well Depth:	167
Construction Date:	19630401	Well Hole Depth:	Not Reported
Well Depth Units:	ft		
Well Hole Depth Units:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for HONOLULU County: 3

- Note: Zone 1 indoor average level > 4 pCi/L.
 : Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
 : Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 96701

Number of sites tested: 13

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	-0.015 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	0.600 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory

Source: Office of Planning

Telephone: 808-587-2895

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Well Index Database

Source: Commission on Water Resource Management

Telephone: 808-587-0214

CWRM maintains a Well Index Database to track specific information pertaining to the construction and installation of production wells in Hawaii.

OTHER STATE DATABASE INFORMATION

RADON

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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Hale Olipoa
98-150 Lipoa Place
Aiea, HI 96701

Inquiry Number: 6816704.3

January 12, 2022

Certified Sanborn® Map Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

01/12/22

Site Name:

Hale Olipoa
98-150 Lipoa Place
Aiea, HI 96701
EDR Inquiry # 6816704.3

Client Name:

Environmental Risk Analysis. LLC
905A Makahiki Way
HONOLULU, HI 96826
Contact: Kristen Caskey



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The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 6265-4330-BA0B
PO # NA
Project Hale O Lipoa

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.



Sanborn® Library search results

Certification #: 6265-4330-BA0B

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- Library of Congress
- University Publications of America
- EDR Private Collection

The Sanborn Library LLC Since 1866™

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Hale Olipoa
98-150 Lipoa Place
Aiea, HI 96701

Inquiry Number: 6816704.4
January 12, 2022

EDR Historical Topo Map Report

with QuadMatch™



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

01/12/22

Site Name:

Hale Olipoa
98-150 Lipoa Place
Aiea, HI 96701
EDR Inquiry # 6816704.4

Client Name:

Environmental Risk Analysis. LLC
905A Makahiki Way
HONOLULU, HI 96826
Contact: Kristen Caskey



EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Environmental Risk Analysis. LLC were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDR's Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:**Coordinates:**

P.O.#	NA	Latitude:	21.381484 21° 22' 53" North
Project:	Hale O Lipoa	Longitude:	-157.944285 -157° 56' 39" West
		UTM Zone:	Zone 4 North
		UTM X Meters:	609442.58
		UTM Y Meters:	2364736.09
		Elevation:	4.50' above sea level

Maps Provided:

2017 1928
2013
1998, 1999
1983
1970
1968
1959
1954

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2017 Source Sheets



Waipahu

7.5-minute, 24000



Pearl Harbor

7.5-minute, 24000

2013 Source Sheets



Waipahu

7.5-minute, 24000



Pearl Harbor

7.5-minute, 24000

1998, 1999 Source Sheets



Waipahu

7.5-minute, 24000
Aerial Photo Revised 1998



Pearl Harbor

7.5-minute, 24000
Aerial Photo Revised 1999

1983 Source Sheets



Pearl Harbor

7.5-minute, 24000
Aerial Photo Revised 1978



Waipahu

7.5-minute, 24000
Aerial Photo Revised 1978

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1970 Source Sheets



OAHU

15-minute, 62500

1968 Source Sheets



Puuloa

7.5-minute, 24000
Aerial Photo Revised 1968



Waipahu

7.5-minute, 24000
Aerial Photo Revised 1968

1959 Source Sheets



Waipahu

7.5-minute, 24000
Aerial Photo Revised 1959



Puuloa

7.5-minute, 24000
Aerial Photo Revised 1959

1954 Source Sheets



Waipahu

7.5-minute, 24000
Aerial Photo Revised 1952



HONOLULUVICINITYNORTH

7.5-minute, 24000

Topo Sheet Key

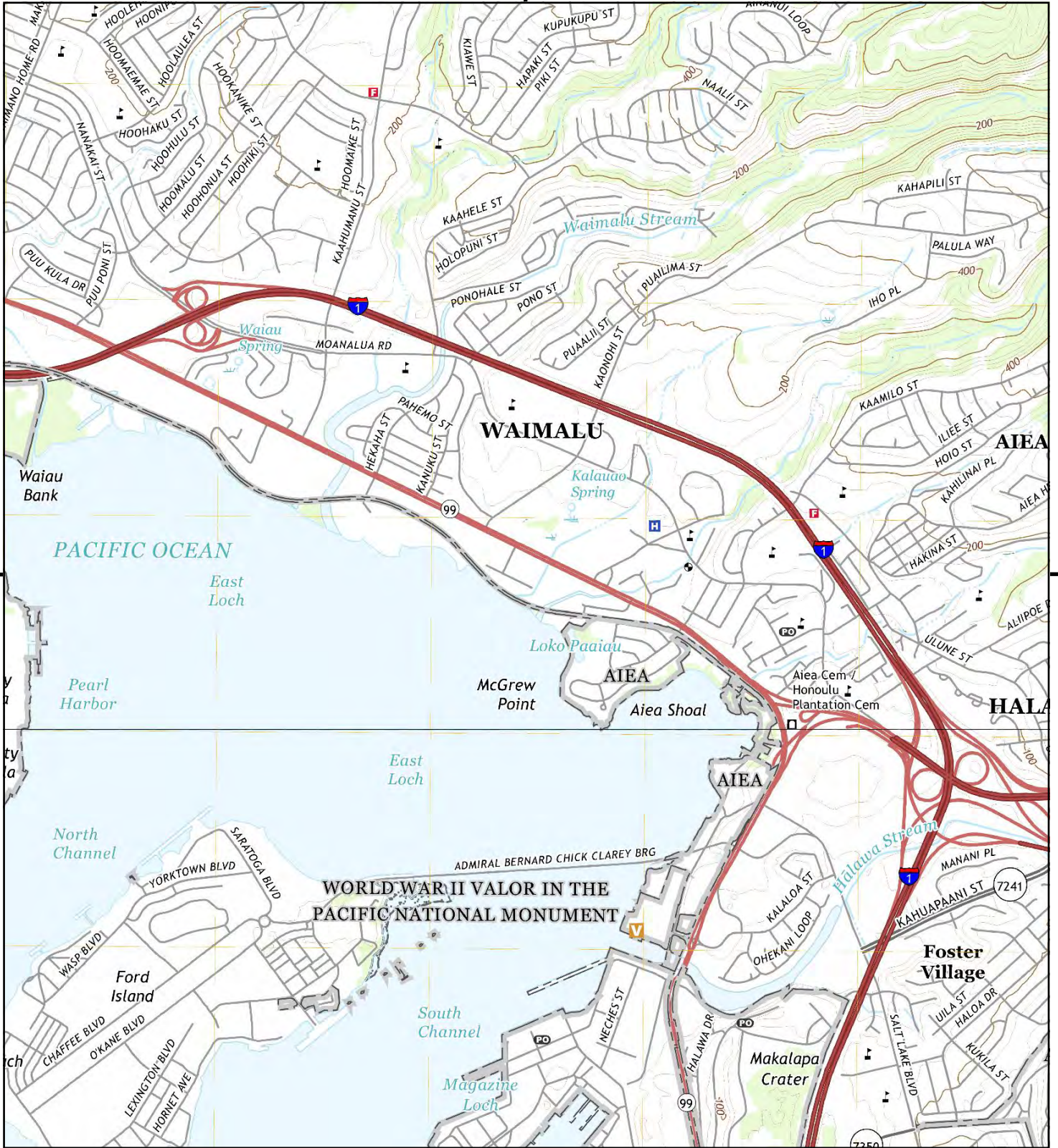
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1928 Source Sheets

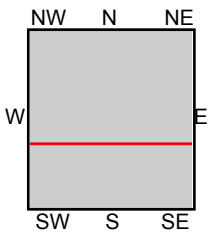
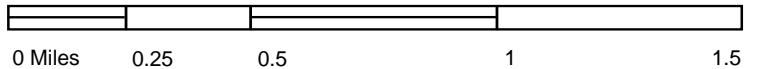


WAIPAHAU

7.5-minute, 20000



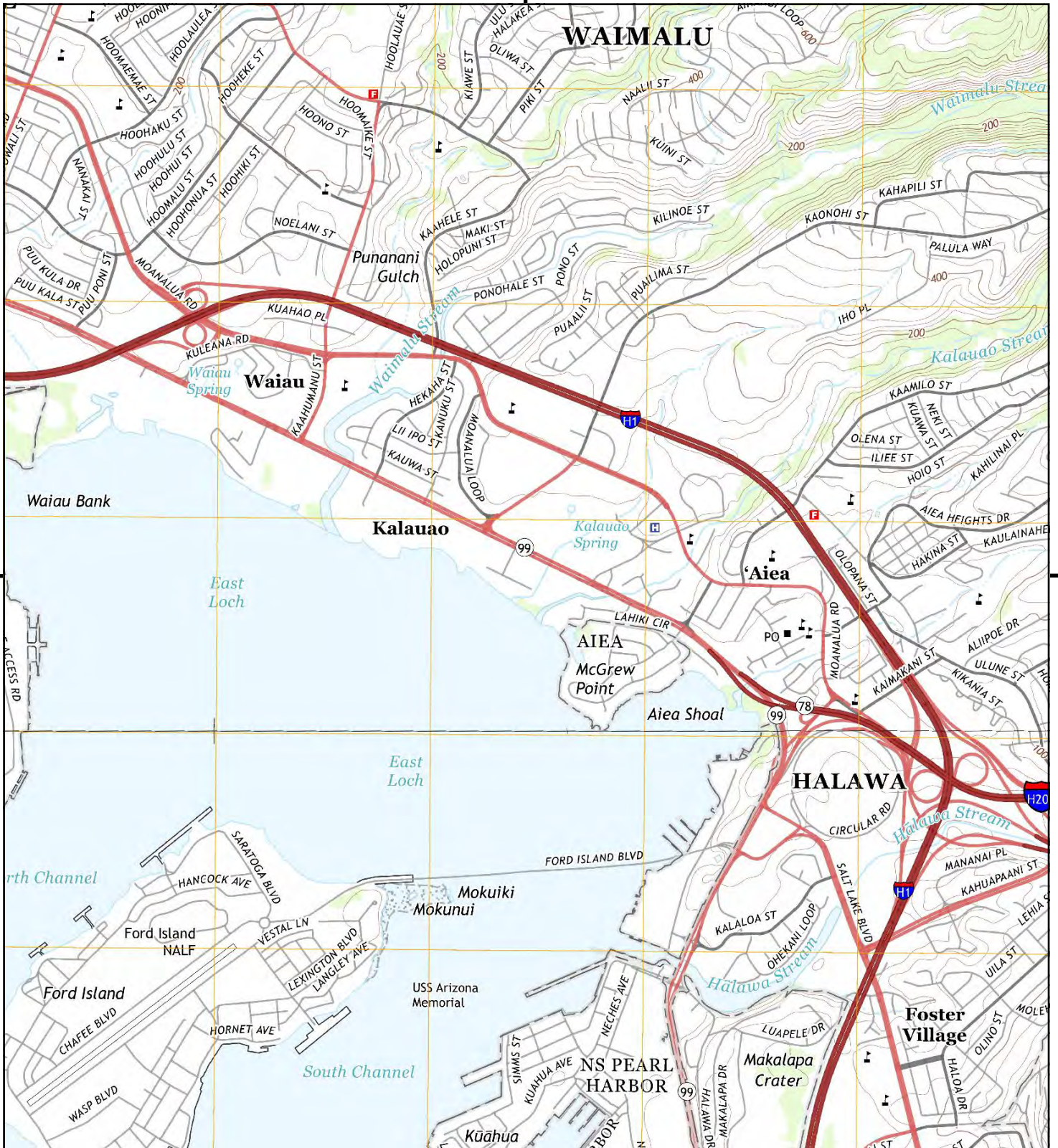
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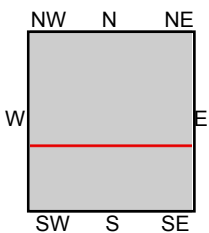
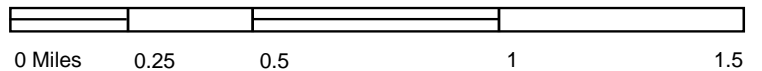
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S, Pearl Harbor, 2017, 7.5-minute

SITE NAME: Hale Olipoa
ADDRESS: 98-150 Lipoa Place
Aiea, HI 96701
CLIENT: Environmental Risk Analysis. LLC





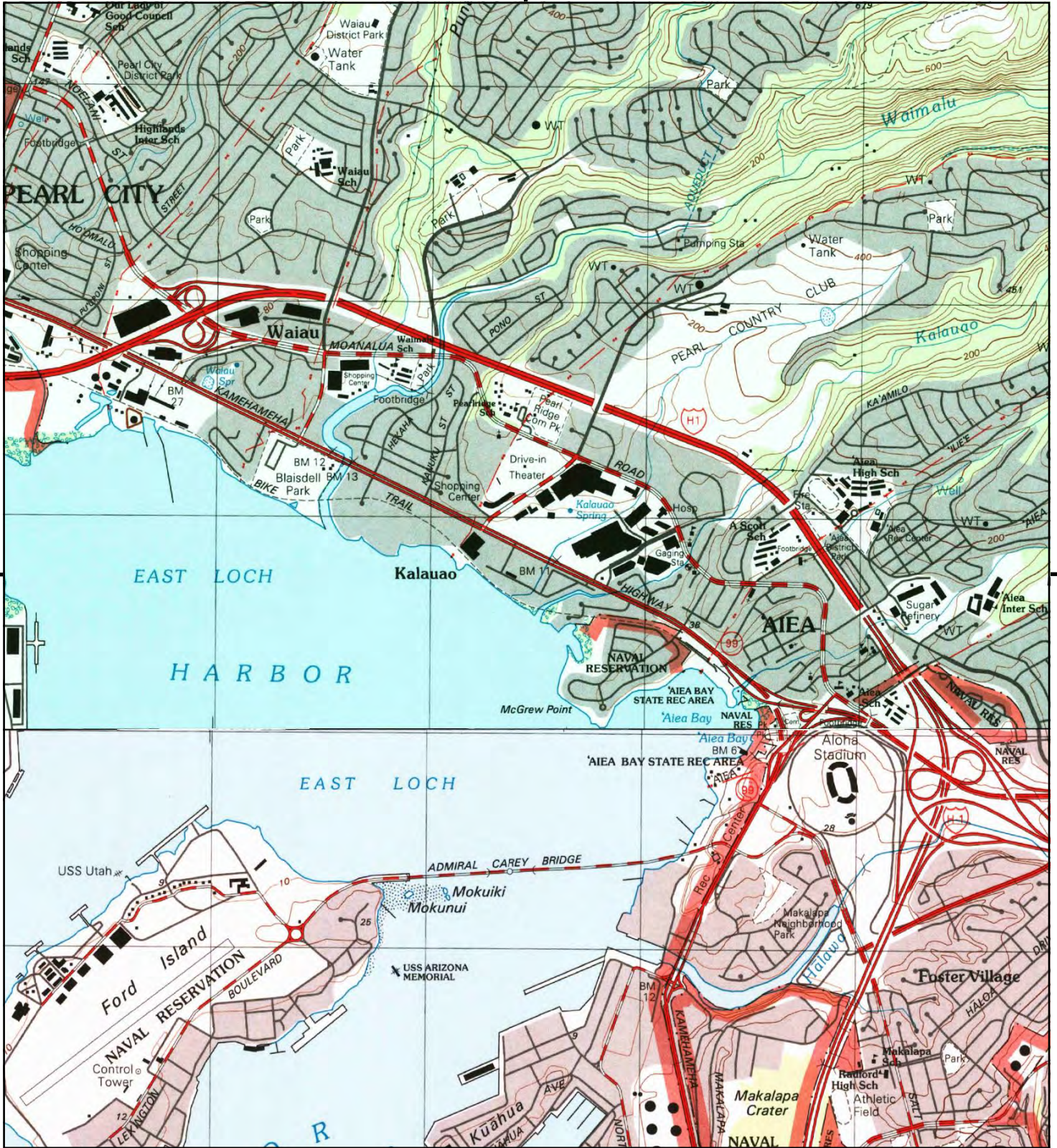
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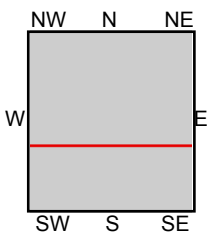
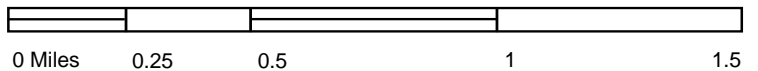
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S, Pearl Harbor, 2013, 7.5-minute

SITE NAME: Hale Olipoa
ADDRESS: 98-150 Lipoa Place
Aiea, HI 96701
CLIENT: Environmental Risk Analysis. LLC





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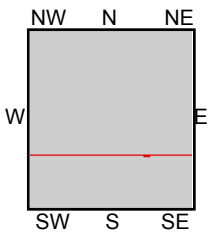
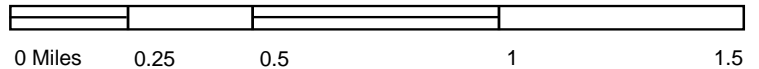
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S, Pearl Harbor, 1999, 7.5-minute

SITE NAME: Hale Olipoa
ADDRESS: 98-150 Lipoa Place
Aiea, HI 96701
CLIENT: Environmental Risk Analysis, LLC





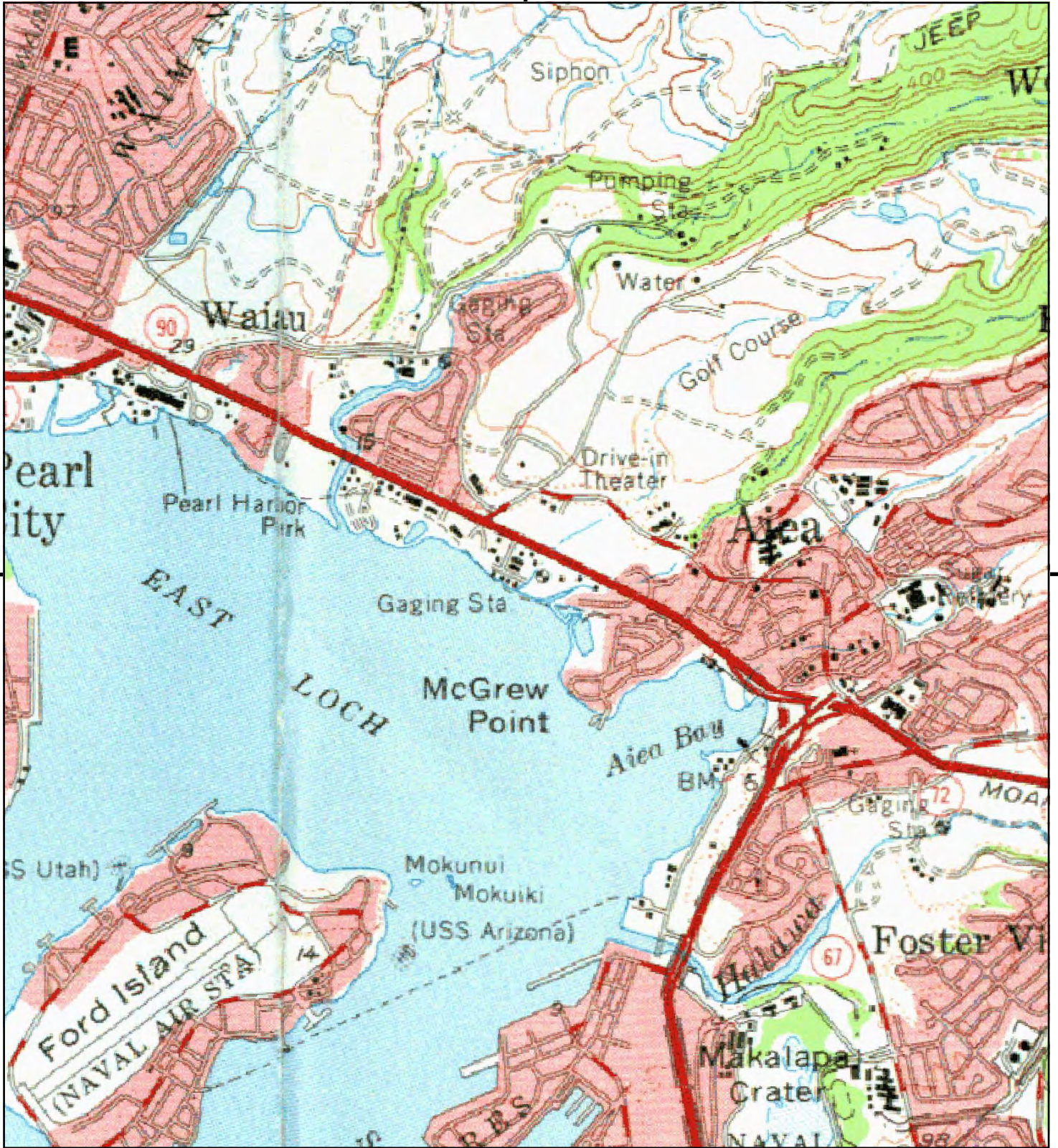
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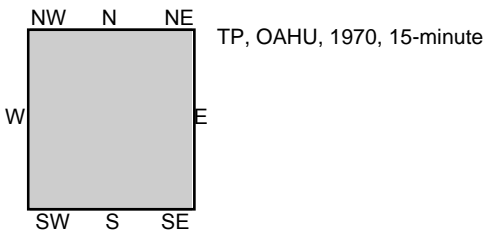
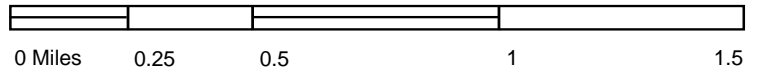
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SITE NAME: Hale Olipoa
ADDRESS: 98-150 Lipoa Place
Aiea, HI 96701
CLIENT: Environmental Risk Analysis, LLC



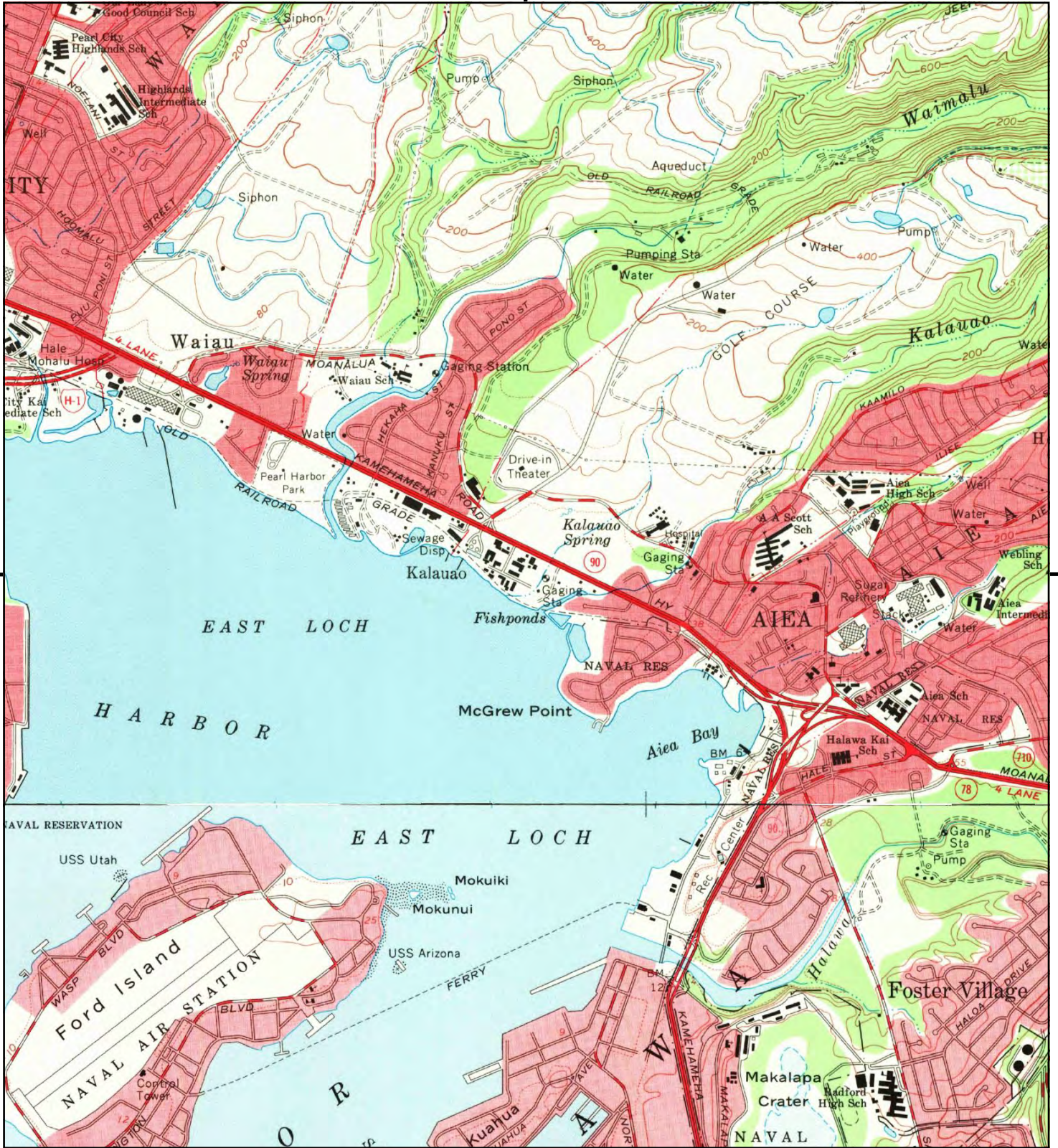


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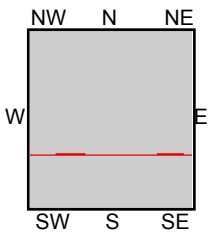
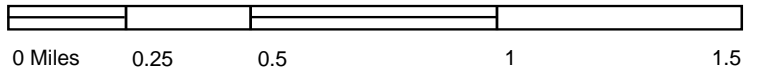


SITE NAME: Hale Olipoa
 ADDRESS: 98-150 Lipoa Place
 Aiea, HI 96701
 CLIENT: Environmental Risk Analysis, LLC





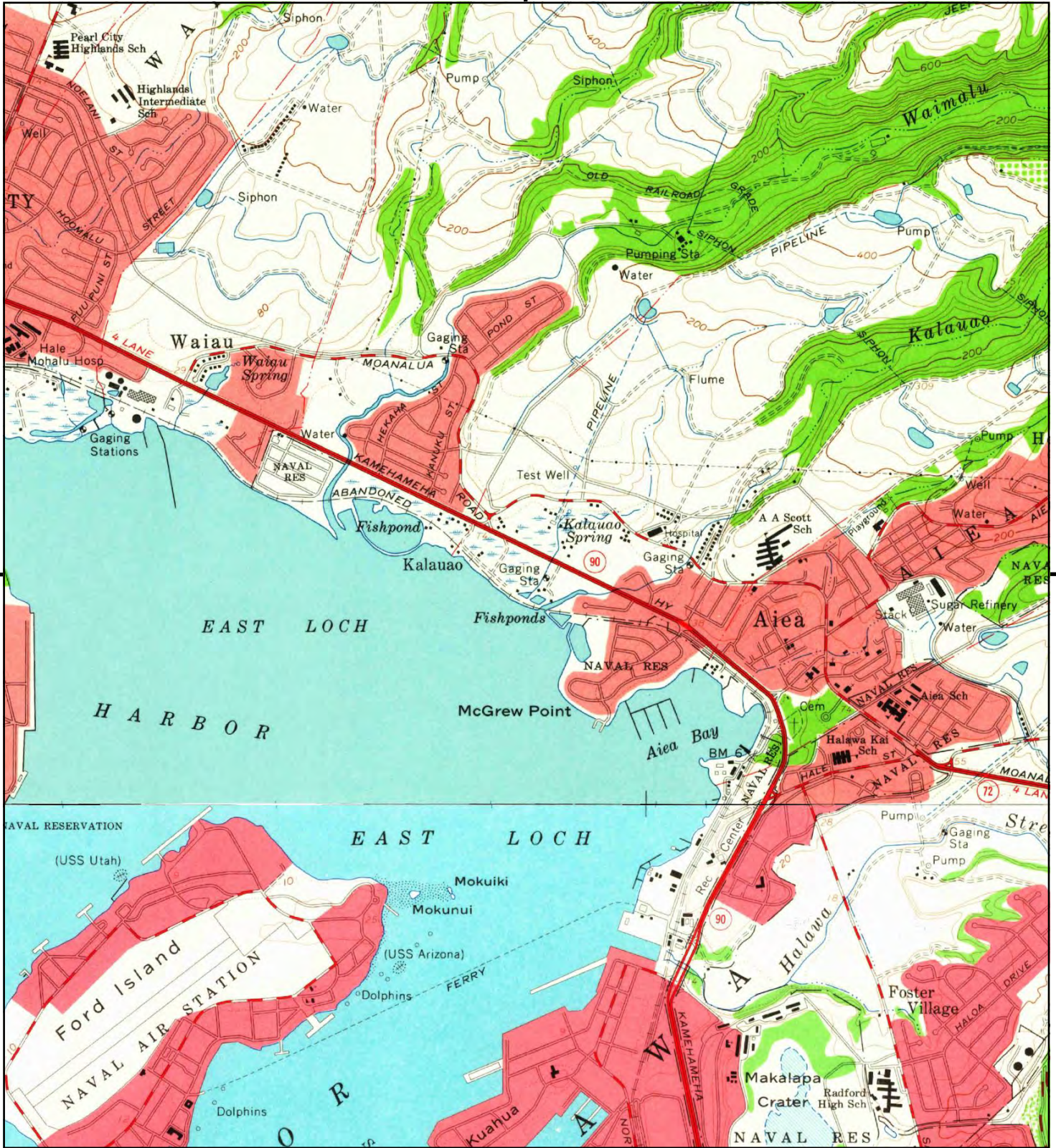
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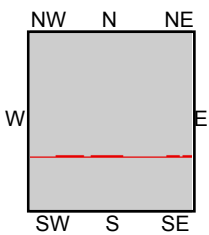
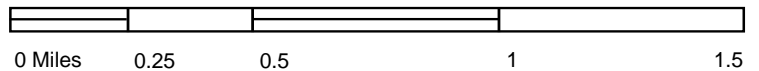
TP, Waipahu, 1968, 7.5-minute
S, Puuloa, 1968, 7.5-minute

SITE NAME: Hale Olipoa
ADDRESS: 98-150 Lipoa Place
Aiea, HI 96701
CLIENT: Environmental Risk Analysis, LLC





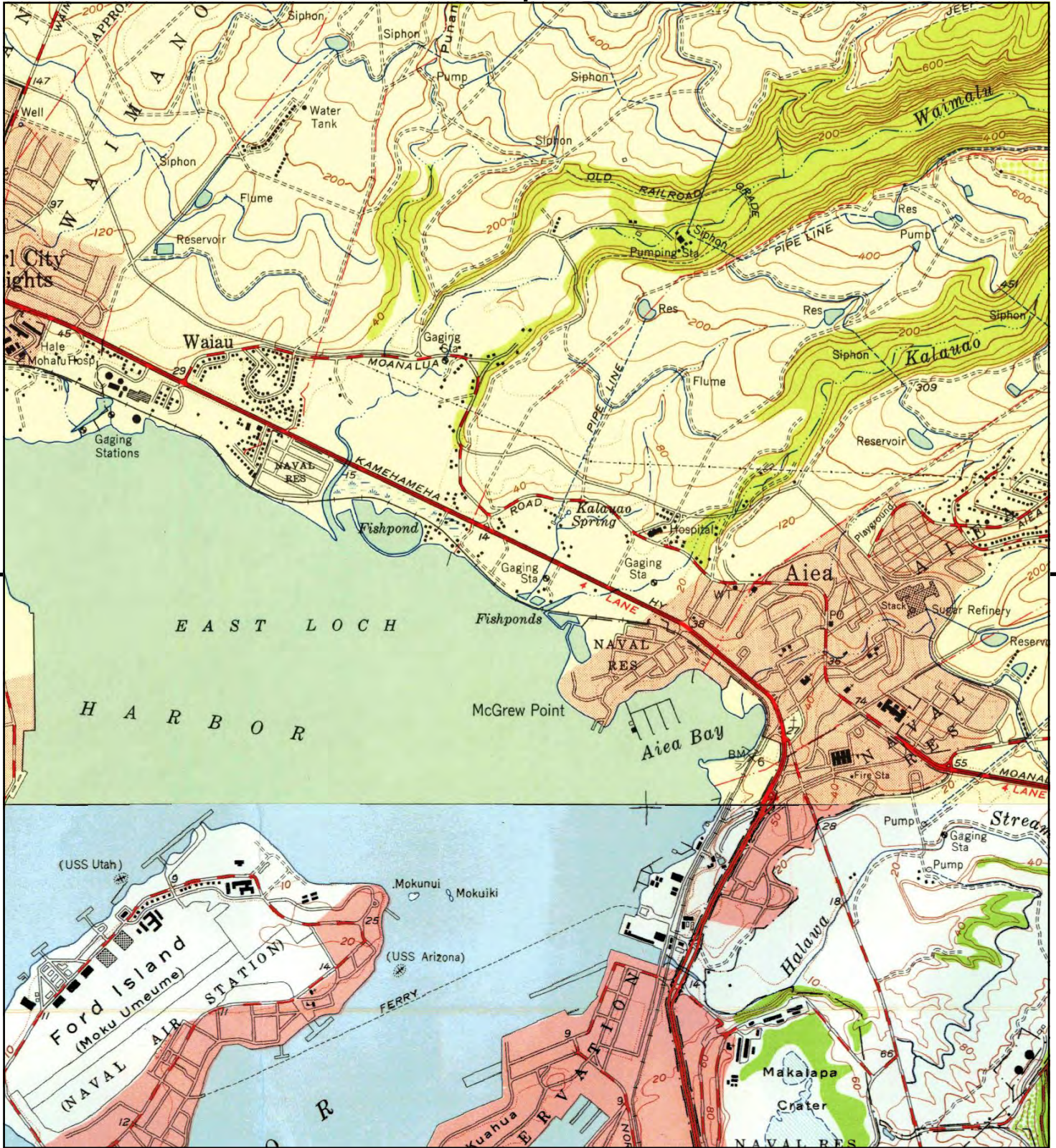
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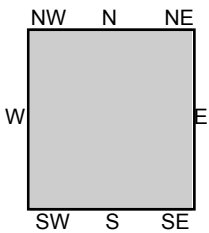
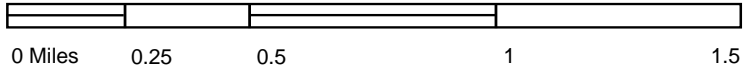
TP, Waipahu, 1959, 7.5-minute
S, Puuloa, 1959, 7.5-minute

SITE NAME: Hale Olipo
ADDRESS: 98-150 Lipoa Place
Aiea, HI 96701
CLIENT: Environmental Risk Analysis, LLC





This report includes information from the following map sheet(s).



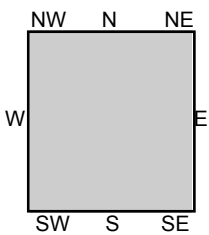
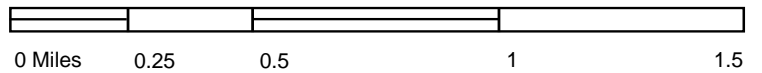
TP, Waipahu, 1954, 7.5-minute
TP, HONOLULU VICINITY NORTH, 1954, 7.5-minute

SITE NAME: Hale Olipoa
ADDRESS: 98-150 Lipoa Place
Aiea, HI 96701
CLIENT: Environmental Risk Analysis, LLC





This report includes information from the following map sheet(s).



TP, WAIPAHAU, 1928, 7.5-minute

SITE NAME: Hale Olipoa
 ADDRESS: 98-150 Lipoa Place
 Aiea, HI 96701
 CLIENT: Environmental Risk Analysis, LLC





Hale Olipoa

98-150 Lipoa Place

Aiea, HI 96701

Inquiry Number: 6816704.8

January 14, 2022

The EDR Aerial Photo Decade Package



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

01/14/22

Site Name:

Hale Olipoa
98-150 Lipoa Place
Aiea, HI 96701
EDR Inquiry # 6816704.8

Client Name:

Environmental Risk Analysis. LLC
905A Makahiki Way
HONOLULU, HI 96826
Contact: Kristen Caskey



Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
2001	1"=500'	Acquisition Date: January 01, 2001	USGS/DOQQ
1992	1"=500'	Flight Date: September 25, 1992	USGS
1978	1"=500'	Flight Date: January 05, 1978	USGS
1976	1"=500'	Flight Date: November 10, 1976	USGS
1968	1"=500'	Flight Date: February 06, 1968	USGS
1962	1"=500'	Flight Date: December 04, 1962	USGS
1952	1"=500'	Flight Date: April 03, 1952	USGS

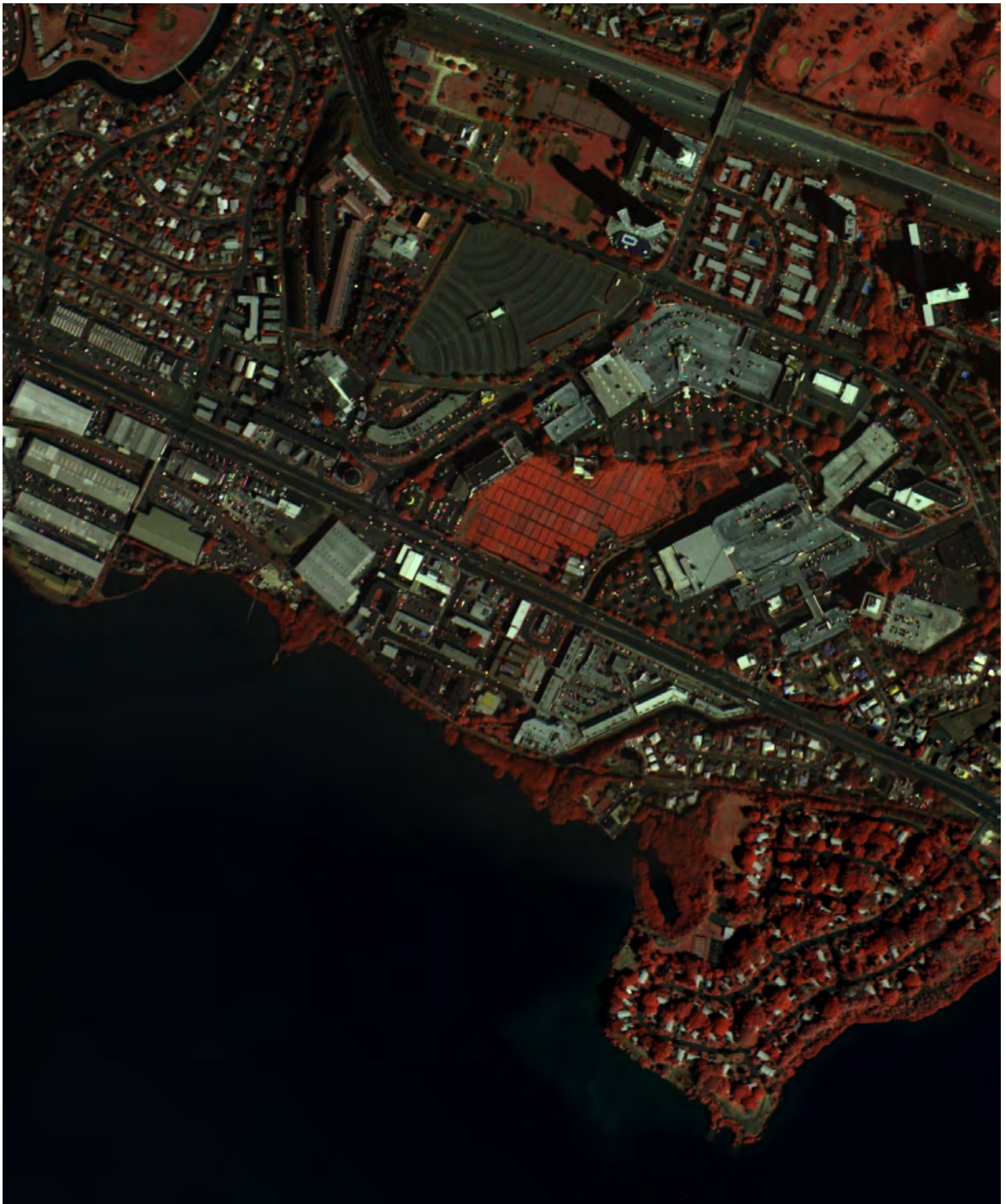
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INQUIRY #: 6816704.8

YEAR: 2001

— = 500'





INQUIRY # 6816704.8

YEAR: 1992

— = 500'



1-1-3



INQUIRY #: 6816704.8

YEAR: 1978

— = 500'





INQUIRY #: 6816704.8

YEAR: 1976

— = 500'





INQUIRY # 6816704.8

YEAR: 1968

— = 500'





INQUIRY # 6816704.8

YEAR: 1962

— = 500'





INQUIRY # 6816704.8

YEAR: 1952

— = 500'



Hale Olipoa

98-150 Lipoa Place
Aiea, HI 96701

Inquiry Number: 6816704.5
January 12, 2022

The EDR-City Directory Image Report

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with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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Data by

infoUSA[®]

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

<u>Year</u>	<u>Target Street</u>	<u>Cross Street</u>	<u>Source</u>
2017	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
2014	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
2010	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
2005	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
2000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
1995	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
1992	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive

FINDINGS

TARGET PROPERTY STREET

98-150 Lipoa Place
Aiea, HI 96701

<u>Year</u>	<u>CD Image</u>	<u>Source</u>
-------------	-----------------	---------------

LIPOAPL

2017	pg A7	EDR Digital Archive
2014	pg A14	EDR Digital Archive
2010	pg A22	EDR Digital Archive
2005	pg A28	EDR Digital Archive
2000	pg A33	EDR Digital Archive
1995	pg A39	EDR Digital Archive
1992	pg A43	EDR Digital Archive

FINDINGS

CROSS STREETS

<u>Year</u>	<u>CD Image</u>	<u>Source</u>
-------------	-----------------	---------------

KAMEHAMEHA HWY

2017	pg. A2	EDR Digital Archive
2014	pg. A8	EDR Digital Archive
2010	pg. A16	EDR Digital Archive
2005	pg. A24	EDR Digital Archive
2000	pg. A30	EDR Digital Archive
1995	pg. A34	EDR Digital Archive
1992	pg. A41	EDR Digital Archive

City Directory Images

KAMEHAMEHA HWY 2017

310 ABELLANA, REGEAN C
 AGUSTIN, ROMUALDO F
 AVALOS, VICTOR
 BELLO, MELCHOR F
 BRACEROS, ZACHIARY K
 BROWN, HARVIE Y
 CASTILLO, SHIRLEY A
 COLELLO, FRED J
 FUTA, CAMILLE
 HANKEY, WAYNE J
 HARRIS, DAVID W
 HONJO, GWEN I
 HUANG, DONG T
 ICMAT, FERRLLYN
 IMUA LANSCAPING
 JAMORA, JOHN W
 JEN, KENNETH N
 KAWAMOTO, GORDON M
 KOBAYASHI, TSUTOMU
 LACARA, TERESITA
 LARSON, DAVID B
 LOMBOY, EREE
 LUONG, MINH C
 MANGILIMAN, ROMMEL
 MCCORKELL, BARRY J
 OHASHI, WAYNE K
 PACE, CATHERINE
 PAK, SOON N
 PHAYNID, ALIA
 PURANABIMBA, KANJANA
 SALCEDO, VIRGINIA V
 SANTOS, ALFRED
 SILBANUZ, ROBSON R
 STENHOFF, HAROLD B
 SUELA, FLORENCIO A
 TAM, STANLEY S
 TOGUCHI, H
 WATSON, ADAM
 WHEELER, CARSON L
 WILSON, KAREN
 YAGIN, ELIJA
 850 DON QUIJOTE
 98019 ECO FLOORS & CABINETS
 GOODWILL
 H&R BLOCK
 HAWAII RUSH SOCCER CLUB
 ISLAND BRAKE & ALIGNMENT INC
 O2 MARTIAL ARTS ACADEMY
 SN REALTY LLC
 STEVEN NARIYOSHI REALTY

KAMEHAMEHA HWY 2017 (Cont'd)

98019	THE BIKE SHOP UNIFORMS BY MALIA VIDEO WAREHOUSE
98020	AJTK SPORTSCARD AOHA CREPES CAJUN KING CHRISTINES LOUNGE DIVA NAILS & SPA EZOGIKU EZOGIKU WAIMALU SHOPPING CENTER JACKIES DINER JANET BEAUTY & GIFTS LLC JIN JOO KOREAN RESTAURANT KABUKI RESTAURANT & DELICATESSEN KAPIOLANI COFFEE SHOPWAIMALU LEEWARD MASSAGE THERAPY NON STOP LIQUOR STORE PALAMA SUPERMARKET PHO FIVEO RAINBOW MASSAGE & HEALING CENTER SHIROS SAIMIN HAVEN & FAMILY RESTAU SIAM KITCHEN STAR KARAOKE BOX WAIMALU BARBER SHOP WAIMALU CHOP SUEY
98021	AGGRO PACIFIC HAWAII ALOHA TOPPERS BAYVIEW AUTO SALES LLC CENTRAL AUTO BODY CENTRAL BODY & PAINT CHOW C CONTRACTING CITY CONSTRUCTION INC E CARS AUTO DETAILING EZ CORNERS INC FXPRODUCTIONS MASA FUJIOKA & ASSOCIATES MR KEY INC PACIFIC UNIVERSAL CORP PETER APO COMPANY PHARMARX HAWAII LLC RIGHT AT HOME PEARL CITY HI SOLEIL
98040	BALDWINS SWEET SHOP
98042	HI SANDWICH & DRINK OHANA BBQ & SUSHI RESPONSVIE CAREGIVERS OF HAWAII
98044	CHRISS PEANUT SHOP KIYOKOS BARBER SHOP RAINBOW TEA HOUSE TWO THUMBS TATTOO

KAMEHAMEHA HWY 2017 (Cont'd)

98051	BEST BUY PACIFIC SALES VERIZON WIRELESS
98055	AUTO REPAIR OF HAWAII ELITE MECHANICAL INC SEA SPORTS DISTRIBUTORS WINDWARD MOVING & STORAGE
98064	AMUSEMENT CONSULTANTS LLC DESIRE SALON & SPA RED DIAMOND TATTOO & BODY WORKS RYE AIEA CUE CORP
98072	CAR STEREO EXPRESS
98084	BENCH HELEN REALTY IN M BENCHMARK REALTY EILEEN M GUPTON PHD ERNEST DR ALAIMALO PSYD KAMEHAMEHA REALTY MAVIS M ALAIMALO DR PSYD PEARLRIDGE PSYCHOLOGICAL SERVICES
98085	CAR STEREO EXPRESS
98107	RED KNOT SLUMBERWORLD
98115	ALS TINTING INC LEX BRODIES
98121	CHEVRON FUJI CHEVRON CAR WASH
98135	SHELL
98141	AMERICAN TIRE & SERVICE CO FIRESTONE COMPLETE AUTO CARE
98147	MCDONALDS
98160	SUMIDA FARM INC
98180	BALE SANDWICH SHOP HAWAII PACIFIC FEDERAL CREDIT UNION HAWAIIAN VISION ASSOC HEARING SOLUTIONS HAWAII PHAM TRINH OD SEARS SEARS APPLIANCE REPAIR TRINH PHAM OD
98199	24 HOUR FITNESS A & A BARBER SHOP AARONS SALES & LEASE AUTOMOTIVE CAR CARE CENTERS BELLATORRE ACADEMY BLAZIN STEAKS PEARL KAI CENTURY 21 CITIFINANCIAL CLUB FESTIVAL CUU LONG VIETNAMESE RESTAURANT H&R BLOCK

KAMEHAMEHA HWY 2017 (Cont'd)

98199 HAHNS BEAUTY SUPPLIES
 HAWAIIAN SEAT COVERS COMPANY
 HOT POT HEAVEN PEARL KAI
 ISLAND LIQUOR & CIGAR
 JAPANESE HAIR STRAIGHTENING BY LEE F
 KRAZY KARAOKE
 KURU KURU SUSHI
 LIQUID METAL TATTOO
 LIQUID METAL TATTOO & PIERCING
 LIQUID METAL TATTOO SHOULD BE BLANK
 MASSAGE CENTER
 MUSCLE INC
 OFF THE WALL RESTAURANT & BAR
 ONEMAIN FINANCIAL
 OSAKA RAMEN
 PARADISE LOAN & JEWELRY LLC
 PEARL KAI DENTISTRY
 PEARL KAI SHOPPING CENTER
 PEARL KAI TENNIS SHOP
 POWERHOUSE GYM
 POWERHOUSE GYM AIEA
 SALON SALON
 SLEEP TRAIN MATTRESS CENTERS
 SPRINT
 STYL COIFF LLC
 SUBWAY
 SUBWAY PEARL KAI
 SUGARLINA BAKESHOP
 SUN IN SHADE LLC
 SUNTIME INDOOR TANNING & SUPPLY COMP
 TADASHI RESTAURANT
 THE VITAMIN SHOPPE
 WANGS GARDEN

98200 CAROLYN M CHUN CPA
 CRAIG W POLANZI ATTORNEY AT LAW
 FUROMOTO ASSOCIATES R
 FUROMOTO RANDAL S & ASSOCIATES INC
 GP FINANCIAL
 JAMES K OSHIRO CPA
 OSHIRO & CHUN CPAS INC
 PEARLRIDGE REALTY INC
 REUBEN G WICKLUND INC
 UNITED STATES GOVERNMENT

98265 MOBILE CAR AUDIO
 98277 FAHRNI REALTY INC
 FAHRNI SCHOOL OF REAL ESTATE

98291 RIDGE WAY MOTORS LLC
 98298 BOSTONS PIZZA AIEA
 98302 BOSTONS PIZZA
 98316 KFC

KAMEHAMEHA HWY 2017 (Cont'd)

98360	BEST AUTO GROUP
98371	MOMS SOUL FOOD
98376	TACO BELL
98380	WALLY'S AUTO REPAIR
98390	GO BANANAS RUNNERS HI
99016	DIXIE GRILL TNT TATTOO WHISKEY DIX SALOON
99022	ISLAND AUTO EXCHANGE USED CARS OF HAWAII INC

LIPOA PL 2017

98107 AIEA COLLISION CENTER
KURODA RADIATOR
98108 HMC KARAOKE PEARLRIDGE
98130 HARBOR ARMS APARTMENT HOTEL
98145 HARBOR SHORES APARTMENT HOTEL
98150 PEPPER TREE DRAGON

KAMEHAMEHA HWY 2014

98	CRANE, MICHAEL FELICIANO, A TRINH, PHAM
310	ABELLANA, REGEAN C BALBOA, V C BIELAWSKI, EUGENE W CASTILLO, SHIRLEY A CASTRO, CRISTINO CRUZ, KARI D ELLIOTT, KAREN M GIMENEZ, CHOICE P HALLER, COLIN HARRIS, DAVID W HONJO, GWEN I HUANG, DONG T ICMAT, FERRLLYN JEN, KENNETH N KAHALOA, KUUIPO KAILI, KENNETH K KAWAMOTO, GORDON M KITAURA, GORDON T KOBAYASHI, TSUTOMU LOMBOY, MILAGROS G LUONG, MINH C MAULUPE, KIM MCCORKELL, BARRY J ROGERS, HELEN S RYAN, MATTHEW SALCEDO, VIRGINIA V SANCHEZ, JENNIFER O SILVA, PUAOLENA STENHOFF, HAROLD B SUELA, FLORENCIO A VIRAY, ARNELITO G WALLACE, WILLIAM A WATSON, ADAM WESTPHALEN, MARK WILSON, KAREN YU, JEE
593	HAWAII AUTO DETAIL LLC
9820	DIVA NAILS SPA
98015	CUTTER FORD INC
98019	ECO FLOORS & CABINETS GOODWILL HARBOR CENTER LEASING HAWAII RUSH SOCCER CLUB ISLAND BRAKE & ALIGNMENT INC NARIYOSHI STEVEN REALTY O2 MARTIAL ARTS ACADEMY SMALL ENGINE CLINIC

KAMEHAMEHA HWY 2014 (Cont'd)

98019	SN REALTY LLC THE BIKE SHOP UNIFORMS BY MALIA VIDEO WAREHOUSE
98020	AJTK SPORTSCARD ATTRACTIVE ALTERATIONS BEAUTY TOUCH CAJUN KING CHRISTINES LOUNGE CHUN WAH KAM EZOGIKU EZOGIKU INC JACKIES DINER JIN JOO KOREAN RESTAURANT KABUKI RESTAURANT & DELICATESSEN KAPIOLANI COFFEE SHOPWAIMALU LEEWARD MASSAGE THERAPY LONG LIFE HEALTHY WAY NON STOP LIQUOR STORE PALAMA SUPERMARKET PHO FIVEO RAINBOW MASSAGE & HEALING CENTER SHIROS SAIMIN HAVEN & FAMILY RESTAU SIAM KITCHEN STAR KARAOKE BOX SUKI HAIRSTYLING WAIMALU APARTMENTS & MOTEL WAIMALU BARBER SHOP WAIMALU CHOP SUEY WAIMALU SUPER MARKET
98021	AGGRO PACIFIC HAWAII ALOHA TOPPERS BAYVIEW AUTO SALES LLC BERLENBACH, PRAVING BLAIR, ROBERT CENTRAL AUTO BODY CHOW C CONTRACTING CITY CONSTRUCTION INC EZ CORNERS INC FUJIOKA MASA FXPRODUCTIONS HIONE, COLEEN ICHIKAWA, RALPH Y MR KEY INC MRS CLEAN PACIFIC UNIVERSAL CORP PETER APO COMPANY PHARMARX HAWAII LLC RFT SHEETMETAL LTD SOLEIL

KAMEHAMEHA HWY 2014 (Cont'd)

98021	TAMASHIRO WAYNE TAMASHIRO, WAYNE
98040	BALDWINS SWEET SHOP CHUN WAH KAM NOODLE FACTORY
98042	BUNQUIN, DORIS HI SANDWICH & DRINK KAHOOKANO, KAWAI OHANA BBQ & SUSHI RESPONSVIE CAREGIVERS OF HAWAII WOODRUFF, ROBERT ZARA, VIRGINIA M
98044	CHRISS PEANUT SHOP HA, S KIYOKOS BARBER SHOP TWO THUMBS TATTOO
98048	ZIPPYS
98051	BEST BUY VZW AT BEST BUY 852 AIEA
98055	AUTO REPAIR OF HAWAII CONSTRUCTION CONSULTANTS SEA SPORTS DISTRIBUTORS T & A SUPPLY INC WINDWARD MOVING & STORAGE CO
98064	AMUSEMENT CONSULTANTS LLC DESIRE SALON & SPA EASY CASH SOLUTIONS RED DIAMOND TATTOO & BODY WORKS
98072	CAR STEREO EXPRESS
98075	TONY PREOWNED PEARLRIDGE
98083	OCCUPANT UNKNOWN,
98084	ALAIMALO ERNEST DR PSYD ALAIMALO MAVIS M DR PSYD BENCH HELEN REALTY INC BENCHMARK REALTY CARLSON BOBBI DR KAMEHAMEHA REALTY LIVING WELL INC MALAMA PROJECT INC PEARLRIDGE PSYCHOLOGICAL SERVICES TERRITORIAL SAVINGS BANK
98087	OCCUPANT UNKNOWN,
98107	HOMEWORLD FURNITURE SLUMBERWORLD
98115	ALS TINTING INC LEX BRODIES
98121	CHEVRON CHEVRON STATION AIEA FUJI CHEVRON CAR WASH
98135	YUNNIES SHELL
98141	AMERICAN TIRE & SERVICE CO

KAMEHAMEHA HWY 2014 (Cont'd)

98141	EAST BAY TIRE CO INC FIRESTONE COMPLETE AUTO CARE STORE
98147	MCDONALDS
98154	CHU, HAROLD
98160	MCHUGH, BARBARA SUMIDA FARM INC
98180	BALE SANDWICH SHOP HAWAII PACIFIC FEDERAL CREDIT UNION MIRACLEEAR PHAM TRINH OD SEARS SEARS OPTICAL
98199	24 HOUR FITNESS A & A BARBER SHOP AAA GOLD EXCHANGE ALOHA PET SHOP AUTOMOTIVE CAR CARE CENTERS BASKINROBBINS BLAZIN STEAKS PEARL KAI CHAMPA THAI RESTAURANT CITIFINANCIAL CLUB CHANCE CLUB FESTIVAL CUU LONG VIETNAMESE RESTAURANT EASYHOME AIEA H&R BLOCK HAWAII SCHOOL OF PROFESSIONAL MASSAG HAWAIIAN SEAT COVERS COMPANY ISLAND LIQUOR & CIGAR JAPANESE HAIR STRAIGHTENING BY LEE F KURU KURU SUSHI MASSAGE CENTER MONEY MART MOON HOE DRIVE INN MUSCLE INC NAILS FOR TODAY OFF THE WALL RESTAURANT & BAR ONEMAIN FINANCIAL OSAKA RAMEN PCCP LDC PEARL KAI LLC PEARL KAI DENTISTRY PEARL KAI HAIRSTYLING PEARL KAI MINI MART PEARL KAI SHOPPING CENTER PEARL KAI TENNIS SHOP PEARL KAI TINTING LLC POWERHOUSE GYM AIEA RED WING SHOES RICADOS ITALIAN RESTAURANT ROSE LOUNGE

KAMEHAMEHA HWY 2014 (Cont'd)

98199	SALON SALON SHEAR GENIUS SPRINT STEP AHEAD STYL COIFF LLC SUGARLINA BAKESHOP SUN IN SHADE LLC SUNTIME INDOOR TANNING & SUPPLY COMP THE VITAMIN SHOPPE YAKINIKU JUNGSU
98200	AMERICAN SAVINGS BANK FUROMOTO RANDAL S & ASSOCIATES INC GP FINANCIAL PEARLRIDGE REALTY INC POLANZI CRAIG W ATTORNEY AT LAW UNITED STATES GOVERNMENT
98265	MOBILE CAR AUDIO
98277	COOK, KATHLEEN M FABRNI, HELEN FAHRNI REALTY INC FAHRNI SCHOOL OF REAL ESTATE FAHRNI, LEONARD W
98291	RIDGE WAY MOTORS LLC
98298	BOSTONS PIZZA AIEA
98302	TAMURAS FINE WINE & LIQUORS
98310	LANGUITA, LINDA C RAWLS, FREDERICK S
98316	KFC
98360	BEST AUTO GROUP
98371	MOMS SOUL FOOD
98380	WALLY HOS GARAGE & GRILL WALLYS AUTO REPAIR
98384	JACK IN THE BOX
98390	GO BANANAS RUNNERS HI
98391	PEARL HARBOR TRANSMISSION
98406	GEMINI POOL & SPA
98425	EASY MUSIC CENTER ELAM SPORTS OAHU
98430	GENKI SUSHI
98450	ALLSTATE CONNELLY TIMOTHY INS KAMAI CHARLIE INS LOVES BAKERY
99016	DIXIE GRILL KEIKI KANI INC TNT TATTOO WHISKEY DIX SALOON
99022	ISLAND AUTO EXCHANGE MISSION MOTORS LLC

KAMEHAMEHA HWY 2014 (Cont'd)

99022 USED CARS OF HAWAII INC
99032 DESA, L

LIPOA PL 2014

98107 AIEA COLLISION CENTER
 98108 BEACON RESTAURANT INC
 HMC KARAOKE PEARLRIDGE
 98114 ALFEROS, GEORGE R
 CORTEZ, ROGELIO
 CUSTODIO, VARREN G
 DELACRUZ, EVELYN
 DEVEGA, MA A
 ENDERES, NONATO L
 FAAMAI, VERONICA
 GAMATA, EDGAR G
 KARSOM, LAVIN
 MARTIN, CHRISTINE C
 SAGUCIO, ELSIE C
 SEBRESOS, BRANDY
 SHARIVY, MIOCHY
 TAITIN, TINA
 YORO, FELY O
 98120 AH, GAYLA
 BATES, CHRISTOPHER
 BAUTISTA, PRUDENCIO B
 CHOBAN, CHARLES M
 ENCHER, MIKAELA
 FELICITAS, RODOLFO C
 GANO, ROLY R
 GARCIA, JOHN
 GERONA, VINSON P
 IRONMOCCASIN, LAWRENCE
 JOHNSON, DARNELL
 JUAREZ, RONALD G
 KO, JENNIFER I
 KUO, MIKE
 LIEF, JEFFREY R
 LOPEZ, EDWIN
 NACARIO, JACKYLENE
 NERI, PEDRO A
 PINSON, WILMA S
 SEPES, KASTERA
 SILVA, JASSMINE A
 SOUZA, DOREEN C
 TADIARCA, AURORA D
 TRAN, THU H
 VENTURA, SONNY
 VILUAN, AMBER
 WELKER, KIMBERLY
 YOUNG, JOHN A
 98130 HARBOR ARMS APARTMENT HOTEL
 98135 ALLEN, ULUWEHI
 BARTLETT, CHRIS
 BENLEHR, LEONORA P

LIPOA PL 2014 (Cont'd)

98135	BOWERS, ALICE E BOWLES, MICHAEL G CAMERON, BRADLEY D DAVIS, ANTHONY DELAPORTA, KATERINA DIAS, STEPHANIE M GASPER, WAYNE HERODIES, BERNICE JANOSKY, JENNIFER KIM, EUNJOO LEOPOLDO, CHUCKY S LO, REGINA J RAMOS, PEDRO J ROMERO, AL SMITH, EDWIN W SOMERA, DEBORAH A TAMAYO, JAMES L TANAKA, MICHAEL M
98142	ALEXANDER, LEROY J ARAKAKI, LAWRENCE H BANCHON, SANTIAGO F CHOI, MARTIN GALLEGOS, AMBER J ISHIDA, ALLEN T LEE, DANNY W MATSUBARA, LANCE I MOORE, HERBERT MOSTAJO, ESTER T NAKAMOTO, ALAN H OMORI, CHAD H OTUAFI, KIM ROCCO, SUSAN S SATO, GLENN Y TANAP, AMANTE O TORRES, MANUEL ZUPAN, BILLIE
98145	HARBOR SHORES APARTMENT HOTEL
98150	HEATH, MARTY OJIRI RAY VALMOJA, BONNIE M

KAMEHAMEHA HWY 2010

310 AVALOS, VICTOR
 BERTOLA, CESARE N
 CABANG, AGAPITO M
 HARADA, LESLIE
 HUANG, DONG T
 ICMAT, FERRLLYN
 JEN, KENNETH N
 KAWAMOTO, GORDON M
 KIM, SHEILA
 KISHIMOTO, PAIGE
 LANGUITA, PEDRO D
 LEHNER, JANICE S
 LOMBOY, MILA
 MALEPEAI, JOSEPHINE
 MANGILIMAN, ROMMEL
 MONE, LEE A
 PANGELINAN, DAVID G
 PURANABIMBA, KANJANA
 ROGERS, HELEN S
 SANLUIS, LORENA
 SUELA, FLORENCIO A
 TATE, LACY
 YOSHIMURA, BRIAN S
 ZABLAN, LAWRENCE P
 53656 PHUNG, BAN P
 53912 KAAIALII, HAULANI
 58358 BATTATORI, ANGIE
 61270 SEBETICH, VICTORIA
 98015 CUTTER FORD ISUZU
 98019 BIKE SHOP
 C J DESIGNS HAWAII
 ECO FLOORS & CABINETS
 GOODWILL
 H&R BLOCK
 HARBOR CENTER LEASING
 ISLAND BRAKE & ALIGNMENT INC
 O2 MARTIAL ARTS ACADEMY
 S N REALTY
 SMALL ENGINE CLINIC
 UNIFORMS BY MALIA
 VIDEO WAREHOUSE
 98020 AJTK ENTERPRISESPORTS CARD
 AMPAC PROPERTIES INC
 ANIMAL CLINIC WAIMALU INC
 BALDWINS SHAVED ICE
 DIAMOND CASTLE
 DIVA NAILS
 DOI SHERYL DVM
 EZOGIKU
 GOT TICKETS TRAVEL

KAMEHAMEHA HWY 2010 (Cont'd)

98020	ISLAND GLACIER JACKIES DINER JIN JOO KOREAN RESTAURANT KABUKI RESTAURANT & DELI KAPIOLANI COFFEE SHOPWAIMALU NIPPON VIDEO NON STOP LIQUOR STORE PETS N PLANTS PHO FIVEO RAINBOW MASSAGE & HEALING CTR SAIM KITCHEN EXPRESS SHIROS HULAHULA HAVEN SHIROS SAIMIN HAVEN SHIROS SAIMIN HAVENCATERING STAR KARAOKE BOX SUKI HAIRSTYLING SUNSHINE MASSAGE SVC WAIMALU BARBER SHOP WAIMALU CHOP SUEY WAIMALU DOG & CAT KENNELS
98021	AGGRO PACIFIC HAWAII ALOHA CERAMICS ALOHA TOPPERS BERLENBACH, KRISTIN C CHOW CONTRACTING CENTRAL BODY & PAINT INC CENTRAL PLANET REPAIR LLC CITY CONSTRUCTION INC E CARS AUTO DETAILING ECARSHAWAII.COM EZ CORNERS INC HAWAII MITSUBISHI ICHIKAWA, RALPH Y KARBIZ DEALER CTR KENWORTH HAWAII MASA FUJIOKA & ASSOC MR KEY INC MRS CLEAN PHARMARX HAWAII LLC SOLEIL TAMASHIRO, WAYNE
98040	BALDWINS SWEET SHOP CHUN WAH KAM NOODLE FACTORY
98042	GRIEP, TROY K KAHOOKANO, JENNIFER KOPPEN, JESSI K OHANA BBQ & SUSHI
98044	CHRISS PEANUT SHOP HAS JEWELERS KIYOKOS BARBER SHOP

KAMEHAMEHA HWY 2010 (Cont'd)

98044 STYLES UNLIMITED
TWO THUMBS TATTOO

98048 ZIPPYS RESTAURANT

98051 BEST BUY

98055 AUTO REPAIR OF HAWAII
CONSTRUCTION CONSULTANTS INC
ELITE MECHANICAL INC
FRONT LINE AUTO
GOODRICH TRADING CO
SUMMIT CONSTRUCTION INC
WINDWARD MOVING & STORAGE CO

98064 AIEA CUE
BOBO MINI MART
DESIRE SALON & SPA
HAIR & NAIL STUDIO
PEARL AUTO SVC & SUPPLY

98080 KENNEL SHOP
KIAWE GRILL BBQ & BURGERS
NUTRISHOP
PAN PACIFIC
PASTRY HOUSE

98083 OCCUPANT UNKNOWN,

98084 ALAIMALO MAVIS M
CARLSON BOBBI
GUPTON EILEEN PHD
HELEN BENCH REALTY INC
KAMEHAMEHA REALTY
LIVING WELL LLC
MALAMA PROJECT
MARK BENCH REALTY
NOSAKA SYBIL
TERRITORIAL SAVINGS BANK

98085 CAR STEREO EXPRESS
LAVA MOTORS LLC
SNYDER MOTORSPORTS LLC

98107 BARGREEN ELLINGSON
HOME WORLD
SLUMBER WORLD

98115 LEX BRODIES TIRE CO

98121 FUJI CHEVRON CAR WASH

98130 H&R BLOCK

98135 YUNNIES SHELL

98141 AMERICAN TIRE & SVC CO
FIRESTONE COMPLETE AUTO CARE

98147 MC DONALDS

98154 CHU, HAROLD

98160 SUMIDA FARM INC

98180 AT&T STORE
CELEBRITY TUXEDOS
CHILDRENS PLACE

KAMEHAMEHA HWY 2010 (Cont'd)

98180 H&R BLOCK
 HAWAII PACIFIC FEDERAL CU
 KAPALAMA MILITARY RESERVATION
 MAC COSMETICS
 MIRACLEEAR
 SEARS
 SEARS AUTO CTR
 SEARS OPTICAL
 SEARS PORTRAIT STUDIO
 SEARS ROEBUCK & CO
 SUNCOAST MOTION PICTURE CO
 WET SEAL
 ZIPPYS RESTAURANT

98199 24 HOUR FITNESS
 AIEA SCHOOL OF PROFESSIONAL
 AKAL SECURITY INC
 ALL ACCESS MORTGAGE INC
 AUTOMOTIVE CAR CARE CTR
 BLAZIN STEAKS
 CAMELLIA PEARL KAI
 CHAMPA THAI RESTAURANT
 CITI FINANCIAL
 CLUB CHANCE
 CLUB FESTIVAL
 CLUB GOLDENGATE
 COWABUNGA COMPUTERS
 CURRY HOUSE COCO ICHIBANYA
 CUU LONG VIETNAMESE
 DIAMOND HEAD VIDEO
 GOOD FEET STORE
 H&R BLOCK
 HAWAIIAN SEAT COVERS CO
 ISLAND LIQUOR & CIGAR
 JIFFY LUBE
 JUST PRINT LLC
 KENNETH KF CHUN INSURANCE INC
 KENS CLEANERS III
 KRAZY KARAOKE
 KURU KURU SUSHI
 L&L DRIVEINN
 LIQUID METAL TATTOO & PIERCING
 LOVE & BLOOMS
 MASSAGE CENTER
 MONEY MART
 MOON HOE DRIVE INN
 NAILS FOR TODAY
 OFF THE WALL RESTAURANT & BAR
 PARADISE LOAN & JEWELRY LLC
 PCCPLDC PEARL KAI LLC
 PEARL KAI HAIRSTYLING

KAMEHAMEHA HWY 2010 (Cont'd)

98199	PEARL KAI MINI MART PEARL KAI TENNIS SHOP PRO AM GOLF SHOP RED WING SHOE STORE RICADOS ITALIAN RESTAURANT SALON SALON SHEAR GENIUS SPRINT STEP AHEAD SUBWAY SUNTIME INDOOR TANNING & SUPLS TADASHI RESTAURANT WANGS GARDEN
98200	A FAMILY HEARING AID CTR CRAIG W POLANZI ATTY AT LAW G P FINANCIAL HAWAII PROPERTIES & DEVMNT INC OSHIRO & CHUN INC OSHIRO, JAMES K PEARLRIDGE REALTY INC RANGE OF MOTION INC US AIR FORCE RECRUITING
98265	MOBILE CAR AUDIO
98277	COOK, KATHLEEN M FAHRNI SCHOOL OF REAL ESTATE FAHRNI, ALLEN S PARADISE PIZZA
98291	RIDGE WAY MOTORS LLC
98302	BOSTONS PIZZA AIEA
98310	BIELAWSKI, EUGENE W CABANG, AGAPITO COLELLO, FRED J ERAM, AINY FALETOGO, ZION L HANKEY, WAYNE J HARRIS, DAVID W LEOMO, SANDRA C LOMBOY, MILAGROS OHASHI, WAYNE K PIRGA, JAMES S QUACH, TRINA T VILLANUEVA, FLORENCE WAIMALU PARK COMMUNITY ASSN WALL, ROBERT W WATANABE, KAREN A
98316	KFC
98371	MOMS SOUL FOOD
98376	TACO BELL
98380	WALLYS AUTO DETAILING WALLYS AUTO REPAIR

KAMEHAMEHA HWY 2010 (Cont'd)

98384 JACK, WAIMALU
98390 GO BANANAS WATERSPORTS INC
RUNNERS HI
98391 MUFFLER MAN
99016 4 PLAY NIGHT CLUB
DIXIE GRILL
TNT TATTOOING
99022 FAIR DEAL USED CARS
ISLAND AUTO EXCHANGE
USED CARS OF HAWAII INC
99032 DESA, L
99173 PACIFIC TRUCKERS ASSN

LIPOA PL 2010

98107 AIEA COLLISION CTR
 KURODA RADIATOR
 98108 HMC KARAOKE PEARLRIDGE
 98114 AGUSTIN, J
 ALFEROS, ANDRE R
 GALLEN, WAISER
 GAMATA, EDGAR G
 GOYA, MICHAEL
 KAPOLOLU, ANTASIA J
 KARSOM, LAVIN
 LANGUITA, CRISTOBAL A
 LOGOTAEAO, MICAH
 MACION, KIMBERLY
 PAGADOR, MARIO V
 PARADEZA, AURELIA M
 RICHTER, KURT F
 SHARIVY, MIOCHY
 SIM, YONG C
 YORO, FELY O
 98120 ABRAHAM, JO
 APARRA, MICHAEL S
 AUGAFA, LAGIULA
 BAUTISTA, PRUDENCIO B
 BETIONG, JESUSA
 BOYER, ROBERT M
 EBATO, JASON T
 GANO, ROLY R
 JUAREZ, SHIRLEY A
 KILLION, SANTALINA R
 LIEF, JEFFREY R
 LOPEZ, EDWIN
 PAGUIO, MARIA L
 PAUL, GLENN
 PINSON, WILMA S
 SOARERS, STACEE A
 SOUZA, DOREEN C
 TIQUI, A
 TRAN, THU
 VILUAN, ANGELINA C
 YOUNG, JOHN A
 98121 ISLAND SOLAR SVC
 RUDYS UPHOLSTERY
 98125 HDEX MOVING SOLUTION
 98130 HARBOR ARMS APARTMENT HOTEL
 98135 ALLEN, ULUWEHI
 BALOS, LANGA
 BENLEHR, LEONORA P
 CICHY, DAVID
 CRAANEN, DANIEL J
 DEALBA, MARY

LIPOA PL 2010 (Cont'd)

- 98135 DELAPORTA, KATERINA
DIAS, S M
HENRY, PIUS
NAGAMINE, FAITH K
NGUYEN, BONA
PETERS, DAVID W
SMITH, EDWIN W
- 98142 ALCOVER, ANTHONY C
ARAKAKI, L
DOMINGO, ASHLYN
ELLIS, BRANDY
GALLARDE, LISA J
HALAS, DAIL L
ISHIDA, ALLEN T
MCNULTY, MIKEALA
NGUYEN, HUNG Q
SATO, GLENN Y
SCHLUNT, RICHARD V
SPADACCINI, STACEY
TANAP, AMANTE O
WITTWER, VIOLET
- 98145 GABAYLO, NENETTE B
HARBOR SHORES APARTMENT HOTEL
- 98150 HEATH, MARTY
PEPPER TREE APARTMENTS
- 98151 AFFORDABLE TOWING SVC INC

KAMEHAMEHA HWY 2005

310 BALDWIN, LEO R
 BASUEL, ANDREW T
 BIELAWSKI, EUGENE W
 CABANG, AGAPITO M
 EZZO-WHITE, AMEDEO D
 HARRIS, AILEEN M
 HUANG, DONG T
 KANG, GAENAM
 KAWAMOTO, GORDON M
 LANE, SAY
 LAVATAI, PAULO M
 LOVELL, DORIAN K
 MONE, MIKE
 NGUYEN, VERONIQUE
 PHILLIPS, GENE P
 YOSHIMURA, BRIAN S
 ZABLAN, LAWRENCE P
 98015 CUTTER FORD
 98019 ALIOLANI CASUALS LTD
 AUTO REPAIR OF HAWAII
 BIKE SHOP THE
 GOLF WAREHO ENTER
 GOODWILL INDUSTRIES OF HAWAII
 ISLAND BRAKE & ALIGNMENT INC
 SMALL ENGINE CLINIC
 WARD, HARRY F
 98020 AJTK ENTERPRISE SPORTSCARDS LLC
 ANIMAL CLINIC WAIMALU INC
 ISLAND GLACIER
 JUMPPS INC
 KABUKI RESTAURANT & DELI
 LEEWARD THRPTIC MASSAG CLINIC
 NON STOP LIQUOR
 SHIROS SAIMAN HAVEN & FAMILY RESTAU
 STAR KARAOKE BOX
 TUXEDO LLC
 98021 305
 ALOHA AUTOMOTIVE DISTRIBUTING
 ALOHA AUTOMOTIVE LLC
 ALOHA CERAMICS
 CENTRAL BODY & PAINT
 CHEE, PIILANI
 CUTTER FORD PREDELIVERY TRUCK
 FEDERAL FIREFIGHTERS HAWAII
 FXPRODUCTIONS
 HARRISON, JACK A
 HEAD, DON
 ICHIKAWA, RALPH Y
 JOHNSON, CARL
 KAMAAINA CLASSIFIED

KAMEHAMEHA HWY 2005 (Cont'd)

98021	KARBIZ DEALER CENTER MR KEY INC ROBERTSON WOODWORKS TOTMAN, NATHAN WIREMASTERS INC
98040	BALDWINS SWEET SHOP CHUN WAH KAM NOODLE AIEA
98042	GOODMAN, BARBIE PASCUAL, RUSSELL
98044	CHRISS PEANUT SHOP HAS JEWELERS KIYOKOS BARBER SHOP STYLES UNLIMITED
98055	CONSTRUCTION CONSULTANTS PACIFIC INC ELITE MECHANICAL INC OHANA BATTING CAGES PACIFIC AUTOMOTIVE INC SUMMIT CONSTRUCTION INC WINDWARD MOVING & STORAGE CO
98064	AIEA CUE
98072	CHATEAU BLUE
98077	STONERIDGE RECOVERIES LLC
98080	TAXBUSTERS
98083	OCCUPANT UNKNOWN,
98084	PROFESSIONAL PHYCOLOGOCAL SERVICES I TERRITORIAL SAVINGS & LOAN ASSN
98085	CAR STEREO EXPRESS
98098	PARADISE AUTOS INC
98107	AMERICAN RESTAURANT SUPPLY HOMEWORLD FURNITURE LA Z BOY LAZY BOY FURNITURE GALLERIES WYP WYP PARTNERS
98115	HILO TIRE TOTAL CONCEPTS OF HAWAI INC
98121	RNS VENTURE INC
98141	AMERICAN TIRE & SERVICE CO BFS RTAIL COMMERCIAL OPRTONS FIRESTONE TIRE & SERVICE CENTERS
98160	SUMIDA FARM INC
98180	AT & T WIRELESS CONSUMER PROGRAMS OAHU EYECARE SEARS ROEBUCK WAREHOUSE ENTERTAINMENT INC
98199	24 HOUR FITNESS ALL ACCESS COMMUNICATIONS INC ALL ACCESS GROUP INC ARCHIPELAGO MUSIC CORP

KAMEHAMEHA HWY 2005 (Cont'd)

98199 AUTOMOTIVE CAR CARE CENTERS
 CB BANCSHARES INC
 CLUB TEMPTATIONS
 CUU LONG VIETNAMESE RESTAURANT
 DESIGNER BODY
 HAWAIIAN SEATCOVERS COM
 JOANN HUNG INC
 KAR KRAFT INC
 KENNETH CHUN AGENCY
 MONETARY MANAGEMENT F CA INC
 NAILS FOR TODAY
 PC GAMERZ
 PEARL KAI HAIRSTYLING
 PEARL KAI MINI MART
 PHANPHENGDY CORP
 PRUDENTIAL LOCATIONS INC
 RLZ & RLZ INC
 SALON SALON
 SHEAR GENIUS INC
 TOWER RECORDS VIDEO BOOKS
 TURNBULL & LERMA CHIROPRACTIC CLINIC
 WILLIAM J KELLEY
 98200 ATTORNEY AT LAW
 GP FINANCIAL
 HAWAII MORTGAGE LENDING
 RANDOLPH DIVISION INC
 S & R PERSONNEL SERVICES INC
 STANTON CLAY CHAPMAN CRUPTON AND IWA
 US DEPT OF THE AIR FORCE
 98201 ALOHA PET CENTER
 98265 FAX CARGO SERVICE LLC
 98277 CALDWELL, J
 FAHRNI, ALLEN S
 SMART, JAMES
 98291 RIDGE WAY MOTORS LLC
 98310 RAMSEY, TRENT
 TABON, ALFREDO
 98316 KFC HAWAII
 KFC NATIONAL MANAGEMENT CO
 98360 STEVENS SUPER SERVICE INC
 98380 WALLYS SERVICE INC
 98384 JACK, WAIMALU
 98390 GO BANANAS
 HO, WILBERT H
 NAPA AUTO & TRUCK PARTS
 RUNNERS HI LLC
 98409 FELICIANO, A
 99016 DIXIE GRILL BARBEQUE AND CRAB SHACK
 DIXIE, AIEA
 99021 ALOHA FASHION LLC

KAMEHAMEHA HWY 2005 (Cont'd)

99022 MARTIN MOTORS
99199 CHUN, KENNETH K
99277 FAHRNI, LEONARD W

LIPOA PL 2005

98101 JESUS CHRIST IS CALLING YOU
 98107 AIEA COLLISION CENTER INC
 98108 BEACON RESTAURANT INC
 HMC INC
 HMC KARAOKE PEARLRIDGE
 98114 AGUSTIN, J
 ALFEROS, ANDRE R
 ANTONIO, LILIA C
 GOYA, M
 HALL, LA T
 LORESCA, BILLY M
 MA, YUAN B
 MEIXL, KENNETH J
 PADEN, CYNTHIA C
 PARADEZA, AURELIA
 QUEEN, A
 SEBRESOS, BARBARA
 SHARIVY, MIOCHY
 SIM, YONG C
 WONG, RICKY
 WONG-GABRIEL, L
 YORO, FELY O
 98120 BAUTISTA, PRUDENCIO B
 GANO, ROLY A
 GUZMAN, CARLINE
 HOKAMA, BRUCE
 HOWARD, SIX S
 JUAREZ, SHIRLEY A
 KILLION, AIMEE
 MARTIN, JEFFREY A
 MATEO, MARILYN L
 NOTE, DOREEN
 NOZAWA, STACY M
 PINSON, WILMA S
 ROGERS, DEBORAH L
 SMITH, WILLIAM R
 SOUZA, DOREEN M
 TADIARCA, MODESTO A
 VILUAN, ANGELINA S
 98121 CHRIST CHURCH AT KAPOLEI
 CHRISTS CHURCH AT AIEA
 HI GRADE TECH OF HAWAII INC
 98125 TOMS PET SUPPLY
 98130 THE HARBOR ARMS APARTMENT HOTEL
 98135 BANTA, ROSA M
 BARROWS, BRUCE M
 BARTLETT, CHRIS E
 BOWERS, ALICE
 BOYER, HYON C
 BURKE, R

LIPOA PL 2005 (Cont'd)

98135 CRAANEN, DANIEL J
 DEALBA, ROBERT
 DEGUZMAN, CLEMENT B
 FELTON, JOSEPH L
 KEALOHA, IRENE H
 LAYCO, JESSICA R
 MABUTI, ANSELMO
 MUROMOTO, EYDIE
 SCHROEDER, JANIE
 SHORELINE APTS
 SINDLE, TODD L
 TANAKA, MICHAEL M
 TRUSS, NITA R
 VEGA, ANDRE A
 WHALEN, TIM

98142 ALATINI, TARA
 ARAKAKI, L
 BESS, AARON J
 BUENAVENTURA, R J
 CHAVEZ, JAIRZHINO
 CRINER, JONATHAN L
 CUI, HAYNAH
 DEAN, APRIL O
 HANSEN, THOMAS
 HOWARD, K
 HUNT, BRENNNA
 ISHIDA, ALLEN T
 KOTADA, KENNETH
 LAU, DANA
 LOPEZ, JEREMIAH
 MCLAUGHLIN, CHRISTOPHER
 MORSE, ANDY
 NGUYEN, HUNG Q
 PARKER, JAMES N
 REMIGIO, ALFRED N
 SALAS, JESSE
 SALGADO, AGUSTIN
 SMITH, EDWIN W
 TANAP, AMANTE O
 THOMPSON GREGORY LLC
 TRUJILLO, WILLIAM

98150 COPE, ROBERT C
 98151 AFFORDABLE TOWING SERVICE INC

KAMEHAMEHA HWY 2000

310 KEPOO, TROY K
 LAGPACAN, ANTHONY D
 379 HAIR DIMENSIONS
 SUN ESTATES
 409 MIZUMOTO, HENRY Y
 450 FRESH FISH MARKET
 890 FIRST HAWAIIAN BANK BRANCHES
 950 US OFFICES TRANSPORTATION DEPARTMENT OF
 46056 SEARS ROEBUCK AND COMPANY RETAIL STORES
 53416 YOSHIZAKI, RICHARD G
 59155 PETTY, RONALD
 66030 RALSTON ANTIQUES & COLLECTIBLES MAIN OFFICE
 98015 CUTTER FORD ISUZU PARTS DEPARTMENT
 CUTTER FORD ISUZU SALES AIEA
 CUTTER FORD ISUZU SERVICE DEPARTMENT
 98019 AUTO REPAIR OF HAWAII
 BIKE SHOP THE
 BLOCK H & R LOCAL OFFICES
 CJ DESIGNS HAWAII
 ESPECIALLY FOR YOU ADMINISTRATION OFFICE
 ESPECIALLY FOR YOU PEARLRIDGE WAIMALU STORE
 GOODWILL INDUSTRIES OF HONOLULU INCORPORATED PEARL CITY
 SMALL ENGINE CLINIC
 VIDEO WAREHOUSE
 98020 ANIMAL CLINIC WAIMALU INCORPORATED
 CELINGS FILIPINO RESTAURANT
 DRY CLEAN EXPRESS WAIMALU SHOPPING CENTER
 HAWAII JET TRAVEL AGENCY
 JUMPPS
 KABUKI RESTAURANT & DELICATESSEN
 LCD TRAVEL SERVICE INCORPORATED
 RANDOM TOP
 WAIMALU BARBER SHOP
 WAIMALU CHOP SUEY
 WAIMALU DOG & CAT KENNELS
 WAIMALU FLOWER CENTER
 WAIMALU LIQUOR STORE
 98021 ALOHA CERAMICS
 CENTRAL BODY & PAINT
 CREATIVE CABINET WORKS
 CUTTER TEAM USED CARS CENTER BUSINESS OFFICE
 CUTTER TEAM USED CARS CENTER SALES & SERVICE
 E Z CORNERS INCORPORATED
 ELKS PEARL CITY LODGE 2669 OFFICE
 GRANNYS GOURMET MUFFINS OF HAWAII
 KENWORTH HAWAII
 NAKASHIMA, MALCOLM T
 OHTA PARTS DISTRIBUTORS
 RFT SHEETMETAL LIMITED
 98040 BALDWINS SWEET SHOP

KAMEHAMEHA HWY 2000 (Cont'd)

98042 BAR-B-Q KING
GRIEP, TROY
KIM, CHONG Y

98044 CHRISS PEANUT SHOP
KIYOKOS BARBER SHOP
STYLES UNLIMITED

98051 PACIFIC OLDSMOBILE GMCVOLKSWAGEN BUSINESS OFFICE
TONY HONDA PEARLRIDGE SALES DEPARTMENT

98055 HENKELS & MCCOY INCORPORATED CONSTRUCTION DIVISION
PACIFIC OLDSMOBILE GMCVOLKSWAGEN PARTS
PACIFIC OLDSMOBILE GMCVOLKSWAGEN SALES
PACIFIC OLDSMOBILE GMCVOLKSWAGEN SERVICE
PACIFIC OLDSMOBILE GMCVOLKSWAGEN SPECIAL FINANCE
PRIMO MINI STORAGE
WINDWARD MOVING & STORAGE COMPANY

98064 PEARL AUTO SERVICE & SUPPLY

98072 CHATEAU BLUE

98075 PACIFIC AUTOMOTIVE INCORPORATED

98080 PEARLRIDGE SHELL

98084 BENCH MARK REALTY
TERRITORIAL SAVINGS & LOAN ASSOCIATION BR OFFICES

98085 JEY DECOR

98107 AMERICAN RESTAURANT SUPPLY
HOMEWORLD
LA-Z-BOY FURNITURE GALLERIES

98115 SUZIES ADULT VIDEOS

98121 FUJI CHEVRON CAR WASH

98135 YUNNIES SHELL

98141 AMERICAN TIRE & SERVICE COMPANY
FIRESTONE TIRE & SERVICE CENTERS PEARL KAI

98147 TINY GREEN APPLE CABARET

98160 HENYAN, WALTER L
SUMIDA FARM INCORPORATED MASARU SUMIDA PRESIDENT
SUMIDA, M

98180 BA LESANDWICH SHOP PEARLRIDGE SHOPPING CENTER
BLOCKBUSTER MUSIC PEARLRIDGE CNTR DOWNTOWN
OAHU EYECARE
OZAKI CARLENE Y OD
OZAKI-MORISHIGE, CARLENE
SEARS ROEBUCK AND COMPANY RETAIL STORES

98189 TEXACO RMI FOODMARTS AIEA

98199 ANY KIND CHECK CASHING CENTERS
AUTOMTV CAR CARE CENTERS PEARL KAI SHPG CENTER
CHECKS CASHED ANY KIND
HANNARA RESTAURANT
J T JEWELRY & WATCH
JIFFY LUBE PEARL KAI
L & L DRIVE INN PEARL KAI SHOPPING CENTER NO
LOVE & BLOOMS
NAILS FOR TODAY

LIPOA PL 2000

98107 KURODA AUTO BODY INCORPORATED
 KURODA RADIATOR
 98108 BEACON RESTAURANT INCORPORATED
 HMC KARAOKE PEARLRIDGE
 98114 CARPIO, S
 CHANG, CHE H
 LEE, FRANK Y
 LEI, SHIRLEY
 MA, YUAN B
 RABAYA, CESAR A
 SY WEE SUN
 WONG, RICKY
 WONG, SAI L
 WONG-GABRIEL, L
 98120 BAUTISTA, P
 MATEO, MARILYN L
 SMITH, WILLIAM R
 SOUZA, D
 TADIARCA, MODESTO A
 THOMPSON, RONALD
 98121 HI GRADE PLUMBING INCORPORATED
 HI GRADE TECHNOLOGY OF HAWAII INCORPORATED
 JESUS CHRIST IS CALLING YOU
 RUDYS UPHOLSTERY
 VIDEO QUEST
 98125 TOM, ERNEST Y
 TOMS PET SUPPLY
 98130 HARBOR ARMS APARTMENT HOTEL
 TOM, HANSEL
 98135 HAWAIIAN HORIZON APARTMENT HOTEL
 HHA INCORPORATED
 98142 BECKER, ROBERT
 GALLANT, R
 GANIER, JULES
 MITCHELL, JACK
 MORSE, ANDY
 MOSTAJO, JOSE
 RAMOS, STANLEY
 SHEEHE, NATALIA
 TRUJILLO, WILLIAM
 98145 HARBOR SHORES APARTMENT HOTEL
 98150 PEPPER TREE APARTMENT HOTEL

KAMEHAMEHA HWY 1995

409 MIZUMOTO, HENRY Y
 98015 CUTTER FORD ISUZU INC
 98019 ALIOLANI CASUALS
 AUTO REPAIR OF HAWAII
 BIKE SHOP
 ESPECIALLY FOR YOU
 HELENA GARMENT CONTRACTOR
 ORIENTAL HOME FURNISHINGS
 PACIFIC CLOTHING
 R & A BENTO INC
 ROYAL HAWAIIAN TIRE & AUTO CTR
 SMALL ENGINE CLINIC
 98020 ALBERT, JOSEPH
 ANIMAL CLINIC WAIMALU INC
 AQUINO, PAUL
 BALDWINS SWEET SHOP
 CAREN TAMURA DVM
 CAROL & US
 CHA, KYUNG N
 COMPAI LOUNGE
 DIVERSIFIED TEMPORARY SVC
 FINANCE FACTORS LTD
 HAWAIIAN KITCHEN
 HERBERT K HORITA REALTY INC
 HOLI, JONELLE L
 HOYOHOY, ROBIN J
 KABUKI RESTAURANT & DELI
 KO, KWAN W
 LEILANI SIM DVM
 LESTER G NAITO DVM
 MAGGIES BOUTIQUE
 MARUJYU MARKET
 NIHOA, DAVID
 PETLAND
 REFILONG, MESINA
 SEWELL, V
 SHIRO & ASSOCIATES INC
 SHIROS FRANCHISE CORP
 SHIROS HULA HULA DRIVE IN
 SUPER JET TRAVEL
 WAIMALU BARBER SHOP
 WAIMALU CHOP SUEY
 WAIMALU FLOWER CTR
 WAIMALU LIQUOR STORE
 98021 AGUILAR, T
 ALOHA CERAMICS
 AMERICAN MARINE DECKING SYSTS
 BEKINS MOVING & STORAGE
 BIFANO, JOSEPH
 BRUM, R

KAMEHAMEHA HWY 1995 (Cont'd)

98021	CHEE, PIILANI CONSELVA, DWANE A CREATIVE CABINET WORKS E Z CORNERS INC ELKS LODGE ENRIQUEZ, ADRIANO GRANNYS GOURMET MUFFINS OF HI ISLAND DIAMOND CO J J PRODUCTIONS NAKASHIMA, MALCOLM T PEERLESS ROOFING CO LTD SCREEN ARTS INK SOLEIL STRUCTURAL MASONRY INC TLI BUILDERS WESTERN MOTOR TARIFF
98040	LARRYS BAKERY INC
98042	HEALY, SONG N IKEDA, GREG M KIMS BARBECUE MAY, G E MCNEALY, K YAMASAKI, JASON N YOWELL, JAMES A
98044	CHRISS PEANUT SHOP FENG, J L JENNIFER L FENG CPA KIYOKOS BARBER SHOP STATE FARM INSURANCE STYLES UNLIMITED
98048	ZIPPYS RESTAURANT
98051	TONY HONDA LEASING
98055	ALOHA ALLSTATE STORAGE LTD AQUA LUNG HAWAII AUTO TRIM DESIGN TRIM LINE HONOLULU JAYCEES ISLAND LANDSCAPING ISLAND LANDSCAPING & MAINT INC PACIFIC OLDSMOBILE PACIFIC OLDSMOBILE GMC VW PRIMO GARDENS PRIMO MINI STORAGE TRANSCRIPTION STAT WINDWARD MOVING & STORAGE CO
98064	PEARL AUTO SVC & SUPPLY
98072	PEARL HARBOR LOUNGE
98075	VOLVO HAWAII
98080	PEARLRIDGE SHELL
98084	CORTEZ, P L DANIEL GROUP TRUST

KAMEHAMEHA HWY 1995 (Cont'd)

98084 HELEN BENCH REALTY INC
 KAMEHAMEHA REALTY
 MERCHANT SECURITY & ALARM INC
 NANIKEA INC
 PERFECTO L CORTEZ CPA
 TERRITORIAL SAVINGS & LOAN
 98105 TUXEDO JUNCTION
 98107 B J FURNITURE
 SCANDINAVIAN GALLERY
 98114 LAU, FRANCIS K
 98115 BUDGET FURNITURE RENTS & SALES
 INTERNATIONAL METALS INC
 JAPAN AUTO ENGINE CORP
 98121 FUJI CHEVRON
 98130 SEARS ROEBUCK & CO
 98147 EDOKKO RESTAURANT
 PEARLRIDGE CARS
 98160 LIVED, HILARIO
 SUMIDA, M
 98180 AMERICAN AIRLINES INC
 PIZZA HUT
 SEARS 1 HOUR PHOTO
 SEARS HEARING CTR
 SEARS OPTICAL
 SEARS ROEBUCK & CO
 UNITED AIRLINES
 98189 TEXACO FOODMART
 98199 ALOHA FUTONS BEDS & WATERBEDS
 AUTOMOTIVE CAR CARE CTR
 CHAMPA THAI RESTAURANT
 CHICKEN, ALICE
 CITY BANK
 CLASSIC CREATIONS
 COLDWELL BANKER
 COLDWELL BANKER MC CORMACK
 DOUBLE DRAGON CHINESE KITCHEN
 EDWARD BRYCE
 EDWARD BRYCE TUXEDO FOR HALE
 EVER BLUE CASUALS
 FANTASTIC SAMS
 FOX PHOTO
 GIFTS & MORE THINGS
 GIVING TREE
 JELLYS COMICS & BOOKS
 JIFFY LUBE
 KELLY TEMPORARY SVC
 LOCATIONS INC
 MAMAS MEXICAN KITCHEN
 MARIOS PIZZA & PASTA
 MC CORMACK REAL ESTATE

KAMEHAMEHA HWY 1995 (Cont'd)

98199 MO BETTAH STORE
 MONIQUES ALOHA CHICKEN RSTRNT
 NAILS BY ROZONNA
 NAILS FOR TODAY
 PEARL KAI CTR
 PEARL KAI FOOD COURT
 PEARL KAI SPORTSCARDS INC
 PEG LEGS PLACE
 POP, JOY
 RAINBOWS & DREAMS
 RED WING SHOE STORE
 SHEAR GENIUS
 SUBWAY SANDWICHES & SALADS
 SURE STEREO SVC
 TODAYS FASHION
 TOWER RECORDS & VIDEO
 VIM & VIGOR FOODS
 WANGS GARDEN
 98200 BANK OF AMERICA
 DEEN PROPERTIES INC
 JIM HARLAN INC REALTORS
 MC FADDEN PROPERTIES INC
 PEARLRIDGE REALTY INC
 SEAN ANGULAR
 SELECT TEMPORARY SVC
 98201 ANY KIND CHECK CASHING CTR
 WESTERN UNION
 98277 FAHRNI REALTY INC
 FAHRNI SCHOOL OF REAL ESTATE
 FAHRNI, LEN A
 PARADISE PIZZA
 TACURI, DANIEL
 98291 RIDGE WAY MOTORS
 SANPEI, CHARLES H
 98302 PIZZA HUT
 98310 BEACHUM, L
 BOLTON, BOBBY J
 BOWMAN, KEVIN
 BURKHARD, ROBERT H
 COLELLO, F J
 DANTES, EDUARDO
 DEGUZMAN, PYLIN
 DOLAN, T JR
 FUKUNAGA, MOTOJI
 HANKEY, WAYNE
 HAWTHORN, AUSTIN
 JONES, JAMES K
 LAW, DANNY H
 LILLIS, ROBERT D
 MARTINES, A

KAMEHAMEHA HWY 1995 (Cont'd)

98310 MIENTEK, MARK
NOBLIN, DAVID
OHASHI, WAYNE K
ROBBINS, JOHN C
TAVARES, MICHAEL
WALL, ROBERT W
WATANABE, K A
YUK, MEI S

98316 KFC

98319 HONOLULU CITY NEAL S BLAISDELL

98350 B C USED CARS

98360 STEVENS TOWING
VIP CAR RENTALS
YOSHIOKA, KEISO

98376 TACO BELL

98380 HO, WALLACE M
WALLY'S SERVICE INC

98384 JACK IN THE BOX

98390 HO, WILBERT M
SCHUMAN AUTOMOTIVE INC

98425 HALE KOA REALTY INC
ISLAND BRAKE & ALIGNMENT

99016 PECOS RIVER CAFE

99022 B & M CARS
ISLAND AUTO EXCHANGE
U HAUL CO

99173 PACIFIC TRUCKERS ASSN

981277 EZOGIKU

981810 CELEBRITY TUXEDOS

LIPOA PL 1995

98107 KURODA AUTO REPAIR INC
 KURODA RADIATOR
 98108 BEACON RESTAURANT
 98114 ALFEROS, LILIAN
 BARNETT, GUY
 CHANG, CHE H
 DEBORJA, MARIA
 GUSICH, R L
 LEE, FRANK Y
 MA, YUAN B
 MAGPOC, CHRIS
 SY, WEE S
 98120 B & B JANITORIAL SVC
 BAILLEAUX, G
 BEGONIA, JOHN D
 CANTORNA, ELVIRA
 KO, F Y
 LIBERATO, AURELIA A
 MATSUDA, KENNETH K
 PANTE, AQUILES
 RAGADIO, A A
 SMITH, WILLIAM R
 TADIARCA, MODESTO A
 98121 HI GRADE ENTERPRISE
 HI GRADE PLUMBING INC
 HI GRADE TECH OF HAWAII INC
 98125 TOM, ERNEST Y
 TOMS PET SUPPLY
 98130 HARBOR ARMS APARTMENT HOTEL
 TOM, HANSEL
 98135 HAWAIIAN HORIZON APARTMENT HTL
 98142 AHSING, CLAYTON
 BAXTER, LEE
 BOWLES, MARK
 CARROLL, A
 DALE, D
 DANDY, ANDY
 FAUTANU, AMENE
 GALE, SYLVIA C
 GUEVARA, RONNIE
 HO, WALLACE K
 KAUI, K
 MAESHIRO, DAVID
 MESA, ANTHONY
 MISKELLEY, ROBERT
 MOSTAJO, JOSE
 NELSON, DANNY
 RICHARDS, PAUL A
 STILES, J
 SUNAHARA, D

LIPOA PL

1995

(Cont'd)

98142 TAKARA, B
TANAP, AMANTE O
YOUNG, M K
98145 HARBOR SHORES APARTMENT HOTEL
LANCASTER, B
98150 PEPPER TREE APARTMENT HOTEL

KAMEHAMEHA HWY 1992

409 MIZUMOTO, HENRY Y
 NEUMANN, EDWARD JR
 92200 BELTER, HENRY M
 94042 JENSEN, T S
 98020 AQUINO, PAUL
 BIGORNIA, J
 DAVID, DAMARIS
 GUERNSEY, MAILE
 KO, KWAN W
 NANPEI, OLIVER JR
 NIHOA, DAVID
 REFILONG, C
 SHIN, HYUN K
 98021 AGUILAR, JERRY A
 CHEE, PIILANI
 CONSELVA, DWANE A
 ENRIQUEZ, ADRIANO
 NAKASHIMA, MALCOLM T
 98042 CLAYTON, ANTHONY
 MAY, G E
 YOWELL, JAMES A
 98084 BICOY, B D
 CORTEZ, P L
 98087 FARM, ROSE
 98114 LAU, FRANCIS K
 98160 LIVED, HILARIO
 SUMIDA, M
 98199 CHICKEN, ALICE
 PAE, JOHN
 98200 BELTER, FORREST W
 98277 FAHRNI, LEN A
 WILKERSON, BOB S
 98291 SANPEI, CHARLES H
 98310 BALCOM, JAMES R
 BERNADES, GARRETT
 BOYD, NATHAN E
 BURHANS, LAURA
 CASSEN, MARK E
 CHILDERS, V
 COLELLO, F J
 COSTA, MICHAEL
 DANTES, EDUARDO
 DENOYER, R M
 DOLAN, T JR
 FLOWERS, B M
 FUKUNAGA, MOTOJI
 HANKEY, WAYNE
 HEE, KAM C
 JONES, JAMES K
 KING, SHAUN

KAMEHAMEHA HWY 1992 (Cont'd)

98310 LEE, CHON S
LILLIS, ROBERT D
MARANDO, THOMAS J
MEHRTENS, J L
MIYAHARA, ALBIN K
OHASHI, WAYNE K
TIMBS, V
TRAVELSTEAD, K L
TSUBOTA, MEGAN
VERANO, K
WATANABE, K A
YUK, MEI S
98360 YOSHIOKA, KEISO
98380 HO, WALLACE M
SAKURAI, JANET S
98390 HO, WILBERT M
98401 BASTATAS, G
MONIZ, ROBERT
TORRES, PAULINE
UYEHARA, ROBERT
98409 POMAIKAI, H
TANAKA, JASON M

LIPOA PL 1992

98114 BAE, CHONG B
 CHANG, CHE H
 CHENG, JOHN
 CHOE, JUNG
 EVANS, BRIAN
 FUGA, LUI T
 GUSICH, R L
 HANDLEY, KALENA R
 JONES, DENNIS
 LEE, FRANK Y
 MOSTAJO, JOSE
 ONEAL, DAVID
 98120 BAILLEAUX, G
 BEGONIA, JOHN D
 ELSMAN, CHARLES K
 KO, YONG C
 LEE, AUSTIN
 LIBERATO, AURELIA A
 MOREAU, MICHAEL D
 OH, DAE S
 PAREJA, A
 PELUPELU, H
 ROHR, L
 SMITH, WILLIAM R
 TADIARCA, MODESTO A
 VILUAN, JUAN D
 WILSON, SAM
 98125 TOM, ERNEST Y
 98130 TOM, HANSEL
 98142 ATWOOD, KRIS J
 BURTON, TIMOTHY D
 CORN, HAROLD
 DUNN, EDWIN W III
 GALE, SYLVIA C
 HANVEY, C A
 HIROHAMA, H
 HOLLAND, JASON
 KRALL, DAVID A
 LUU, PHI T
 MESA, ANTHONY
 MORSE, ANDY
 NELSON, DANNY
 REED, C N
 RICHARDS, PAUL A
 SATO, D
 SMITH, SCOTT L
 STILES, J
 VOLLAND, M
 WILLIAMS, F
 WYNN, STEPHEN B

Target Street

Cross Street

Source

✓

-

EDR Digital Archive

LIPOA PL

1992

(Cont'd)

98142 YOKONO, JEFFERY A
98145 LANCASTER, B

Hale Olipoa

98-150 Lipoa Place

Aiea, HI 96701

Inquiry Number: 6816704.2s

February 27, 2022

EDR Vapor Encroachment Screen

Prepared using EDR's Vapor Encroachment Worksheet

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Thank you for your business.
 Please contact EDR at 1-800-352-0050
 with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by EDR. The report was designed to assist parties seeking to meet the search requirements of the ASTM Standard Practice for Assessment of Vapor Encroachment into Structures on Property Involved in Real Estate Transactions (E 2600).

STANDARD ENVIRONMENTAL RECORDS	Default Area of Concern (Miles)*	property	1/10	> 1/10
Lists of Federal NPL (Superfund) sites	1.0	0	0	1
Lists of Federal Delisted NPL sites	1.0	0	0	0
Lists of Federal sites subject to CERCLA removals and CERCLA orders	0.5	0	0	1
Lists of Federal CERCLA sites with NFRAP	0.5	0	0	0
Lists of Federal RCRA facilities undergoing Corrective Action	1.0	0	0	0
Lists of Federal RCRA TSD facilities	0.5	0	0	0
Lists of Federal RCRA generators	0.25	0	0	1
Federal institutional controls / engineering controls registries	0.5	0	0	1
Federal ERNS list	0.001	0	0	-
Lists of state- and tribal (Superfund) equivalent sites	not searched	-	-	-
Lists of state- and tribal hazardous waste facilities	1.0	0	1	1
Lists of state and tribal landfills and solid waste disposal facilities	0.5	0	0	0
Lists of state and tribal leaking storage tanks	0.5	0	1	1
Lists of state and tribal registered storage tanks	0.25	0	1	1
State and tribal institutional control / engineering control registries	0.5	0	1	0
Lists of state and tribal voluntary cleanup sites	0.5	0	0	0
Lists of state and tribal brownfield sites	0.5	0	0	0

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists	0.5	0	0	0
Local Lists of Landfill / Solid Waste Disposal Sites	0.5	0	0	0
Local Lists of Hazardous waste / Contaminated Sites	0.001	0	0	-
Local Lists of Registered Storage Tanks	not searched	-	-	-
Local Land Records	0.001	0	0	-
Records of Emergency Release Reports	0.001	0	0	-
Other Ascertainable Records	1.0	0	1	4

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records	1.0	0	3	1
Exclusive Recovered Govt. Archives	0.001	0	0	-

EXECUTIVE SUMMARY

EDR RECOVERED GOVERNMENT ARCHIVES

EDR Exclusive Records	1.0	0	3	1
Exclusive Recovered Govt. Archives	0.001	0	0	-

*The Default Area of Concern may be adjusted by the environmental professional using experience and professional judgement. Each category may include several databases, and each database may have a different distance. A list of individual databases is provided at the back of this report.

EXECUTIVE SUMMARY

TARGET PROPERTY INFORMATION

ADDRESS

HALE OLIPOA
98-150 LIPOA PLACE
AIEA, HI 96701

COORDINATES

Latitude (North):	21.381484 - 21° 22' 53.33908"
Longitude (West):	157.944285 - 157° 56' 39.44458"
Elevation:	7 ft. above sea level

EXECUTIVE SUMMARY

SEARCH RESULTS

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

<u>Name</u>	<u>Address</u>	<u>Dist/Dir</u>	<u>Map ID</u>	<u>Page</u>
PEARL HARBOR NAVAL COMPLEX PRP: PRP ROD: ROD US INST CONTROLS: US INST CONTROLS US ENG CONTROLS: US ENG CONTROLS NPL: NPL SEMS: SEMS	US NAVAL COMMAND	1/2 - 1 ESE	Region	9
HI-GRADE PLUMBING UST: UST SHWS: SHWS INST CONTROL: INST CONTROL LUST: LUST ENG CONTROLS: ENG CONTROLS Financial Assurance: Financial Assurance	98-151 LIPOA PL	<1/10 W	◆ 1	59
HAWAII BAKING CO INC RCRA-VSQG: RCRA-VSQG FINDS: FINDS ECHO: ECHO UST: UST HAZNET: HAZNET SHWS: SHWS LUST: LUST SPILLS: SPILLS	98 736 MOANALUA LOOP	1/10 - 1/3 NW	▲ 6	63

ADDITIONAL ENVIRONMENTAL RECORDS

<u>Name</u>	<u>Address</u>	<u>Dist/Dir</u>	<u>Map ID</u>	<u>Page</u>
PEARL HARBOR NAVAL COMPLEX PRP: PRP ROD: ROD US INST CONTROLS: US INST CONTROLS US ENG CONTROLS: US ENG CONTROLS NPL: NPL SEMS: SEMS	US NAVAL COMMAND	1/2 - 1 ESE	Region	
PEARL HARBOR NAVAL STATION DOD: DOD	Not Reported	1/2 - 1 E	Region	58
FORD ISLAND NAVAL STATION ANNEX DOD: DOD	Not Reported	1/3 - 1/2 S	Region	59
HI-GRADE PLUMBING UST: UST SHWS: SHWS INST CONTROL: INST CONTROL LUST: LUST ENG CONTROLS: ENG CONTROLS Financial Assurance: Financial Assurance	98-151 LIPOA PL	<1/10 W	◆ 1	59
HAWAII BAKING CO INC	98 736 MOANALUA LOOP	1/10 - 1/3 NW	▲ 6	63

EXECUTIVE SUMMARY

<u>Name</u>	<u>Address</u>	<u>Dist/Dir</u>	<u>Map ID</u>	<u>Page</u>
RCRA-VSQG: RCRA-VSQG FINDS: FINDS ECHO: ECHO UST: UST HAZNET: HAZNET SHWS: SHWS LUST: LUST SPILLS: SPILLS				

EDR HIGH RISK HISTORICAL RECORDS

<u>Name</u>	<u>Address</u>	<u>Dist/Dir</u>	<u>Map ID</u>	<u>Page</u>
R & S VENTURE INC EDR Hist Auto: EDR Hist Auto	98-121 KAMEHAMEHA HWY	<1/10 NW	▲ C2	61
FUJIS CHEVRON SERVICE STATION EDR Hist Auto: EDR Hist Auto	98-121 KAM HWY	<1/10 NW	▲ C3	62
FUJIS CHEVRON SERVICE STATION EDR Hist Auto: EDR Hist Auto	98-121 KAM HWY	<1/10 NW	▲ C4	62
NATIONAL TIRE OF HAWAII LTD EDR Hist Auto: EDR Hist Auto	98-115 KAMEHAMEHA HWY	1/10 - 1/3 NW	▲ C5	63

EDR RECOVERED GOVERNMENT ARCHIVES

<u>Name</u>	<u>Address</u>	<u>Dist/Dir</u>	<u>Map ID</u>	<u>Page</u>
Not Reported				

PRIMARY MAP - 6816704.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites



- Indian Reservations BIA
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands

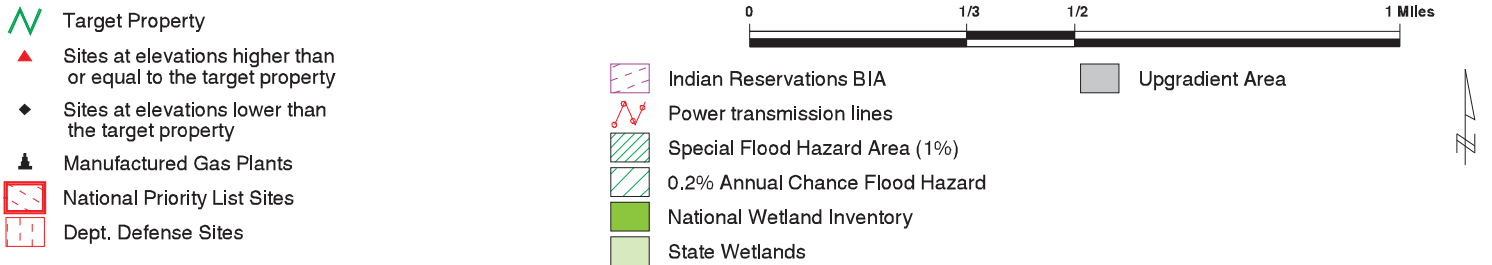


This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Hale Olipoa
 ADDRESS: 98-150 Lipoa Place
 Aiea HI 96701
 LAT/LONG: 21.381484 / 157.944285

CLIENT: Environmental Risk Analysis, LLC
 CONTACT: Kristen Caskey
 INQUIRY #: 6816704.2s
 DATE: January 12, 2022 1:17 pm

SECONDARY MAP - 6816704.2S



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Hale Olipoa
 ADDRESS: 98-150 Lipoa Place
 Aiea HI 96701
 LAT/LONG: 21.381484 / 157.944285

CLIENT: Environmental Risk Analysis, LLC
 CONTACT: Kristen Caskey
 INQUIRY #: 6816704.2S
 DATE: January 12, 2022 1:16 pm

MAP FINDINGS

LEGEND

FACILITY NAME FACILITY ADDRESS, CITY, ST, ZIP		EDR SITE ID NUMBER
◆ MAP ID#	Direction Distance Range (Distance feet / miles) Relative Elevation Feet Above Sea Level	ASTM 2600 Record Sources found in this report. Each database searched has been assigned to one or more categories. For detailed information about categorization, see the section of the report Records Searched and Currency.
Worksheet: Comments: Comments may be added on the online Vapor Encroachment Worksheet.		

DATABASE ACRONYM: Applicable categories (A hoverbox with database description).

PEARL HARBOR NAVAL COMPLEX US NAVAL COMMAND, PEARL HARBOR, HI, 96860		1000707626
Region	ESE 1/2 - 1 (3507 ft. / 0.664 mi.)	Lists of Federal NPL (Superfund) sites Lists of Federal sites subject to CERCLA removals and CERCLA orders Federal institutional controls / engineering controls registries Other Ascertainable Records

Worksheet:

NPL: Lists of Federal NPL (Superfund) sites

EPA Region: 9
 EPA ID: HI4170090076
 Site ID: 904481
 Name: PEARL HARBOR NAVAL COMPLEX
 Address: US NAVAL COMMAND
 City,State,Zip: PEARL HARBOR, HI 96860
 Federal: Y
 Final Date: 1992-10-14 00:00:00
 Latitude: 21.388889
 Longitude: -157.983333
 Site Score: 70.819999999999993
 NAI: Not Reported
 Native American Entity: Not Reported

NPL:

NPL Status: Currently on the Final NPL
 Substance ID: U220
 CAS Number: 108-88-3
 Substance: TOLUENE
 Pathway: SOIL EXPOSURE PATHWAY
 Scoring: 2

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

NPL Status: Currently on the Final NPL
 Substance ID: U228
 CAS Number: 79-01-6
 Substance: TRICHLOROETHYLENE (TCE)
 Pathway: SOIL EXPOSURE PATHWAY
 Scoring: 2

NPL Status: Currently on the Final NPL
 Substance ID: Not Reported
 CAS Number: Not Reported
 Substance: Not Reported
 Pathway: Not Reported
 Scoring: Not Reported

NPL Status: Currently on the Final NPL
 Substance ID: A023
 CAS Number: 72-55-9
 Substance: DDE
 Pathway: SURFACE WATER PATHWAY
 Scoring: 3

NPL Status: Currently on the Final NPL
 Substance ID: A046
 CAS Number: 1336-36-3
 Substance: POLYCHLORINATED BIPHENYLS
 Pathway: SURFACE WATER PATHWAY
 Scoring: 3

NPL Status: Currently on the Final NPL
 Substance ID: A059
 CAS Number: 75-27-4
 Substance: BROMODICHLOROMETHANE
 Pathway: AIR PATHWAY
 Scoring: 3

NPL Status: Currently on the Final NPL
 Substance ID: A059
 CAS Number: 75-27-4
 Substance: BROMODICHLOROMETHANE
 Pathway: SOIL EXPOSURE PATHWAY
 Scoring: 4

NPL Status: Currently on the Final NPL
 Substance ID: C049
 CAS Number: 100-41-4
 Substance: ETHYLBENZENE
 Pathway: SOIL EXPOSURE PATHWAY
 Scoring: 2

NPL Status: Currently on the Final NPL
 Substance ID: C315
 CAS Number: 7738-94-5
 Substance: CHROMIC ACID

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Pathway:	NO PATHWAY INDICATED
Scoring:	1
NPL Status:	Currently on the Final NPL
Substance ID:	C320
CAS Number:	18540-29-9
Substance:	CHROMIUM, HEXAVALENT
Pathway:	NO PATHWAY INDICATED
Scoring:	1
NPL Status:	Currently on the Final NPL
Substance ID:	C460
CAS Number:	7439-97-6
Substance:	MERCURY
Pathway:	SURFACE WATER PATHWAY
Scoring:	4
NPL Status:	Currently on the Final NPL
Substance ID:	C497
CAS Number:	8052-41-3
Substance:	STODDARD SOLVENT
Pathway:	NO PATHWAY INDICATED
Scoring:	1
NPL Status:	Currently on the Final NPL
Substance ID:	C517
CAS Number:	108-38-3
Substance:	XYLENE, M-
Pathway:	SOIL EXPOSURE PATHWAY
Scoring:	2
NPL Status:	Currently on the Final NPL
Substance ID:	C525
CAS Number:	314-40-9
Substance:	BROMACIL
Pathway:	NO PATHWAY INDICATED
Scoring:	1
NPL Status:	Currently on the Final NPL
Substance ID:	C573
CAS Number:	333-41-5
Substance:	DIAZINON
Pathway:	NO PATHWAY INDICATED
Scoring:	1
NPL Status:	Currently on the Final NPL
Substance ID:	D004
CAS Number:	7440-38-2
Substance:	ARSENIC
Pathway:	GROUND WATER PATHWAY
Scoring:	3
NPL Status:	Currently on the Final NPL
Substance ID:	P037

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

CAS Number:	60-57-1
Substance:	DIELDRIN
Pathway:	NO PATHWAY INDICATED
Scoring:	1
NPL Status:	Currently on the Final NPL
Substance ID:	U028
CAS Number:	117-81-7
Substance:	BIS(2-ETHYLHEXYL)PHTHALATE
Pathway:	SURFACE WATER PATHWAY
Scoring:	2
NPL Status:	Currently on the Final NPL
Substance ID:	U036
CAS Number:	57-74-9
Substance:	CHLORDANE
Pathway:	SURFACE WATER PATHWAY
Scoring:	3
NPL Status:	Currently on the Final NPL
Substance ID:	U037
CAS Number:	108-90-7
Substance:	CHLOROBENZENE
Pathway:	AIR PATHWAY
Scoring:	3
NPL Status:	Currently on the Final NPL
Substance ID:	U037
CAS Number:	108-90-7
Substance:	CHLOROBENZENE
Pathway:	SURFACE WATER PATHWAY
Scoring:	2
NPL Status:	Currently on the Final NPL
Substance ID:	U061
CAS Number:	50-29-3
Substance:	DDT
Pathway:	SURFACE WATER PATHWAY
Scoring:	3
NPL Status:	Currently on the Final NPL
Substance ID:	U079
CAS Number:	156-60-5
Substance:	TRANS-DICHLOROETHYLENE, 1,2-
Pathway:	AIR PATHWAY
Scoring:	3
NPL Status:	Currently on the Final NPL
Substance ID:	U079
CAS Number:	156-60-5
Substance:	TRANS-DICHLOROETHYLENE, 1,2-
Pathway:	GROUND WATER PATHWAY
Scoring:	3

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

NPL Status: Currently on the Final NPL
Substance ID: U079
CAS Number: 156-60-5
Substance: TRANS-DICHLOROETHYLENE, 1,2-
Pathway: SOIL EXPOSURE PATHWAY
Scoring: 4

NPL Status: Currently on the Final NPL
Substance ID: U210
CAS Number: 127-18-4
Substance: TETRACHLOROETHENE
Pathway: AIR PATHWAY
Scoring: 3

NPL Status: Currently on the Final NPL
Substance ID: U210
CAS Number: 127-18-4
Substance: TETRACHLOROETHENE
Pathway: SOIL EXPOSURE PATHWAY
Scoring: 4

Summary Details:

Conditions at Proposal July 29, 1991): The Pearl Harbor Naval Complex occupies at least 6,300 acres in Pearl Harbor on the Island of Oahu, Honolulu County, Hawaii. Land around the complex supports agriculture, aquaculture, industry, urban, and commercial uses. The complex consists of these major facilities: Naval Shipyard, Naval Supply Center, Naval Station, Submarine Base, Public Works Center, Inactive Ships, and Navy Magazine (Lualualei Westlock Branch and Waipio Peninsula). The Pearl Harbor Naval Complex began operation in 1901 when the Navy received an appropriation to acquire land for a naval station. After the attack by the Japanese on December 7, 1941, industrial activity at the complex skyrocketed, reaching 24,000 civilians by mid-1943. After World War II, activity declined and has fluctuated with the Navy's requirements. In 1983, the Navy identified 30 potential hazardous waste sources within the six facilities. Subsequently, an additional source was identified. The 31 sources include unlined landfills, pesticide disposal pits, chromic acid disposal areas, PCB disposal areas, mercury-contaminated harbor sediments, leaking underground solvent tanks, waste oil facilities, and numerous other types of sources resulting from industrial activities at the complex. Six of the sources were initially evaluated, based primarily on toxicity of contaminants present, availability of waste quantity information, sampling results, affected populations, and a documented release of a hazardous substance. Many investigations have found hazardous substances --

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

including mercury, chromium, PCBs, pesticides, trichloroethene, trans-1,2-dichloroethene, and other volatile organic compounds -- in soil in the six areas, thus exposing workers on the site less than 100) to potential contamination. Many of these chemicals have also been found at the remaining 25 areas identified to date.) Tetrachloroethene was found 15.2 feet below ground surface in one area. Soils beneath the site are permeable, facilitating movement of contaminants into ground water. Approximately 110,700 people obtain drinking water from wells within 2 miles of the six sources. In 1988, the Navy detected bis (2-ethylhexyl)phthalate in sediment samples taken from a National Wildlife Refuge that borders an abandoned Navy landfill. The refuge contains habitat for four Federally endangered species, as well as wetlands. Pearl Harbor and nearby portions of the Pacific Ocean contain recreational and commercial fisheries, habitat for endangered species, wetlands, and water-contact recreation areas. The volatile organic compounds in on-site soil also create a potential for gases to be released to the atmosphere. Status October 1992): EPA and the Navy are planning to negotiate a Federal Facilities Agreement under CERCLA Section 120 to cover future activities at the site. The description of the site (release) is based on information available at the time the site was scored. The description may change as additional information is gathered on the sources and extent of contamination. See FR 5600, February 11, 1991 or subsequent FR notices.)

NPL:

NPL Status: Currently on the Final NPL
Category Description: Surface Water Adjacent To Site-Other-Unknown
Category Value: WETLAND

NPL:

NPL Name: PEARL HARBOR NAVAL COMPLEX

NPL:

EPA Region: 09
Site ID: 0904481
Site Status: F
Federal Site: Y
Date Deleted: Not Reported
Date Finalized: 10/14/92
Date Proposed: 07/29/91

NPL:

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Proposed Date: 07/29/1991
Final Date: 10/14/1992
Deleted Date: Not Reported
NPL Status: Final

SEMS: Lists of Federal sites subject to CERCLA removals and CERCLA orders

Site ID: 0904481
EPA ID: HI4170090076
Name: PEARL HARBOR NAVAL COMPLEX
Address: US NAVAL COMMAND
Address 2: Not Reported
City,State,Zip: PEARL HARBOR, HI 96860
Cong District: 01
FIPS Code: 15003
Latitude: 21.388889
Longitude: -157.983333
FF: Y
NPL: Currently on the Final NPL
Non NPL Status: Not Reported

SEMS Detail:

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 00
Action Code: NP
Action Name: PROPOSED
SEQ: 1
Start Date: 1991-07-29 04:00:00
Finish Date: 7/29/1991 4:00:00 AM
Qual: Not Reported
Current Action Lead: EPA Perf

Region: 09
Site ID: 0904481
EPA ID: HI4170090076
Site Name: PEARL HARBOR NAVAL COMPLEX
NPL: F
FF: Y
OU: 00
Action Code: AR
Action Name: ADMIN REC
SEQ: 1
Start Date: 2000-10-24 04:00:00
Finish Date: Not Reported
Qual: Not Reported

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Current Action Lead:	EPA Perf
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	00
Action Code:	DS
Action Name:	DISCVRY
SEQ:	1
Start Date:	1980-10-01 04:00:00
Finish Date:	10/1/1980 4:00:00 AM
Qual:	Not Reported
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	01
Action Code:	LV
Action Name:	FF RV
SEQ:	5
Start Date:	2000-01-03 05:00:00
Finish Date:	9/14/2010 4:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	12
Action Code:	LV
Action Name:	FF RV
SEQ:	3
Start Date:	1995-02-23 05:00:00
Finish Date:	4/1/1997 5:00:00 AM
Qual:	P
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

FF:	Y
OU:	10
Action Code:	LW
Action Name:	FF RI/FS
SEQ:	1
Start Date:	1994-08-23 04:00:00
Finish Date:	9/28/2006 4:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	12
Action Code:	LY
Action Name:	FF RA
SEQ:	2
Start Date:	2009-09-29 04:00:00
Finish Date:	1/20/2011 5:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	10
Action Code:	RO
Action Name:	ROD
SEQ:	3
Start Date:	2006-09-28 04:00:00
Finish Date:	9/28/2006 4:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	12
Action Code:	RO
Action Name:	ROD
SEQ:	5
Start Date:	2009-09-29 04:00:00

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Finish Date: 9/29/2009 4:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 01
 Action Code: RO
 Action Name: ROD
 SEQ: 13
 Start Date: 2010-09-14 04:00:00
 Finish Date: 9/14/2010 4:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 29
 Action Code: LW
 Action Name: FF RI/FS
 SEQ: 25
 Start Date: 2011-08-17 04:00:00
 Finish Date: 9/14/2016 5:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 09
 Action Code: LW
 Action Name: FF RI/FS
 SEQ: 22
 Start Date: 2009-05-29 04:00:00
 Finish Date: Not Reported
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 29
 Action Code: RO
 Action Name: ROD
 SEQ: 29
 Start Date: 2016-09-14 05:00:00
 Finish Date: 9/14/2016 5:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 22
 Action Code: LW
 Action Name: FF RI/FS
 SEQ: 21
 Start Date: 2009-03-13 04:00:00
 Finish Date: 9/23/2013 5:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 12
 Action Code: LV
 Action Name: FF RV
 SEQ: 7
 Start Date: 2005-12-14 05:00:00
 Finish Date: 7/19/2006 4:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 12
 Action Code: LV
 Action Name: FF RV

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

SEQ: 8
 Start Date: 2006-06-02 04:00:00
 Finish Date: 8/22/2006 4:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 08
 Action Code: RO
 Action Name: ROD

SEQ: 2
 Start Date: 2006-09-28 04:00:00
 Finish Date: 9/28/2006 4:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 06
 Action Code: RO
 Action Name: ROD

SEQ: 4
 Start Date: 2010-07-02 05:00:00
 Finish Date: 7/2/2010 5:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 13
 Action Code: RO
 Action Name: ROD

SEQ: 6
 Start Date: 2018-09-26 05:00:00
 Finish Date: 9/26/2018 5:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 16
 Action Code: LV
 Action Name: FF RV
 SEQ: 9
 Start Date: 2007-08-24 04:00:00
 Finish Date: 9/27/2007 4:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 12
 Action Code: RO
 Action Name: ROD
 SEQ: 17
 Start Date: 2009-09-29 04:00:00
 Finish Date: 9/29/2009 4:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 21
 Action Code: LW
 Action Name: FF RI/FS
 SEQ: 19
 Start Date: 2008-04-28 04:00:00
 Finish Date: Not Reported
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 24

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Action Code:	LW
Action Name:	FF RI/FS
SEQ:	20
Start Date:	2009-03-03 05:00:00
Finish Date:	9/15/2014 5:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	03
Action Code:	LY
Action Name:	FF RA
SEQ:	1
Start Date:	2010-11-22 05:00:00
Finish Date:	8/23/2016 5:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	16
Action Code:	RO
Action Name:	ROD
SEQ:	14
Start Date:	2010-09-27 04:00:00
Finish Date:	9/27/2010 4:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	17
Action Code:	RO
Action Name:	ROD
SEQ:	21
Start Date:	2012-07-12 05:00:00
Finish Date:	7/12/2012 5:00:00 AM
Qual:	Not Reported

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	17
Action Code:	LX
Action Name:	FF RD
SEQ:	2
Start Date:	2012-07-12 05:00:00
Finish Date:	12/13/2014 5:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	30
Action Code:	RO
Action Name:	ROD
SEQ:	25
Start Date:	2013-03-29 04:00:00
Finish Date:	3/29/2013 4:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	27
Action Code:	LW
Action Name:	FF RI/FS
SEQ:	24
Start Date:	2011-07-21 05:00:00
Finish Date:	8/22/2016 5:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

FF:	Y
OU:	16
Action Code:	LW
Action Name:	FF RI/FS
SEQ:	17
Start Date:	1993-09-30 04:00:00
Finish Date:	9/27/2010 4:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	00
Action Code:	LZ
Action Name:	FF CR
SEQ:	1
Start Date:	2005-05-03 04:00:00
Finish Date:	Not Reported
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	14
Action Code:	LW
Action Name:	FF RI/FS
SEQ:	14
Start Date:	1999-05-15 04:00:00
Finish Date:	9/27/2010 4:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	05
Action Code:	RO
Action Name:	ROD
SEQ:	15
Start Date:	2011-09-23 04:00:00

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Finish Date: 9/23/2011 4:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 14
 Action Code: RO
 Action Name: ROD
 SEQ: 18
 Start Date: 2010-09-27 04:00:00
 Finish Date: 9/27/2010 4:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 24
 Action Code: LX
 Action Name: FF RD
 SEQ: 3
 Start Date: 2014-09-15 05:00:00
 Finish Date: 6/30/2015 4:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 26
 Action Code: EE
 Action Name: EE/CA
 SEQ: 2
 Start Date: 2010-03-18 04:00:00
 Finish Date: 3/18/2010 4:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 11
 Action Code: LV
 Action Name: FF RV
 SEQ: 2
 Start Date: 1995-03-13 05:00:00
 Finish Date: 10/30/1996 5:00:00 AM
 Qual: P
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 15
 Action Code: LW
 Action Name: FF RI/FS
 SEQ: 15
 Start Date: 1993-09-30 04:00:00
 Finish Date: Not Reported
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 17
 Action Code: LW
 Action Name: FF RI/FS
 SEQ: 16
 Start Date: 1993-09-30 04:00:00
 Finish Date: 7/12/2012 5:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 24
 Action Code: RO
 Action Name: ROD

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

SEQ: 24
 Start Date: 2014-09-15 05:00:00
 Finish Date: 9/15/2014 5:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 17
 Action Code: LY
 Action Name: FF RA
 SEQ: 5
 Start Date: 2014-12-13 05:00:00
 Finish Date: 3/23/2015 4:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 06
 Action Code: LY
 Action Name: FF RA
 SEQ: 3
 Start Date: 2011-08-10 04:00:00
 Finish Date: 8/27/2012 5:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 28
 Action Code: LW
 Action Name: FF RI/FS
 SEQ: 23
 Start Date: 2011-03-29 04:00:00
 Finish Date: Not Reported
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 13
 Action Code: LW
 Action Name: FF RI/FS
 SEQ: 13
 Start Date: 1995-09-19 04:00:00
 Finish Date: 9/26/2018 5:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 01
 Action Code: LW
 Action Name: FF RI/FS
 SEQ: 5
 Start Date: 1993-09-30 04:00:00
 Finish Date: 9/14/2010 4:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 09
 Action Code: LW
 Action Name: FF RI/FS
 SEQ: 2
 Start Date: 1993-09-30 04:00:00
 Finish Date: Not Reported
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 00

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Action Code:	SI
Action Name:	SI
SEQ:	1
Start Date:	1989-08-21 04:00:00
Finish Date:	8/21/1989 4:00:00 AM
Qual:	H
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	02
Action Code:	LW
Action Name:	FF RI/FS
SEQ:	3
Start Date:	1993-09-30 04:00:00
Finish Date:	4/5/2016 5:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	06
Action Code:	LV
Action Name:	FF RV
SEQ:	1
Start Date:	1995-07-17 04:00:00
Finish Date:	8/23/1996 4:00:00 AM
Qual:	P
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	00
Action Code:	NF
Action Name:	NPL FINL
SEQ:	1
Start Date:	1992-10-14 04:00:00
Finish Date:	10/14/1992 4:00:00 AM
Qual:	Not Reported

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	00
Action Code:	HR
Action Name:	HAZRANK
SEQ:	1
Start Date:	1991-07-25 04:00:00
Finish Date:	7/25/1991 4:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	06
Action Code:	LW
Action Name:	FF RI/FS
SEQ:	8
Start Date:	1993-09-30 04:00:00
Finish Date:	7/2/2010 5:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	07
Action Code:	LW
Action Name:	FF RI/FS
SEQ:	9
Start Date:	1993-09-30 04:00:00
Finish Date:	Not Reported
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

FF:	Y
OU:	24
Action Code:	LY
Action Name:	FF RA
SEQ:	6
Start Date:	2014-09-14 05:00:00
Finish Date:	10/9/2015 5:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	31
Action Code:	BD
Action Name:	PRP RI/FS
SEQ:	1
Start Date:	2016-05-29 05:00:00
Finish Date:	Not Reported
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	03
Action Code:	RO
Action Name:	ROD
SEQ:	10
Start Date:	2010-09-27 04:00:00
Finish Date:	9/27/2010 4:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	01
Action Code:	RO
Action Name:	ROD
SEQ:	12
Start Date:	2007-09-28 04:00:00

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Finish Date:	9/28/2007 4:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	00
Action Code:	PA
Action Name:	PA
SEQ:	1
Start Date:	1986-04-01 05:00:00
Finish Date:	4/1/1986 5:00:00 AM
Qual:	L
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	12
Action Code:	LY
Action Name:	FF RA
SEQ:	8
Start Date:	2009-09-29 04:00:00
Finish Date:	8/23/2016 5:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	05
Action Code:	LY
Action Name:	FF RA
SEQ:	7
Start Date:	2011-09-23 04:00:00
Finish Date:	8/23/2016 5:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 03
 Action Code: LW
 Action Name: FF RI/FS
 SEQ: 4
 Start Date: 1993-09-30 04:00:00
 Finish Date: 9/27/2010 4:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 26
 Action Code: LV
 Action Name: FF RV
 SEQ: 10
 Start Date: 2010-05-07 05:00:00
 Finish Date: 5/27/2011 5:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 12
 Action Code: LW
 Action Name: FF RI/FS
 SEQ: 12
 Start Date: 1999-06-10 04:00:00
 Finish Date: 9/29/2009 4:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 22
 Action Code: RO
 Action Name: ROD

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

SEQ: 26
 Start Date: 2013-09-23 05:00:00
 Finish Date: 9/23/2013 5:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

 Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 01
 Action Code: LY
 Action Name: FF RA
 SEQ: 4
 Start Date: 2011-06-09 05:00:00
 Finish Date: 7/11/2012 5:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

 Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 11
 Action Code: LV
 Action Name: FF RV
 SEQ: 4
 Start Date: 1993-04-01 05:00:00
 Finish Date: 4/1/1994 5:00:00 AM
 Qual: S
 Current Action Lead: Fed Fac

 Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 35
 Action Code: NI
 Action Name: FF FS
 SEQ: 1
 Start Date: 2017-03-10 05:00:00
 Finish Date: 3/10/2017 5:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

 Region: 09

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 35
 Action Code: RO
 Action Name: ROD
 SEQ: 31
 Start Date: 2017-03-10 05:00:00
 Finish Date: 3/10/2017 5:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 05
 Action Code: LW
 Action Name: FF RI/FS
 SEQ: 7
 Start Date: 1993-09-30 04:00:00
 Finish Date: 9/23/2011 4:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 08
 Action Code: LW
 Action Name: FF RI/FS
 SEQ: 10
 Start Date: 1993-09-30 04:00:00
 Finish Date: 9/28/2006 4:00:00 AM
 Qual: Not Reported
 Current Action Lead: Fed Fac

Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 27

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Action Code:	RO
Action Name:	ROD
SEQ:	27
Start Date:	2016-08-22 05:00:00
Finish Date:	8/22/2016 5:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	03
Action Code:	LX
Action Name:	FF RD
SEQ:	1
Start Date:	2010-09-27 04:00:00
Finish Date:	10/25/2010 4:00:00 AM
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	11
Action Code:	LW
Action Name:	FF RI/FS
SEQ:	11
Start Date:	1995-08-01 04:00:00
Finish Date:	Not Reported
Qual:	Not Reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0904481
EPA ID:	HI4170090076
Site Name:	PEARL HARBOR NAVAL COMPLEX
NPL:	F
FF:	Y
OU:	20
Action Code:	LW
Action Name:	FF RI/FS
SEQ:	18
Start Date:	2006-06-26 04:00:00
Finish Date:	Not Reported
Qual:	Not Reported

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Current Action Lead: Fed Fac
 Region: 09
 Site ID: 0904481
 EPA ID: HI4170090076
 Site Name: PEARL HARBOR NAVAL COMPLEX
 NPL: F
 FF: Y
 OU: 25
 Action Code: EE
 Action Name: EE/CA
 SEQ: 1
 Start Date: 2009-09-28 04:00:00
 Finish Date: Not Reported
 Qual: Not Reported
 Current Action Lead: EPA Ovrsght

Site: Federal institutional controls / engineering controls registries

Name: PEARL HARBOR NAVAL COMPLEX
 Address: US NAVAL COMMAND
 Address 2: Not Reported
 City,State,Zip: PEARL HARBOR, HI 96860
 Event Code: Not Reported
 Action Taken Date: 03/10/2017
 EPA ID: HI4170090076
 Action Name: Record of Decision
 Action ID: 31
 Operable Unit: 35
 Contaminated Media: Solid Waste
 Contact Name: Not Reported
 Contact Telephone: Not Reported
 Event: Not Reported
 Federal Facility: Y
 Fiscal Year: 2017
 NPL Status: Currently on the Final NPL
 Superfund Alternative Agreement: N
 Latitude: 21.388889
 Longitude: -157.983333

Media:

EPA ID: HI4170090076
 Contaminated Media: Soil
 Action ID: 31
 Operable Unit: 35
 Action Name: Record of Decision
 Action Taken Date: 03/10/2017
 Event Code: Not Reported
 Contact Name: Not Reported
 Contact Telephone: Not Reported

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2017
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Debris
Action ID:	12
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	09/28/2007
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2007
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	21
Operable Unit:	17
Action Name:	Record of Decision
Action Taken Date:	07/12/2012
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2012
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	4
Operable Unit:	06
Action Name:	Record of Decision
Action Taken Date:	07/02/2010
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2010
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Groundwater
Action ID:	5
Operable Unit:	12
Action Name:	Record of Decision
Action Taken Date:	09/29/2009
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2009
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	10
Operable Unit:	03
Action Name:	Record of Decision
Action Taken Date:	09/27/2010
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2010
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	10
Operable Unit:	03
Action Name:	Record of Decision
Action Taken Date:	09/27/2010
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2010
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	14
Operable Unit:	16
Action Name:	Record of Decision
Action Taken Date:	09/27/2010
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2010
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Groundwater
Action ID:	15
Operable Unit:	05
Action Name:	Record of Decision
Action Taken Date:	09/23/2011
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2011
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	15
Operable Unit:	05
Action Name:	Record of Decision
Action Taken Date:	09/23/2011
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2011
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil Gas
Action ID:	15
Operable Unit:	05
Action Name:	Record of Decision
Action Taken Date:	09/23/2011
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2011
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	17
Operable Unit:	12
Action Name:	Record of Decision
Action Taken Date:	09/29/2009
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2009
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	2
Operable Unit:	08
Action Name:	Record of Decision
Action Taken Date:	09/28/2006
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2006
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	1
Operable Unit:	03
Action Name:	Explanation of Significant Differences
Action Taken Date:	02/11/2016
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2016
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Groundwater
Action ID:	2
Operable Unit:	08
Action Name:	Record of Decision
Action Taken Date:	09/28/2006
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2006
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Groundwater
Action ID:	3
Operable Unit:	10
Action Name:	Record of Decision
Action Taken Date:	09/28/2006
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2006
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	4
Operable Unit:	06
Action Name:	Record of Decision
Action Taken Date:	07/02/2010
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2010
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	5
Operable Unit:	12
Action Name:	Record of Decision
Action Taken Date:	09/29/2009
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2009
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Groundwater
Action ID:	14
Operable Unit:	16
Action Name:	Record of Decision
Action Taken Date:	09/27/2010
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2010
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	15
Operable Unit:	05
Action Name:	Record of Decision
Action Taken Date:	09/23/2011
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2011
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Groundwater
Action ID:	17
Operable Unit:	12
Action Name:	Record of Decision
Action Taken Date:	09/29/2009
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2009
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	26
Operable Unit:	22
Action Name:	Record of Decision
Action Taken Date:	09/23/2013
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2013
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	27
Operable Unit:	27
Action Name:	Record of Decision
Action Taken Date:	08/22/2016
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2016
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	29
Operable Unit:	29
Action Name:	Record of Decision
Action Taken Date:	09/14/2016
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2016
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Groundwater
Action ID:	31
Operable Unit:	35
Action Name:	Record of Decision
Action Taken Date:	03/10/2017
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2017
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Liquid Waste
Action ID:	17
Operable Unit:	12
Action Name:	Record of Decision
Action Taken Date:	09/29/2009
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2009
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Debris
Action ID:	24
Operable Unit:	24
Action Name:	Record of Decision
Action Taken Date:	09/15/2014
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2014
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	24
Operable Unit:	24
Action Name:	Record of Decision
Action Taken Date:	09/15/2014
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2014
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Groundwater
Action ID:	27
Operable Unit:	27
Action Name:	Record of Decision
Action Taken Date:	08/22/2016
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2016
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	3
Operable Unit:	10
Action Name:	Record of Decision
Action Taken Date:	09/28/2006
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2006
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Soil
Action ID:	12
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	09/28/2007
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2007
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Surface Water
Action ID:	15
Operable Unit:	05
Action Name:	Record of Decision
Action Taken Date:	09/23/2011
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2011
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Groundwater
Action ID:	25
Operable Unit:	30
Action Name:	Record of Decision
Action Taken Date:	03/29/2013
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2013
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
EPA ID:	HI4170090076
Contaminated Media:	Solid Waste
Action ID:	31
Operable Unit:	35
Action Name:	Record of Decision
Action Taken Date:	03/10/2017
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Event: Not Reported
 Federal Facility: Y
 Fiscal Year: 2017
 NPL Status: Currently on the Final NPL
 Superfund Alternative Agreement: N
 Latitude: 21.388889
 Longitude: -157.983333

US INST CONTROLS: Federal institutional controls / engineering controls registries

Name: PEARL HARBOR NAVAL COMPLEX
 Address: US NAVAL COMMAND
 Address 2: Not Reported
 City,State,Zip: PEARL HARBOR, HI 96860
 EPA ID: HI4170090076
 Action Name: Record of Decision
 Action ID: 5
 Operable Unit: 12
 Actual Date: 09/29/2009
 Contaminated Media: Groundwater
 Event Code: Not Reported
 Contact Name: Not Reported
 Contact Telephone: Not Reported
 Event: Not Reported
 Federal Facility: Y
 Fiscal Year: 2009
 NPL Status: Currently on the Final NPL
 Superfund Alternative Agreement: N
 Latitude: 21.388889
 Longitude: -157.983333

Name: PEARL HARBOR NAVAL COMPLEX
 Address: US NAVAL COMMAND
 Address 2: Not Reported
 City,State,Zip: PEARL HARBOR, HI 96860
 EPA ID: HI4170090076
 Action Name: Record of Decision
 Action ID: 5
 Operable Unit: 12
 Actual Date: 09/29/2009
 Contaminated Media: Soil
 Event Code: Not Reported
 Contact Name: Not Reported
 Contact Telephone: Not Reported
 Event: Not Reported
 Federal Facility: Y
 Fiscal Year: 2009
 NPL Status: Currently on the Final NPL
 Superfund Alternative Agreement: N
 Latitude: 21.388889

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Longitude: -157.983333
 Name: PEARL HARBOR NAVAL COMPLEX
 Address: US NAVAL COMMAND
 Address 2: Not Reported
 City,State,Zip: PEARL HARBOR, HI 96860
 EPA ID: HI4170090076
 Action Name: Record of Decision
 Action ID: 13
 Operable Unit: 01
 Actual Date: 09/14/2010
 Contaminated Media: Buildings/Structures
 Event Code: Not Reported
 Contact Name: Not Reported
 Contact Telephone: Not Reported
 Event: Not Reported
 Federal Facility: Y
 Fiscal Year: 2010
 NPL Status: Currently on the Final NPL
 Superfund Alternative Agreement: N
 Latitude: 21.388889
 Longitude: -157.983333
 Name: PEARL HARBOR NAVAL COMPLEX
 Address: US NAVAL COMMAND
 Address 2: Not Reported
 City,State,Zip: PEARL HARBOR, HI 96860
 EPA ID: HI4170090076
 Action Name: Record of Decision
 Action ID: 13
 Operable Unit: 01
 Actual Date: 09/14/2010
 Contaminated Media: Soil
 Event Code: Not Reported
 Contact Name: Not Reported
 Contact Telephone: Not Reported
 Event: Not Reported
 Federal Facility: Y
 Fiscal Year: 2010
 NPL Status: Currently on the Final NPL
 Superfund Alternative Agreement: N
 Latitude: 21.388889
 Longitude: -157.983333
 Name: PEARL HARBOR NAVAL COMPLEX
 Address: US NAVAL COMMAND
 Address 2: Not Reported
 City,State,Zip: PEARL HARBOR, HI 96860
 EPA ID: HI4170090076
 Action Name: Record of Decision
 Action ID: 4

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Operable Unit:	06
Actual Date:	07/02/2010
Contaminated Media:	Soil
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2010
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
Address 2:	Not Reported
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
Action Name:	Record of Decision
Action ID:	15
Operable Unit:	05
Actual Date:	09/23/2011
Contaminated Media:	Soil
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2011
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	21.388889
Longitude:	-157.983333
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
Address 2:	Not Reported
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
Action Name:	Record of Decision
Action ID:	18
Operable Unit:	14
Actual Date:	09/27/2010
Contaminated Media:	Groundwater
Event Code:	Not Reported
Contact Name:	Not Reported
Contact Telephone:	Not Reported
Event:	Not Reported
Federal Facility:	Y
Fiscal Year:	2010

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

NPL Status: Currently on the Final NPL
 Superfund Alternative Agreement: N
 Latitude: 21.388889
 Longitude: -157.983333

 Name: PEARL HARBOR NAVAL COMPLEX
 Address: US NAVAL COMMAND
 Address 2: Not Reported
 City,State,Zip: PEARL HARBOR, HI 96860
 EPA ID: HI4170090076
 Action Name: Record of Decision
 Action ID: 18
 Operable Unit: 14
 Actual Date: 09/27/2010
 Contaminated Media: Soil
 Event Code: Not Reported
 Contact Name: Not Reported
 Contact Telephone: Not Reported
 Event: Not Reported
 Federal Facility: Y
 Fiscal Year: 2010
 NPL Status: Currently on the Final NPL
 Superfund Alternative Agreement: N
 Latitude: 21.388889
 Longitude: -157.983333

 Name: PEARL HARBOR NAVAL COMPLEX
 Address: US NAVAL COMMAND
 Address 2: Not Reported
 City,State,Zip: PEARL HARBOR, HI 96860
 EPA ID: HI4170090076
 Action Name: Record of Decision
 Action ID: 21
 Operable Unit: 17
 Actual Date: 07/12/2012
 Contaminated Media: Soil
 Event Code: Not Reported
 Contact Name: Not Reported
 Contact Telephone: Not Reported
 Event: Not Reported
 Federal Facility: Y
 Fiscal Year: 2012
 NPL Status: Currently on the Final NPL
 Superfund Alternative Agreement: N
 Latitude: 21.388889
 Longitude: -157.983333

 Name: PEARL HARBOR NAVAL COMPLEX
 Address: US NAVAL COMMAND
 Address 2: Not Reported
 City,State,Zip: PEARL HARBOR, HI 96860

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

EPA ID: HI4170090076
 Action Name: Record of Decision
 Action ID: 24
 Operable Unit: 24
 Actual Date: 09/15/2014
 Contaminated Media: Debris
 Event Code: Not Reported
 Contact Name: Not Reported
 Contact Telephone: Not Reported
 Event: Not Reported
 Federal Facility: Y
 Fiscal Year: 2014
 NPL Status: Currently on the Final NPL
 Superfund Alternative Agreement: N
 Latitude: 21.388889
 Longitude: -157.983333

Name: PEARL HARBOR NAVAL COMPLEX
 Address: US NAVAL COMMAND
 Address 2: Not Reported
 City,State,Zip: PEARL HARBOR, HI 96860
 EPA ID: HI4170090076
 Action Name: Record of Decision
 Action ID: 24
 Operable Unit: 24
 Actual Date: 09/15/2014
 Contaminated Media: Soil
 Event Code: Not Reported
 Contact Name: Not Reported
 Contact Telephone: Not Reported
 Event: Not Reported
 Federal Facility: Y
 Fiscal Year: 2014
 NPL Status: Currently on the Final NPL
 Superfund Alternative Agreement: N
 Latitude: 21.388889
 Longitude: -157.983333

ROD: Other Ascertainable Records

Name: PEARL HARBOR NAVAL COMPLEX
 Address: US NAVAL COMMAND
 City,State,Zip: PEARL HARBOR, HI 96860
 EPA ID: HI4170090076
 RG: 9
 Site ID: 904481
 Action: FF ESD
 Operable Unit Number: PWC- MAKALAPA RINSATE PIT
 SEQ ID: 1
 Action Completion: 2016-02-11 00:00:00
 NPL Status: Final

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Non NPL Status:	Not Reported
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
RG:	9
Site ID:	904481
Action:	FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number:	WESTLOCH BLDG 49
SEQ ID:	2
Action Completion:	2006-09-28 00:00:00
NPL Status:	Final
Non NPL Status:	Not Reported
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
RG:	9
Site ID:	904481
Action:	FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number:	MANANA STORAGE
SEQ ID:	3
Action Completion:	2006-09-28 00:00:00
NPL Status:	Final
Non NPL Status:	Not Reported
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
RG:	9
Site ID:	904481
Action:	FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number:	NSY DRY DOCK #3
SEQ ID:	4
Action Completion:	2010-07-02 00:00:00
NPL Status:	Final
Non NPL Status:	Not Reported
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
RG:	9
Site ID:	904481
Action:	FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number:	FORD IS HAZ SITES (SANS LF)
SEQ ID:	5
Action Completion:	2009-09-29 00:00:00
NPL Status:	Final

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Non NPL Status:	Not Reported
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
RG:	9
Site ID:	904481
Action:	FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number:	PH SEDIMENT
SEQ ID:	6
Action Completion:	2018-09-26 00:00:00
NPL Status:	Final
Non NPL Status:	Not Reported
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
RG:	9
Site ID:	904481
Action:	FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number:	PWC- MAKALAPA RINSATE PIT
SEQ ID:	10
Action Completion:	2010-09-27 00:00:00
NPL Status:	Final
Non NPL Status:	Not Reported
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
RG:	9
Site ID:	904481
Action:	FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number:	PCB THERMAL DESORPTION SITES
SEQ ID:	12
Action Completion:	2007-09-28 00:00:00
NPL Status:	Final
Non NPL Status:	Not Reported
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
RG:	9
Site ID:	904481
Action:	FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number:	PCB THERMAL DESORPTION SITES
SEQ ID:	13
Action Completion:	2010-09-14 00:00:00
NPL Status:	Final

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Non NPL Status:	Not Reported
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
RG:	9
Site ID:	904481
Action:	FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number:	FORD ISLAND LANDFILL
SEQ ID:	15
Action Completion:	2011-09-23 00:00:00
NPL Status:	Final
Non NPL Status:	Not Reported
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
RG:	9
Site ID:	904481
Action:	FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number:	FORD IS HAZ SITES (SANS LF)
SEQ ID:	17
Action Completion:	2009-09-29 00:00:00
NPL Status:	Final
Non NPL Status:	Not Reported
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
RG:	9
Site ID:	904481
Action:	FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number:	PEARL CITY JUNCTION
SEQ ID:	18
Action Completion:	2010-09-27 00:00:00
NPL Status:	Final
Non NPL Status:	Not Reported
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
RG:	9
Site ID:	904481
Action:	FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number:	NSY BLDG 6, FORMER FOUNDRY
SEQ ID:	21
Action Completion:	2012-07-12 00:00:00
NPL Status:	Final

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Non NPL Status:	Not Reported
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
RG:	9
Site ID:	904481
Action:	FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number:	WEST LOCH 4TH ST. CORAL PIT LF
SEQ ID:	24
Action Completion:	2014-09-15 00:00:00
NPL Status:	Final
Non NPL Status:	Not Reported
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
RG:	9
Site ID:	904481
Action:	FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number:	PWC BUILDING 35 - PAINT SHOP
SEQ ID:	26
Action Completion:	2013-09-23 00:00:00
NPL Status:	Final
Non NPL Status:	Not Reported
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
RG:	9
Site ID:	904481
Action:	FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number:	WEST LOCH OTTO FUEL WASTE STOR
SEQ ID:	27
Action Completion:	2016-08-22 00:00:00
NPL Status:	Final
Non NPL Status:	Not Reported
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
RG:	9
Site ID:	904481
Action:	FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number:	BUILDING 992 OPEN AREA
SEQ ID:	29
Action Completion:	2016-09-14 00:00:00
NPL Status:	Final

MAP FINDINGS

PEARL HARBOR NAVAL COMPLEX, US NAVAL COMMAND, PEARL HARBOR, HI 96860 (Continued)

Non NPL Status:	Not Reported
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
RG:	9
Site ID:	904481
Action:	FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number:	WEST LOCH VEHICLE MAINTENANCE
SEQ ID:	31
Action Completion:	2017-03-10 00:00:00
NPL Status:	Final
Non NPL Status:	Not Reported
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
RG:	9
Site ID:	904481
Action:	GOVT Decision Document (ROD)
Operable Unit Number:	RICHARDSON- FFTF
SEQ ID:	14
Action Completion:	2010-09-27 00:00:00
NPL Status:	Final
Non NPL Status:	Not Reported
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
City,State,Zip:	PEARL HARBOR, HI 96860
EPA ID:	HI4170090076
RG:	9
Site ID:	904481
Action:	GOVT Decision Document (ROD)
Operable Unit Number:	RAA 11 AND 13
SEQ ID:	25
Action Completion:	2013-03-29 00:00:00
NPL Status:	Final
Non NPL Status:	Not Reported

PRP: Other Ascertainable Records

PRP Name:	OAHU SUGAR COMPANY, LLC OAHU SUGAR COMPANY, LLC
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PEARL HARBOR NAVAL STATION Not Reported, , HI,		CUSA147748
Region	E 1/2 - 1 (4694 ft. / 0.889 mi.)	Other Ascertainable Records

MAP FINDINGS

Worksheet:

DOD: Other Ascertainable Records

Feature 1: Navy DOD
 Feature 2: Not Reported
 Feature 3: Not Reported
 URL: Not Reported
 Name 1: Pearl Harbor Naval Station
 Name 2: Not Reported
 Name 3: Not Reported
 State: HI
 DOD Site: Yes
 Tile name: HIHONOLULU

FORD ISLAND NAVAL STATION ANNEX Not Reported, , HI, CUSA147750		
Region	S 1/3 - 1/2 (2425 ft. / 0.459 mi.)	Other Ascertainable Records

Worksheet:

DOD: Other Ascertainable Records

Feature 1: Navy DOD
 Feature 2: Not Reported
 Feature 3: Not Reported
 URL: Not Reported
 Name 1: Ford Island Naval Station Annex
 Name 2: Not Reported
 Name 3: Not Reported
 State: HI
 DOD Site: Yes
 Tile name: HIHONOLULU

HI-GRADE PLUMBING 98-151 LIPOA PL, AIEA, HI, 96701 U003832863		
◆ 1	W <1/10 (125 ft. / 0.024 mi.) <hr/> 3 ft. Lower Elevation 4 ft. Above Sea Level	Lists of state- and tribal hazardous waste facilities Lists of state and tribal leaking storage tanks Lists of state and tribal registered storage tanks State and tribal institutional control / engineering control registries Other Ascertainable Records

Worksheet:

SHWS: Lists of state- and tribal hazardous waste facilities

Name: 98-151 LIPOA PLACE
 Address: 98-151 LIPOA PL
 City,State,Zip: AIEA, HI 96701

MAP FINDINGS

HI-GRADE PLUMBING, 98-151 LIPOA PL, AIEA, HI 96701 (Continued)

Supplemental Location:	Not Reported
Island:	Not Reported
Environmental Interest:	98-151 Lipoa Place
HID Number:	Not Reported
Facility Registry Identifier:	Not Reported
Lead Agency:	HEER Office
Program:	State
Project Manager:	Cal Miyahara
Hazard Priority:	NFA
Potential Hazards And Controls:	Hazard Managed With Controls
Island:	Not Reported
SDAR Environmental Interest Name:	98-151 Lipoa Place
HID Number:	Not Reported
Facility Registry Identifier:	Not Reported
Lead Agency:	HEER Office
Potential Hazard And Controls:	Hazard Managed With Controls
Priority:	NFA
Assessment:	Response Necessary
Response:	Response Complete
Nature of Contamination:	Found: TPH-G, benzene, ethylbenzene, xylene, and naphthalene in soil above residential EAL for GC, DE and leaching. TPH-G and d, benz, ethylbenz, xyl, naph, and lead found in gw above residential EALs for AT and GC.
Nature of Residual Contamination:	Not Reported
Use Restrictions:	Controls Required to Manage Contamination
Engineering Control:	Engineering Control Required
Description of Restrictions:	Not Reported
Institutional Control:	Government - Hawaii Dept. of Health Letter Issued
Within Designated Areawide Contamination:	Not Reported
Site Closure Type:	No Further Action Letter - Restricted Use
Document Date:	07/31/2013
Document Number:	2013-403-CMM
Document Subject:	Amended NFA letter for 98-151 Lipoa Pl, Aiea HI
Project Manager:	Cal Miyahara
Contact Information:	(808) 586-4249 2385 Waimano Home Rd, Pearl City, HI 96782
Facility ID:	2704
Location Description:	98-151 Lipoa Pl
Is Public:	True
Update On:	2019-05-31 00:00:00

LUST: Lists of state and tribal leaking storage tanks

Name:	HI-GRADE PLUMBING
Address:	98-151 LIPOA PL
City,State,Zip:	AIEA, HI 96701
Facility ID:	9-201389
Facility Status:	Site Cleanup Completed (NFA)
Facility Status Date:	08/25/2005
Release ID:	910080
Project Officer:	Richard Takaba

MAP FINDINGS

HI-GRADE PLUMBING, 98-151 LIPOA PL, AIEA, HI 96701 (Continued)

UST: Lists of state and tribal registered storage tanks

Name: HI-GRADE PLUMBING
Address: 98-151 LIPOA PL
City,State,Zip: AIEA, HI 96701
Facility ID: 9-201389
Owner: UNOCAL CORPORATION
Owner Address: 3915 Mission Avenue #7416
Owner City,St,Zip: Aiea, 96701 96701
Latitude: 21.380987000000001
Longitude: -157.94460000000001
Horizontal Reference Datum Name: NAD83
Horizontal Collection Method Name: Address Matching

Tank ID: R-1
Date Installed: 01/01/1974
Tank Status: Permanently Out of Use
Date Closed: 07/30/1991
Tank Capacity: 1000
Substance: Gasoline

ENG CONTROLS: State and tribal institutional control / engineering control registries

Supplemental Location Text: Not Reported
Zip Suffix: Not Reported
Island: Oahu
Potential Hazards And Controls: Hazard Managed With Controls
Engineering Control: Engineering Control Required

INST CONTROL: State and tribal institutional control / engineering control registries

Potential hazards and controls: Hazard Managed With Controls
Supplemental Location: Not Reported
Zip Suffix: Not Reported
Island: Oahu
Institutional Control: Government - Hawaii Dept. of Health Letter Issued

HI Financial Assurance: Other Ascertainable Records

Name: HI-GRADE PLUMBING
Address: 98-151 LIPOA PL
City,State,Zip: AIEA, HI 96701
Alt Facility ID: 9-201389
Tank Id: R-1
Tank Status: Permanently Out of Use
FRTYPE: Self Insured
Expiration Date: Not Reported
FR Archive: False

R & S VENTURE INC
98-121 KAMEHAMEHA HWY, AIEA, HI, 96701

1022025369

MAP FINDINGS

▲ C2	NW <1/10	(414 ft. / 0.078 mi.)	EDR Exclusive Records
	4 ft. Higher Elevation	11 ft. Above Sea Level	

Worksheet:

EDR Hist Auto: EDR Exclusive Records

Year:	Name: / Type:
1992:	FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
1993:	FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
1994:	FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
1995:	FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
1996:	R & S VENTURE INC / Gasoline Service Stations
1997:	R & S VENTURE INC / Gasoline Service Stations
1998:	R & S VENTURE INC / Gasoline Service Stations
1999:	R & S VENTURE INC / Gasoline Service Stations
2013:	R & S VENTURE INC / Carwashes
2014:	R & S VENTURE INC / Gasoline Service Stations, NEC

FUJIS CHEVRON SERVICE STATION 98-121 KAM HWY, AIEA, HI, 96701			1021851069
▲ C3	NW <1/10	(414 ft. / 0.078 mi.)	EDR Exclusive Records
	4 ft. Higher Elevation	11 ft. Above Sea Level	

Worksheet:

EDR Hist Auto: EDR Exclusive Records

Year:	Name: / Type:
1969:	FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
1970:	FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
1971:	FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
1972:	FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations

FUJIS CHEVRON SERVICE STATION 98-121 KAM HWY, AIEA, HI, 96701			1021946013
▲ C4	NW <1/10	(414 ft. / 0.078 mi.)	EDR Exclusive Records
	4 ft. Higher Elevation	11 ft. Above Sea Level	

Worksheet:

EDR Hist Auto: EDR Exclusive Records

Year:	Name: / Type:
1973:	FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
1974:	FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
1975:	FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations

MAP FINDINGS

FUJIS CHEVRON SERVICE STATION, 98-121 KAM HWY, AIEA, HI 96701 (Continued)

1976: FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
 1977: FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
 1978: FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
 1979: FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
 1980: FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
 1982: FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
 1983: FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
 1985: FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
 1986: FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
 1987: FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
 1988: FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
 1989: FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations
 1990: FUJIS CHEVRON SERVICE STATION / Gasoline Service Stations

NATIONAL TIRE OF HAWAII LTD 98-115 KAMEHAMEHA HWY, AIEA, HI, 96701			1021489758
▲ C5	NW 1/10 - 1/3	(553 ft. / 0.105 mi.)	EDR Exclusive Records
	6 ft. Higher Elevation	13 ft. Above Sea Level	

Worksheet:

EDR Hist Auto: EDR Exclusive Records

Year: Name: / Type:
 1998: NATIONAL TIRE OF HAWAII LTD / Auto And Home Supply Stores, NEC
 1999: NATIONAL TIRE OF HAWAII LTD / Auto And Home Supply Stores, NEC
 2000: NATIONAL TIRE OF HAWAII LTD / Auto And Home Supply Stores, NEC
 2001: NATIONAL TIRE OF HAWAII LTD / Auto And Home Supply Stores, NEC
 2002: LEX BRODIES TIRES / Auto And Home Supply Stores, NEC
 2003: HILO TIRE COMPANY / Auto And Home Supply Stores, NEC
 2004: HILO TIRE COMPANY / Auto And Home Supply Stores, NEC
 2005: HAWAII TIRE CO LLC / Auto And Home Supply Stores, NEC
 2006: HAWAII TIRE CO LLC / Auto And Home Supply Stores, NEC

HAWAII BAKING CO INC 98 736 MOANALUA LOOP, AIEA, HI, 96701			1000860471
▲ 6	NW 1/10 - 1/3	(1416 ft. / 0.268 mi.)	Lists of Federal RCRA generators Lists of state- and tribal hazardous waste facilities Lists of state and tribal leaking storage tanks Lists of state and tribal registered storage tanks Records of Emergency Release Reports Other Ascertainable Records
	25 ft. Higher Elevation	32 ft. Above Sea Level	

Worksheet:

RCRA-VSQG: Lists of Federal RCRA generators

Date Form Received by Agency: 19930628
 Handler Name: HAWAII BAKING CO INC

MAP FINDINGS

HAWAII BAKING CO INC, 98 736 MOANALUA LOOP, AIEA, HI 96701 (Continued)

Handler Address: 98 736 MOANALUA LOOP
 Handler City,State,Zip: AIEA, HI 96701
 EPA ID: HID984470013
 Contact Name: SHANNON SULLIVAN
 Contact Address: 98 736 MOANALUA LOOP
 Contact City,State,Zip: AIEA, HI 96701
 Contact Telephone: 714-671-7777
 Contact Fax: Not Reported
 Contact Email: Not Reported
 Contact Title: Not Reported
 EPA Region: 09
 Land Type: Private
 Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
 Non-Notifier: Not Reported
 Biennial Report Cycle: Not Reported
 Accessibility: Not Reported
 Active Site Indicator: Handler Activities
 State District Owner: Not Reported
 State District: Not Reported
 Mailing Address: 98 736 MOANALUA LOOP
 Mailing City,State,Zip: AIEA, HI 96701
 Owner Name: HAWAII BAKING CO INC
 Owner Type: Private
 Operator Name: Not Reported
 Operator Type: Not Reported
 Short-Term Generator Activity: No
 Importer Activity: No
 Mixed Waste Generator: No
 Transporter Activity: No
 Transfer Facility Activity: No
 Recycler Activity with Storage: No
 Small Quantity On-Site Burner Exemption: No
 Smelting Melting and Refining Furnace Exemption: No
 Underground Injection Control: No
 Off-Site Waste Receipt: No
 Universal Waste Indicator: No
 Universal Waste Destination Facility: No
 Federal Universal Waste: No
 Active Site Fed-Reg Treatment Storage and Disposal Facility: Not Reported
 Active Site Converter Treatment storage and Disposal Facility: Not Reported
 Active Site State-Reg Treatment Storage and Disposal Facility: Not Reported
 Active Site State-Reg Handler: ---
 Federal Facility Indicator: Not Reported
 Hazardous Secondary Material Indicator: N
 Sub-Part K Indicator: Not Reported
 Commercial TSD Indicator: No

MAP FINDINGS

HAWAII BAKING CO INC, 98 736 MOANALUA LOOP, AIEA, HI 96701 (Continued)

Treatment Storage and Disposal Type:	Not Reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not Reported
Permit Workload Universe:	Not Reported
Permit Progress Universe:	Not Reported
Post-Closure Workload Universe:	Not Reported
Closure Workload Universe:	Not Reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not Reported
Full Enforcement Universe:	Not Reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not Reported
Handler Date of Last Change:	20020729
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	HAWAII BAKING CO INC
Legal Status:	Private
Date Became Current:	Not Reported
Date Ended Current:	Not Reported
Owner/Operator Address:	98 736 MOANALUA LOOP
Owner/Operator City,State,Zip:	AIEA, HI 96701

MAP FINDINGS

HAWAII BAKING CO INC, 98 736 MOANALUA LOOP, AIEA, HI 96701 (Continued)

Owner/Operator Telephone: 808-488-6871
Owner/Operator Telephone Ext: Not Reported
Owner/Operator Fax: Not Reported
Owner/Operator Email: Not Reported

Historic Generators:

Receive Date: 19930628
Handler Name: HAWAII BAKING CO INC
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Not Reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not Reported
Electronic Manifest Broker: Not Reported

List of NAICS Codes and Descriptions:

NAICS Code: 311812
NAICS Description: COMMERCIAL BAKERIES

Facility Has Received Notices of Violation:

Found Violation: No
Agency Which Determined Violation: Not Reported
Violation Short Description: Not Reported
Date Violation was Determined: Not Reported
Actual Return to Compliance Date: Not Reported
Return to Compliance Qualifier: Not Reported
Violation Responsible Agency: Not Reported
Scheduled Compliance Date: Not Reported
Enforcement Identifier: Not Reported
Date of Enforcement Action: Not Reported
Enforcement Responsible Agency: Not Reported
Enforcement Docket Number: Not Reported
Enforcement Attorney: Not Reported
Corrective Action Component: Not Reported
Appeal Initiated Date: Not Reported
Appeal Resolution Date: Not Reported
Disposition Status Date: Not Reported
Disposition Status: Not Reported
Disposition Status Description: Not Reported
Consent/Final Order Sequence Number: Not Reported
Consent/Final Order Respondent Name: Not Reported
Consent/Final Order Lead Agency: Not Reported

MAP FINDINGS

HAWAII BAKING CO INC, 98 736 MOANALUA LOOP, AIEA, HI 96701 (Continued)

Enforcement Type:	Not Reported
Enforcement Responsible Person:	Not Reported
Enforcement Responsible Sub-Organization:	Not Reported
SEP Sequence Number:	Not Reported
SEP Expenditure Amount:	Not Reported
SEP Scheduled Completion Date:	Not Reported
SEP Actual Date:	Not Reported
SEP Defaulted Date:	Not Reported
SEP Type:	Not Reported
SEP Type Description:	Not Reported
Proposed Amount:	Not Reported
Final Monetary Amount:	Not Reported
Paid Amount:	Not Reported
Final Count:	Not Reported
Final Amount:	Not Reported

Evaluation Action Summary:

Evaluation Date:	19951211
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9
Evaluation Responsible Sub-Organization:	Not Reported
Actual Return to Compliance Date:	Not Reported
Scheduled Compliance Date:	Not Reported
Date of Request:	Not Reported
Date Response Received:	Not Reported
Request Agency:	Not Reported
Former Citation:	Not Reported

SHWS: Lists of state- and tribal hazardous waste facilities

Name:	HAWAII BAKING COMPANY
Address:	98-736 MOANALUA LP
City,State,Zip:	AIEA, HI 96701
Supplemental Location:	Not Reported
Island:	Not Reported
Environmental Interest:	Hawaii Baking Company
HID Number:	Not Reported
Facility Registry Identifier:	110005728962
Lead Agency:	HEER Office
Program:	State
Project Manager:	Richard Palmer
Hazard Priority:	Low
Potential Hazards And Controls:	Hazard Undetermined
Island:	Not Reported
SDAR Environmental Interest Name:	Hawaii Baking Company

MAP FINDINGS

HAWAII BAKING CO INC, 98 736 MOANALUA LOOP, AIEA, HI 96701 (Continued)

HID Number:	Not Reported
Facility Registry Identifier:	110005728962
Lead Agency:	HEER Office
Potential Hazard And Controls:	Hazard Undetermined
Priority:	Low
Assessment:	Assessment Ongoing
Response:	Not Reported
Nature of Contamination:	Not Reported
Nature of Residual Contamination:	Not Reported
Use Restrictions:	Undetermined
Engineering Control:	Not Reported
Description of Restrictions:	Not Reported
Institutional Control:	Not Reported
Within Designated Areawide Contamination:	Not Reported
Site Closure Type:	Not Reported
Document Date:	Not Reported
Document Number:	Not Reported
Document Subject:	Not Reported
Project Manager:	Richard Palmer
Contact Information:	(808) 586-4249 2385 Waimano Home Rd, Pearl City, HI 96782
Facility ID:	541
Location Description:	98-736 Moanalua Lp
Is Public:	True
Update On:	2019-05-31 00:00:00

LUST: Lists of state and tribal leaking storage tanks

Name:	HAWAII BAKING CO INC
Address:	98-736 MOANALUA LP
City,State,Zip:	AIEA, HI 96701
Facility ID:	9-200230
Facility Status:	Site Cleanup Completed (NFA)
Facility Status Date:	05/17/1999
Release ID:	990157
Project Officer:	Renato Maniulit

UST: Lists of state and tribal registered storage tanks

Name:	HAWAII BAKING CO INC
Address:	98-736 MOANALUA LP
City,State,Zip:	AIEA, HI 96701
Facility ID:	9-200230
Owner:	HAWAII BAKING CO., INC.
Owner Address:	98-736 MOANALUA LOOP
Owner City,St,Zip:	Aiea, 96701 96701
Latitude:	21.384830000000001
Longitude:	-157.94627299999999
Horizontal Reference Datum Name:	NAD83
Horizontal Collection Method Name:	GPS
Tank ID:	R-GAS-1

MAP FINDINGS

HAWAII BAKING CO INC, 98 736 MOANALUA LOOP, AIEA, HI 96701 (Continued)

Date Installed: 04/23/1971
Tank Status: Permanently Out of Use
 Date Closed: 02/09/1999
 Tank Capacity: 4000
 Substance: Gasoline

SPILLS: Records of Emergency Release Reports

Name: HAWAII BAKING COMPANY
 Address: 98-736 MOANALUA LP
 Address 2: Not Reported
 City,State,Zip: AIEA, HI 96701
 Island: Oahu
 Supplemental Loc. Text: Not Reported
 Case Number: 19971015-0908
 Facility Registry ID: 110005728962
 HID Number: Not Reported
 Lead and Program: HEER EP&R
 ER: Yes
 Less Or Greater Than: Not Reported
 Units: Hawaii Baking Company
 Activity Type: Response
 Activity Lead: Mike Cripps
 Assignment End Date: Not Reported
 Result: Refer to ISST
 File Under: Hawaii Baking Company
 Substances: PCB
 Quantity: Not Reported
 Units: Not Reported
 Reported Date: Not Reported
 Release Date: Not Reported
 Release Duration: Not Reported
 Media: Not Reported
 Waterbody: Not Reported
 Summary: Not Reported
 Is Noteworthy for Reports: Not Reported
 Is the Release a Fugitive Dumping: Not Reported
 Tax Map Key: Not Reported
 Assigned SOSC: Not Reported
 Notified Agencies: Not Reported
 Response Measures Taken: Not Reported
 Incident Report Number: Not Reported
 Coordination Needed: Not Reported
 Tier II Facility: Not Reported
 RMP: Not Reported
 Follow-up Received On: Not Reported
 Cost Recovery: Not Reported
 Invoice To: Not Reported
 Closed Date: Not Reported
 Comments: Not Reported

MAP FINDINGS

HAWAII BAKING CO INC, 98 736 MOANALUA LOOP, AIEA, HI 96701 (Continued)

Latitude: 21.3841
 Longitude: -157.946145
 Name: HAWAII BAKING COMPANY
 Address: 98-736 MOANALUA LP
 Address 2: Not Reported
 City,State,Zip: AIEA, HI 96701
 Island: Oahu
 Supplemental Loc. Text: Not Reported
 Case Number: 19971015-0908
 Facility Registry ID: 110005728962
 HID Number: Not Reported
 Lead and Program: HEER EP&R
 ER: Yes
 Less Or Greater Than: Not Reported
 Units: Hawaii Baking Company
 Activity Type: Response
 Activity Lead: Mike Cripps
 Assignment End Date: Not Reported
 Result: Refer to ISST
 File Under: Hawaii Baking Company
 Substances: PCB
 Quantity: Not Reported
 Units: Not Reported
 Reported Date: Not Reported
 Release Date: Not Reported
 Release Duration: Not Reported
 Media: Not Reported
 Waterbody: Not Reported
 Summary: Not Reported
 Is Noteworthy for Reports: Not Reported
 Is the Release a Fugitive Dumping: Not Reported
 Tax Map Key: Not Reported
 Assigned SOSC: Not Reported
 Notified Agencies: Not Reported
 Response Measures Taken: Not Reported
 Incident Report Number: Not Reported
 Coordination Needed: Not Reported
 Tier II Facility: Not Reported
 RMP: Not Reported
 Follow-up Received On: Not Reported
 Cost Recovery: Not Reported
 Invoice To: Not Reported
 Closed Date: Not Reported
 Comments: Not Reported
 Latitude: 21.397516
 Longitude: -157.89628300000001
 Name: HAWAII BAKING COMPANY
 Address: 98-736 MOANALUA LP

MAP FINDINGS

HAWAII BAKING CO INC, 98 736 MOANALUA LOOP, AIEA, HI 96701 (Continued)

Address 2:	Not Reported
City,State,Zip:	AIEA, HI 96701
Island:	Oahu
Supplemental Loc. Text:	Not Reported
Case Number:	19971015-0908
Facility Registry ID:	110005728962
HID Number:	Not Reported
Lead and Program:	HEER EP&R
ER:	Yes
Less Or Greater Than:	Not Reported
Units:	Hawaii Baking Company
Activity Type:	Response
Activity Lead:	Mike Cripps
Assignment End Date:	Not Reported
Result:	Refer to ISST
File Under:	Hawaii Baking Company
Substances:	PCB
Quantity:	Not Reported
Units:	Not Reported
Reported Date:	Not Reported
Release Date:	Not Reported
Release Duration:	Not Reported
Media:	Not Reported
Waterbody:	Not Reported
Summary:	Not Reported
Is Noteworthy for Reports:	Not Reported
Is the Release a Fugitive Dumping:	Not Reported
Tax Map Key:	Not Reported
Assigned SOSC:	Not Reported
Notified Agencies:	Not Reported
Response Measures Taken:	Not Reported
Incident Report Number:	Not Reported
Coordination Needed:	Not Reported
Tier II Facility:	Not Reported
RMP:	Not Reported
Follow-up Received On:	Not Reported
Cost Recovery:	Not Reported
Invoice To:	Not Reported
Closed Date:	Not Reported
Comments:	Not Reported
Latitude:	21.385165000000001
Longitude:	-157.946607

FINDS: Other Ascertainable Records

Registry ID:	110005728962
Click Here:	https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110005728962

Environmental Interest/Information System:

MAP FINDINGS

HAWAII BAKING CO INC, 98 736 MOANALUA LOOP, AIEA, HI 96701 (Continued)

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

STATE MASTER

The Click here to access additional FINDS: detail in the EDR Site Report. database contains [**ECHO: Other Ascertainable Records**](http://www.edrnet.com/srf2/FinalSiteReport.aspx?ID=6WDS6k4dWbx3DIC0Sj.e3LE9kRp74r.odmGvAL7kb7HZxVQD3Eev9jH3guTC4f60nsb309j.j.SD.wFueaLA4iYWLqUNERQI9hBW4B0JRIVUpCuX7QIY5sUGrceR.Shno.GC8ZN4mgwBGR6gvG.S4kuzLOxH7mbRkqcB6froWQMcd18WSaaT3amKkrK94peOdMuE9vXybOMexA8k3QaM3EIMII6FC.VL0Fej4BwXjvOI.LXiePtv4ii.HLjieE1mx9Yyq570pRghSpOIQ7MIH5Vpur3CX.0YSo85j53SomIW7GM3zv16i6XUGWz11DnvsSITY4sTgkQrv4v.qdhhG3FskbgknxFe43aDZ9i4Clw19CaoK0BbvBZyqjQI8.aPpesaa45FILpPgEzc79ugc9KX5RDI7pUnf7Xiwa7VNrBht.YdEok7K3TLUmqASGLbSvH0A7VX1LZx073VIkO5O21nZ7F4ZHh54ZLOV5WaoVqXNQCcwDkQXvh39EdppeM7pveJv63xSWLObD5Q0S.hX4Vz7kX9r4oqUdN.Q3JlmbCJkxc9I3.m44QkjItaOC4ic0wXV3kVkJMIQ.PyVeBvq3vTgLOyHEZa49WAq3HM0Ri7Fpyb.7C8JBMJprTkk.rzXovJe9uFhmzZOGViDvu673RZ6LRIL7oCwkMyc7Snc7vqsH7g0ZK.EAWU6VUeyQKN.DIQF4.JUEpXyepAEvukD3 additional records for this site. Please contact your EDR Account Executive for more information.</p></div><div data-bbox=)

Envid: 1000860471
Registry ID: 110005728962
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110005728962>
Name: HAWAII BAKING CO INC
Address: 98 736 MOANALUA LOOP
City,State,Zip: AIEA, HI 96701

HAZNET: Other Ascertainable Records

Name: HAWAII BAKING CO INC
Address: 98 736 MOANALUA LOOP
Address 2: Not Reported
City,State,Zip: AIEA, HI 967010000
Contact: HAWAII BAKING CO INC
Telephone: 7146717777
Mailing Name: Not Reported
Mailing Address: 98 736 MOANALUA LOOP

Year: 1993
Gepaid: HID984470013
TSD EPA ID: CAD050806850
CA Waste Code: 741 - Liquids with halogenated organic compounds >= 1,000 Mg./L
Disposal Method: R01 - Recycler
Tons: 0.417

Year: 1993
Gepaid: HID984470013
TSD EPA ID: CAD080806850
CA Waste Code: 223 - Unspecified oil-containing waste
Disposal Method: T01 - Treatment, Tank
Tons: 2.7105

Year: 1993
Gepaid: HID984470013
TSD EPA ID: CAD050806850
CA Waste Code: 343 - Unspecified organic liquid mixture
Disposal Method: R01 - Recycler
Tons: 0.51

MAP FINDINGS

HAWAII BAKING CO INC, 98 736 MOANALUA LOOP, AIEA, HI 96701 (Continued)

Additional Info:

Year:	1993
Gen EPA ID:	HID984470013
Shipment Date:	19930716
Creation Date:	9/12/1995 0:00:00
Receipt Date:	19930802
Manifest ID:	92753098
Trans EPA ID:	HID982504706
Trans Name:	Not Reported
Trans 2 EPA ID:	CAD006912620
Trans 2 Name:	Not Reported
TSDf EPA ID:	CAD050806850
Trans Name:	Not Reported
TSDf Alt EPA ID:	CAD080806850
TSDf Alt Name:	Not Reported
Waste Code Description:	223 - Unspecified oil-containing waste
RCRA Code:	F002
Meth Code:	T01 - Treatment, Tank
Quantity Tons:	2.7105
Waste Quantity:	650
Quantity Unit:	G
Additional Code 1:	Not Reported
Additional Code 2:	Not Reported
Additional Code 3:	Not Reported
Additional Code 4:	Not Reported
Additional Code 5:	Not Reported
Shipment Date:	19930716
Creation Date:	9/12/1995 0:00:00
Receipt Date:	19930802
Manifest ID:	92753100
Trans EPA ID:	HID982504706
Trans Name:	Not Reported
Trans 2 EPA ID:	CAD006912620
Trans 2 Name:	Not Reported
TSDf EPA ID:	CAD050806850
Trans Name:	Not Reported
TSDf Alt EPA ID:	CAD050806850
TSDf Alt Name:	Not Reported
Waste Code Description:	343 - Unspecified organic liquid mixture
RCRA Code:	D001
Meth Code:	R01 - Recycler
Quantity Tons:	0.51
Waste Quantity:	150
Quantity Unit:	G
Additional Code 1:	Not Reported
Additional Code 2:	Not Reported
Additional Code 3:	Not Reported
Additional Code 4:	Not Reported

MAP FINDINGS

HAWAII BAKING CO INC, 98 736 MOANALUA LOOP, AIEA, HI 96701 (Continued)

Additional Code 5:	Not Reported
Shipment Date:	19930714
Creation Date:	9/12/1995 0:00:00
Receipt Date:	19930802
Manifest ID:	92753096
Trans EPA ID:	HID982504706
Trans Name:	Not Reported
Trans 2 EPA ID:	CAD006912620
Trans 2 Name:	Not Reported
TSDf EPA ID:	CAD050806850
Trans Name:	Not Reported
TSDf Alt EPA ID:	CAD050806850
TSDf Alt Name:	Not Reported
Waste Code Description:	741 - Liquids with halogenated organic compounds > 1000 mg/l
RCRA Code:	D001
Meth Code:	R01 - Recycler
Quantity Tons:	0.417
Waste Quantity:	100
Quantity Unit:	G
Additional Code 1:	Not Reported
Additional Code 2:	Not Reported
Additional Code 3:	Not Reported
Additional Code 4:	Not Reported
Additional Code 5:	Not Reported

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
ENVIRONMENTAL RECORDS						
Federal NPL site list						
US	NPL	National Priority List	EPA	10/20/2021	11/05/2021	11/29/2021
US	Proposed NPL	Proposed National Priority List Sites	EPA	10/20/2021	11/05/2021	11/29/2021
US	NPL LIENS	Federal Superfund Liens	EPA	10/15/1991	02/02/1994	03/30/1994
Federal CERCLIS list						
US	SEMS	Superfund Enterprise Management System	EPA	10/20/2021	11/05/2021	11/29/2021
Federal RCRA CORRACTS facilities list						
US	CORRACTS	Corrective Action Report	EPA	09/13/2021	09/15/2021	10/12/2021
Federal RCRA TSD facilities list						
US	RCRA-TSDF	RCRA - Treatment, Storage and Disposal	Environmental Protection Agency	09/13/2021	09/15/2021	10/12/2021
Federal RCRA generators list						
US	RCRA-LQG	RCRA - Large Quantity Generators	Environmental Protection Agency	09/13/2021	09/15/2021	10/12/2021
US	RCRA-SQG	RCRA - Small Quantity Generators	Environmental Protection Agency	09/13/2021	09/15/2021	10/12/2021
US	RCRA-VSQG	RCRA - Very Small Quantity Generators (Formerly Conditionall	Environmental Protection Agency	09/13/2021	09/15/2021	10/12/2021
Federal institutional controls / engineering controls registries						
US	LUCIS	Land Use Control Information System	Department of the Navy	07/12/2021	08/06/2021	10/22/2021
US	US ENG CONTROLS	Engineering Controls Sites List	Environmental Protection Agency	08/23/2021	08/23/2021	11/12/2021
US	US INST CONTROLS	Institutional Controls Sites List	Environmental Protection Agency	08/23/2021	08/23/2021	11/12/2021
Federal ERNS list						
US	ERNS	Emergency Response Notification System	National Response Center, United States Coast	09/13/2021	09/21/2021	12/15/2021
State and tribal - equivalent CERCLIS						
HI	SHWS	Sites List	Department of Health	08/17/2020	09/09/2020	12/01/2020
State and tribal landfill / solid waste disposal						
HI	SWF/LF	Permitted Landfills in the State of Hawaii	Department of Health	09/15/2021	09/30/2021	11/08/2021
State and tribal leaking storage tank lists						
HI	LUST	Leaking Underground Storage Tank Database	Department of Health	06/01/2021	06/03/2021	08/25/2021
US	INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land	EPA Region 6	05/17/2021	06/11/2021	09/07/2021
US	INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land	EPA Region 4	05/28/2021	06/22/2021	09/20/2021
US	INDIAN LUST R5	Leaking Underground Storage Tanks on Indian Land	EPA, Region 5	04/06/2021	06/11/2021	09/07/2021
US	INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land	EPA Region 10	04/27/2021	06/11/2021	09/07/2021
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	Environmental Protection Agency	05/27/2021	06/11/2021	09/07/2021
US	INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land	EPA Region 1	04/28/2021	06/11/2021	09/07/2021
US	INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land	EPA Region 7	06/01/2021	06/11/2021	09/07/2021
US	INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land	EPA Region 8	05/27/2021	06/11/2021	09/07/2021

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
State and tribal registered storage tank lists						
HI	UST	Underground Storage Tank Database	Department of Health	06/01/2021	06/03/2021	08/25/2021
US	INDIAN UST R9	Underground Storage Tanks on Indian Land	EPA Region 9	05/27/2021	06/11/2021	09/07/2021
US	INDIAN UST R10	Underground Storage Tanks on Indian Land	EPA Region 10	04/27/2021	06/11/2021	09/07/2021
US	INDIAN UST R6	Underground Storage Tanks on Indian Land	EPA Region 6	05/17/2021	06/11/2021	09/07/2021
US	INDIAN UST R4	Underground Storage Tanks on Indian Land	EPA Region 4	05/28/2021	06/22/2021	09/20/2021
US	INDIAN UST R1	Underground Storage Tanks on Indian Land	EPA, Region 1	04/28/2021	06/11/2021	09/07/2021
US	INDIAN UST R8	Underground Storage Tanks on Indian Land	EPA Region 8	05/27/2021	06/11/2021	09/07/2021
US	INDIAN UST R7	Underground Storage Tanks on Indian Land	EPA Region 7	06/01/2021	06/11/2021	09/07/2021
US	INDIAN UST R5	Underground Storage Tanks on Indian Land	EPA Region 5	04/06/2021	06/11/2021	09/07/2021
US	FEMA UST	Underground Storage Tank Listing	FEMA	01/29/2021	02/17/2021	03/22/2021
State and tribal institutional control / engineering control registries						
HI	ENG CONTROLS	Engineering Control Sites	Department of Health	04/17/2019	05/21/2019	05/30/2019
HI	INST CONTROL	Sites with Institutional Controls	Department of Health	04/17/2019	05/21/2019	05/30/2019
State and tribal voluntary cleanup sites						
HI	VCP	Voluntary Response Program Sites	Department of Health	08/17/2020	09/09/2020	12/01/2020
US	INDIAN VCP R7	Voluntary Cleanup Priority Listing	EPA, Region 7	03/20/2008	04/22/2008	05/19/2008
US	INDIAN VCP R1	Voluntary Cleanup Priority Listing	EPA, Region 1	07/27/2015	09/29/2015	02/18/2016
State and tribal Brownfields sites						
HI	BROWNFIELDS	Brownfields Sites	Department of Health	08/17/2020	09/09/2020	12/01/2020
Other Records						
US	CONSENT	Superfund (CERCLA) Consent Decrees	Department of Justice, Consent Decree Library	09/30/2021	10/13/2021	01/10/2022
US	ROD	Records Of Decision	EPA	10/20/2021	11/05/2021	11/29/2021
US	LIENS 2	CERCLA Lien Information	Environmental Protection Agency	10/20/2021	11/05/2021	11/29/2021
US	DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations	EPA, Region 9	01/12/2009	05/07/2009	09/21/2009
US	COAL ASH DOE	Steam-Electric Plant Operation Data	Department of Energy	12/31/2019	12/01/2020	02/09/2021
US	2020 COR ACTION	2020 Corrective Action Program List	Environmental Protection Agency	09/30/2017	05/08/2018	07/20/2018
US	COAL ASH EPA	Coal Combustion Residues Surface Impoundments List	Environmental Protection Agency	01/12/2017	03/05/2019	11/11/2019
US	US HIST CDL	National Clandestine Laboratory Register	Drug Enforcement Administration	05/18/2021	05/18/2021	08/03/2021
US	LEAD SMELTER 2	Lead Smelter Sites	American Journal of Public Health	04/05/2001	10/27/2010	12/02/2010
US	EPA WATCH LIST	EPA WATCH LIST	Environmental Protection Agency	08/30/2013	03/21/2014	06/17/2014
US	US AIRS (AFS)	Aerometric Information Retrieval System Facility Subsystem (EPA	10/12/2016	10/26/2016	02/03/2017
US	US FIN ASSUR	Financial Assurance Information	Environmental Protection Agency	09/13/2021	09/15/2021	09/28/2021
US	FUSRAP	Formerly Utilized Sites Remedial Action Program	Department of Energy	07/26/2021	07/27/2021	10/22/2021
US	SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing	Environmental Protection Agency	01/01/2017	02/03/2017	04/07/2017
US	PCB TRANSFORMER	PCB Transformer Registration Database	Environmental Protection Agency	09/13/2019	11/06/2019	02/10/2020
US	LEAD SMELTER 1	Lead Smelter Sites	Environmental Protection Agency	10/20/2021	11/05/2021	11/29/2021
US	US AIRS MINOR	Air Facility System Data	EPA	10/12/2016	10/26/2016	02/03/2017
US	Delisted NPL	National Priority List Deletions	EPA	10/20/2021	11/05/2021	11/29/2021
US	SEMS-ARCHIVE	Superfund Enterprise Management System Archive	EPA	10/20/2021	11/05/2021	11/29/2021
US	RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated	Environmental Protection Agency	09/13/2021	09/15/2021	10/12/2021
US	HMIRS	Hazardous Materials Information Reporting System	U.S. Department of Transportation	09/12/2021	09/13/2021	09/28/2021

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	DOT OPS	Incident and Accident Data	Department of Transportation, Office of Pipeli	01/02/2020	01/28/2020	04/17/2020
US	US CDL	Clandestine Drug Labs	Drug Enforcement Administration	05/18/2021	05/18/2021	08/03/2021
US	US BROWNFIELDS	A Listing of Brownfields Sites	Environmental Protection Agency	06/10/2021	06/10/2021	08/17/2021
US	DOD	Department of Defense Sites	USGS	12/31/2005	11/10/2006	01/11/2007
US	FEDLAND	Federal and Indian Lands	U.S. Geological Survey	04/02/2018	04/11/2018	11/06/2019
US	FUDS	Formerly Used Defense Sites	U.S. Army Corps of Engineers	08/10/2021	08/17/2021	10/22/2021
US	UMTRA	Uranium Mill Tailings Sites	Department of Energy	08/30/2019	11/15/2019	01/28/2020
US	ODI	Open Dump Inventory	Environmental Protection Agency	06/30/1985	08/09/2004	09/17/2004
US	MINES VIOLATIONS	MSHA Violation Assessment Data	DOL, Mine Safety & Health Admi	06/30/2021	07/01/2021	09/28/2021
US	US MINES	Mines Master Index File	Department of Labor, Mine Safety and Health A	08/09/2021	08/24/2021	11/19/2021
US	US MINES 2	Ferrous and Nonferrous Metal Mines Database Listing	USGS	05/06/2020	05/27/2020	08/13/2020
US	US MINES 3	Active Mines & Mineral Plants Database Listing	USGS	04/14/2011	06/08/2011	09/13/2011
US	PRP	Potentially Responsible Parties	EPA	10/20/2021	11/05/2021	12/15/2021
US	TRIS	Toxic Chemical Release Inventory System	EPA	12/31/2018	08/14/2020	11/04/2020
US	TSCA	Toxic Substances Control Act	EPA	12/31/2016	06/17/2020	09/10/2020
US	FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA/Office of Prevention, Pesticides and Toxi	04/09/2009	04/16/2009	05/11/2009
US	FTTS INSP	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA	04/09/2009	04/16/2009	05/11/2009
US	HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HIST FTTS INSP	FIFRA/TSCA Tracking System Inspection & Enforcement Case Lis	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	SSTS	Section 7 Tracking Systems	EPA	10/18/2021	10/20/2021	01/10/2022
US	ICIS	Integrated Compliance Information System	Environmental Protection Agency	11/18/2016	11/23/2016	02/10/2017
US	PADS	PCB Activity Database System	EPA	11/19/2020	01/08/2021	03/22/2021
US	MLTS	Material Licensing Tracking System	Nuclear Regulatory Commission	07/29/2021	08/24/2021	11/19/2021
US	RADINFO	Radiation Information Database	Environmental Protection Agency	07/01/2019	07/01/2019	09/23/2019
US	FINDS	Facility Index System/Facility Registry System	EPA	05/05/2021	05/18/2021	08/17/2021
US	RAATS	RCRA Administrative Action Tracking System	EPA	04/17/1995	07/03/1995	08/07/1995
US	RMP	Risk Management Plans	Environmental Protection Agency	10/20/2021	11/05/2021	11/12/2021
US	BRS	Biennial Reporting System	EPA/NTIS	12/31/2019	09/15/2021	12/14/2021
US	PWS	Public Water System Data	EPA	12/17/2013	01/09/2014	10/15/2014
US	INDIAN RESERV	Indian Reservations	USGS	12/31/2014	07/14/2015	01/10/2017
US	INDIAN ODI	Report on the Status of Open Dumps on Indian Lands	Environmental Protection Agency	12/31/1998	12/03/2007	01/24/2008
US	IHS OPEN DUMPS	Open Dumps on Indian Land	Department of Health & Human Serivces, Indian	04/01/2014	08/06/2014	01/29/2015
US	ABANDONED MINES	Abandoned Mines	Department of Interior	09/14/2021	09/15/2021	12/15/2021
HI	AIRS	List of Permitted Facilities	Department of Health	03/31/2021	04/01/2021	06/22/2021
HI	CDL	Clandestine Drug Lab Listing	Department of Health	08/04/2010	09/10/2010	10/22/2010
HI	DRYCLEANERS	Permitted Drycleaner Facility Listing	Department of Health	03/31/2021	04/01/2021	06/22/2021
HI	Financial Assurance	Financial Assurance Information Listing	Department of Health	09/01/2021	09/15/2021	12/10/2021
HI	LEAD	Lead Inspection Listing	Department of Health	09/14/2021	09/15/2021	09/22/2021
HI	SPILLS	Release Notifications	Department of Health	03/25/2021	03/25/2021	06/15/2021
HI	SPILLS 90	SPILLS90 data from FirstSearch	FirstSearch	03/10/2012	01/03/2013	02/11/2013
HI	UIC	Underground Injection Wells Listing	Department of Health	02/07/2013	02/12/2013	04/09/2013
US	MINES MRDS	Mineral Resources Data System	USGS	04/06/2018	10/21/2019	10/24/2019
US	DOCKET HWC	Hazardous Waste Compliance Docket Listing	Environmental Protection Agency	05/06/2021	05/21/2021	08/11/2021
US	FUELS PROGRAM	EPA Fuels Program Registered Listing	EPA	08/13/2021	08/13/2021	10/22/2021
US	FEDERAL FACILITY	Federal Facility Site Information listing	Environmental Protection Agency	05/25/2021	06/24/2021	09/20/2021
US	UXO	Unexploded Ordnance Sites	Department of Defense	12/31/2018	07/02/2020	09/17/2020
US	ECHO	Enforcement & Compliance History Information	Environmental Protection Agency	01/01/2022	01/04/2022	01/10/2022

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
HI	SWRCY	SWRCY	Department of Health	09/15/2021	09/30/2021	11/08/2021

HISTORICAL USE RECORDS

US	EDR MGP	EDR Proprietary Manufactured Gas Plants	EDR, Inc.			
US	EDR Hist Auto	EDR Exclusive Historical Auto Stations	EDR, Inc.			
US	EDR Hist Cleaner	EDR Exclusive Historical Cleaners	EDR, Inc.			
HI	RGA HWS	Recovered Government Archive State Hazardous Waste Facilitie	Department of Health	07/01/2013		01/08/2014
HI	RGA LF	Recovered Government Archive Solid Waste Facilities List	Department of Health	07/01/2013		01/17/2014
HI	RGA LUST	Recovered Government Archive Leaking Underground Storage Tan	Department of Health	07/01/2013		01/03/2014

STREET AND ADDRESS INFORMATION

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Appendix **D**

INTERVIEW DOCUMENTATION



Name: RAY OJINI
Company: PEPPERTREE APTS
Relation to the Property: OWNER
Date: 1/12/2022

Phase I Environmental Site Assessment Questionnaire

1. Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law? If yes, please elaborate. NO
2. Are you aware of any Activity Use Limitations, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law? If yes, please elaborate. NO
3. Do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business? If yes, please elaborate. NO
4. Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property? YES
5. Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? If yes, please elaborate. NO
 - a. Do you know the past uses of the property? NO
 - b. Do you know of specific chemicals that are present or once were present at the property? NO
 - c. Do you know of spills or other chemical releases that have taken place at the property? NO
 - d. Do you know of any environmental cleanups that have taken place at the property? NO
 - e. Are or were there any above or below ground storage tanks at the property? NO
 - f. Are there any previous environmental site assessments (Phase I ESAs), environmental studies, hazardous materials surveys, etc. that have been performed for the property? NO

6. Are you aware of commonly known or reasonably ascertainable information about surrounding properties that would help the environmental professional to identify conditions indicative of releases or threatened releases? If yes, please elaborate.

- a. Do you know the past uses of surrounding properties? **NO**
- b. Do you know of specific chemicals that are present or once were present at surrounding properties? **NO**
- c. Do you know of spills or other chemical releases that have taken place at surrounding properties? **NO**
- d. Do you know of any environmental cleanups that have taken place at surrounding properties? **NO**
- e. Are or were there any above or below ground storage tanks at surrounding properties? **NO**

7. Based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination at the property (i.e., distressed vegetation, staining of soil, discarded chemical/oil drums, chemical odors, etc.)? If yes, please elaborate. **NO**

8. Current/Past Owners and Contact Information:

Name	Company	Contact Information
KAY OJIMA	PEPPER TREE APTS	(808) 330-1738

9. Surrounding Properties - Current/Past Tenants and Contact Information:

Name	Company	Contact Information

10. Additional Information/Comments:

Appendix **E**

SITE RECONNAISSANCE PHOTOGRAPHS

Photograph #1**Description of Photograph:**

The Pepper Tree Apartments, located at 98-150 Lipoa Place, fronting Lipoa Place

Photograph Date:

January 19, 2022

**Photograph #2****Description of Photograph:**

Directly across from the site is an empty lot that appears to be being used as a construction staging area. Some minor dumping was observed. Other apartment complexes surround the Site

Photograph Date:

January 19, 2022



Photograph #3

Description of Photograph:

Down Lipoa Place to the east is Pearl Kai Shopping Center

Photograph Date:
January 19, 2022



Photograph #4

Description of Photograph:

ERA was able to access one of the units. The interior was composed of drywall walls and ceiling with carpet floors

Photograph Date:
January 19, 2022

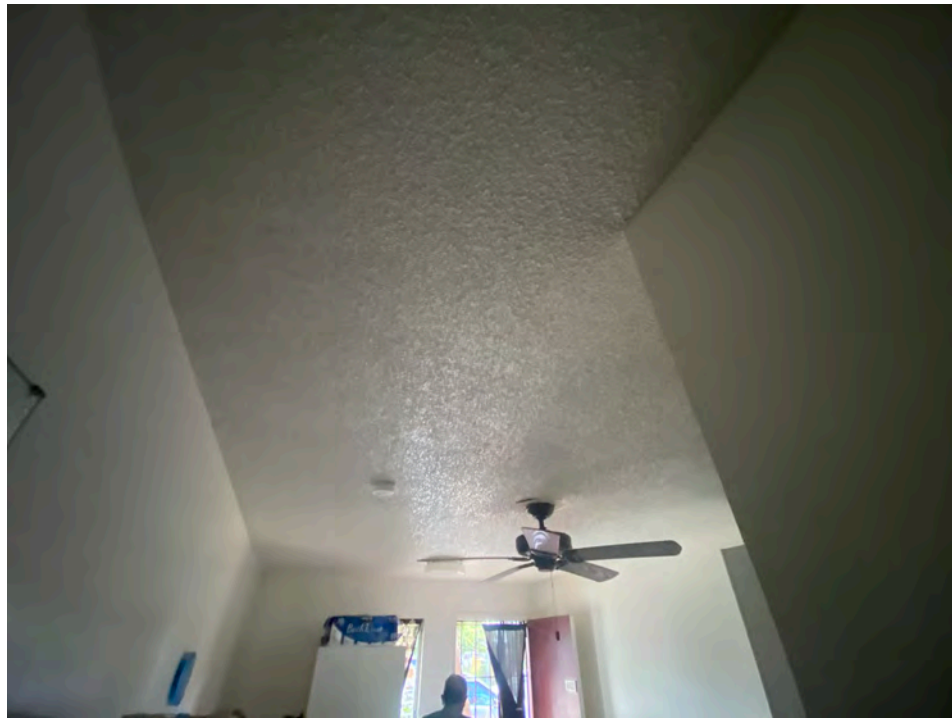


Photograph #5**Description of Photograph:**

Some of the older units contain popcorn ceiling. This ceiling was composed of textured drywall

Photograph Date:

January 19, 2022

**Photograph #6****Description of Photograph:**

Visible water damage and suspect visible mold growth were observed along the bathroom ceiling inside the unit

Photograph Date:

January 19, 2022



Photograph #7**Description of Photograph:**

The exterior of the buildings are composed of wood siding with a wood shingle roof

Photograph Date:

January 19, 2022

**Photograph #8****Description of Photograph:**

The vegetated section along the northern boundary of the Site

Photograph Date:

January 19, 2022



Photograph #9**Description of Photograph:**

Florescent lights were observed in the office building and the common areas

Photograph Date:
January 27, 2022

**Photograph #10****Description of Photograph:**

The buildings are composed of wood siding with wooden staircases leading to the second floor

Photograph Date:
January 27, 2022



Photograph #11**Description of Photograph:**

Planters were observed between the buildings

Photograph Date:

January 19, 2022

**Photograph #12****Description of Photograph:**

Wood siding exterior

Photograph Date:

January 19, 2022



Photograph #13

Description of Photograph:

The pool deck area. The wooden shed where the chlorine is kept is pictured

Photograph Date:

January 19, 2022



Photograph #14

Description of Photograph:

Cracking was observed along the concrete pool deck

Photograph Date:

January 19, 2022



Photograph #15

Description of Photograph:

A label on the pool deck shed for the stored chlorine

Photograph Date:

January 19, 2022



Photograph #16

Description of Photograph:

Some pooling water observed in one of the planters at the Site. There appears to be a slight drainage issue

Photograph Date:

January 19, 2022



Photograph #17**Description of Photograph:**

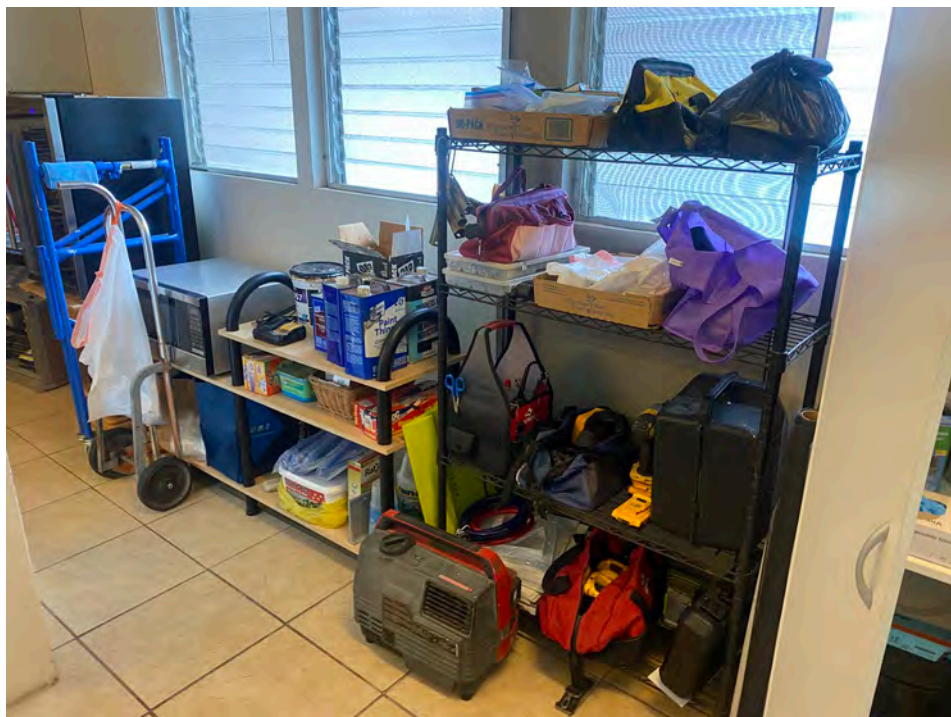
A large paint bubble was observed in the office space and is an indicator of water damage and a potential roof leak

Photograph Date:
January 19, 2022

**Photograph #18****Description of Photograph:**

Some paint and household cleaners that are being stored in the office space

Photograph Date:
January 19, 2022



Photograph #19

Description of Photograph:

None of the pole-mounted transformers were found to contain PCBs

Photograph Date:
January 19, 2022



Photograph #20

Description of Photograph:

None of the pole-mounted transformers were found to contain PCBs

Photograph Date:
January 19, 2022



Photograph #21

Description of Photograph:

None of the pole-mounted transformers were found to contain PCBs

Photograph Date:

January 19, 2022



Appendix **F**

HECO DOCUMENTATION



TSC 2.5.1 (Oahu)
Due Diligence Inquiries

January 27, 2022

SENT VIA EMAIL (kristen@enviroriskhawaii.com)

Kristen Caskey
Environmental Risk Analysis LLC
905A Makahiki Way
Honolulu, HI, 96826

**Subject: Transformer Information
Lipoa Place
'Aiea, Oahu, Hawai'i
Hawaiian Electric**

Dear Ms. Caskey:

In response to your request for information regarding Hawaiian Electric¹ transformers near the above referenced location, Hawaiian Electric provides the following information:

Pole Number	Transformer Number	Type	Address	Date Purchased	PCB Status
7	55818	Pole-mount	98-145 Lipoa Place	07/01/1990	Non-PCB
	82553			05/07/2010	
	82554			05/07/2010	
6	64139	Pole-mount	98-108 Lipoa Place	06/20/1995	Non-PCB
	64146				
	64147				
3	94634	Pole-mount	98-114 Lipoa Place	01/25/2019	Non-PCB
	94635			01/25/2019	
	94637			01/29/2019	

¹ "Hawaiian Electric" or the "Company" refers to Hawaiian Electric Company, Inc. (or "HE"), Hawai'i Electric Light Company, Inc. (or "HL") and/or Maui Electric Company, Limited (or "ME"). On December 20, 2019, the State of Hawai'i Department of Commerce and Consumer Affairs ("DCCA") approved Hawaiian Electric Company, Inc., Hawai'i Electric Light Company, Inc. and Maui Electric Company, Limited's application to do business under the trade name "Hawaiian Electric" for the period from December 20, 2019 to December 19, 2024. See Certificate of Registration No. 4235929, filed December 20, 2019 in the Business Registration Division of the DCCA.

Ms. Kristen Caskey
Transformer Information
January 27, 2022
Page 2 of 2

Pole Number	Transformer Number	Type	Address	Date Purchased	PCB Status
2	48751	Pole-mount	98-107 Lipoa Place	07/01/1986	Non-PCB
	60904			09/17/1993	
	60905			09/17/1993	
1/2	75346	Pole-mount	98-114 Lipoa Place	08/29/2000	Non-PCB

If you have any other questions, please contact transformerinfo@hawaiianelectric.com.

Sincerely,

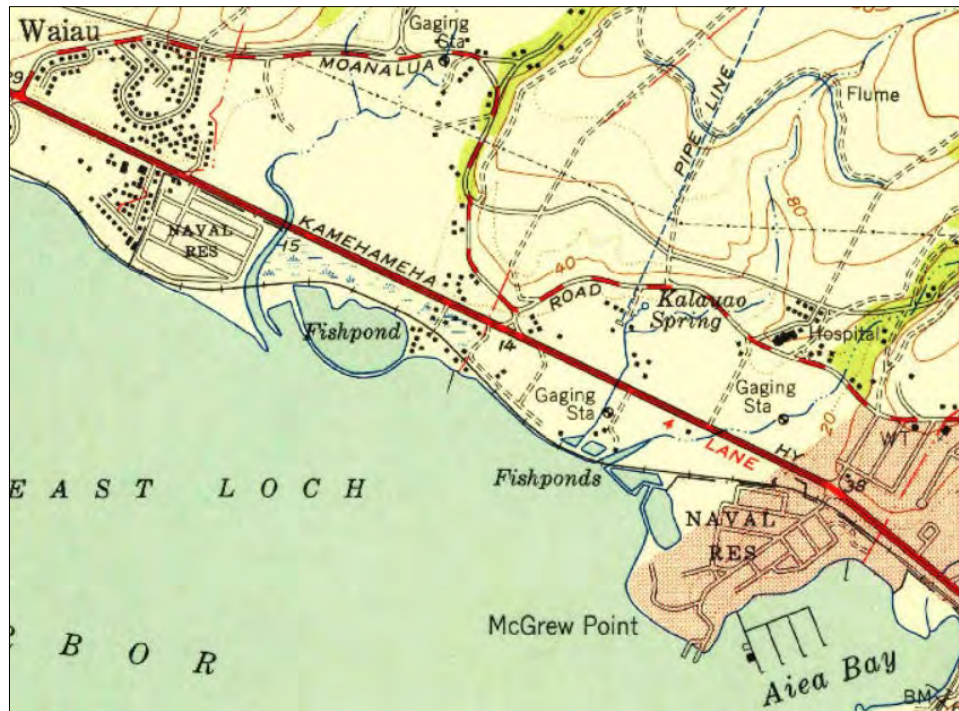


Carly Hiromoto
Environmental Scientist

Appendix B

FINAL— Archaeological Literature Review and Field Inspection for the Proposed Hale O Lipoa Development, Kalauao Ahupua‘a, ‘Ewa District, Island of O‘ahu, Hawai‘i

TMK: (1) 9-8-014:021



Prepared For:
Lipoa Development LLC
1188 Bishop Street, Suite 907
Honolulu, HI 96813

April 2024

Keala Pono 

Keala Pono Archaeological Consulting, LLC • PO Box 1645, Kāne‘ohe, HI 96744 • Phone 808.381.2361

**FINAL— Archaeological Literature Review and Field
Inspection for the Proposed Hale O Lipoa Development,
Kalauao Ahupua‘a, ‘Ewa District, Island of O‘ahu, Hawai‘i**

TMK: (1) 9-8-014:021

Prepared For:

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Cathleen A. Dagher, BA
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April 2024



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MANAGEMENT SUMMARY

Keala Pono Archaeological Consulting conducted an archaeological literature review and field inspection (LRFI) for TMK: (1) 9-8-014:021 in Kalauao Ahupua‘a, ‘Ewa District, on the island of O‘ahu, where an affordable multi-family residential development is proposed. This work was designed to identify any historic properties that may be located on the parcel in anticipation of the proposed construction. The literature review portion of the LRFI, which consisted of archival research, identified Land Commission Award (LCA) 2494, a portion of Loko Opu (a former fishpond), and former rice lands as once located on the subject property. Additional LCAs and fishponds were close to the project area in the past, as well.

The current project area has been subjected to extensive previous disturbance by modern development and contains the existing PepperTree Apartments complex, which was built in 1970 and is therefore a historic property. An archaeological field inspection of the property did not identify any surface archaeological resources, aside from the historic apartment complex. Despite disturbance to the area, there is still a possibility of encountering subsurface cultural remains associated with the fishpond, LCA, and traditional and historic agriculture. An archaeological monitoring program is recommended during all ground altering construction activities.

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INTRODUCTION

At the request of Lipoa Development LLC, on behalf of the City and County of Honolulu, Keala Pono Archaeological Consulting conducted an archaeological literature review and field inspection (LRFI) for TMK: (1) 9-8-014:021 in Kalauao Ahupua‘a, ‘Ewa District, on the island of O‘ahu. An affordable multi-family residential development is proposed for this property. The LRFI was designed to identify any historic properties that may be located on the parcel in anticipation of the proposed construction.

The report begins with a description of the project area and a historical overview of land use and archaeology in the area. Results of the literature review and field inspection are summarized, and recommendations are made in the final sections. Hawaiian words, flora and fauna, and technical terms are defined in a glossary at the end of the document.

Project Location and Description

The project area located at TMK: (1) 9-8-014:021 is the current site of the PepperTree Apartments, situated on a 0.96-acre (0.38 hectare) property within an existing residential and commercial area in the town of ‘Aiea (Figures 1 and 2). Ray M.T.R. Ojiri and Steve K.T.R. Ojiri are the landowners, and the City and County of Honolulu is the project proponent. The parcel is entirely developed with existing structures, a large paved parking lot, and paved walkways.

Lipoa Place forms the southern project area boundary (Figure 3). Apartment complexes, residences, businesses, and parking lots surround the subject property on the north, east, and west boundaries. The parcel is situated approximately 0.1 mi. (0.11 km) south of Kamehameha Highway and roughly the same distance north of the Pacific Ocean and the Pearl Harbor Historic Trail. The project area sits at approximately 25 feet above mean sea level (ft. amsl.). In addition, the Pearlridge Transit-Oriented Development (TOD) Station, the Department of Transportation Service bus transit center facility, is located nearby.

The proposed project will consist of constructing a 154-unit affordable multi-family rental housing structure on the site of the existing PepperTree Apartments. PepperTree consists of a multi-structure apartment complex containing six three-story buildings, a paved parking lot, and paved walkways. The proposed construction will include a parking area and a management office on the ground-level floor of the proposed building, while the upper levels will contain residences ranging from studios to three-bedroom apartments. As the existing PepperTree Apartments were constructed in 1970, the structures are more than 50 years old and are considered a historic property.

Physical Environment

TMK: (1) 9-8-014:021 is situated within ‘Ewa District in Kalauao Ahupua‘a. This ahupua‘a spans from the upper reaches of the Ko‘olaupoko Mountain Range with the ocean at Pearl Harbor marking the makai boundary. The Ko‘olau volcano is relatively old, having ceased activity approximately one million years ago (Macdonald et al. 1983:298). Pearl Harbor formed as the island of O‘ahu sank and the river valleys of the Ko‘olau Mountains submerged (Macdonald et al. 1983:424). This is described further in the classic geological text *Volcanoes in the Sea*:

...during the Kaena (plus-29–30-meter) stand a delta of silt and sand grew into the bay near Aiea and Pearl City...Later, sea level dropped to the Waipio (minus-18-meter) level, and the streams flowing across the sediments in the old bay, cut valleys into them...The sea level rose again, to the Waimanalo stand, 7.5 meters above present sea level. The valleys

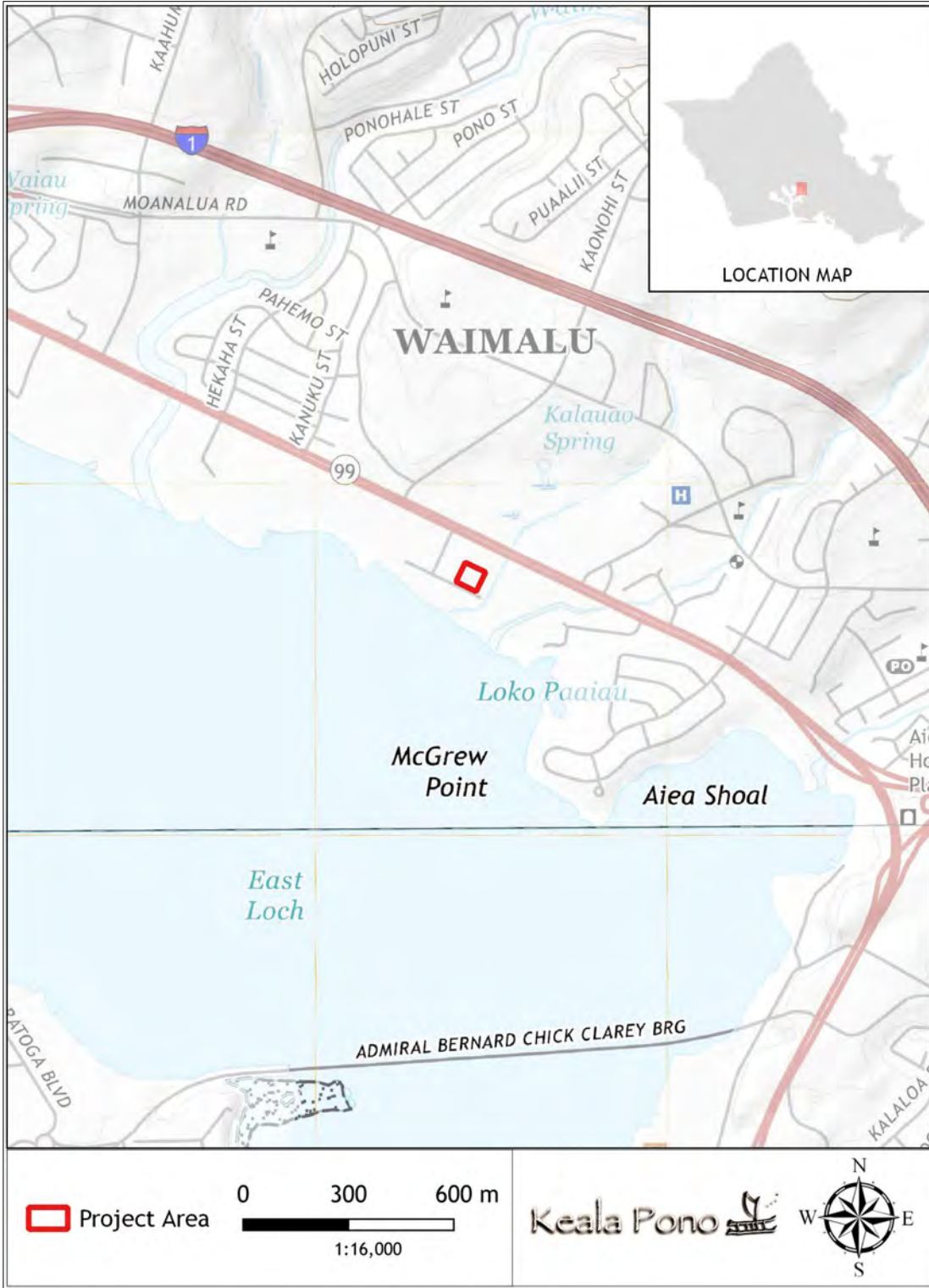


Figure 1. Topographic Map Waipahu Quadrangle (USGS 2023) showing the project area.

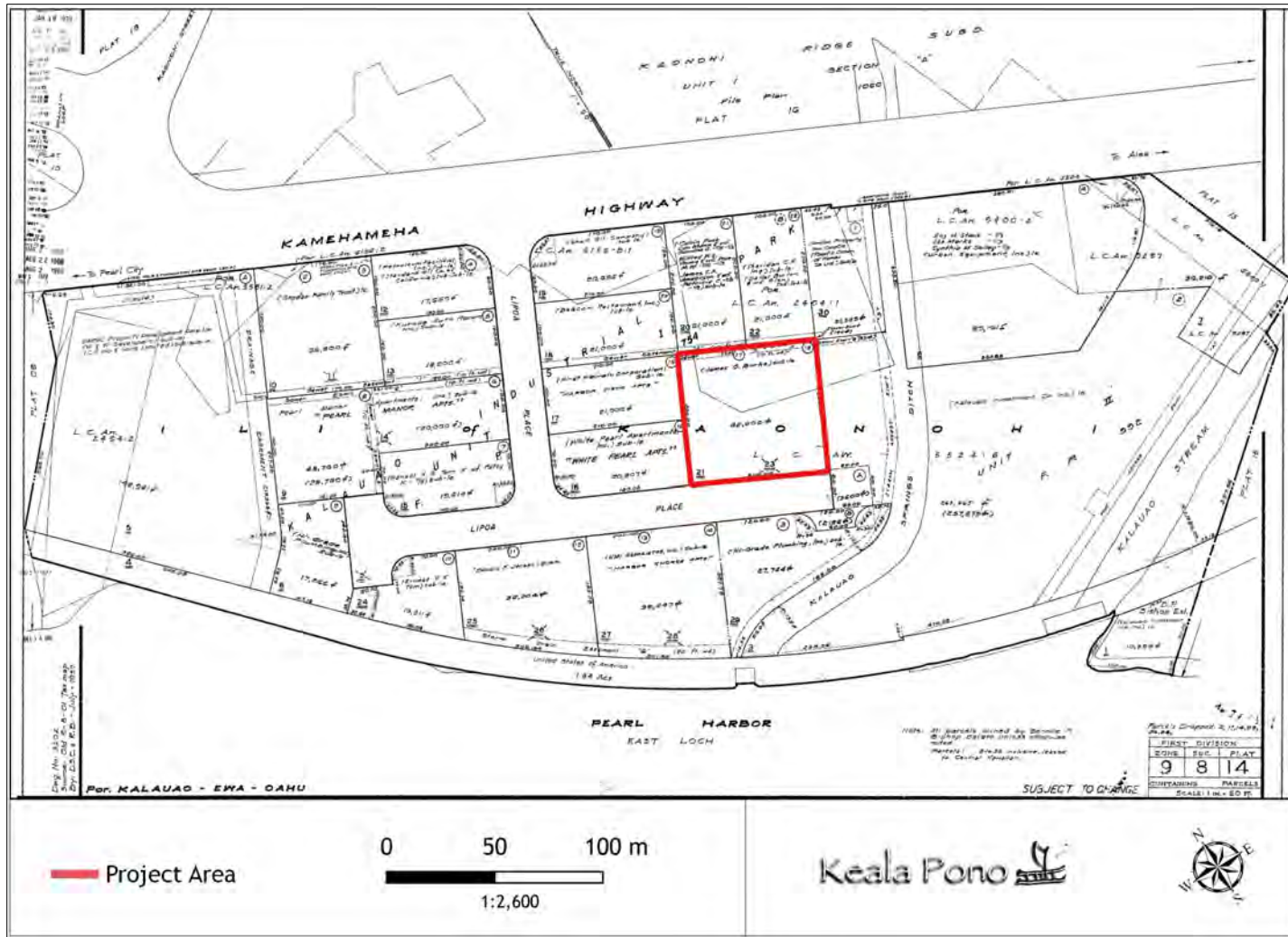


Figure 2. The project area location shown on TMK plat (1) 9-8-014 (State of Hawai'i 1937).



Figure 3. Aerial photograph showing the project area and nearby region (Modified Google Earth Image 2023).

were drowned, branching embayments were formed, and again sediments were deposited at the head of the bay... (Macdonald et al. 1983:425–426)

As the subject property is entirely developed, containing an apartment complex and associated parking lot, the topography is relatively flat and contains sparse vegetation primarily comprised of landscaped ornamentals. Rainfall in the area averages approximately 30 in. (75 cm) per year (Giambelluca et al. 2013). The closest sources of fresh water are Kalauao Stream, a non-perennial drainage located roughly 0.5 mi. (0.90 km) northeast of the study area, and Waimalu Stream, an intermittent watercourse that drains into the Pacific Ocean approximately 0.6 mi. (1.0 km) to the west.

The soils within and surrounding the project area were identified by Foote et al (1972:Sheet Number 33; Figure 4). Soils within the project area are comprised entirely of Keaau clay, saline, 0–2% slopes (KmbA). Keaau soils developed on alluvium that was deposited over reef or coral sand and are typically utilized for sugarcane and pasture (Foote et al. 1972:65).

Under natural conditions, this soil is either idle or is used for pasture. Many areas, however, are being drained and filled for use for sugarcane, industrial sites, homesites, and parks. New sugarcane areas are made by draining, and filling with waste from sugarcane mills. (Foote 1972:65)

The lands surrounding the subject property are comprised of Honouliuli clay, 0–2% slopes (HxA); Pearl Harbor clay (Ph), Waipahu silty clay, 6–12% slopes (WzC); Tropaquepts (TR), and water (W) (Foote et al. 1972:Sheet Number 33). The Honouliuli Series developed in alluvium. These soils are often utilized for pasture, sugarcane, truck crops, and orchards (Foote et al. 1972:43). The soils of the Pearl Harbor Series developed in alluvium and are generally used for taro, sugarcane, and pasture (Foote et al. 1972:112). The Waipahu soil series also developed in alluvium and is often used for sugarcane and housing (Foote et al. 1972:134). Foote et al. (1972:121) describe Tropaquepts as “poorly drained soils that are periodically flooded by irrigation in order to grow crops that thrive in water,” such as watercress, rice, and taro.



Figure 4. Soils within the project area and adjacent lands (data from Foote et al. 1972:Sheet Number 53).

BACKGROUND RESEARCH

A historic review of Kalauao Ahupua‘a offers a holistic understanding of the previous use and occupation of the project area. In an effort to record and preserve both the tangible (e.g., traditional and historic archaeological sites) and intangible (e.g., mo‘olelo, ‘ōlelo no‘eau) culture, this research assists in the discussion of anticipated finds. Research was conducted at the Hawai‘i State Library, the University of Hawai‘i at Mānoa libraries, the State Historic Preservation Division (SHPD) library, and online on the Office of Hawaiian Affairs (OHA) Kipuka database, Waihona ‘Aina database, and the State of Hawai‘i Department of Accounting and General Services (DAGS) website. Historical maps, archaeological reports, Māhele data, and historical reference books were among the materials examined.

Traditional History of Kalauao Ahupua‘a and the Pu‘uloa Area

The history of Kalauao begins with the history of O‘ahu Island:

O‘ahu is also a new name, given in memory of an ancestor of the people of O‘ahu. Lolo-i-mehani, Lalo-waia, and Lalo-oho-aniani were the ancient names of O‘ahu. O‘ahu was the child of Papa and Lua... and because O‘ahu was a good chief and the people lived harmoniously after the time of Wākea *mā*, O‘ahu’s descendants gave the name of their good chief to the island --- O‘ahu-a-Lua. (Kamakau 1991:129)

Kalauao is one of 12 ahupua‘a in the leeward district of ‘Ewa, on the island of O‘ahu. The ahupua‘a of Kalauao extends mauka from the northern shoreline of Pearl Harbor to the Ko‘olau Mountains and borders ‘Aiea Ahupua‘a to the east and Waimalu Ahupua‘a to the west. Traditionally, fishponds were built along coastlines “where reef landlocked bays like Pearl Harbor made their construction feasible” Handy et al. (1972:7). Several fishponds, including Loko Pa‘aiiu and Loko Pa‘akea, were once located in the vicinity of the project. Based on OHA’s Kipuka (n.d.) database and historic maps, it appears that Loko Opu, a now filled in fishpond, is located within the subject property.

Place Names

One often overlooked source of history is the information embedded in the Hawaiian landscape. Hawaiian place names “usually have understandable meanings, and the stories illustrating many of the place names are well known and appreciated...The place names provide a living and largely intelligible history” (Pukui et al. 1974:xii). Place names associated with the study area are listed below, along with the meanings of the names and comments about the specific locales:

‘Aiea. Land section, mill, village, bay, stream, field...west of Honolulu, O‘ahu...*Lit.*, *Nothocestrum* tree. (Pukui et al. 1974:7)

‘Ewa. Plantation, plantation town...west of Pearl Harbor, O‘ahu. *Lit.*, crooked. Kāne and Kanaloa threw a stone to determine district boundaries. The stone was lost but was found later at Pili-o-Kahe... (Pukui et al. 1974:28)

Ka-hua-wai. A small waterfall on Ka-lau-ao Stream. O‘ahu. Once a favorite resting place exclusively for chiefs. Also called Ka-hue-wai (the water gourd). (Pukui et al. 1974:66)

Kalauao. Land section and stream...A battle was fought in the area between here and ‘Aiea Heights from November 16 to December 12, 1794; Ka-lani-kū-pule defeated and killed Ka‘eo-kū-lani, chief of Maui...*Lit.*, the multitude [of] clouds. (Pukui et al. 1974:75)

Moku‘ume‘ume. Old name for Ford Island, Pearl Harbor, O‘ahu. Water was brought for melons raised here. *Lit.*, ‘ume game island (famous for this sexual game). (Pukui et al. 1974:156). According to McAllister (1933:102), the name translates to “Isle of Strife” due to regional chiefs that had been in conflict for fishing rights on the island.

Pa'akea...Fishpond near Pearl Harbor, O'ahu. *Lit.*, coral bed, limestone. (Pukui et al. 1974:173)

Pu'uloa...Land section, camp, salt works, village...area east of Pearl Harbor, and old name for Pearl Harbor, O'ahu; it is said that breadfruit were brought here from Samoa...*Lit.*, long hill. (Pukui et al. 1974:200–201)

Waimalu. Hill (1,450 feet high), land section, town...and stream debouching at Pearl Harbor, O'ahu; the Spaniard Francisco de Paula Marin had a home here. *Lit.*, sheltered water. (Pukui et al. 1974:225)

Subsistence and Traditional Land Use

The geography and traditional land use of 'Ewa Moku is described by Handy et al. (1972). 'Ewa Moku is noted for its kalo, 'uhi, 'ulu, mai'a, and 'awa. Thus, it is quite likely these plants were cultivated in Kalauao, as well.

The salient feature of 'Ewa, and perhaps its most notable difference, is its spacious coastal plain, surrounding the deep bays ('lochs') of Pearl Harbor, which are actually the drowned seaward valleys of 'Ewa's main streams, Waikele and Waipi'o...The lowlands, bisected by ample streams, were ideal terrain for the cultivation of irrigated taro. The hinterland consisted of deep valleys running far back into the Ko'olau range. Between the valleys were ridges, with steep sides, but a very gradual increase of altitude. The lower parts of the valley sides were excellent for the culture of yams and bananas. Farther inland grew the 'awa for which the area was famous. The length or depth of the valleys and the gradual slope of the ridges made the inhabited lowlands much more distant from the wao, or upland jungle, than was the case on the windward coast. Yet the wao here was more extensive, giving greater opportunity to forage for wild foods in famine time. (Handy et al. 1972:469)

Handy et al. (1972) further describe 'Ewa Moku as providing a variety of resources, such as birds, wauke, mamaki, and olonā, as well as wild mai'a and uhi:

In the interior was the same avifauna, including the birds whose feathers were prized for feather capes, helmets, and lei making. In fact this, with its spacious wao inland, was the region where these birds were most numerous. There were more extensive areas also where wauke and mamaki, which supplied bast for the making of tapa, grew in abundance. In fact, 'Ewa was famous for its mamaki. There was, too, much olona grown in the interior, and wild bananas and yams flourished. (Handy et al. 1972:470)

The native kalo of 'Ewa was rather unique and has been described as producing an especially tasty variety of poi. Called "kāi o 'Ewa" (Handy et al. 1972:471), it is said to have made a poi that was a favorite of ali'i, and sometimes reserved for them. Kāi is defined as "a variety of taro, the corms of which are fragrant when cooked and, though tough, yield excellent poi. Types of kāi were qualified by the terms 'ele'ele, kea, ke'oke'o (said to be reserved for chiefs), koi, nenene, pala, 'ula'ula, uliuli, welo, 'eka" (Handy et al. 1972:471).

During E.S.C. Handy's (1940) survey of the Pearl Harbor area in the 1930s, he made the following observation about the vicinity of the project area:

The lowlands seaward of the highway and for a short distance inland, now mostly under cane with a few banana groves, were all formerly terraces irrigated from Kalauao Stream. Kalauao Gulch was too narrow to have terraces inland. (Handy 1940:81)

A saying, 'Ewa, ka 'āina o nā ali'i, or 'Ewa, land of chiefs, originated because the district was known as a favorite residence for chiefs (Sterling and Summers 1978:1), likely due to its abundance of shellfish, fishponds, and fish traps (Handy et al. 1972:270). Several fishponds were constructed surrounding Kalauao in times past. According to McAllister (1933:103–104), three of these fishponds, Loko Pa'aiiau,

Loko Opu, and Loko Pa‘akea were all built by Kalaimanuia, a high ranking chiefess of O‘ahu, who lived in the vicinity of Kalauao, at Kuki‘iahu.

Mo‘olelo

As mentioned earlier, Hawaiian place names were connected to traditional stories through which the history of a place was preserved. These stories were referred to as mo‘olelo:

...a term embracing many kinds of recounted knowledge, including history, legend, and myth. It included stories of every kind, whether factual or fabulous, lyrical or prosaic. Mo‘olelo were repositories of cultural insight and a foundation for understanding history and origins, often presented as allegories to interpret or illuminate contemporary life... Certainly many such [oral] accounts were lost in the sweep of time, especially with the decline of the Hawaiian population and native language. (Nogelmeier 2006:429–430)

The word ‘Ewa is defined as “crooked” or “strayed,” which refers to a mo‘olelo about how the district was named:

When Kane and Kanaloa were surveying the islands they came to Oahu and when they reached Red Hill saw below them the broad plains of what is now Ewa. To mark boundaries of land they would throw a stone and where the stone fell would be the boundary line. When they saw the beautiful land lying below them, it was their thought to include as much of the flat level land as possible. They hurled the stone as far as the Waianae range and it landed somewhere in the Waimanalo section. When they went to find it, they could not locate the spot where it fell. So Ewa (strayed) became known by that name. The stone that strayed. (Sterling and Summers 1978:1)

Kahuawai

Mo‘olelo also provide insight into the cultural and natural resources of an area. Kalauao is where the famous bathing pool of the ali‘i, Kahuawai (also spelled Kahuewai) is located. There are three mo‘olelo about this site. Fed by a pūnāwai, use of this pool continues in modern times by locals living in the area.

Kahuawai was a noted bathing place since ancient times and was guarded so that any one did not bathe in it except the chiefs. Later it was used by all. Kakuihewa’s daughters and the hero Kalelealuaka (their husband) bathed in this pool. Kaeokulani, the chief of Kauai also bathed here when he came to war here on Oahu. He was killed at Kukiiahu. Many visitors from Hawai‘i to Kaua‘I came to see this pool and it was well known to Ewa’s inhabitants. (*Ke Au Hou* 1910 in Sterling and Summers 1978:13)

A subsequent visit is recounted in a letter from W.K. Apuakehau that also provides a description of the pool:

Here is another thing, I went to see the diving place of chiefs where they used to bathe, It is very close to the pump at Kalauao. It is cemented and deep. The name of this pool is Kahuawai. On the eastern side are some taro patches that are somewhat like ponds. They were deep in the olden days and these were the taro patches owned by Kaho, in which he planted all the time. (*Ka Nupepa Kuokoa* July 18, 1919 in Sterling and Summers 1978:13)

An earlier account, printed in 1870, describes the trail leading to Kahuawai:

They went to the taro patches of Aiea, up the plain of Kukiiahu, below the road where Kaeo, chief of Kauai, was killed by Kalanikupule. From there they went along the taro patches on the upper side of Kohokaho, till they came to Kahuewai, a little waterfall. A little ways above it was a spring, a place where travelers sat and rested. They went up a little way to a small plain and

ascended the low cliff of Waimalu and went along between the taro patches of that land. (*Kuokoa* in Sterling and Summers 1978:13–14)

Battle of Kuki‘iahu

The famous Battle of Kuki‘iahu is said to have taken place between November 16, 1794 to December 12, 1794, and was fought on the lands between Kalauao and ‘Aiea (Kamakau 1996:169). A brief summary of this battle is presented below:

Kaeokulani, ruler of Maui was on his way to Kauai with a large force to inspect his holdings there. As he approached Oahu Kalanikupule thought that he was coming to attack Oahu and counterattacked. The battle was fought at Waimanalo and then settled amicably. After visiting awhile with Kalanikupule, Kaeo moved on to Waialua and Waianae in preparation for his departure for Kauai. Mutiny arose among his troops and to divert them he suddenly cancelled plans to go to Kauai and instead attacked Kalanikupule. They met on the plains of Ewa. (Fornander 1918–1919:262)

McAllister (1933:103) provides the important detail that Kalanikūpule was assisted in battle by “a force of armed seamen from the English ships ‘Kackal’ and ‘Prince Leboo,’ under the command of Capitan Brown. Kamakau (1996:169–170) recounts the Battle of Kuki‘iahu in greater detail:

On December 12, 1794, a great battle was fought on the ground of Ka-lani-manuia between Kalauao and ‘Aiea in ‘Ewa. The heights of Kuamo‘o, Kalauao, and ‘Aiea were held by the right wing of Ka-lani-ku-pule’s forces commanded by a warrior named ‘Koa-lau-kani; the shore line of Malie [was held] by the left wing under the command of Ka-mohomoho; Ka-lani-ku-pule himself with the main army held the middle ground between ‘Aiea and the taro patches; Captain Brown’s men were in boats guarding the shoreline. Thus surrounded, Ka-‘eo found his men fighting at close quarters and, cut off by Koa-lau-kani between Kalauao and Kua mo‘o, he was hemmed in on all sides and compelled to meet the onset, which moved like the ebb and flow of the tide. Shots from guns and cannon, thrusts of the sword and spear fell upon his helpers. Ka-‘eo with six of his men escaped into a ravine below ‘Aiea and might have disappeared there had not the red of his feather cloak been seen from the boats at sea and their shots drawn the attention of those on land. Hemmed in from above, he was killed fighting bravely. His wives were killed with him, and his chiefs and warriors. This war, called Kuki‘iahu, was fought from November 16 to December 12, 1794 at Kalauao in ‘Ewa. At the death of Ka-‘eo-ku-lani who was the son of Ke-kau-like and his wife Holau, his son George Ka-umu-ali‘i became ruling chief of Kauai, but, being too young to take charge of the government, his kahu administered it for him with power to make war. On the afternoon [of the final day of victory for Ka-lani-ku-pule] the dead were gathered together, carried to Pa‘aia, and piled in a great heap.

Kamakau (1987:17) notes that during the Battle of Kuki‘iahu, Kalanikūpule invoked his kānāwai of pu‘uhonua ho‘ola (refuge of life) stopping the slaughter, saving the lives of the ali‘i and their warriors, and allowing them to return to their homes on Kaua‘i.

Another famous person associated with Kalauao is the ali‘i Kalaimanuia. The above-described Battle of Kuki‘iahu took place near her home at Kuki‘iahu. This is the same Kalaimanuia to whom the construction of Loko Pa‘aia, Loko Opu, and Loko Pa‘akea is attributed.

Kalaimanuia followed her mother, Kukaniloko, as Moi of Oahu. No foreign or domestic wars appear to have troubled her reign, and little is known of her history. She was born at Kukaniloko that famous birth-place of Hawaiian royalty, and resided of her time at Kalauao, in the Ewa district, where the foundations of her houses are still pointed out at Kukiiahu and at Paaia. To her is attributed the building of the great fishponds of Kapaakea, Opu, and Paaia. Her husband Lupe Kapukeahomakalii, a son of Kalanuili (k) and Naluehiloikeahomakalii (w), and he is highly spoken of in legends as a wise and kind man, who frequently accompanied his royal spouse on

the customary circuits of inspection of the island, and assisted her in the government and administration of justice. (Fornander 1918–1919:269)

The Legend of Opelemoemoe

Mo'olelo also provide details about the lives of famous characters, real and fictional. The possibly fictitious Opelemoemoe, a man known for falling asleep for long periods of time, is also a figure associated with Kalauao Ahupua'a.

Kalauao in Ewa was where Opelemoemoe made his home. This man performed some very extraordinary things, things the like of which had not been seen before him nor since. He could keep asleep from the first day of the month to the end of the month; but if a thunder storm occurred he would then wake up; otherwise he would keep on sleeping for a whole year. If he should be walking along the road and should become sleepy, he would then sleep without once getting up, until it thundered, when he would get up and would stay awake for days and nights at a time, in summer and in winter. So would it be if he was out in the ocean; if he fell asleep, he would sleep in the sea until it thundered, when he would wake up. He was without equal in his extraordinary behavior.

Once upon a time Opelemoemoe set out from Kalauao for Puukapolei, where he fell asleep. He slept for a period of nearly ten days; it perhaps lacked two days, when a couple of men arrived from Kauai, who were on their way in search of a human sacrifice for the temple of Lolomauna, at Pokai, Kauai. These men upon seeing Opelemoemoe tried to wake him up, but in this they were unsuccessful. They then carried him on their backs to Pokai, at which place their canoes were moored, placed him in the canoe and carried him off to Kauai. After landing they again carried Opelemoemoe and placed him on the altar in the temple of Lolomauna, together with a pig, some bananas, some coconuts and some awa. During all this time Opelemoemoe never once awoke from his sleep. It was noticed that his body did not decay like the rest of the things that were placed on the altar; for the bananas, the pig, the fish and the awa all rotted. Opelemoemoe was then left on the altar until one day it thundered, when he awoke and found himself tied hand and foot. He then untied himself and got down from the altar. (Fornander 1918–1919:168)

Pu'uloa (Pearl Harbor)

Pu'uloa, the freshwater estuary fed by the many streams coming from the uplands, provided a bounty of water and resources for the inhabitants of this region. The confluence of land and water are natural contexts for human interaction. Accounts from the Hawaiians who resided there have endured to this day and provide a glimpse into the storied past of the area. In Hawaiian traditions, it is believed that all bodies of water are home to a mo'o, a spirit being usually manifesting in the form of a lizard, serpent, or mermaid/merman-like creature, oftentimes imbued with shapeshifter-like powers (e.g., Kamakau 1991:82–89). The legends of mo'o are traditional accounts of supernatural beings animated by their interactions with man. Shark gods and mo'o are the two types of creatures associated with the vicinity of the project area, as evidenced in the literary sources. These mythical creatures dominate the literary record of the Pu'uloa region. One such recorded story is that of Ka'ahu, as retold by Hawaiian scholar Mary Kawena Pukui:

Pu'uloa is the old name of that great harbor on O'ahu today called Pearl Harbor. Long ago sharks lived there ruled by a chiefess called Ka'ahu.

Ka'ahu was once a lovely girl. She and her family lived beside a little stream which flowed into Pu'uloa. Often Ka'ahu and her brother went down to the harbor to swim. For hours they swam and played about, happy as fish. A shark god liked to watch those children jump and swim. They should be sharks, he thought, and live in Pu'uloa. So he changed their form.

That night when the children did not return for dinner their parents searched for them. The mother heard her husband calling. "There are sharks in our stream," he said, "young sharks."

She came quickly to stand beside the stream and the two young sharks swam close. “They are not afraid,” she said, “and see! They are opening their mouths for food. They’re hungry!” She turned to her husband. “These are our children!” she exclaimed. “They have been changed to sharks and come to us, as always, for their food.”

The man looked long as the two swam close, rubbing the bank and opening their mouths hungrily. Then he brought food. He gave each a drink of ‘awa then peeled bananas for them. When they had eaten enough they swam away.

Next day they came again for food. All the relatives of those children heard how they were changed. “Shark sister and shark brother,” they called the two. They saved food for them, hung lei about their necks and played with them in Pu‘uloa. (Pukui and Curtis 1994:147)

In other traditions including those found in mele, Ka‘ahu is also known as Ka‘ahupāhau. The story of Mikololou, as retold by Keonaona Kapuni-Reynolds, details the connection of the shark gods with Pu‘uloa.

Mikololou is a shark from Ka‘ū, Hawai‘i. One day Mikololou, Kua, Keali‘ikauaoka‘ū, Pakaiea and Kalani decided to visit O‘ahu. When they were on their way there they met with man-eating sharks. When they reached Pu‘uloa, O‘ahu they met with Ka‘ahupāhau. Ka‘ahupāhau is the guardian of Pu‘uloa and she takes care of the people of that area. When a man-eating shark is seen she changes her body into a net and calls the fishermen to beat the sharks in the net. Kahi‘ukā is her brother and he is the one that hits the sharks with his long tail.

When they met with Ka‘ahupāhau one of the man-eating sharks said, “Hū, those crabs look delicious.” Crab is what the sharks call people so Ka‘ahupāhau knew that some of those sharks were man-eaters.

Because she couldn’t tell who were the good sharks and who was the man-eaters she caught all the sharks in her net. (Kapuni-Reynolds n.d.)

Next to an unnamed fishpond in Pu‘uloa was Drydock No. 1, which collapsed in 1913. This area was known to be the home of Ka‘ahupāhau and possibly other shark gods of Pearl Harbor. It is said that when David R. Richards, a construction foreman, began digging the foundation for the drydock in 1909, Kūpuna Kanakeawe and Leialoha, local fishermen, told Richards that he should not dig in that place (Richards 1943:1 in Tuggle and Tomonari-Tuggle 2004:55):

These places are tabu, they belong to the shark god, namely Kaaupahau [sic]’...I again asked him ‘What are you doing here?’ He replied that he came there to feed his aumakua, KAAUPAHAU [sic], a shark god. I laughed at him for that. I asked him ‘Where is that shark? I like to see him when you are feeding him.’ He then told me that I have no business to ask that question...He said they came from Keahi [a fishing place at the edge of Pu‘uloa] once a week with fishes to feed Kaaupahau [sic] by diving down into the water after chanting and offering prayer, repeating it until the fishes are gone. After that he would chant and pray some more, while going to fish for more, this time for his own use and sale...They stayed several hours, then he said to me that, ‘You people will be punished severely.’

Richards later lamented that there were many problems during construction, such as with the digging of the pilings and finally the collapse of the drydock (Tuggle and Tomonari-Tuggle 2004:55). Eventually, he had a new dock blessed by a kahuna.

Oli and Mele

The noteworthiness of specific locales in Hawaiian culture is further bolstered by their appearances in traditional chants. An oli refers to a chant that is done without any accompaniment of dance, while a mele refers to a chant that may or may not be accompanied by a dance. 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, identity, and values.

Although it can be acknowledged that mo'olelo have served to maintain the collective memory and record of the Kalauao area, oli and mele nevertheless continue to provide significant insight into the region. In a mele inoa for Iwikauikaua, an ancient high chief and ancestor to Queen Lili'uokalani, reference to Ka'ahupāhau is made. In the excerpt below, the shark god is referred to as, "the skilled one of Pu'uloa." The 'Ewa moku, with its many springs, ponds, and estuaries, is known by the epithet, "'Ewa no ke awa lau- ('Ewa- whom belongs the many bays)," that is mentioned in the name chant below:

Auheha wale oe e ka Ohu la-e-a,
Kipu mai la i Kaala la-e-a,
Ala mai Lihue me Kalena la-e-a,
Hooho mai hale auau la-e-a,
Pehea iho Kokoloea la-e-a,
Ea mai o Kaahupahau la-e-a,
O ka olali o Puuloa la-e-a,
Ehia iho mea minamina la-e-a,
O ka ela hamau i ka leo la-e-a,
Mai Pane ae oe o makani la-e-a,
Ike ole ia aku Halawa la-e-a,
Aina i ka mole o Ewa la-e-a,
No Ewa oe no ke awa lau la-e-a,
No ka lihi kai au i ka wili la-e-a,
No Honolulu i Kapuukolo la-e-a,
Haina ka Inoa i lohe la-e-a,
Oulumahihei Hoapili la-e-a,
O ka Ona nui o Wailuku la-e-a,
O ka helu ekahi o Maui la-e-a. (Keapo 1868)

Ka'ahupāhau has a firm place in the oeuvre of Hawaiian song. While the preceding excerpt cites Pu'uloa and its shark god Ka'ahupāhau, Hawaiian songs made popular in the 20th century, such as Pūpū a'o 'Ewa, retell traditions from an earlier time and are remarkable in the continuation of the same theme and characters from the ancient past.

Pūpū a'o 'Ewa
Pūpū a'o 'Ewa
I ka nu'u o nā kanaka
E naue mai a e 'ike
I ka mea hou o ka 'āina
A he 'āina ua kaulana
Mai nā kūpuna mai
Alahula Pu'uloa he alahela no Ka'ahupāhau (traditional mele)

The refrain of the song can be summarized as "Pu'uloa, a path well-trod upon by Ka'ahupāhau" and can be interpreted as defining the well-traveled intersection that the estuary was for those of the past. Today however, many of the place names in the ahupua'a, in which the naval base at Pearl Harbor is now located, have disappeared or have been turned into street names and names of barracks and entrances to the

shipyard. Scholar John Osorio asserts that this development effectively detached the kanaka from the land by blocking access to the ocean and freshwater resources of O‘ahu’s largest inland waterways (Osorio 2010:4). Reliance on the written mo‘olelo and mele have become essential in understanding the history of the region.

‘Ölelo No‘eau

Like oli and mele, traditional proverbs and wise sayings, known as ‘ölelo no‘eau, have been another means by which the history of Hawaiian places has been recorded. In 1983, Mary Kawena Pukui published a volume of close to 3,000 ‘ölelo no‘eau that she collected throughout the islands. The introductory chapter of that book reminds us that if we could understand these proverbs and wise sayings well, then we would understand Hawai‘i well (Pukui 1983). While no ‘ölelo no‘eau about Kalauao were recorded in Pukui’s (1983) book, there are many that speak of ‘Ewa in general; they are listed below.

‘Āina koi ‘ula i ka lepo.

Land reddened by the rising dust.

Said of ‘Ewa, O‘ahu. (Pukui 1983:11)

Anu o ‘Ewa i ka i‘a hāmau leo e. E hāmau!

‘Ewa is made cold by the fish that silences the voice. Hush!

A warning to keep still. First uttered by Hi‘iaka to her friend Wahine‘oma‘o to warn her not to speak to Lohi‘au while they were in a canoe near ‘Ewa. (Pukui 1983:16)

‘Ewa kai lumaluma‘i.

‘Ewa of the drowning sea.

An epithet applied to ‘Ewa, where kauwā were drowned prior to offering their bodies in sacrifice. (Pukui 1983:47)

‘Ewa nui a La‘akona.

Great ‘Ewa of La‘akona.

La‘akona was a chief of ‘Ewa, which was prosperous in his day. (Pukui 1983:47)

Haunāele ‘Ewa i ka Moa‘e.

‘Ewa is disturbed by the Moa‘e wind.

Used about something disturbing, like a violent argument. When the people of ‘Ewa went to gather pipi (pearl oyster), they did so in silence, for if they spoke, a Moa‘e breeze would suddenly blow across the water, rippling it, and the oysters would disappear. (Pukui 1983:59)

He kai puhi nehu, puhi lala ke kai o ‘Ewa.

A sea that blows up nehu fish, blows up a quantity of them, is the sea of ‘Ewa. (Pukui 1983:74)

He lō‘ihi o ‘Ewa; he pali o Nu‘uanu; he kula o Kulaokahu‘a; he hiki mai koe.

‘Ewa is a long way off; Nu‘uanu is a cliff; Kulaokahu‘a is a dry plain; but all will be here before long.

Said of an unkept promise of food, fish, etc. O‘ahu was once peopled by evil beings who invited canoe travelers ashore with promises of food and other things. When the travelers asked when these things were coming, this was the reply. When the visitors were fast asleep at night, the evil ones would creep in and kill them. (Pukui 1983:84)

I Waialua ka po'ina a ke kai, o ka leo ka 'Ewa e ho'olono nei.
The dashing of the waves is at Waialua, but the sound is being heard at 'Ewa.
Sounds of fighting in one locality are quickly heard in another. (Pukui 1983:137)

Ka i'a hāmau leo o 'Ewa.
The fish of 'Ewa that silences the voice.
The pearl oyster, which has to be gathered in silence. (Pukui 1983:145)

Ka i'a kuhi lima o 'Ewa.
The gesturing fish of 'Ewa.
The pipi, or pearl oyster. Fishermen did not speak when fishing for them but gestured to each other like deaf-mutes. (Pukui 1983:148)

Ke kai he'e nehu o 'Ewa.
The sea where the nehu come in schools to 'Ewa.
Nehu (anchovy) come by the millions into Pearl Harbor. They are used as bait for fishing, or eaten dried or fresh. (Pukui 1983:185)

Ke one kuilima laula o 'Ewa.
The sand on which there was a linking of arms on the breadth of 'Ewa.
'Ewa, O'ahu. The chiefs of Waikīkī and Waikele were brothers. The former wished to destroy the latter and laid his plot. He went fishing and caught a large niuhi, whose skin he stretched over a framework. Then he sent a messenger to ask his brother if he would keep a fish for him. Having gained his consent, the chief left Waikīkī, hidden with his best warriors in the "fish." Other warriors joined them along the way until there was a large army. They surrounded the residence of the chief of Waikele and linked arms to form a wall, while the Waikīkī warriors poured out of the "fish" and destroyed those of Waikele. (Pukui 1983:191)

Ku a'e 'Ewa; Noho iho 'Ewa.
Stand-up 'Ewa; Sit-down 'Ewa.
The names of two stones, now destroyed, that once marked the boundary between the chiefs' land (Kua'e 'Ewa) and that of the commoners (Noho iho 'Ewa) in 'Ewa, O'ahu. (Pukui 1983:200)

O 'Ewa, 'aina kai 'ula I ka lepo.
'Ewa, land of the sea reddened by earth.
'Ewa was once noted for being dusty, and its sea was reddened by mud in time of rain. (Pukui 1983:257)

Ua 'ai I ke kāi-koi o 'Ewa.
He has eaten the kāi-koi taro of 'Ewa.
Kāi is O'ahu's best eating taro; one who has eaten it will always like it. Said of a youth or a maiden of 'Ewa, who, like the kāi taro, is not easily forgotten. (Pukui 1983:305)

There are also several 'ōlelo no'eau that specifically reference Pu'uloa (Pearl Harbor):

Alahula Pu'uloa, he alahale na Ka'ahupāhau.
Everywhere in Pu'uloa is the trail of Ka'ahupāhau.
Said of a person who goes everywhere, looking, peering, seeing all or of a person familiar with every nook and corner of a place. Ka'ahupāhau is the shark goddess of Pu'uloa (Pearl

Harbor) who guarded the people from being molested by sharks. She moved about, constantly watching. (Pukui 1983:14)

E hāmau o makani mai auane‘i.

Hush, lest the wind arise.

Hold your silence or trouble will come to us. When the people went to gather pearl oysters at Pu‘uloa, they did so in silence, for they believed that if they spoke, a gust of wind would ripple the water and the oysters would vanish. (Pukui 1983:34)

Ho‘ahewa na niuhi ia Ka‘ahupāhau.

The man-eating sharks blamed Ka‘ahupāhau.

Evil-doers blame the person who safeguards the right of others. Ka‘ahupāhau was the guardian shark goddess of Pu‘uloa (Pearl Harbor) who drove out or destroyed all the man-eating sharks. (Pukui 1983:108)

Ho‘i aku la ka ‘ōpua i ke awa lau o Pu‘uloa.

The horizon cloud has gone back to the lochs of Pu‘uloa.

He has gone home to stay, like the horizon clouds that settle in their customary places. (Pukui 1983:109)

Huhui na ‘ōpua i Awalau.

The clouds met at Pearl Harbor.

Said of the mating of two people. (Pukui 1983:120)

Kālele ka uwahi o Pu‘uloa.

The smoke of Pu‘uloa leans over.

Said in amusement of one who leans over, intent on his work. (Pukui 1983:156)

Ke awa lau o Pu‘uloa.

The many-harbored sea of Pu‘uloa.

Pu‘uloa is an early name for Pearl Harbor. (Pukui 1983:182)

Ke kai he‘e nehu o ‘Ewa.

The sea where the nehu come in schools to ‘Ewa.

Nehu (anchovy) come by the millions into Pearl Harbor. They are used as bait for fishing, or eaten dried or fresh. (Pukui 1983:185)

Mehameha wale no o Pu‘uloa, i ka hele a Ka‘ahupāhau.

Pu‘uloa became lonely when Ka‘ahupāhau went away.

The home is lonely when a loved one has gone. Ka‘ahupāhau, guardian shark of Pu‘uloa (Pearl Harbor), was dearly loved by the people. (Pukui 1983:234)

Kalauao in the Historic Era

When the first Westerners arrived in the Hawaiian archipelago in 1778, the islands were not yet united under one sovereign. At that time, Kalauao and the entire island of O‘ahu were under the rule of the ali‘i Kahahana. In 1783, Kahahana’s reign ended with the invasion and victory of the Maui ali‘i, Kahekili. This would forever be the end of O‘ahu’s independence as a separate island kingdom. When Kahekili died in 1794, control of O‘ahu went to his son, Kalanikūpule. The following year, Kamehameha, an ali‘i from Hawai‘i Island, invaded O‘ahu to engage Kalanikūpule in battle. Kamehameha overwhelmed

Kalanikūpule's warriors, effectively gaining control of all the islands from Hawai'i to O'ahu. Eventually, Kamehameha would make a peaceful agreement with Chief Kaumuali'i of Kaua'i, bringing that island and Ni'ihau into the fold and thereby uniting the Hawaiian archipelago under one rule (Kamakau 1996, Kanahele 1995).

It is generally accepted that with his arrival to the Islands in 1778, James Cook became the first westerner to see the Hawaiian Islands. Following Cook, a wave of other explorers landed on Hawai'i's shores. Around the same time as the appearance of the first westerners to Hawai'i, O'ahu was experiencing major political changes. It was during this time, as mentioned above, that O'ahu's sovereignty ended with the invasion of the Maui chiefs, and the Maui rule was subsequently overcome by the invasion of forces from Hawai'i Island, when all of the islands were united under Kamehameha I, in 1795.

There are very few mentions of Kalauao Ahupua'a in early historical records. One account of the greater region comes from the English sailor Archibald Campbell who visited the area ca. 1810. He writes of the Pu'uloa vicinity:

Wymumme, or Pearl River, lies about seven miles farther to the westward. This inlet extends ten or twelve miles up the country. The entrance is not more than a quarter of a mile wide, and is only navigable for small craft; the depth of water on the bar at the highest tides, not exceeding seven feet; farther up it is nearly two miles across. There is an isle in it, belonging to Manina [Paul Marin], the king's interpreter, in which he keeps a numerous flock of sheep and goats...The flat land along shore is highly cultivated; taro root, yams, and sweet potatoes are the most common crops; but taro forms the chief object of their husbandry, being the principal article of food amongst every class of inhabitants. (Campbell 1967:114–115)

Another account of the area comes from an early visitor, George Mathison, who mentions numerous agricultural fields and fishponds:

We passed over a long cultivated plain, varied by occasional ravines, for a distance of twenty miles, and about two o'clock reached Pearl River, so called from the pearls which are found in small quantities in its bed...The sea here forms a small bay, which has the appearance of a salt-water lake, being landlocked on every side except at the narrow entrance. Two or three small streams, too insignificant to merit the appellation of rivers discharge their united waters into the bay, which is full six miles in length and two in breadth. The adjoining low country is overflowed both naturally and by artificial means, and is well stocked with tarow-plantations [sic], bananas, etc. The land belongs to many different proprietors; and on every estate there is a fish pond surrounded by a stone wall, where the fish are strictly preserved for the use of their rightful owners, or tabooed, as the natives express it. One of the particularly large dimensions belongs to the King. (Mathison 1825:416–417)

Māhele Land Tenure

The change in the traditional land tenure system in Hawai'i began with the appointment of the Board of Commissioners to Quiet Land Titles by Kamehameha III in 1845. The Māhele took place during the first few months of 1848 when Kamehameha III and more than 240 of his chiefs worked out their interests in the lands of the Kingdom. This division of land was recorded in the Māhele Book. The King retained roughly a million acres as his own as Crown Lands, while approximately a million and a half acres were designated as Government Lands. The Konohiki Awards amounted to about a million and a half acres, however title was not awarded until the konohiki presented the claim before the Land Commission.

In the fall of 1850 legislation was passed allowing citizens to present claims before the Land Commission for parcels that they were cultivating within the Crown, Government, or Konohiki lands. By 1855 the Land Commission had made visits to all of the islands and had received testimony for about 12,000 land

claims. Ultimately between 9,000 and 11,000 kuleana land claims were awarded to kama‘āina totaling only about 30,000 acres and recorded in ten large volumes.

The narrow and steep mauka portion of the ahupua‘a of Kalauao was divided into two sections separated by Kalauao Stream. The section of the ahupua‘a west of Kalauao Stream was awarded to Laura Kanaholo Kōnia, a high chiefess and the mother of Bernice Pauahi Bishop, under LCA 5524/Royal Patent (RP) 1963. The section east of Kalauao Stream was awarded to Captain John Meek, a friend and trusted advisor of the ali‘i, under LCA 591/RP 5705. According to the Kipuka Database (n.d.), approximately 50 LCAs were awarded in the coastal plains of the makai portion of the ahupua‘a, which was more suitable for habitation and the cultivation of taro than the upper reaches of the ahupua‘a. The Kipuka Database (n.d.) and Waihona ‘Aina Database (n.d.) further indicate a portion of LCA 2494:1/RP 8145, which was awarded to Julia Kekoa in 1902, was partially located within the northern part of the current project area.

The Kipuka Database (n.d.) and Waihona ‘Aina Database (n.d.) provide information on six additional LCA awards that were recorded in the immediate vicinity of the project area (see Figure 2). Table 1 identifies the claimant, ahupua‘a, as well as the number of ‘āpana and acreage included in each award. Uses for the parcels include lo‘i, kula, and habitation. An unnamed fishpond was also mentioned in Māhele testimony as associated with Julia Kekoa’s award (Waihona ‘Aina Database, n.d.).

Table 1. LCA Awards Within and Adjacent to the Project Area

LCA /RP	Claimant	Ahupua‘a	Description
2494/8145	Julia Kekoa	Kalauao	4 ‘āpana, 4.538 acres
6156 B/745	Mahoa	Kalauao	2 ‘āpana, 2.23 acres.
9400/449	Kaoio	Kalauao	2 ‘āpana, 1.545 acres
9297/749	Kanikela	Kalauao	1 ‘āpana, 0.73 acres
5840 and 9308/755	Kuohao	Kalauao	2 ‘āpana, 1.32 acres [Kuohao received 2 awards for one LCA (Kipuka Database n.d.)]
5524/1963	Laura K. Kōnia	Kalauao	Western portion of the ahupua‘a
5581/6799	Kalaimanuia	Kalauao	2 ‘āpana, 0.58 acres
591/5705	John Meek	Kalauao	1 ‘āpana, 1,300 acres (eastern portion of the ahupua‘a)

Historic Kalauao: 19th and 20th Centuries

The agricultural industry on O‘ahu steadily expanded through the 19th century from expansive tracts of traditional lo‘i that were gradually replaced by the large-scale commercial cultivation of sugarcane and rice by the 1850s. While there were abundant water resources available for irrigation in the Pearl Harbor area, it was not until 1879 when the first artesian well was drilled in ‘Ewa that the commercial agriculture industry was able to realize its full economic potential (Condé and Best 1973:278).

Sugar Cultivation and the Plantation Era

Sugarcane was first commercially cultivated in Kalauao during the 1850s, on the estate of J.R. Williams, where the enterprise was then known as the Honolulu Sugar Company. The plantation stretched east across the inland valleys and foothills of Waimalu through Kalauao, with the mill and refinery located in ‘Aiea (Condé and Best 1973:313; Figure 5). Undeveloped land in the upper reaches of Kalauao Valley



Figure 5. Map showing lands within the Honolulu Sugar Plantation (From Condé and Best 1973:331).

would have required extensive modifications to the landscape, including the removal of native forests, diversion of streams, grading, and implementation of plantation infrastructure like irrigation ditches, wells, and pumping stations. Worker barracks were constructed, hospitals were built, and an extensive transportation network was established, as described by a San Francisco Chronicle article in 1910:

The most modern devices for the economic handling of cane are used on this plantation. There are thirty-six miles of main railroad and seven miles of portable track, with four locomotives and 500 cane cars. The capacity of the mill is 900 tons of raw sugar a week and 1100 tons of cane a day. This is the only mill in the islands that turns out refined sugar, and it supplies that commodity which is used in the pineapple canneries. The mill is equipped with all kinds of auxiliary shops. (*San Francisco Chronicle* 1910 in Condé and Best 1973:328)

In 1900, a change in ownership in the Honolulu Sugar Company caused a name change to the Honolulu Plantation Company. This latter enterprise constructed the sugar mill and refinery in ‘Aiea mentioned above. It was a prosperous operation and helped create Old ‘Aiea Town, which served as the hub for the community. The ‘Ewa Plain was being used for sugar production by the early 1900s, with plantations extending from the Pearl Harbor area to the current site of the Honolulu International Airport. In 1901, a narrow-gauge railway was constructed to transport cane from the fields to the Aiea Sugar Mill. However, loss of lands during the construction of U.S. military infrastructure and the U.S. involvement in WWII, in 1947, caused the Honolulu Plantation Company to sell all remaining assets to the Oahu Sugar Company (Condé and Best 1973:330).

Rice Cultivation

In the 1850s, during the same period sugar agriculture was developing in Hawai‘i, the commercial cultivation of rice was also beginning. The demand for rice directly coincided with increasing Chinese immigration, which created a domestic market for rice cultivation and sales. Horticulturalists from the Royal Hawaiian Agricultural Society began experimenting with growing rice in Hawai‘i. Following successful harvests, rice cultivation was promoted by the society and the Hawaiian Government as a promising commercial endeavor (Coulter and Chun 1937). Hawaiians living in the wetter parts of Hawai‘i were encouraged to convert their taro lo‘i into rice paddies:

Considerable effort has been made to induce the natives to be more industrious to cultivate the soil and particularly to try to [sic] the cultivation of rice...Foreigners too have begun the culture of rice in this district extensively and it was hoped their example would stimulate the natives to cultivate their own lands, but most of them choose to hire themselves to the foreigners at low wages and put their lands in the hands of the foreigners for a few dollars rather than cultivate or improve it themselves. (Mission Station Report 1862 in Devaney et al. 1982:49)

Chinese immigrants turned to rice farming after their plantation contracts were completed. These farmers typically leased small plots or formed hui with other farmers to acquire large tracts of land. The availability of former taro lo‘i was reflected in the decreased demand for taro as a food staple due to the declining Native Hawaiian population. Rice paddies began to replace the former lo‘i and were expanding within the lowlands of Pearl Harbor. Former taro lands were expanded and modified, and unused marsh and swamp land was easily converted into rice fields. Approximately 135 acres were cultivated in neighboring Waimalu, and 262 acres were under cultivation in Waiawa, Mānana, and Waiuu (Coulter and Chun 1937). The commercial rice industry at its height (1880–1920) had become dominated by Chinese companies who controlled most aspects of the rice industry. Due to the U.S. annexation of Hawai‘i, rice cultivation began to decline after 1920 because the U.S. limited the number of Chinese immigrants allowed in Hawai‘i, which was a primary source of labor for rice farms. In addition, rice cultivation in California was increasing, which thereby eliminated an important export market (Devaney et al. 1982).

The Oahu Railway and Land Company (OR&L)

The concept for a railroad that circumnavigated the island of O‘ahu was developed by B.F. Dillingham. His company, the Oahu Railway and Land Company (OR&L) was established in 1889. While the construction of the OR&L railroad was instrumental in aiding the transport of agricultural products for import/export, Dillingham’s true motivation for creating the railroad was to connect outlying areas of O‘ahu to stimulate development of lands owned by his business partners and himself. During the first year of construction, the railroad was capable of transporting passengers and freight from Honolulu Harbor to Pearl Harbor. By 1890, the railroad reached Pearl City, then reached Wai‘anae by 1895, then Waialua by 1898 and Kahuku by 1899 (Kuykendall 1967). As Dillingham had intended, the railroad contributed to the development of Pearl City where a residential subdivision was planned:

...one of [Dillingham’s] devices to build railway traffic during the first years of the struggling Oahu Railway and Land Company. Newspapers in 1890 carried numerous announcements of the “great land sale of Pearl City lots” at public auction, with special excursion rates on the new railway. Lots were sold with a guarantee that O.R. and L. would transport buyers and their families between Pearl City and Honolulu for nine years at one cent per mile, second class. (Johnson 1956)

The OR&L also founded the Loch View Cemetery in 1900. The cemetery offered burial packages for the indigent, such as the opening and closing of graves and use of a funeral car from a depot in Iwilei that would deliver the casket to the cemetery. The cemetery was divided into sectors by religion, which was customary at that time (Chiddix and Simpson 2004:49).

With the introduction of the electric streetcar and increasing use of automobiles in the 1920s, the OR&L operations and profits began to decline (Chiddix and Simpson 2004). However, in the years preceding and during WWII, the OR&L saw a temporary jump in operations and profits as the U.S. military used the railroad to transport materials, equipment, and troops to areas where military operations and installations were expanding. After the 1941 attack on Pearl Harbor, trains were running 24 hours per day, 7 days a week to support wartime transportation and shipping needs. However, with the end of the war in 1945, use of the OR&L railroad again began to decline. The railroad suffered the transition between near-constant war time operations to nearly no demand seemingly overnight, and W.F. Dillingham, son of B.F. Dillingham, realized that the OR&L needed to cease operations in 1946:

The sudden termination of the war with Japan changed not only the character of our transportation, but cut the freight tonnage to a third and the passenger business to a little above the pre-war level. With the increased cost of labor and material and the shrinkage in freight tonnage and passenger travel, it was definite that the road could not be operated as a common carrier. With no prospect of increased tonnage, and the impossibility of increasing rates against truck competition, your management has applied to the Interstate Commerce for authority to abandon its mainline. (W.F. Dillingham in Chiddix and Simpson 2004:257)

Commercial service of the OR&L was discontinued in 1946, and shortly thereafter nearly 150 miles of track were disassembled, and operations infrastructure was either scrapped or sold. However, in 1947, one section of railroad from the Naval ammunitions’ storage magazines at Lualualei to the Pearl Harbor Naval Base was retained by the U.S. Navy for the transport of materials and equipment between the two bases of operation (Treiber 2005).

Pearl Harbor Military Development

Another major factor in shaping historic-era Kalauao was the buildup of the American military. The overthrow of the Hawaiian government by mostly foreign businessmen backed by the U.S. military, in 1893, and the subsequent supposed annexation of Hawai‘i by the U.S. in 1898 set the scene for permanent American presence. It should be noted that the typical narrative which chronicles the U.S. annexation is

not a narrative that is accepted by all. Another equally recognized narrative explains that the overthrow of the monarchy was illegal and not accepted by large segments of both the Hawaiian and American populations at the time, and therefore Hawai'i has been under a prolonged American military occupation since then. Still, following the war with Spain in the Philippines, and worried by the expansion of Japanese influence, the U.S. viewed Hawai'i's geographic location as extremely strategically valuable. Pearl Harbor, formerly known as Pu'uloa, was selected to base American naval forces.

Discovery of the harbor in 1789 is credited to Captain Nathaniel Portlock (Clark 2002). Foreigners to Hawai'i have long recognized the potential in Pearl Harbor as a military base of operations, but it was not until the Act of Annexation in 1901 when the U.S. Government retained 1,356 acres of land surrounding Pearl Harbor that the area was actively utilized for military activities. Pearl Harbor was dredged deep enough to allow for large warships to enter, with the dredging conducted by W.F. Dillingham beginning in 1903. Authorization for the establishment of the Pearl Harbor Navy Yard was given in 1908 and within the next few years, dredging of the channel and construction continued.

Heightened tension in the Pacific during the 1930s caused the expansion of military infrastructure at Pearl Harbor and around the island. In the years leading to the U.S. involvement in WWII, coordination between civilian interests and the U.S. military became commonplace. For instance, in 1940 and 1941, the 64th Coast Artillery (Anti-Aircraft) Regiment received blanket permission for use of lands from the Honolulu Plantation Company which allowed them to utilize all land and roads surrounding Pearl Harbor (Spalding 1945).

Pearl Harbor is most remembered for the air raid by the Imperial Japanese Navy on December 7, 1941, which launched the U.S. into WWII. After the attack on Pearl Harbor, additional infrastructure was needed to double the war effort in and around the harbor. In addition to the reconstruction of destroyed facilities, a new ammunition depot was built in Waipahu, a hospital in 'Aiea, and the Naval Yard was improved to hold additional aircraft carrier forces (Woodbury 1946). By 1944, the U.S. government acquired approximately 2,400 acres of land surrounding Pearl Harbor for military use during the war effort (Allen 1999). Following the end of WWII, much of the infrastructure was retained, but some of the former military complexes were repurposed for other public uses. A new hospital to treat Hansen's Disease patients, Hale Mohalu (House of Comfort), was established in one such complex to replace Kalihi Hospital that was in use since 1865 (Tayman 2005). By the mid-1900s, the imposition of the American military in Pearl Harbor irretrievably destroyed traditional Hawaiian management systems of the land and sea resources of the area.

The harbor itself is comprised of East Loch, Middle Loch, and West Loch, all of which have restricted access. The part of East Loch that is situated to the east of Moku'ume'ume (Ford Island) is known as Southeast Loch. In 2010, the Navy Yard integrated with the nearby U.S. Hickam Air Force Base to create Joint Base Pearl Harbor-Hickam (JBPHH), which is the command center of the U.S. Pacific Fleet. Pearl Harbor is still in active use by the U.S. military. In 1964, Pearl Harbor was deemed a National Historic Landmark District, State Inventory of Historic Places (SIHP) 50-80-13-9992 and placed on the National Register of Historic Places (NRHP). The *USS Arizona*, *USS Bowfin* and *USS Utah*, located within the harbor, are also considered National Historic Landmarks.

Historic Maps and Photographs

Historic maps help to paint a picture of Kalauao in years past and illustrate the changes that have taken place in the region. This section presents a selection of five maps from the 19th and 20th centuries that provide insight to the project area and surrounding region.

The earliest map identifies the locations of Loko Pa'aiau, Loko Opu, and Loko Pa'akea (Lyons 1873; Figure 6). The word "Monument" is written along the Loko Opu wall, although it is unclear to what this

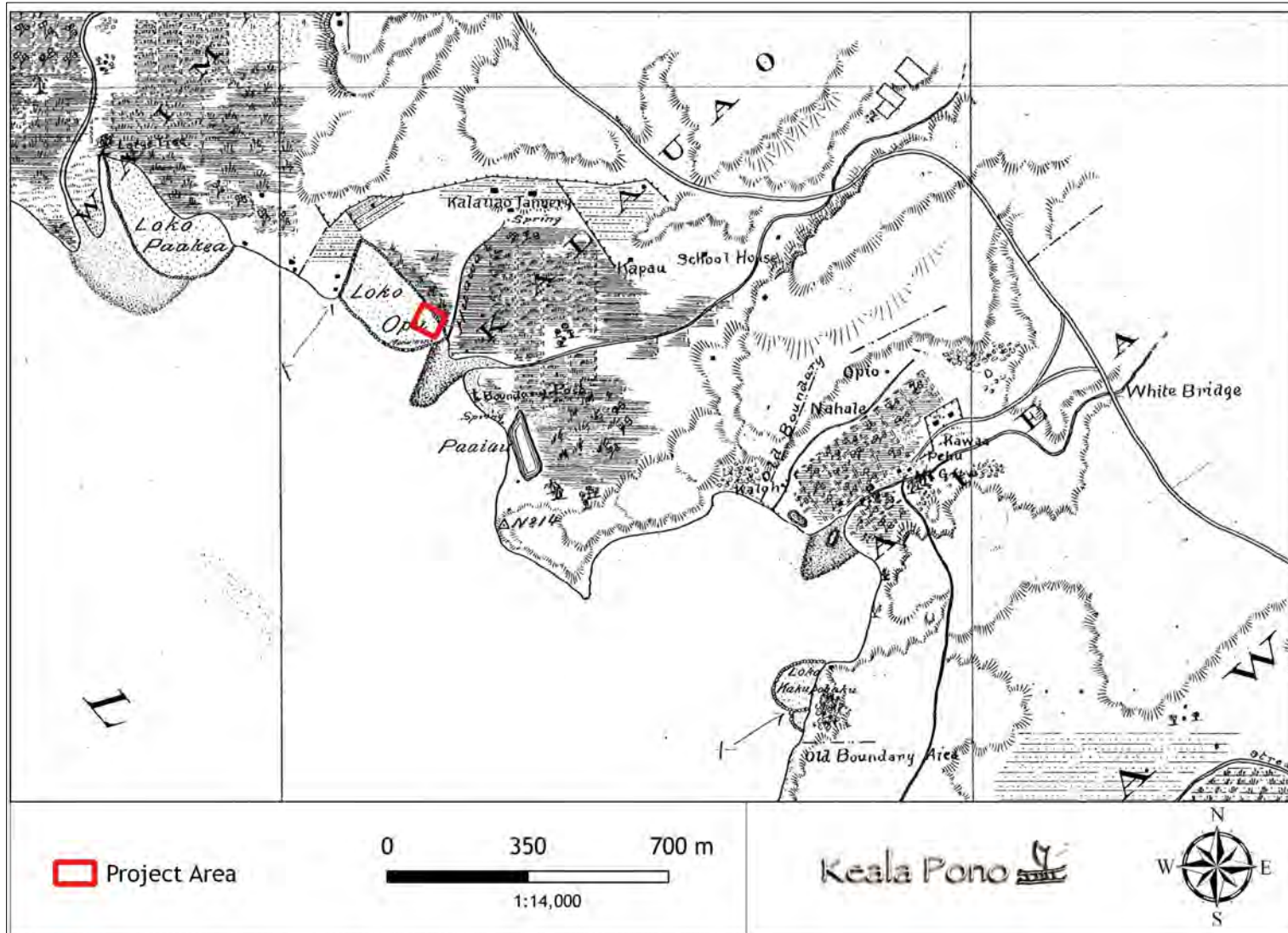


Figure 6. Portion of a Pearl Harbor (Lyons 1873; R.M. 1639).

refers to. This map also shows the current project area as being located almost entirely within the eastern portion of Loko Opu Fishpond. A spring and wetlands are also identified. Several structures, including a schoolhouse, a tannery, and possible house structures are shown in the upper portion of Kalauao Ahupua‘a, suggesting the area was well-settled by the late 1800s. Government Road is drawn as crossing through the ahupua‘a and a tannery is located in Kalauao, near a spring and among dryland fields.

A map of Oahu’s Pearl Lochs depicts the lands surrounding Kalauao in 1897 (Nichols 1897; Figure 7). The map shows that the vicinity of the project area is cultivated in rice, with a rice mill located to the west. The tannery is still in operation at this time, and a windmill is located nearby. Loko Pa‘akea and Loko Opu are labeled, but Loko Pa‘aiua is illustrated with no name. A few structures are scattered at the coastline between Loko Pa‘akea and Loko Opu. The OR&L railroad is depicted as a solid line extending across the coastal area. Of note is that the project area is also shown as mostly within the eastern portion of Loko Opu.

A 1902 map (Wall 1902; Figure 8) illustrates land use across O‘ahu and shows the Honolulu Plantation as stretching across several ahupua‘a, including Kalauao. By this time, the U.S. Navy Reservation had been established, and what is now known as Ford Island is labeled as “Ford’s Is (Moku Umeume) to Waimalu.” The larger LCAs are noted, including LCA 5524, which was awarded to the high chiefess Laura Kanaholo Kōnia, in the western half of Kalauao. Pearl City is shown to be a thriving center by the early 1900s. The red outlined area on the map designates sugar plantations, and the project lies within these lands. The yellow outline signifies grazing lands, and the blue outline is for forest reserves. The diagonal blue pattern seen towards the coast shows the approximate area of wetlands used for rice and taro.

The next map identifies the numerous fisheries in the Pearl Harbor area, as well as Loko Pa‘aiua, Loko Opu, and Loko Pa‘akea (Monsarrat 1913; Figure 9). This map also places the current project area within the eastern section Loko Opu and shows the “Oahu Rail Road” skirting the coastline. Just offshore of the study parcel is Kaonohi Fishery, while the outer waters fall in the Kalauao Fishery owned by the government.

The final map shows the extent of the expansive Honolulu Sugar Company cane fields (Taylor 1910–1925; Figure 10). Loko Pa‘akea and Loko Opu are labeled, while Loko Pa‘aiua is simply labeled as “Loko.” Many more structures are now shown, as well as numerous LCA plots and large privately owned tracts of land associated with foreign names such as McCandless, Damon, and McGrew. The plantation railway and the Government Road are also depicted in Kalauao. Of note, LCA 5524 and Loko Opu are shown as partially within the current project area.

Previous Archaeology

Many archaeological studies have been conducted in the vicinity of the project area, although no prior archaeological work has been done within the current study area. The following discussion provides brief summaries of the findings of previously conducted archaeological projects located approximately 1 km from the current study parcel (Figure 11; Table 2). Previously documented archaeological sites with known locations are shown on Figure 12. The reports selected were based on availability from the SHPD library in Kapolei and are discussed in chronological order.

The earliest archaeological investigation on the island of O‘ahu consisted of an island-wide survey conducted by J.G. McAllister (1933), under the auspices of the Bernice Pauahi Bishop Museum. Four of the sites identified during this survey are in the vicinity of the current project (McAllister 1933:103):

- **Site 108 – Loko Pa‘aiua (SIHP 50-80-09-108)** measured 190 by 600 ft., was rectangular in plan, and had one mākāhā. Three sides of the fishpond were adjoined to

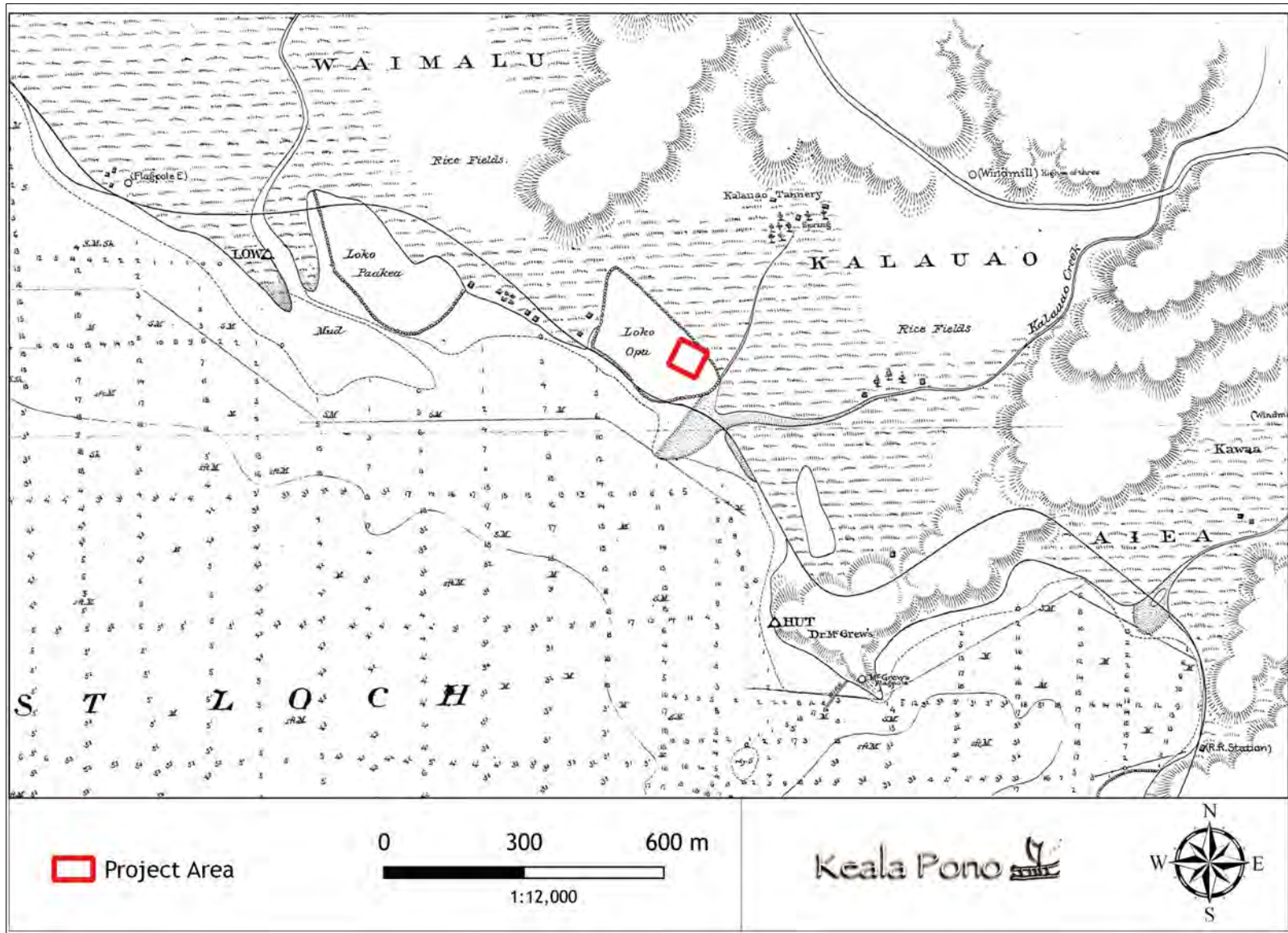


Figure 7. Portion of a map of the south coast of O'ahu (Nichols 1897; RM 1919).

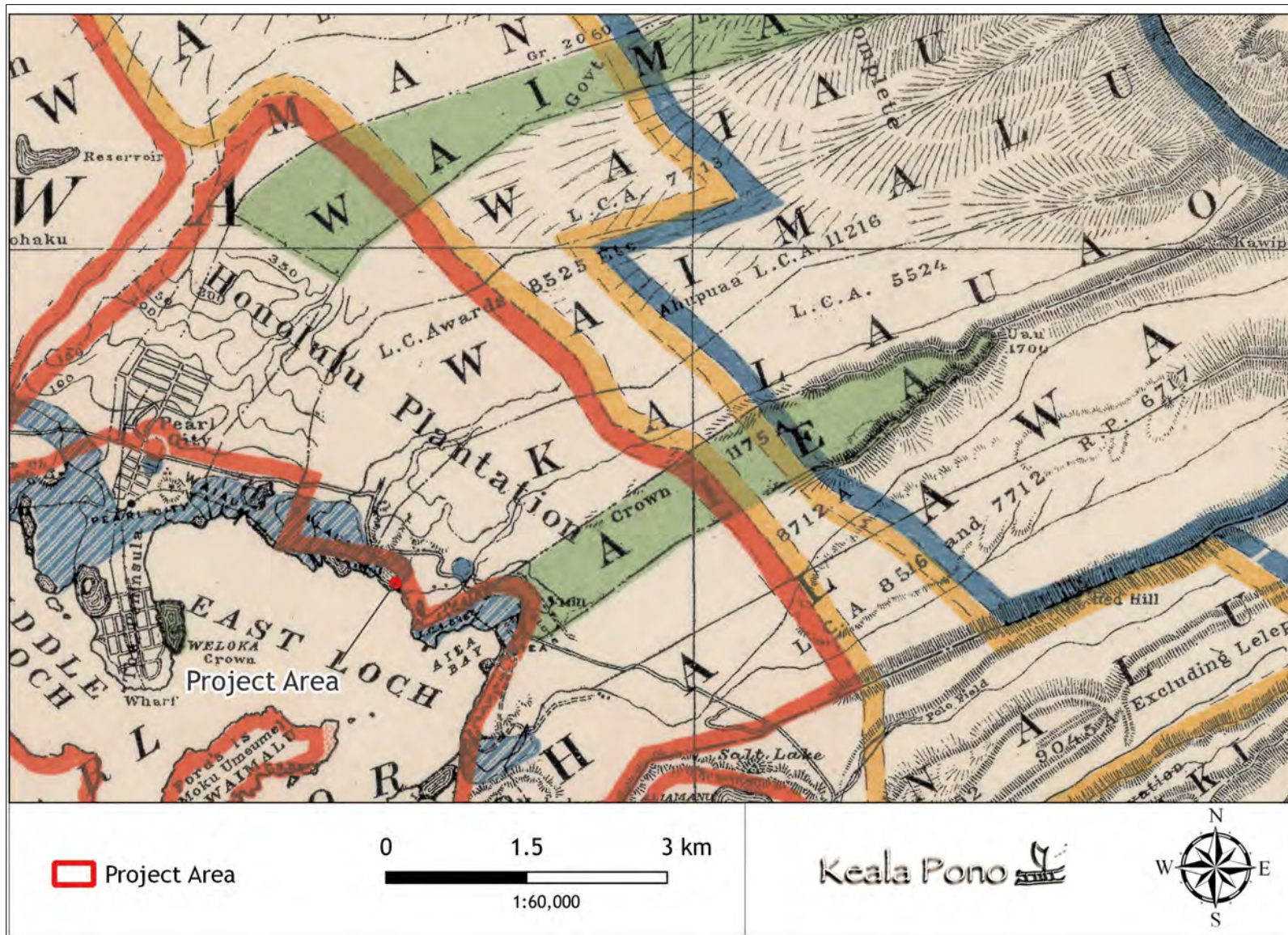


Figure 8. Portion of a Hawaii Territory Survey O'ahu map (Wall 1902).

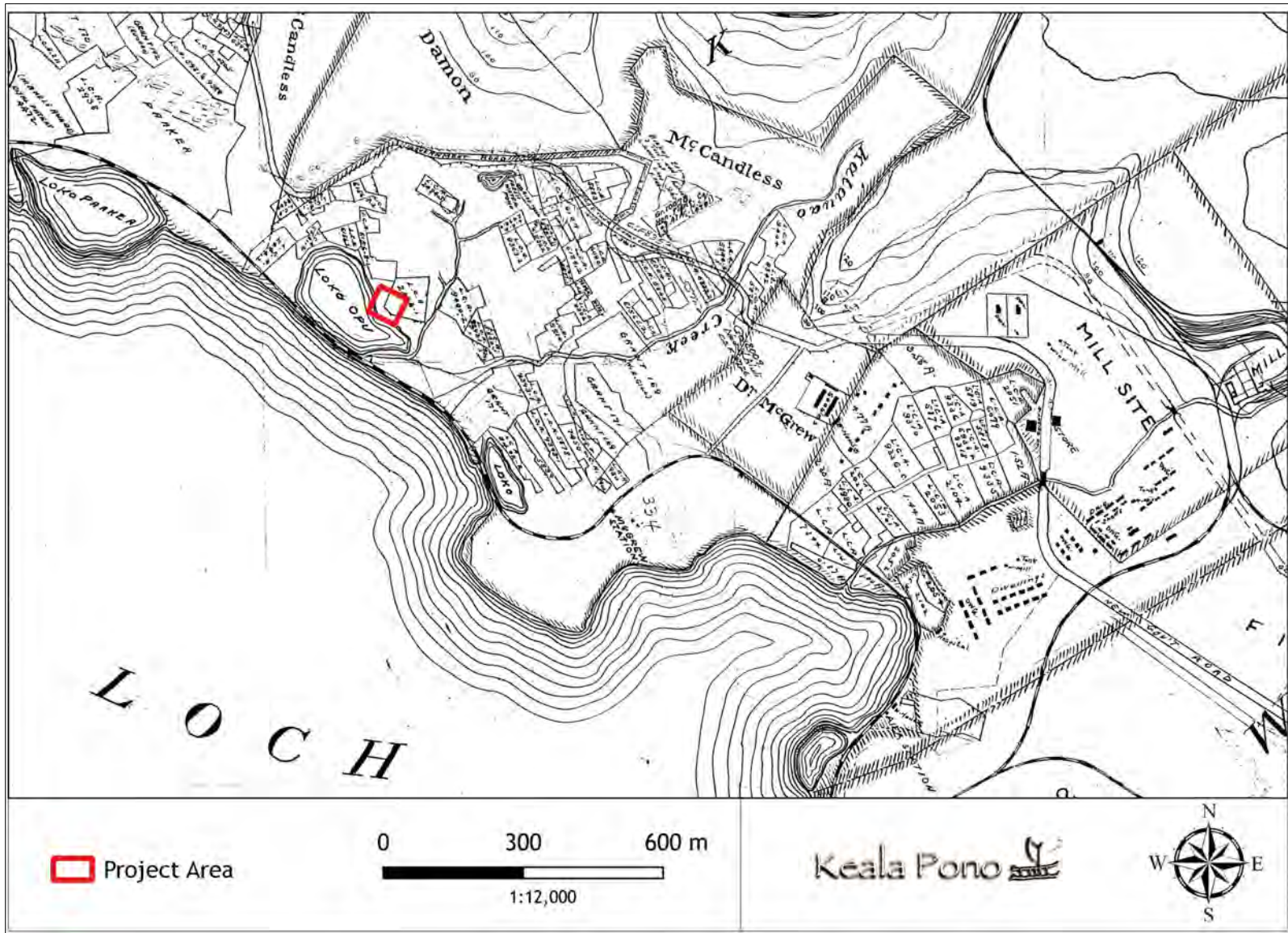


Figure 10. Portion of a map of Honolulu Sugar Co. property (Taylor 1910-1925; RM 2643).

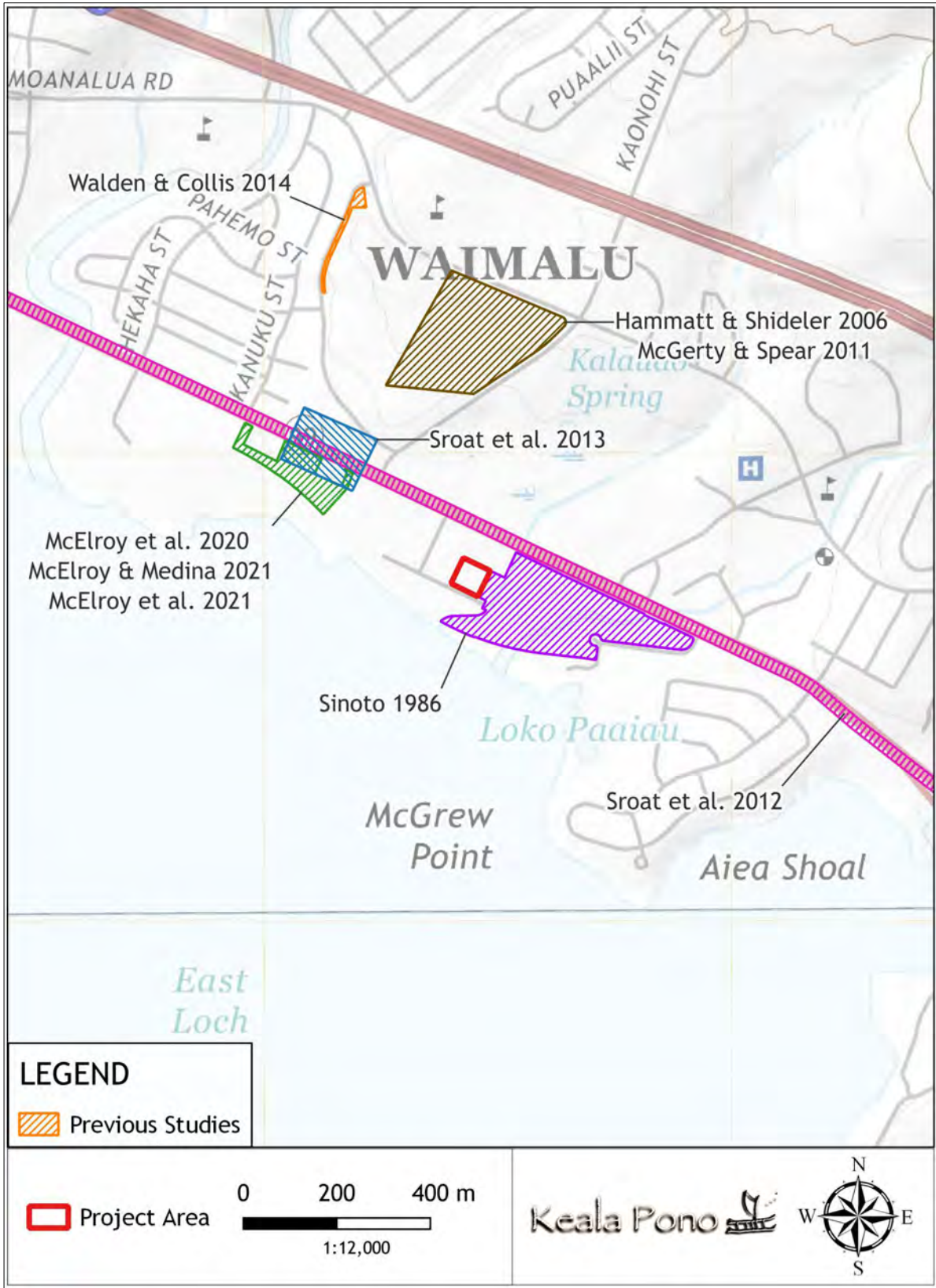


Figure 11. Previous archaeological studies in the vicinity of the project area.

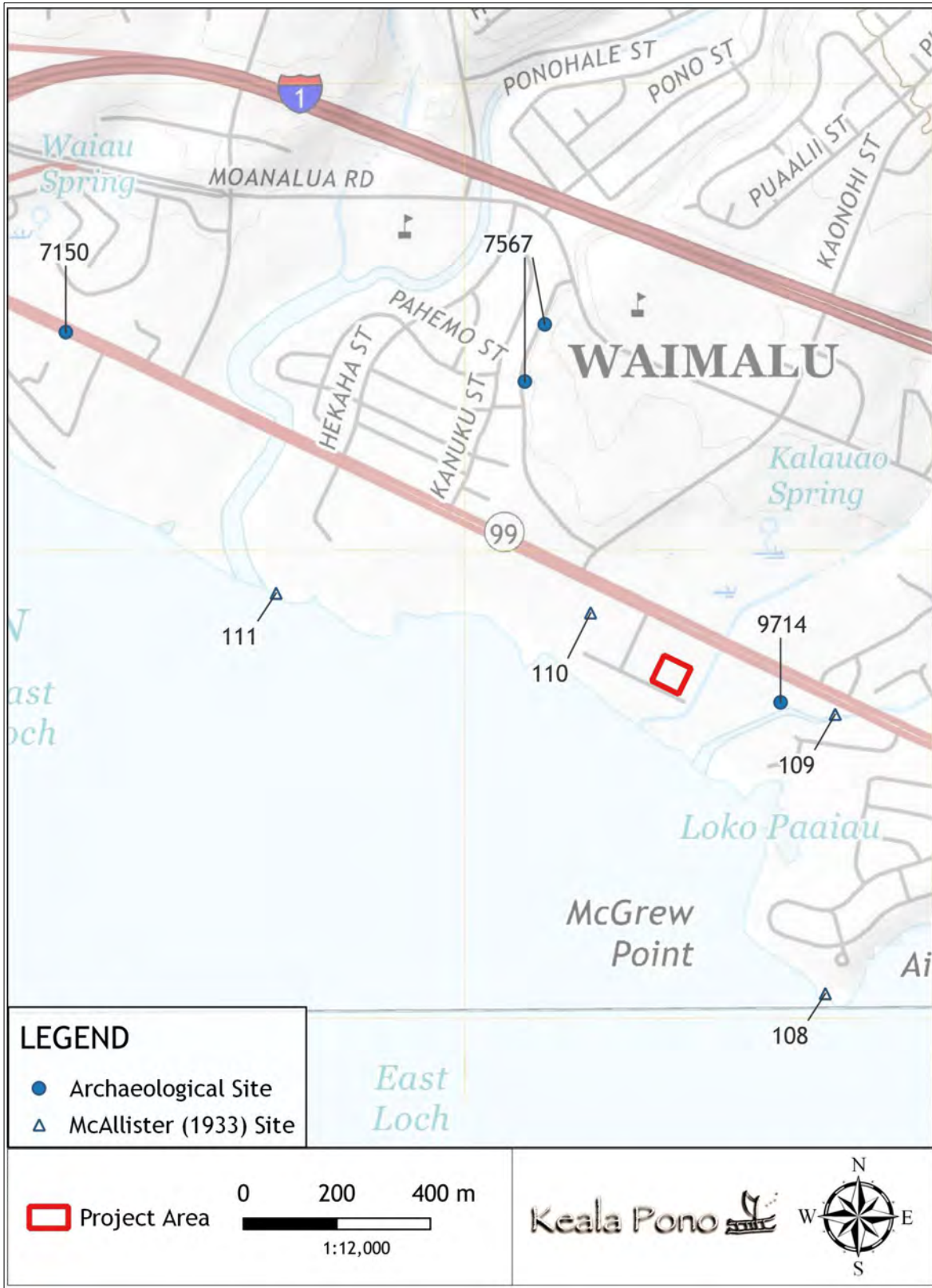


Figure 12. Previously identified archaeological sites in the vicinity of the project area.

Table 2. Previous Archaeological Studies in the Vicinity of the Project Area

Author and Year	Location	Type of Study	Results
McAllister 1933	Island-wide	Archaeological Survey	Documented three fishponds: Loko Pa‘aiiau (SIHP 108), Loko Opu (SIHP 109), and Loko Pa‘akea (SIHP 111) as well as Kuki‘iahu, the home of chiefess Kalaimanuia, in the area. SIHP 109 is located within the current project area.
Sinoto 1986	Kalauao	Archaeological Survey	Identified SIHP 50-80-12-9714, an OR&L Railroad remnant.
Hammatt and Shideler 2006	Kalauao	Literature Review and Field Inspection	No new historic properties were identified.
McGerty and Spear 2011	Kalauao	Cultural Impact Assessment	No concerns pertaining to traditional cultural practices or resources were documented.
Sroat et al. 2012	Kamehameha Hwy.	Archaeological Inventory Survey	Identified SIHP 50-80-09-7150, a lo‘i deposit.
Sroat et al. 2013	Kamehameha Hwy.	Supplemental Archaeological Inventory Survey	No new historic properties were identified.
Walden and Collins 2014	Moanalua Lp.	Archaeological Inventory Survey	Two Historic (mid-1950s) concrete culverts were identified (SIHP 50-80-09-7567).
McElroy et al. 2020	Waimalu	Cultural Impact Assessment	Interviewees mentioned three archaeological sites: one of the first churches in the region, an unbreakable stone, and a heiau in Hālawā.
McElroy and Medina 2021	Waimalu	Literature Review and Field Inspection	No new historic properties were identified.
McElroy et al. 2021	Waimalu	Archaeological Inventory Survey	No new historic properties were identified.

the land where the pond was demarcated by a basalt wall roughly 2 ft. tall. The ocean side of the pond was delineated by a wall that measured 3–4 ft. wide and 2 ft. tall. The pond was watered by the freshwater sources that fed the surrounding taro patches. It was said to have been built by chiefess Kalaimanuia.

- **Site 109 – Loko Opu (SIHP 50-80-09-109)** covered 10.5 ac. and was enclosed by a 2,700 ft.-long wall. The fishpond was also said to have been built by chiefess Kalaimanuia.
- **Site 110 – Kuki‘iahu (SIHP 50-80-09-111)** was the home of chiefess Kalaimanuia, who was said to have built Loko Pa‘aiiau, Loko Opu, and Loko Pa‘akea. Kuki‘iahu was also the location of the Battle of Kuki‘iahu (see Subsistence and Traditional Land Use and Mo‘olelo sections).
- **Site 111– Loko Pa‘akea (SIHP 50-80-09-111)** was a large fishpond formerly located on the eastern side of Waimalu Stream and was said to have been built by chiefess Kalaimanuia, who lived just east of the pond. McAllister recorded this site as covering 12 ac., with a basalt and coral wall that was 850 ft. long, 6 ft.

wide, and 4 ft. high with one mākāhā. One smaller, adjoining fishpond was recorded, which was thought to be recent at the time.

More recently, an archaeological surface survey was conducted in support of the Pearl Promenade Project, near Pearlridge Shopping Center (Sinoto 1986). One historic property was identified, a remnant of the OR&L Railroad right-of-way (SIHP 50-80-12-9714). No traditional cultural resources were identified, as the entire area was filled in and graded. No further archaeological work was recommended.

Hammatt and Shideler (2006) completed an archaeological literature review and a field inspection for the Kamehameha Drive-In, located in Kalauao Ahupua‘a. No new historic properties were identified. In sum, the authors stated:

It seems very unlikely that there were ever any significant subsurface cultural deposits related to habitation or significant paleoenvironmental data to be found within the project area. Anything of cultural interest as may have been present would likely have been destroyed by decades of commercial sugar cane cultivation and the grading associated with the establishment of the Kamehameha Drive In. (Hammatt and Shideler 2006:32)

Subsequently, McGerty and Spear (2011) prepared a cultural impact assessment of lands previously associated with the Kamehameha Drive-In, in Kalauao Ahupua‘a. No traditional cultural practices or cultural resources were identified.

An archaeological inventory survey was conducted in support of the Construction Phase 2 of the proposed Honolulu High-Capacity Transit Corridor (Sroat et al. 2012). One historic property (SIHP 50-80-09-7150) was identified within Test Trench E7, which is to the northwest of the current project. SIHP 7150 was described as consisting of two cultural deposits containing charcoal and decomposing organic material consistent with former lo‘i soils. The deposits were identified within LCA 9385, which was historically documented as containing lo‘i. Radiocarbon dating of charcoal samples recovered from Stratum IIIa yielded two date ranges of AD 1430–1530 and 1540–1635. Stratum IIIb yielded a date range of AD 1414–1480. The following year, a supplemental AIS was conducted in support of the Pearlridge Station for Phase 2 of the proposed Honolulu High-Capacity Transit Corridor (Sroat et al. 2013). An additional three test trenches were excavated, and no remnants of SIHP 7150 or any other historic properties were identified within any of the three trenches.

An archaeological inventory survey was required for proposed rockslide mitigation measures and improvements adjacent to Moanalua Loop, in Waimalu Ahupua‘a (Walden and Collins 2014). The survey resulted in the identification of two historic concrete culverts (SIHP 50-80-09-7567). The culverts dated to the mid-1950s and were interpreted as having served as drainages.

A cultural impact assessment was completed for a proposed bus transfer station near the current Best Buy property in Waimalu (McElroy et al. 2020). Interviewees mentioned three archaeological sites: one of the first churches in the region, an unbreakable stone, and a heiau in Hālawa. Subsequently, McElroy and Medina (2021) prepared a literature review and field inspection report for the same project. No new historic properties were identified. An archaeological inventory survey was also conducted for the bus transfer station project (McElroy et al. 2021). The survey yielded negative findings.

Summary and Anticipated Finds

During the pre-contact period, Kalauao Ahupua‘a produced valuable resources to sustain its inhabitants. Kalo was cultivated in the marshy coastal lowlands and along major waterways. Three

loko were in the project vicinity: Loko Pa‘aiuu, Loko Opu, and Loko Pa‘akea. Historic maps show the project area as located within the boundaries of Loko Opu. These fishponds have long-since been filled-in, along with the surrounding lo‘i and rice lands, and developed with modern roads and buildings. A portion of LCA 2494, which was awarded to Julia Kekoa, is shown on historic maps and the Kipuka (n.d.) database, as extending into the northern portion of the current study parcel.

In the post-contact era, sugar cultivation was a driving force for the economy. Extensive cane fields, mills, ditches, the OR&L railroad, and other infrastructure forever changed the ‘Ewa landscape. The rice industry also became a profitable endeavor, particularly for Chinese immigrants looking to make their way in Hawai‘i. According to historic maps, the vicinity surrounding the current project area was not cultivated in rice until at least the late-19th century. Not much remains in Kalauao of the sugar industry today, but remnants of the OR&L railroad can still be found.

The findings of previous archaeological studies conducted within 1 km of the current project support the archival research. The archaeological studies resulted in the identification of three sites in the vicinity of the subject property: SIHP 7150, lo‘i deposits; SIHP 9714, an OR&L remnant; and SIHP 7567, two historic drainage culverts. Loko Opu (McAllister Site 109/SIHP 109) has been shown on historic and modern maps as partially located within the current project area, but has since been filled in. While not in proximity to the current project area, Kuki‘iahu (McAllister Site 110), the site of the home of chiefess Kalaimanuia and the site of a famous battle, is of cultural and historical significance to the area in general.

The entire subject property is a developed, built environment and has undergone extensive previous disturbance. Thus, it is not likely that any surface archaeological features remain. Nevertheless, archival and previous archaeological research suggest the potential for cultural materials or deposits to be present in subsurface context on the subject property. The cultural materials and deposits likely to be encountered may include remnants of agricultural activity (e.g., pond field deposits and other features associated with lo‘i, rice paddies, and/or sugarcane cultivation and infrastructure), remnants of Loko Opu (e.g., anaerobic deposits and remnants of the fishpond wall), past habitation (e.g., cultural layers and materials associated with LCA 2494), and vestiges of the OR&L railroad.

FIELD INSPECTION

An archaeological field visit was conducted on June 8, 2023 by Keala Pono archaeologist Tiffany Brown, BA. The entire project area that did not contain existing structures was walked to determine if there are any surface archaeological remains present and which areas of the property might have a likelihood of supporting archaeological features and historic properties.

The parcel contains an existing apartment complex of six three-story buildings and an asphalt parking lot to the west of the complex known as the PepperTree Apartments (Figure 13). These structures were constructed in 1970, and are therefore considered a historic property. Cement walkways surrounded by grass-covered lawns adorned with cement and basalt rock lawn ornamentation connect the six buildings and parking lot (Figure 14). The property is enclosed to the east by a chain link fence which separates the property from an unassociated parking lot (Figure 15). The paved parking lot and concrete walkway cover much of the property. Similar asphalt and concrete pavements are exhibited within the neighboring properties.

Vegetation on the parcel consists mostly of landscaped grass, shrubbery, and trees along the walkway and on the south-southeast boundary along the front sidewalk (Figure 16). The vegetation present on the property is ornamental, non-native, and not due to natural growth. Aside from the buildings themselves, no surface archaeological resources were encountered during the brief field inspection. Due to the extensive development of the parcel and larger region and the negative findings of the field visit, it is unlikely that any surface archaeological resources remain within the study area.



Figure 13. Parking lot to the west of PepperTree Apartments, facing north-northeast.



Figure 14. Cement walkway connecting the six buildings of the complex, facing north.



Figure 15. Side view of PepperTree Apartments, facing east-northeast.



Figure 16. Corner view of PepperTree Apartments, facing east-northeast.

ASSESSMENT AND RECOMMENDATIONS

A literature review and archaeological field inspection were conducted for the 0.9642-ac (42,001 sq. ft.) project area located in Kalauao Ahupua‘a, ‘Ewa District, on the island of O‘ahu at TMK: (1) 9-8-014:021 in support of Hale O Lipoa, a proposed affordable residential development. The literature review consists of archival research while the archaeological field inspection entailed a walk-through and photo-documentation of the subject property. The existing six three-story structures on the project parcel that make up the PepperTree Apartments were constructed in 1970, and are therefore considered a historic property. The brief field inspection did not identify any other surface archaeological resources, as the subject property is almost entirely developed and contains an existing apartment complex, a paved parking lot, paved walkways, and modern infrastructure.

Several archaeological implications can be made based on the literature review presented above. Key data include LCA information, historical maps, the results of previous archaeological work, and other data for previous land use. The project area is a built environment, currently the site of the PepperTree Apartment complex. Given the negative findings of the archaeological field inspection, it is not likely that any surface archaeological features remain in the project area. Nevertheless, subsurface archaeological materials or deposits may be encountered during ground disturbance, given the findings of the archival research and previously conducted archaeological work in the area.

Results of Land Commission Awards Search

There are eight kuleana LCA located in the immediate vicinity of the project area, including LCA 2942, which is shown on historic and modern maps as extending into the northern portion of the project area. Māhele data indicate that these lots contained lo‘i, kula land, a house, and a fishpond. Aside from the kuleana parcels in the coastal region, the mauka portion of Kalauao Ahupua‘a was divided in half, with the western half awarded to a descendant of Kamehameha I and the eastern half awarded to a foreign-born ship captain and long-time friend of and advisor to the ali‘i.

Results of Historical Map Research

A selection of historic maps showing the southwestern coastal region of O‘ahu, dating from 1873–1925, are presented in this document. These maps illustrate the dramatic changes that took place in the region. The earliest map shows the project area to be covered in rushes, which likely indicates a marshy environment. By 1897, the project area is within and surrounded by rice lands. Three fishponds were in the project vicinity: Loko Pa‘akea, Loko Opu (which is shown on historic maps to have included the current project area within a portion of its boundaries), and Loko Pa‘aiau. These are presented from the earliest map to the latest, indicating that the ponds were not yet filled in by ca. 1925. Also in the vicinity was the OR&L railroad and the Government Road.

Knowledge from Previous Archaeological Studies

The current project area has not been subjected to any previous archaeological work and the recently conducted field inspection did not identify any archaeological materials or features on the surface besides the existing structures themselves, which were built in 1970. However, McAllister (1933) conducted an island-wide survey, which did identify a traditional fishpond (Loko Opu, McAllister Site 109/SIHP 109) that is shown on historic and modern maps to be partially located within the project area. McAllister’s survey also identified the nearby Loko Pa‘aiau (McAllister Site 108/SIHP 108) and Loko Pa‘akea (McAllister Site 111/SIHP 111). He also recorded Kuki‘iahu (McAllister Site 110), the home of chiefess Kalaimanuia and a famous battle. This culturally and historically significant area is located to the west of the project parcel.

Other archaeological studies conducted nearby support the archival research. These studies resulted in the identification of three archaeological sites: SIHP 7150, lo‘i deposits; SIHP 9714, an OR&L remnant; and SIHP 7567, two historic drainage culverts. These previously conducted studies can help inform on the kinds of subsurface archaeological resources that may be found within the current project area.

Insights on Previous Land Use

‘Ewa Moku, Kalauao Ahupua‘a, and Pu‘uloa (Pearl Harbor) were culturally significant areas, as noted in song, chant, proverb, and narrative. It was a region with many of the natural resources which supported traditional subsistence activities such as fishing and kalo cultivation. Fishponds were numerous on the shores of Pu‘uloa, and taro farming was practiced in the marshy coastal lowlands of Kalauao. Pu‘uloa was particularly important for fishing for pipi, or the pearl oyster. To date, no heiau have been identified within Kalauao Ahupua‘a. However, this does not diminish the cultural or historical significance of the area.

The 20th century saw widespread changes to the region. Commercial sugar and rice cultivation, as well as military use, significantly transformed the landscape. The OR&L railroad traversed the coast, and Pu‘uloa was developed into the Navy installation that remains today.

Results of Field Inspection

The brief field inspection consisted of a walk through of parts of the property that do not contain existing structures. Most of the parcel is developed with six three-story buildings, a paved parking lot, and paved walkways, which make up the PepperTree Apartments complex. These six structures were built in 1970 and are thus considered a historic property as they are more than 50 years old. No other surface archaeological resources were observed during the field visit. Given the negative findings of the field inspection and the extensive modern development on the parcel and surrounding area, it is not likely that any surface archaeological features remain in the project area. Nevertheless, subsurface archaeological materials or deposits may be encountered during ground disturbance, given the findings of the archival research and previously conducted archaeological work in the area.

Summary and Recommendations

A variety of cultural and historical resources may potentially be found within the project area, such as remains of agricultural activity (pondfield deposits and other features associated with lo‘i, as well as rice paddies and/or sugarcane fields and infrastructure), remnants of past habitation (cultural layers, fire pits) as well as remnants of Loko Opu (anaerobic deposits and fishpond wall remnants), and cultural materials and deposits associated with LCA 2494, which was awarded to the konohiki, Julia Kekoa, and vestiges of the OR&L railroad.

As the subject property is almost entirely developed and has undergone extensive prior ground disturbance, there is low potential for in situ traditional or historic cultural material to be present on the ground surface. However, archival and previous archaeological research suggest the potential for cultural materials or deposits to be present in a subsurface context, such as those listed above. Thus, a program of archaeological monitoring is recommended during ground disturbing construction activities. Specifics of the monitoring program will be delineated in an archaeological monitoring plan that will be approved by the SHPD before ground disturbance begins.

GLOSSARY

ahupua‘a	Traditional Hawaiian land division usually extending from the uplands to the sea.
‘aiea	The tree or shrub <i>Nothocestrum</i> , one species of which was used for fire-making and thatching poles.
ali‘i	Chief, chiefess, monarch.
‘āpana	Piece, slice, section, part, land segment, lot, district.
‘aumakua	Family or personal gods. The plural form of the word is ‘aumākua.
‘awa	The shrub <i>Piper methysticum</i> , or kava, the root of which was used as a ceremonial drink throughout the Pacific.
‘ewa	Place name west of Honolulu, used as a directional term.
heiau	Place of worship and ritual in traditional Hawai‘i.
hui	A club, association, society, company, or partnership; to join, or combine.
kahuna	An expert in any profession, often referring to a priest, sorcerer, or magician.
kalo	The Polynesian-introduced <i>Colocasia esculenta</i> , or taro, the staple of the traditional Hawaiian diet.
kama‘āina	Native-born.
kanaka	Human, person, man, Hawaiian.
kānāwai	Law, code, rule, statute, act, regulation, ordinance, decree, edict.
konohiki	The overseer of an ahupua‘a ranked below a chief; land or fishing rights under control of the konohiki; such rights are sometimes called konohiki rights.
kula	Plain, field, open country, pasture, land with no water rights.
kuleana	Right, title, property, portion, responsibility, jurisdiction, authority, interest, claim, ownership.
kupuna	Grandparent, ancestor; kūpuna is the plural form.
lo‘i, lo‘i kalo	An irrigated terrace or set of terraces for the cultivation of taro.
loko, loko i‘a	Pond, lake, pool, fishpond.
Māhele	The 1848 division of land.
mai‘a	The banana, or <i>Musa</i> sp., whose fruit was eaten and leaves used traditionally as a wrapping for cooking food in earth ovens.
mākāhā	A fishpond sluice gate.
makai	Toward the sea.
māmaki	<i>Piptarus</i> spp., a small native tree. Fiber from its bark was used to make a kind of coarse tapa. Sometimes spelled mamake in old texts.
mauka	Inland, upland, toward the mountain.
mele	Song, chant, or poem.
mele inoa	Name chant, composed to honor someone.
moku	District, island.

mo‘o	Lizard, dragon, water spirit.
mo‘olelo	A story, myth, history, tradition, legend, or record.
‘ōlelo no‘eau	Proverb, wise saying, traditional saying.
oli	Chant.
olonā	The native plant <i>Touchardia latifolia</i> , traditionally used for making cordage.
pipi	<i>Pinctada radiata</i> , the Hawaiian Pearl Oyster. In songs this is referred to as the i‘a hāmau leo o ‘Ewa, or ‘Ewa’s silent sea creature, as it was believed that speaking would cause a breeze to ripple the ocean and scare the pipi.
poi	A staple of traditional Hawai‘i, made of cooked and pounded taro mixed with water to form a paste.
post-contact	After A.D. 1778 and the first written records of the Hawaiian Islands made by Captain James Cook and his crew.
pūnāwai	Fresh water spring.
pu‘uhonua	Place of refuge.
uhi	The yam <i>Dioscorea alata</i> , commonly grown for food.
‘ulu	The Polynesian-introduced tree <i>Artocarpus altilis</i> , or breadfruit.
wao	A general term for inland areas, usually forested and uninhabited.
wauke	The paper mulberry, or <i>Broussonetia papyrifera</i> , which was made into tapa cloth in traditional Hawai‘i.

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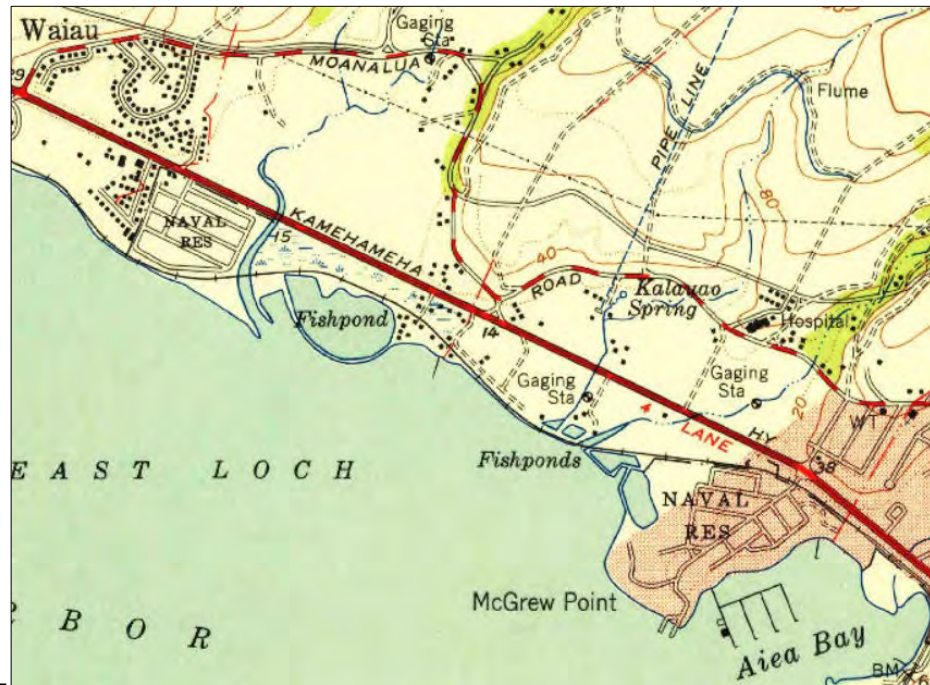
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Appendix C

FINAL— Cultural Impact Assessment for the Proposed Hale O Lipoa Development, Kalauao Ahupua‘a, ‘Ewa District, Island of O‘ahu, Hawai‘i

TMK: (1) 9-8-014:021



Prepared For:
Lipoa Development LLC
1188 Bishop Street, Suite 907
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April 2024



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**FINAL— Cultural Impact Assessment for the Proposed Hale O
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MANAGEMENT SUMMARY

Keala Pono Archaeological Consulting prepared a Cultural Impact Assessment (CIA) in advance of ground altering activities at TMK: (1) 9-8-014:021 in Kalauao Ahupua‘a, ‘Ewa District, on the island of O‘ahu. An affordable multi-family residential development is proposed for this property. This CIA was designed to identify any cultural resources or practices that may occur in the project area, determine if the proposed project will affect these resources, offer mitigation recommendations, and gain an understanding of the community’s perspectives on the proposed development. The current project area has been subjected to extensive previous disturbance by modern development and is a built environment containing the existing PepperTree Apartments complex. As the PepperTree Apartments complex was built in 1970, it is more than 50 years old and is therefore a historic property.

The background research synthesizes traditional and historic accounts and land use history for Kalauao Ahupua‘a and the greater ‘Ewa District. This region is remembered in ‘ōlelo no‘eau, mo‘olelo, and a multitude of place names and was important for its natural resources and harbor, as well as a favored residential area of ali‘i. Archival research identified the project area as once within Land Commission Award (LCA) 2494, a portion of Loko Opu (a former fishpond), and rice lands. Additional LCAs and fishponds were in proximity to the project area as well.

Community consultations were performed to obtain information about the cultural significance of the subject property and its surrounding environment, as well as identify possible concerns of community members regarding the effects of the proposed development on places of cultural or traditional importance. Interviews were completed with individuals knowledgeable about the lands within the project area and its surroundings, which produced information on its rich cultural history. Archaeological sites mentioned in the area include those related to traditional agriculture, habitation, and aquaculture.

Several concerns were voiced, including the possibility of impacting cultural practices and natural and cultural resources such as traditional agriculture and food preparation, freshwater sources, the marine environment, the reconstruction of a nearby fishpond, and the associated ecosystem. Recommendations and mitigations for this project include the following:

- acknowledge stories of the past
- implement native plant landscaping in the project
- establish a buffer between nearby cultural places, streams, and view planes
- integrate cultural elements into the project’s architecture
- contribute to cultural awareness organizations
- look for ways to allow the land and people to heal and reconnect
- build in a way that benefits the land and people
- preserve and protect groundwater

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INTRODUCTION

At the request of Lipoa Development LLC, Keala Pono Archaeological Consulting prepared a Cultural Impact Assessment (CIA) in advance of proposed construction on TMK: (1) 9-8-014:021 in Kalauao Ahupua‘a, ‘Ewa District, on the island of O‘ahu. An affordable multi-family residential development is proposed for this property. This CIA was designed to identify any cultural resources or practices that may occur in the project area, determine if the proposed project will affect these resources, offer mitigation recommendations, and gain an understanding of the community’s perspectives on the proposed development.

The report begins with a description of the study area and a historical overview of land use and previous archaeological work in the vicinity. The next section presents methods and results of the ethnographic survey. Results of the CIA are summarized and recommendations are made in the final section. Hawaiian words, flora and fauna, and technical terms are defined in a glossary. Also included are appendices with documents relevant to the ethnographic survey, including full transcripts of the interviews.

Project Location and Description

The project area is a built environment situated on TMK: (1) 9-8-014:021, a 0.96-acre (ac.) [0.38 hectare (ha.)] property owned by Ray M.T.R. Ojiri and Steve K.T.R. Ojiri. The parcel is within an existing residential and commercial area in the town of ‘Aiea (Figures 1 and 2) and contains the existing PepperTree apartments complex.

Lipoa Place forms the southern project area boundary (Figure 3). Apartment complexes, residences, businesses, and parking lots surround the parcel on the north, east, and west boundaries. The study area is situated approximately 0.1 miles (mi.) [0.11 (km)] south of Kamehameha Highway and roughly the same distance north of the Pacific Ocean and the Pearl Harbor Historic Trail. The project area sits at approximately 25 feet above mean sea level (ft. amsl.). In addition, the Pearlridge Transit-Oriented Development (TOD) Station bus transit center facility is located nearby.

The proposed project will consist of constructing a 154-unit affordable multi-family rental housing structure on the site of the existing PepperTree Apartments complex. PepperTree consists of a multi-structure apartment complex containing six three-story buildings, a paved parking lot, and paved walkways. The proposed construction will include a parking area and a management office on the ground-level floor of the proposed building, while the upper levels will contain residences ranging from studios to three-bedroom apartments. As the existing PepperTree Apartments Complex was constructed in 1970, the structures are more than 50 years old and are considered a historic property.

Physical Environment

TMK: (1) 9-8-014:021 is situated within ‘Ewa District in Kalauao Ahupua‘a. This ahupua‘a spans from the upper reaches of the Ko‘olau Mountain Range to the ocean, with Pearl Harbor marking the makai boundary. The Ko‘olau volcano is relatively old, having ceased activity approximately one million years ago (Macdonald et al. 1983:298). Pearl Harbor formed as the island of O‘ahu sank and the river valleys of the Ko‘olau Mountain submerged (Macdonald et al. 1983:424).

This is described further in the classic geological text *Volcanoes in the Sea*:

...during the Kaena (plus-29–30-meter) stand a delta of silt and sand grew into the bay near Aiea and Pearl City...Later, sea level dropped to the Waipio (minus-18-meter) level, and the streams

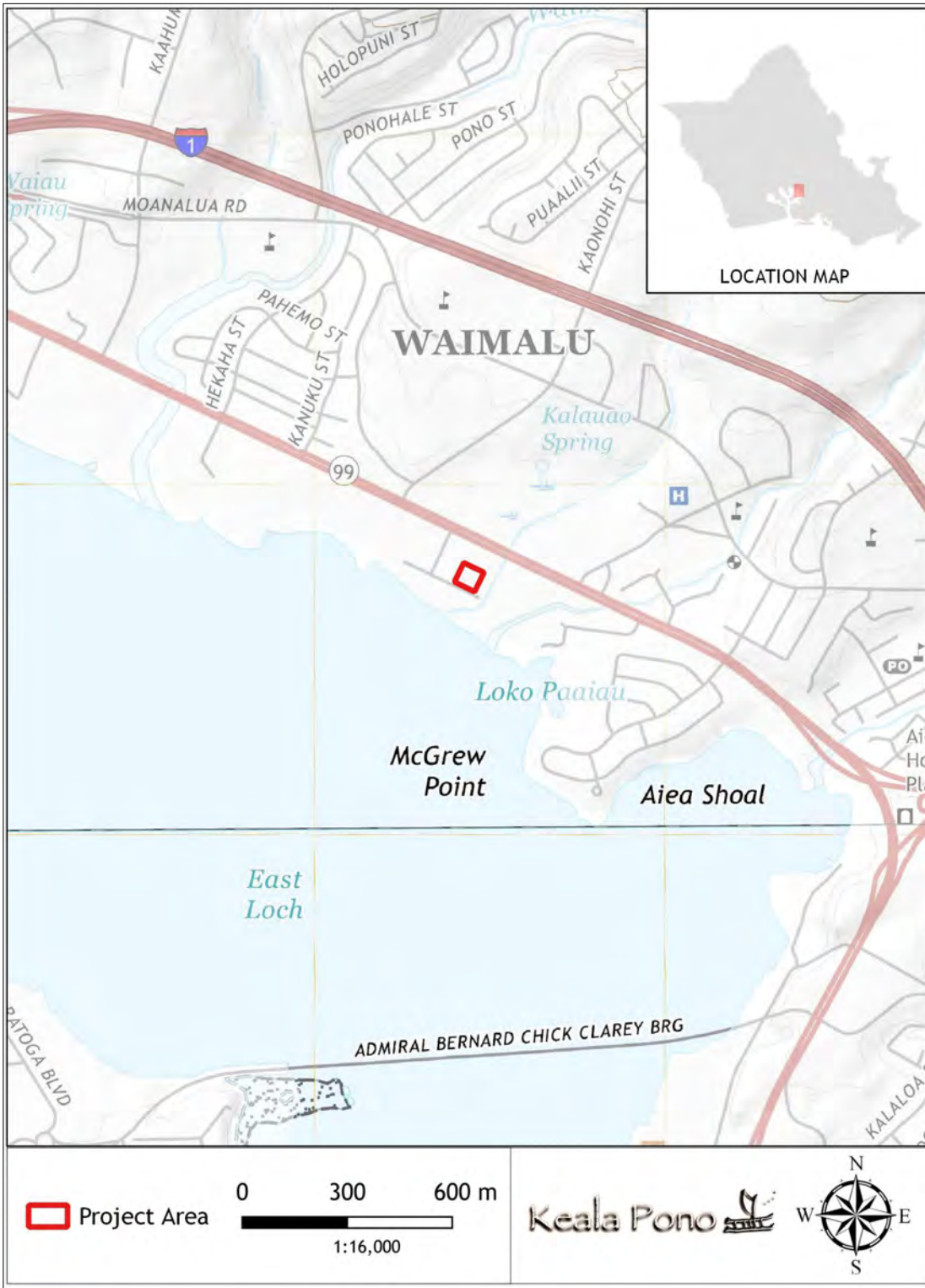


Figure 1. Topographic Map Waipahu Quadrangle (USGS 2023) showing the project area.

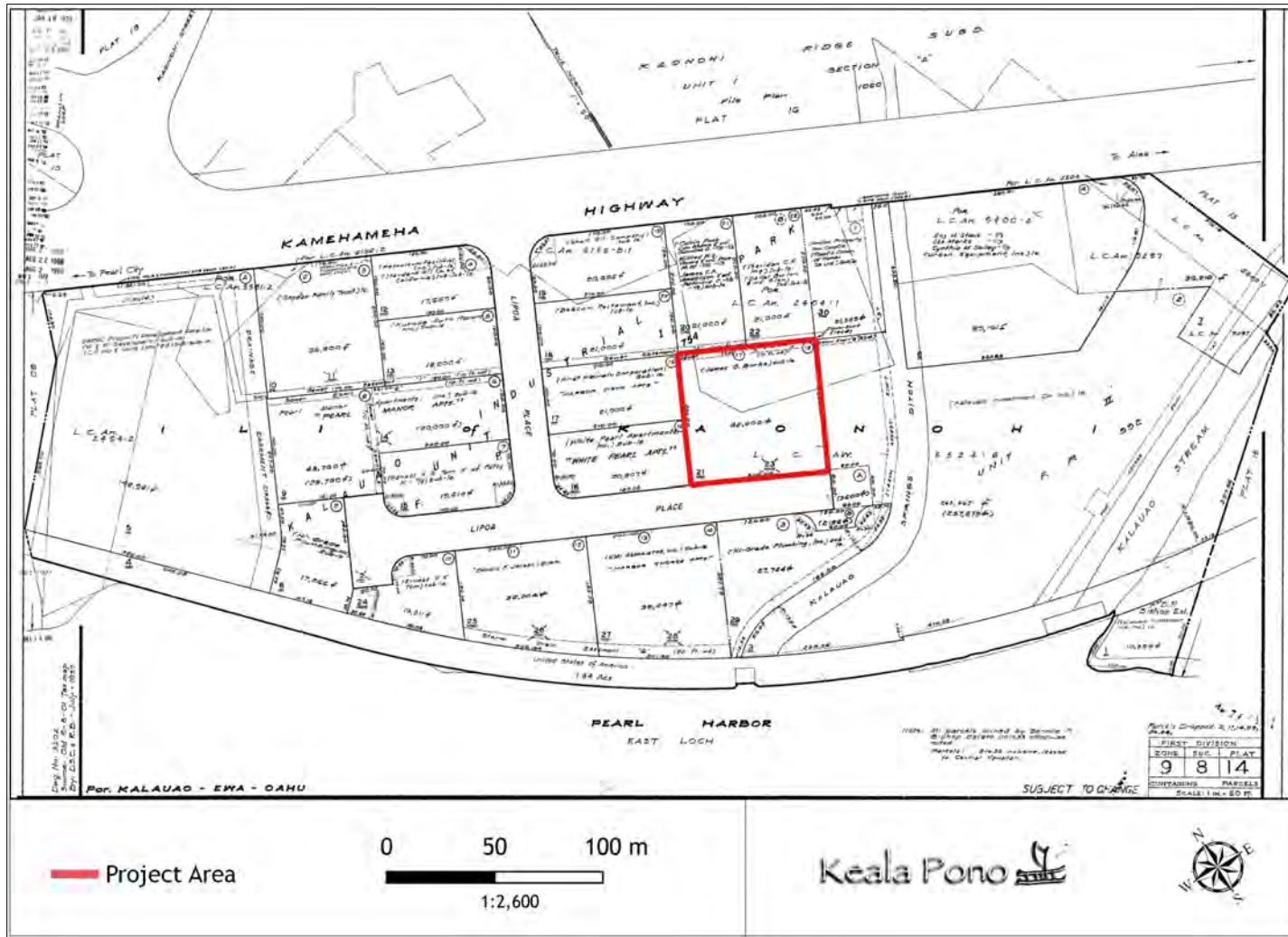


Figure 2. The project area location shown on TMK plat (1) 9-8-014 (State of Hawai'i 1937).



Figure 3. Aerial photograph showing the project area and nearby region (Modified Google Earth Image 2023).

flowing across the sediments in the old bay, cut valleys into them...The sea level rose again, to the Waimanalo stand, 7.5 meters above present sea level. The valleys were drowned, branching embayments were formed, and again sediments were deposited at the head of the bay... (Macdonald et al. 1983:425–426)

As the subject property is entirely developed, the topography is relatively flat and contains sparse vegetation primarily comprised of landscaped ornamentals. Rainfall in the area averages approximately 30 inches (in.) [75 centimeters (cm)] per year (Giambelluca et al. 2013). The closest sources of fresh water are Kalauao Stream, a non-perennial drainage located roughly 0.5 mi. (0.90 km) northeast of the study area, and Waimalu Stream, an intermittent watercourse that drains into the Pacific Ocean approximately 0.6 mi. (1.0 km) to the west.

The soils within and surrounding the project area were identified by Foote et al (1972:Sheet Number 33; Figure 4). Soils within the project area are comprised entirely of Keaau clay, saline, 0–2% slopes (KmbA). Keaau soils developed on alluvium that was deposited over reef or coral sand and are typically utilized for sugarcane and pasture (Foote et al. 1972:65).

Under natural conditions, this soil is either idle or is used for pasture. Many areas, however, are being drained and filled for use for sugarcane, industrial sites, homesites, and parks. New sugarcane areas are made by draining, and filling with waste from sugarcane mills. (Foote 1972:65)

The lands surrounding the subject property are comprised of Honouliuli clay, 0–2% slopes (HxA); Pearl Harbor clay (Ph), Waipahu silty clay, 6–12% slopes (WzC); Tropaquepts (TR), and water (W) (Foote et al. 1972:Sheet Number 33). The Honouliuli Series developed in alluvium. These soils are often utilized for pasture, sugarcane, truck crops, and orchards (Foote et al. 1972:43). The soils of the Pearl Harbor Series developed in alluvium and are generally used for taro, sugarcane, and pasture (Foote et al. 1972:112). The Waipahu soil series also developed in alluvium and is often used for sugarcane and housing (Foote et al. 1972:134). Foote et al. (1972:121) describe Tropaquepts as “poorly drained soils that are periodically flooded by irrigation in order to grow crops that thrive in water,” such as watercress, rice, and taro.



Figure 4. Soils within the project area and adjacent lands (data from Foote et al. 1972:Sheet Number 53).

BACKGROUND RESEARCH

A historic review of Kalauao Ahupua‘a offers a holistic understanding of the previous use and occupation of the project area. In an effort to record and preserve both the tangible (e.g., traditional and historic archaeological sites) and intangible (e.g., mo‘olelo, ‘ōlelo no‘eau) culture, this research assists in the discussion of anticipated finds. Research was conducted at the Hawai‘i State Library, the University of Hawai‘i at Mānoa libraries, the State Historic Preservation Division (SHPD) library, and online at the Office of Hawaiian Affairs (OHA) Kipuka database, Waihona ‘Aina database, and the State of Hawai‘i Department of Accounting and General Services (DAGS) website. Historical maps, archaeological reports, Māhele data, and historical reference books were among the materials examined.

The history of Kalauao begins with the history of O‘ahu Island:

O‘ahu is also a new name, given in memory of an ancestor of the people of O‘ahu. Lolo-i-mehani, Lalo-waia, and Lalo-oho-aniani were the ancient names of O‘ahu. O‘ahu was the child of Papa and Lua... and because O‘ahu was a good chief and the people lived harmoniously after the time of Wākea *mā*, O‘ahu’s descendants gave the name of their good chief to the island --- O‘ahu-a-Lua. (Kamakau 1991:129)

Kalauao is one of 12 ahupua‘a in the leeward district of ‘Ewa, on the island of O‘ahu. Kalauao extends mauka from the northern shoreline of Pearl Harbor to the Ko‘olau Mountains and borders ‘Aiea Ahupua‘a to the east and Waimalu Ahupua‘a to the west. Traditionally, fishponds were built along coastlines “where reef landlocked bays like Pearl Harbor made their construction feasible” (Handy et al. 1972:7). Several fishponds, including Loko Pā‘aiāu (Loko I‘a Pā‘aiāu, Pa‘aiāu) and Loko Pa‘akea (Ka pa‘akea), were once located in the vicinity of the project. Based on OHA’s Kipuka (n.d.) database and historic maps, it appears that the proposed project area is located within Loko Opu (‘Opu), a now filled in fishpond.

Place Names

One often overlooked source of history is the information embedded in the Hawaiian landscape. Hawaiian place names “usually have understandable meanings, and the stories illustrating many of the place names are well known and appreciated...The place names provide a living and largely intelligible history” (Pukui et al. 1974:xii). Place names associated with the study area are listed below, along with the meanings of the names and comments about the specific locales:

‘Aiea. Land section, mill, village, bay, stream, field...west of Honolulu, O‘ahu...*Lit.*, *Nothocestrum* tree. (Pukui et al. 1974:7)

‘Ewa. Plantation, plantation town...west of Pearl Harbor, O‘ahu. *Lit.*, crooked. Kāne and Kanaloa threw a stone to determine district boundaries. The stone was lost but was found later at Pili-o-Kahe... (Pukui et al. 1974:28)

Ka-hua-wai. A small waterfall on Ka-lau-ao Stream. O‘ahu. Once a favorite resting place exclusively for chiefs. Also called Ka-hue-wai (the water gourd). (Pukui et al. 1974:66)

Kalauao. Land section and stream...A battle was fought in the area between here and ‘Aiea Heights from November 16 to December 12, 1794; Ka-lani-kū-pule defeated and killed Ka‘eo-kū-lani, chief of Maui...*Lit.*, the multitude [of] clouds. (Pukui et al. 1974:75)

Ka-pā- kule. Old name for a fishpond built by Menehune and dredged when Pearl Harbor was developed; home of Ka-‘ahu-pāhau. *Lit.*, the akule fish enclosure (*kule* is short for *akule*). (Pukui et al. 1974:87)

Moku‘ume‘ume. Old name for Ford Island, Pearl Harbor, O‘ahu. Water was brought for melons raised here. *Lit.*, ‘ume game island (famous for this sexual game). (Pukui et al. 1974:156).

According to McAllister (1933:102), the name translates to “Isle of Strife” due to regional chiefs that had been in conflict for fishing rights on the island.

Pa‘akea...Fishpond near Pearl Harbor, O‘ahu. *Lit.*, coral bed, limestone. (Pukui et al. 1974:173)

Pu‘uloa...Land section, camp, salt works, village...area east of Pearl Harbor, and old name for Pearl Harbor, O‘ahu; it is said that breadfruit were brought here from Samoa...*Lit.*, long hill. (Pukui et al. 1974:200–201)

Waimalu. Hill (1,450 feet high), land section, town...and stream debouching at Pearl Harbor, O‘ahu; the Spaniard Francisco de Paula Marin had a home here. *Lit.*, sheltered water. (Pukui et al. 1974:225)

Subsistence and Traditional Land Use

The geography and traditional land use of ‘Ewa Moku is described by Handy et al. (1972). ‘Ewa Moku is noted for its kalo, ‘uhi, ‘ulu, mai‘a, and ‘awa. Thus, it is quite likely these plants were cultivated in Kalauao, as well.

The salient feature of ‘Ewa, and perhaps its most notable difference, is its spacious coastal plain, surrounding the deep bays (‘lochs’) of Pearl Harbor, which are actually the drowned seaward valleys of ‘Ewa’s main streams, Waikele and Waipi‘o...The lowlands, bisected by ample streams, were ideal terrain for the cultivation of irrigated taro. The hinterland consisted of deep valleys running far back into the Ko‘olau range. Between the valleys were ridges, with steep sides, but a very gradual increase of altitude. The lower parts of the valley sides were excellent for the culture of yams and bananas. Farther inland grew the ‘awa for which the area was famous. The length or depth of the valleys and the gradual slope of the ridges made the inhabited lowlands much more distant from the wao, or upland jungle, than was the case on the windward coast. Yet the wao here was more extensive, giving greater opportunity to forage for wild foods in famine time. (Handy et al. 1972:469)

Handy et al. (1972) further describe ‘Ewa Moku as providing a variety of resources, such as birds, wauke, mamaki, and olonā, as well as wild mai‘a and uhi:

In the interior was the same avifauna, including the birds whose feathers were prized for feather capes, helmets, and lei making. In fact this, with its spacious wao inland, was the region where these birds were most numerous. There were more extensive areas also where wauke and mamaki, which supplied bast for the making of tapa, grew in abundance. In fact, ‘Ewa was famous for its mamaki. There was, too, much olona grown in the interior, and wild bananas and yams flourished. (Handy et al. 1972:470)

The native kalo of ‘Ewa was rather unique and has been described as producing an especially tasty variety of poi. Called “kāi o ‘Ewa” (Handy et al. 1972:471), it is said to have made a poi that was a favorite of ali‘i, and sometimes reserved for them. Kāi is defined as “a variety of taro, the corms of which are fragrant when cooked and, though tough, yield excellent poi. Types of kāi were qualified by the terms ‘ele‘ele, kea, ke‘oke‘o (said to be reserved for chiefs), koi, nenene, pala, ‘ula‘ula, uliuli, welo, ‘eka” (Handy et al. 1972:471).

During E.S.C. Handy’s (1940) survey of the Pearl Harbor area in the 1930s, he made the following observation about the vicinity of the project area:

The lowlands seaward of the highway and for a short distance inland, now mostly under cane with a few banana groves, were all formerly terraces irrigated from Kalauao Stream. Kalauao Gulch was too narrow to have terraces inland. (Handy 1940:81)

A saying, ‘Ewa, ka ‘āina o nā ali‘i, or ‘Ewa, land of chiefs, originated because the district was known as a favorite residence for chiefs (Sterling and Summers 1978:1), likely due to its abundance of shellfish,

fishponds, and fish traps (Handy et al. 1972:270). Several fishponds were constructed surrounding Kalauao in times past. According to McAllister (1933:103–104), three of these fishponds, Loko Pā‘aiāu, Loko Opu, and Loko Pa‘akea were all built by Kalaimanu‘ia (Kalanimanu‘ia), a high ranking chiefess of O‘ahu, who lived in the vicinity of Kalauao, at Kūki‘iahu. Kalaimanu‘ia also had a second house at Pā‘aiāu (Kamakau 1991:57) and “her bathing was at Kahuawai at Kalauao” (Kamakau 1991:58).

Mo‘olelo

As mentioned earlier, Hawaiian place names were connected to traditional stories through which the history of a place was preserved. These stories were referred to as mo‘olelo:

...a term embracing many kinds of recounted knowledge, including history, legend, and myth. It included stories of every kind, whether factual or fabulous, lyrical or prosaic. Mo‘olelo were repositories of cultural insight and a foundation for understanding history and origins, often presented as allegories to interpret or illuminate contemporary life... Certainly many such [oral] accounts were lost in the sweep of time, especially with the decline of the Hawaiian population and native language. (Nogelmeier 2006:429–430)

The word ‘Ewa is defined as “crooked” or “strayed,” which refers to a mo‘olelo about how the district was named:

When Kane and Kanaloa were surveying the islands they came to Oahu and when they reached Red Hill saw below them the broad plains of what is now Ewa. To mark boundaries of land they would throw a stone and where the stone fell would be the boundary line. When they saw the beautiful land lying below them, it was their thought to include as much of the flat level land as possible. They hurled the stone as far as the Waianae range and it landed somewhere in the Waimanalo section. When they went to find it, they could not locate the spot where it fell. So Ewa (strayed) became known by that name. The stone that strayed. (Sterling and Summers 1978:1)

Kahuawai

Mo‘olelo also provide insight into the cultural and natural resources of an area. Kalauao is where the famous bathing pool of the ali‘i, Kahuawai (also spelled Kahuewai) is located. There are three mo‘olelo about this site. Fed by a pūnāwai, use of this pool continues in modern times by locals living in the area.

Kahuawai was a noted bathing place since ancient times and was guarded so that any one did not bathe in it except the chiefs. Later it was used by all. Kakuhihewa’s daughters and the hero Kalelealuaka (their husband) bathed in this pool. Kaeokulani, the chief of Kauai also bathed here when he came to war here on Oahu. He was killed at Kukiiahu. Many visitors from Hawai‘i to Kaua‘i came to see this pool and it was well known to Ewa’s inhabitants. (*Ke Au Hou* 1910 in Sterling and Summers 1978:13)

A subsequent visit is recounted in a letter from W.K. Apuakehau that also provides a description of the pool:

Here is another thing, I went to see the diving place of chiefs where they used to bathe, It is very close to the pump at Kalauao. It is cemented and deep. The name of this pool is Kahuawai. On the eastern side are some taro patches that are somewhat like ponds. They were deep in the olden days and these were the taro patches owned by Kaho, in which he planted all the time. (*Nupepa Kuokoa* July 18, 1919 in Sterling and Summers 1978:13)

An earlier account, printed in 1870, describes the trail leading to Kahuawai:

They went to the taro patches of Aiea, up the plain of Kukiiahu, below the road where Kaeo, chief of Kauai, was killed by Kalanikupule. From there they went along the taro patches on the

upper side of Kohokaho, till they came to Kahuewai, a little waterfall. A little ways above it was a spring, a place where travelers sat and rested. They went up a little way to a small plain and ascended the low cliff of Waimalu and went along between the taro patches of that land. (*Nupepa Kuokoa* in Sterling and Summers 1978:13–14)

Battle of Kūki‘iahu

The famous Battle of Kūki‘iahu is said to have taken place between November 16, 1794 to December 12, 1794, and was fought on the lands between Kalauao and ‘Aiea (Kamakau 1996:169). A brief summary of this battle is presented below:

Kaeokulani, ruler of Maui was on his way to Kauai with a large force to inspect his holdings there. As he approached Oahu Kalanikupule thought that he was coming to attack Oahu and counterattacked. The battle was fought at Waimanalo and then settled amicably. After visiting awhile with Kalanikupule, Kaeo moved on to Waialua and Waianae in preparation for his departure for Kauai. Mutiny arose among his troops and to divert them he suddenly cancelled plans to go to Kauai and instead attacked Kalanikupule. They met on the plains of Ewa. (Fornander 1918–1919:262)

McAllister (1933:103) provides the important detail that Kalanikūpule was assisted in battle by “a force of armed seamen from the English ships ‘Kackal’ [Jackel] and ‘Prince Leboo,’ under the command of Capitan Brown. Kamakau (1996:169–170) recounts the Battle of Kūki‘iahu in greater detail:

On December 12, 1794, a great battle was fought on the ground of Ka-lani-manuia between Kalauao and ‘Aiea in ‘Ewa. The heights of Kuamo‘o, Kalauao, and ‘Aiea were held by the right wing of Ka-lani-ku-pule’s forces commanded by a warrior named ‘Koa-lau-kani; the shore line of Malie [was held] by the left wing under the command of Ka-mohomoho; Ka-lani-ku-pule himself with the main army held the middle ground between ‘Aiea and the taro patches; Captain Brown’s men were in boats guarding the shoreline. Thus surrounded, Ka-‘eo found his men fighting at close quarters and, cut off by Koa-lau-kani between Kalauao and Kua mo‘o, he was hemmed in on all sides and compelled to meet the onset, which moved like the ebb and flow of the tide. Shots from guns and cannon, thrusts of the sword and spear fell upon his helpers. Ka-‘eo with six of his men escaped into a ravine below ‘Aiea and might have disappeared there had not the red of his feather cloak been seen from the boats at sea and their shots drawn the attention of those on land. Hemmed in from above, he was killed fighting bravely. His wives were killed with him, and his chiefs and warriors. This war, called Kuki‘iahu, was fought from November 16 to December 12, 1794 at Kalauao in ‘Ewa. At the death of Ka-‘eo-ku-lani who was the son of Ke-kau-like and his wife Holau, his son George Ka-umu-ali‘i became ruling chief of Kauai, but, being too young to take charge of the government, his kahu administered it for him with power to make war. On the afternoon [of the final day of victory for Ka-lani-ku-pule] the dead were gathered together, carried to Pa‘aiau, and piled in a great heap.

Kamakau (1987:169–170) also tells of Kahulunui-ka-‘aumoku, a female warrior who was killed during this battle, but brought back to life by an owl:

On the afternoon [of the final day of victory for Ka-lani-ku-pule] the dead were gathered together, carried to Pa‘aiau, and piled in a great heap. Among the bodies was that of Ka-hulunui-ka-‘aumoku, a daughter of Ku-‘ohu, the leading kahuna of Kauai who had fallen with Ka-‘eo and the rest at Kuki‘iahu. Her body had been picked up for dead, carried with the others to Pa‘aiau, and left in the heap of corpses. It was about one o’clock in the afternoon when she fell. At about ten o’clock that night she was aroused by an owl that flew over her and beat its wings on her head. She opened her eyes as from a deep sleep and found herself lying with the dead in a great heap. A guard was walking to and fro. The owl flew seaward and she followed, crawling, until she reached the sea. Then she swam to the opposite shore in spite of her many wounds and landed at ‘Aiea, where the owl led her up Halawa valley into the mountains. There she found a cave and fell as if dead. While she lay unconscious, the owl flew to a former kahu of hers who

knew the country well around Halawa, and this person brought her food and anointed her wounds. Two days later Ka-lani-ku-pule proclaimed an amnesty giving life to the captives, on pain of death if anyone, commoner or chief, kept up the slaughter.

Ka-hulu died in 1834. I have seen with my own eyes the scours of the wounds with which her body was covered. (Kamakau 1987:169–170)

Another famous person associated with Kalauao is the ali'i Kalaimanu'ia (Kalanimanu'ia). The above-described Battle of Kūki'iahu, took place near her home of the same name. This is the same Kalaimanu'ia to whom the construction of Loko Pā'aiau, Loko Opu, and Loko Pa'akea is attributed.

Kalaimanuia [Kalanimanuia] followed her mother, Kukaniloko, as Moi of Oahu. No foreign or domestic wars appear to have troubled her reign, and little is known of her history. She was born at Kukaniloko that famous birth-place of Hawaiian royalty, and resided of her time at Kalauao, in the Ewa district, where the foundations of her houses are still pointed out at Kukiiahu and at Paaiau. To her is attributed the building of the great fishponds of Kapaakea, Opu, and Paaiau. Her husband Lupe Kapukeahomakalii, a son of Kalanuili (k) and Naluehiloikeahomakalii (w), and he is highly spoken of in legends as a wise and kind man, who frequently accompanied his royal spouse on the customary circuits of inspection of the island, and assisted her in the government and administration of justice. (Fornander 1918–1919:269)

The Legend of Opelemoemoe

Mo'olelo also provide details about the lives of famous characters, real and fictional. The possibly fictitious Opelemoemoe, a man known for falling asleep for long periods of time, is also a figure associated with Kalauao Ahupua'a.

Kalauao in Ewa was where Opelemoemoe made his home. This man performed some very extraordinary things, things the like of which had not been seen before him nor since. He could keep asleep from the first day of the month to the end of the month; but if a thunder storm occurred he would then wake up; otherwise he would keep on sleeping for a whole year. If he should be walking along the road and should become sleepy, he would then sleep without once getting up, until it thundered, when he would get up and would stay awake for days and nights at a time, in summer and in winter. So would it be if he was out in the ocean; if he fell asleep, he would sleep in the sea until it thundered, when he would wake up. He was without equal in his extraordinary behavior.

Once upon a time Opelemoemoe set out from Kalauao for Puukapolei, where he fell asleep. He slept for a period of nearly ten days; it perhaps lacked two days, when a couple of men arrived from Kauai, who were on their way in search of a human sacrifice for the temple of Lolomauna, at Pokai, Kauai. These men upon seeing Opelemoemoe tried to wake him up, but in this they were unsuccessful. They then carried him on their backs to Pokai, at which place their canoes were moored, placed him in the canoe and carried him off to Kauai. After landing they again carried Opelemoemoe and placed him on the altar in the temple of Lolomauna, together with a pig, some bananas, some coconuts and some awa. During all this time Opelemoemoe never once awoke from his sleep. It was noticed that his body did not decay like the rest of the things that were placed on the altar; for the bananas, the pig, the fish and the awa all rotted. Opelemoemoe was then left on the altar until one day it thundered, when he awoke and found himself tied hand and foot. He then untied himself and got down from the altar. (Fornander 1918–1919:168)

Pu'uloa (Pearl Harbor)

Pu'uloa, the freshwater estuary fed by the many streams coming from the uplands, provided a bounty of water and resources for the inhabitants of this region. The confluence of land and water are natural contexts for human interaction. Accounts from the Hawaiians who resided there have endured to this day

and provide a glimpse into the storied past of the area. In Hawaiian traditions, it is believed that all bodies of water are home to a mo‘o, a spirit being usually manifesting in the form of a lizard, serpent, or mermaid/merman-like creature, oftentimes imbued with shapeshifter-like powers (e.g., Kamakau 1991:82–89). The legends of mo‘o are traditional accounts of supernatural beings animated by their interactions with man. Shark gods and mo‘o are the two types of creatures associated with the vicinity of the project area, as evidenced in the literary sources. These mythical creatures dominate the literary record of the Pu‘uloa region. One such recorded story is that of Ka‘ahu, as retold by Hawaiian scholar Mary Kawena Pukui:

Pu‘uloa is the old name of that great harbor on O‘ahu today called Pearl Harbor. Long ago sharks lived there ruled by a chiefess called Ka‘ahu.

Ka‘ahu was once a lovely girl. She and her family lived beside a little stream which flowed into Pu‘uloa. Often Ka‘ahu and her brother went down to the harbor to swim. For hours they swam and played about, happy as fish. A shark god liked to watch those children jump and swim. They should be sharks, he thought, and live in Pu‘uloa. So he changed their form.

That night when the children did not return for dinner their parents searched for them. The mother heard her husband calling. “There are sharks in our stream,” he said, “young sharks.”

She came quickly to stand beside the stream and the two young sharks swam close. “They are not afraid,” she said, “and see! They are opening their mouths for food. They’re hungry!” She turned to her husband. “These are our children!” she exclaimed. “They have been changed to sharks and come to us, as always, for their food.”

The man looked long as the two swam close, rubbing the bank and opening their mouths hungrily. Then he brought food. He gave each a drink of ‘awa then peeled bananas for them. When they had eaten enough they swam away.

Next day they came again for food. All the relatives of those children heard how they were changed. “Shark sister and shark brother,” they called the two. They saved food for them, hung lei about their necks and played with them in Pu‘uloa. (Pukui and Curtis 1994:147)

In other traditions including those found in mele, Ka‘ahu is also known as Ka‘ahupāhau. The story of Mikololou, as retold by Keonaona Kapuni-Reynolds, details the connection of the shark gods with Pu‘uloa.

Mikololou is a shark from Ka‘ū, Hawai‘i. One day Mikololou, Kua, Keali‘ikauaoka‘ū, Pakaiea and Kalani decided to visit O‘ahu. When they were on their way there they met with man-eating sharks. When they reached Pu‘uloa, O‘ahu they met with Ka‘ahupāhau. Ka‘ahupāhau is the guardian of Pu‘uloa and she takes care of the people of that area. When a man-eating shark is seen she changes her body into a net and calls the fishermen to beat the sharks in the net. Kahi‘ukā is her brother and he is the one that hits the sharks with his long tail.

When they met with Ka‘ahupāhau one of the man-eating sharks said, “Hū, those crabs look delicious.” Crab is what the sharks call people so Ka‘ahupāhau knew that some of those sharks were man-eaters.

Because she couldn’t tell who were the good sharks and who was the man-eaters she caught all the sharks in her net. (Kapuni-Reynolds n.d.)

Next to an unnamed fishpond in Pu‘uloa was Drydock No. 1, which collapsed in 1913. This area was known to be the home of Ka‘ahupāhau and possibly other shark gods of Pearl Harbor. It is said that when David R. Richards, a construction foreman, began digging the foundation for the drydock in 1909, Kūpuna Kanakeawe and Leialoha, local fishermen, told Richards that he should not dig in that place (Richards 1943:1 in Tuggle and Tomonari-Tuggle 2004:55):

These places are tabu, they belong to the shark god, namely Kaaupahau [sic]’...I again asked him ‘What are you doing here?’ He replied that he came there to feed his aumakua,

KAAUPAHAU [sic], a shark god. I laughed at him for that. I asked him ‘Where is that shark? I like to see him when you are feeding him.’ He then told me that I have no business to ask that question...He said they came from Keahi [a fishing place at the edge of Pu‘uloa] once a week with fishes to feed Kaaupahau [sic] by diving down into the water after chanting and offering prayer, repeating it until the fishes are gone. After that he would chant and pray some more, while going to fish for more, this time for his own use and sale...They stayed several hours, then he said to me that, ‘You people will be punished severely.’

Richards later lamented that there were many problems during construction, such as with the digging of the pilings and finally the collapse of the drydock (Tuggle and Tomonari-Tuggle 2004:55). Eventually, he had a new dock blessed by a kahuna.

Oli and Mele

The noteworthiness of specific locales in Hawaiian culture is further bolstered by their appearances in traditional chants. An oli refers to a chant that is done without any accompaniment of dance, while a mele refers to a chant that may or may not be accompanied by a dance. 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, identity, and values.

Although it can be acknowledged that mo‘olelo have served to maintain the collective memory and record of the Kalauao area, oli and mele nevertheless continue to provide significant insight into the region. In a mele inoa for Iwikauikaua, an ancient high chief and ancestor to Queen Lili‘uokalani, reference to Ka‘ahupāhau is made. In the excerpt below, the shark god is referred to as, “the skilled one of Pu‘uloa.” The ‘Ewa moku, with its many springs, ponds, and estuaries, is known by the epithet, “‘Ewa no ke awa lau- (‘Ewa- whom belongs the many bays),” that is mentioned in the name chant below:

Auheā wale oe e ka Ohu la-e-a,
Kipu mai la i Kaala la-e-a,
Ala mai Lihue me Kalena la-e-a,
Hooho mai hale auau la-e-a,
Pehea iho Kokoloea la-e-a,
Ea mai o Kaahupahau la-e-a,
O ka olali o Puuloa la-e-a,
Ehia iho mea minamina la-e-a,
O ka ela hamau i ka leo la-e-a,
Mai Pane ae oe o makani la-e-a,
Ike ole ia aku Halawa la-e-a,
Aina i ka mole o Ewa la-e-a,
No Ewa oe no ke awa lau la-e-a,
No ka lihi kai au i ka wili la-e-a,
No Honolulu i Kapuukolo la-e-a,
Haina ka Inoa i lohe la-e-a,
Oulumāheihēi Hoapili la-e-a,
O ka Ona nui o Wailuku la-e-a,
O ka helu ekahi o Maui la-e-a. (Keapo 1868)

Ka‘ahupāhau has a firm place in the oeuvre of Hawaiian song. While the preceding excerpt cites Pu‘uloa and its shark god Ka‘ahupāhau, Hawaiian songs made popular in the 20th century, such as Pūpū a‘o ‘Ewa,

retell traditions from an earlier time and are remarkable in the continuation of the same theme and characters from the ancient past.

Pūpū a‘o ‘Ewa
Pūpū a‘o ‘Ewa
I ka nu‘u o nā kanaka
E naue mai a e ‘ike
I ka mea hou o ka ‘āina
A he ‘āina ua kaulana
Mai nā kūpuna mai
Alahula Pu‘uloa he alahela no Ka‘ahupāhau (traditional mele)

The refrain of the song can be summarized as “Pu‘uloa, a path well-trod upon by Ka‘ahupāhau” and can be interpreted as defining the well-traveled intersection that the estuary was for those of the past. Today however, many of the place names in the ahupua‘a, in which the naval base at Pearl Harbor is now located, have disappeared or have been turned into street names and names of barracks and entrances to the shipyard. Scholar John Osorio asserts that this development effectively detached the kanaka from the land by blocking access to the ocean and freshwater resources of O‘ahu’s largest inland waterways (Osorio 2010:4).

A song titled “He mele no Kualii, Kalanipipili, Kulanioaka, Kunuiakea &c.” was composed by Kumahukia and Kaiwiokaekaha, two attendants of Kūali‘i in the battle at Kunia and shared on May 23, 1868 in the Hawaiian newspaper, *Nupepa Kuokoa*. The song describes Kūali‘i’s legacy and his association with several places across O‘ahu, including Kalauao. Relevant portions of the mele pertaining to ‘Ewa are reproduced here (*Nupepa Kuokoa* 1868:4):

...Pikele ka ia e Waikele-o Waikele,	The fish of Waikele are small—Waikele,
Ka hale pio i Kauamoa-o Waipio,	The arched house of Kauamoa is at Waipi‘o,
E kuu kua i ka loko awa-o Waiawa,	We two cast the net in the milkfish pond of Waiawa,
Mai hoomanana ia oe-o Manana,	Don’t stretch yourself out at Mānana,
He kini kahawai,	There are many stream gulches,
He lau kamano-o Waimano,	There are many sharks at Waimano,
Ko ia kua e ke au-o Waiiau,	We two are drawn by the current of Waiiau,
Kukui malumalu kua-o Waimalu,	We were sheltered by the kukui of Waimalu,
E ala kua ua ao-e-o Kalauao,	Let us arise, it is light at Kalauao,
E kipa kua e ai-o Aiea...	We two are welcomed to eat at ‘Aiea...

‘Ōlelo No‘eau

Like oli and mele, traditional proverbs and wise sayings, known as ‘ōlelo no‘eau, have been another means by which the history of Hawaiian places has been recorded. In 1983, Mary Kawena Pukui published a volume of close to 3,000 ‘ōlelo no‘eau that she collected throughout the islands. The introductory chapter of that book reminds us that if we could understand these proverbs and wise sayings well, then we would understand Hawai‘i well (Pukui 1983). While no ‘ōlelo no‘eau about Kalauao were recorded in Pukui’s (1983) book, there are many that speak of ‘Ewa in general; they are listed below.

‘Āina koi ‘ula i ka lepo.
Land reddened by the rising dust.
Said of ‘Ewa, O‘ahu. (Pukui 1983:11)

Anu o ‘Ewa i ka i‘a hāmau leo e. E hāmau!

‘Ewa is made cold by the fish that silences the voice. Hush!

A warning to keep still. First uttered by Hi‘iaka to her friend Wahine‘oma‘o to warn her not to speak to Lohi‘au while they were in a canoe near ‘Ewa. (Pukui 1983:16)

‘Ewa kai lumaluma‘i.

‘Ewa of the drowning sea.

An epithet applied to ‘Ewa, where kauwā were drowned prior to offering their bodies in sacrifice. (Pukui 1983:47)

‘Ewa nui a La‘akona.

Great ‘Ewa of La‘akona.

La‘akona was a chief of ‘Ewa, which was prosperous in his day. (Pukui 1983:47)

Haunāele ‘Ewa i ka Moa‘e.

‘Ewa is disturbed by the Moa‘e wind.

Used about something disturbing, like a violent argument. When the people of ‘Ewa went to gather pipi (pearl oyster), they did so in silence, for if they spoke, a Moa‘e breeze would suddenly blow across the water, rippling it, and the oysters would disappear. (Pukui 1983:59)

He kai puhi nehu, puhi lala ke kai o ‘Ewa.

A sea that blows up nehu fish, blows up a quantity of them, is the sea of ‘Ewa. (Pukui 1983:74)

He lō‘ihi o ‘Ewa; he pali o Nu‘uanu; he kula o Kulaokahu‘a; he hiki mai koe.

‘Ewa is a long way off; Nu‘uanu is a cliff; Kulaokahu‘a is a dry plain; but all will be here before long.

Said of an unkept promise of food, fish, etc. O‘ahu was once peopled by evil beings who invited canoe travelers ashore with promises of food and other things. When the travelers asked when these things were coming, this was the reply. When the visitors were fast asleep at night, the evil ones would creep in and kill them. (Pukui 1983:84)

I Waialua ka po‘ina a ke kai, o ka leo ka ‘Ewa e ho‘olono nei.

The dashing of the waves is at Waialua, but the sound is being heard at ‘Ewa.

Sounds of fighting in one locality are quickly heard in another. (Pukui 1983:137)

Ka i‘a hāmau leo o ‘Ewa.

The fish of ‘Ewa that silences the voice.

The pearl oyster, which has to be gathered in silence. (Pukui 1983:145)

Ka i‘a kuhi lima o ‘Ewa.

The gesturing fish of ‘Ewa.

The pipi, or pearl oyster. Fishermen did not speak when fishing for them but gestured to each other like deaf-mutes. (Pukui 1983:148)

Ke kai he‘e nehu o ‘Ewa.

The sea where the nehu come in schools to ‘Ewa.

Nehu (anchovy) come by the millions into Pearl Harbor. They are used as bait for fishing, or eaten dried or fresh. (Pukui 1983:185)

Ke one kuilima laula o 'Ewa.

The sand on which there was a linking of arms on the breadth of 'Ewa.

'Ewa, O'ahu. The chiefs of Waikīkī and Waikele were brothers. The former wished to destroy the latter and laid his plot. He went fishing and caught a large niuhi, whose skin he stretched over a framework. Then he sent a messenger to ask his brother if he would keep a fish for him. Having gained his consent, the chief left Waikīkī, hidden with his best warriors in the "fish." Other warriors joined them along the way until there was a large army. They surrounded the residence of the chief of Waikele and linked arms to form a wall, while the Waikīkī warriors poured out of the "fish" and destroyed those of Waikele. (Pukui 1983:191)

Ku a'e 'Ewa; Noho iho 'Ewa.

Stand-up 'Ewa; Sit-down 'Ewa.

The names of two stones, now destroyed, that once marked the boundary between the chiefs' land (Kua'e 'Ewa) and that of the commoners (Noho iho 'Ewa) in 'Ewa, O'ahu. (Pukui 1983:200)

O 'Ewa, 'aina kai 'ula I ka lepo.

'Ewa, land of the sea reddened by earth.

'Ewa was once noted for being dusty, and its sea was reddened by mud in time of rain. (Pukui 1983:257)

Ua 'ai I ke kāi-koi o 'Ewa.

He has eaten the kāi -koi taro of 'Ewa.

Kāi is O'ahu's best eating taro; one who has eaten it will always like it. Said of a youth or a maiden of 'Ewa, who, like the kāi taro, is not easily forgotten. (Pukui 1983:305)

There are also several 'ōlelo no'eau that specifically reference Pu'uloa (Pearl Harbor):

Alahula Pu'uloa, he alahēle na Ka'ahupāhau.

Everywhere in Pu'uloa is the trail of Ka'ahupāhau.

Said of a person who goes everywhere, looking, peering, seeing all or of a person familiar with every nook and corner of a place. Ka'ahupāhau is the shark goddess of Pu'uloa (Pearl Harbor) who guarded the people from being molested by sharks. She moved about, constantly watching. (Pukui 1983:14)

E hāmau o makani mai auane'i.

Hush, lest the wind arise.

Hold your silence or trouble will come to us. When the people went to gather pearl oysters at Pu'uloa, they did so in silence, for they believed that if they spoke, a gust of wind would ripple the water and the oysters would vanish. (Pukui 1983:34)

Ho'ahewa na niuhi ia Ka'ahupāhau.

The man-eating sharks blamed Ka'ahupāhau.

Evil-doers blame the person who safeguards the right of others. Ka'ahupāhau was the guardian shark goddess of Pu'uloa (Pearl Harbor) who drove out or destroyed all the man-eating sharks. (Pukui 1983:108)

Ho'i aku la ka 'ōpua i ke awa lau o Pu'uloa.

The horizon cloud has gone back to the lochs of Pu'uloa.

He has gone home to stay, like the horizon clouds that settle in their customary places. (Pukui 1983:109)

Huhui na 'ōpua i Awalau.
The clouds met at Pearl Harbor.
Said of the mating of two people. (Pukui 1983:120)

Kālele ka uwahi o Pu'uloa.
The smoke of Pu'uloa leans over.
Said in amusement of one who leans over, intent on his work. (Pukui 1983:156)

Ke awa lau o Pu'uloa.
The many-harbored sea of Pu'uloa.
Pu'uloa is an early name for Pearl Harbor. (Pukui 1983:182)

Ke kai he'e nehu o 'Ewa.
The sea where the nehu come in schools to 'Ewa.
Nehu (anchovy) come by the millions into Pearl Harbor. They are used as bait for fishing, or eaten dried or fresh. (Pukui 1983:185)

Mehameha wale no o Pu'uloa, i ka hele a Ka'ahupāhau.
Pu'uloa became lonely when Ka'ahupāhau went away.
The home is lonely when a loved one has gone. Ka'ahupāhau, guardian shark of Pu'uloa (Pearl Harbor), was dearly loved by the people. (Pukui 1983:234)

Kalauao in the Historic Era

When the first Westerners arrived in the Hawaiian archipelago in 1778, the islands were not yet united under one sovereign. At that time, Kalauao and the entire island of O'ahu were under the rule of the ali'i Kahahana. In 1783, Kahahana's reign ended with the invasion and victory of the Maui ali'i, Kahekili. This would forever be the end of O'ahu's independence as a separate island kingdom. When Kahekili died in 1794, control of O'ahu went to his son, Kalanikūpule. The following year, Kamehameha, an ali'i from Hawai'i Island, invaded O'ahu to engage Kalanikūpule in battle. Kamehameha overwhelmed Kalanikūpule's warriors, effectively gaining control of all the islands from Hawai'i to O'ahu. Eventually, Kamehameha would make a peaceful agreement with Chief Kaumuali'i of Kaua'i, bringing that island and Ni'ihau into the fold and thereby uniting the Hawaiian archipelago under one rule (Kamakau 1996, Kanahele 1995).

It is generally accepted that with his arrival to the Islands in 1778, James Cook became the first westerner to see the Hawaiian Islands. Following Cook, a wave of other explorers landed on Hawai'i's shores. Around the same time as the appearance of the first westerners to Hawai'i, O'ahu was experiencing major political changes. It was during this time, as mentioned above, that O'ahu's sovereignty ended with the invasion of the Maui chiefs, and the Maui rule was subsequently overcome by the invasion of forces from Hawai'i Island, when all of the islands were united under Kamehameha I, in 1795.

There are very few mentions of Kalauao Ahupua'a in early historical records. One account of the greater region comes from the English sailor Archibald Campbell who visited the area ca. 1810. He writes of the Pu'uloa vicinity:

Wymumme, or Pearl River, lies about seven miles farther to the westward. This inlet extends ten or twelve miles up the country. The entrance is not more than a quarter of a mile wide, and is only navigable for small craft; the depth of water on the bar at the highest tides, not exceeding seven feet; farther up it is nearly two miles across. There is an isle in it, belonging to Manina [Paul Marin], the king's interpreter, in which he keeps a numerous flock of sheep and goats...The flat land along shore is highly cultivated; taro root, yams, and sweet potatoes are the most

common crops; but taro forms the chief object of their husbandry, being the principal article of food amongst every class of inhabitants. (Campbell 1967:114–115)

Another account of the area comes from an early visitor, George Mathison, who mentions numerous agricultural fields and fishponds:

We passed over a long cultivated plain, varied by occasional ravines, for a distance of twenty miles, and about two o'clock reached Pearl River, so called from the pearls which are found in small quantities in its bed...The sea here forms a small bay, which has the appearance of a salt-water lake, being landlocked on every side except at the narrow entrance. Two or three small streams, too insignificant to merit the appellation of rivers discharge their united waters into the bay, which is full six miles in length and two in breadth. The adjoining low country is overflowed both naturally and by artificial means, and is well stocked with taro-plantations [sic], bananas, etc. The land belongs to many different proprietors; and on every estate there is a fish pond surrounded by a stone wall, where the fish are strictly preserved for the use of their rightful owners, or tabooed, as the natives express it. One of the particularly large dimensions belongs to the King. (Mathison 1825:416–417)

Māhele Land Tenure

The change in the traditional land tenure system in Hawai'i began with the appointment of the Board of Commissioners to Quiet Land Titles by Kamehameha III in 1845. The Māhele took place during the first few months of 1848 when Kamehameha III and more than 240 of his chiefs worked out their interests in the lands of the Kingdom. This division of land was recorded in the Māhele Book. The King retained roughly a million acres as his own as Crown Lands, while approximately a million and a half acres were designated as Government Lands. The Konohiki Awards amounted to about a million and a half acres, however title was not awarded until the konohiki presented the claim before the Land Commission.

In the fall of 1850 legislation was passed allowing citizens to present claims before the Land Commission for parcels that they were cultivating within the Crown, Government, or Konohiki lands. By 1855 the Land Commission had made visits to all of the islands and had received testimony for about 12,000 land claims. Ultimately between 9,000 and 11,000 kuleana land claims were awarded to kama'āina totaling only about 30,000 acres and recorded in ten large volumes.

The narrow and steep mauka portion of the ahupua'a of Kalauao was divided into two sections separated by Kalauao Stream. The section of the ahupua'a west of Kalauao Stream was awarded to Laura Kanaholo Kōnia, a high chiefess and the mother of Bernice Pauahi Bishop, under LCA 5524/Royal Patent (RP) 1963. The section east of Kalauao Stream was awarded to Captain John Meek, a friend and trusted advisor of the ali'i, under LCA 591/RP 5705. According to the Kipuka Database (n.d.), approximately 50 LCAs were awarded in the coastal plains within the makai portion of the ahupua'a, which was more suitable for habitation and the cultivation of taro than the upper reaches of the ahupua'a. The Kipuka Database (n.d.) and Waihona 'Aina Database (n.d.) further indicate a portion of LCA 2494:1/RP 8145, which was awarded to Julia Kekoa in 1902, was partially located within the northern part of the current project area.

The Kipuka Database (n.d.) and Waihona 'Aina Database (n.d.) provide information on six additional LCA awards that were recorded in the immediate vicinity of the project area (see Figure 2). Table 1 identifies the claimant, ahupua'a, as well as the number of 'āpana and acreage included in each award. Uses for the parcels include lo'i, kula, and habitation. An unnamed fishpond was also mentioned in Māhele testimony as associated with Julia Kekoa's award (Waihona 'Aina Database, n.d.).

Table 1. LCA Awards Within and Adjacent to the Project Area

LCA /RP	Claimant	Ahupua‘a	Description
2494/8145	Julia Kekoa	Kalauao	4 ‘āpana, 4.538 acres
6156 B/745	Mahoa	Kalauao	2 ‘āpana, 2.23 acres.
9400/449	Kaoio	Kalauao	2 ‘āpana, 1.545 acres
9297/749	Kanikela	Kalauao	1 ‘āpana, 0.73 acres
5840 and 9308/755	Kuohao	Kalauao	2 ‘āpana, 1.32 acres [Kuohao received 2 awards for one LCA (Kipuka Database n.d.)]
5524/1963	Laura K. Kōnia	Kalauao	Western portion of the ahupua‘a
5581/6799	Kalaimanuia	Kalauao	2 ‘āpana, 0.58 acres
591/5705	John Meek	Kalauao	1 ‘āpana, 1,300 acres (eastern portion of the ahupua‘a)

Historic Kalauao: 19th and 20th Centuries

The agricultural industry on O‘ahu steadily expanded through the 19th century from expansive tracts of traditional lo‘i that were gradually replaced by the large-scale commercial cultivation of sugarcane and rice by the 1850s. While there were abundant water resources available for irrigation in the Pearl Harbor area, it was not until 1879 when the first artesian well was drilled in ‘Ewa that the commercial agriculture industry was able to realize its full economic potential (Condé and Best 1973:278).

Sugar Cultivation and the Plantation Era

Sugarcane was first commercially cultivated in Kalauao during the 1850s, on the estate of J.R. Williams, where the enterprise was then known as the Honolulu Sugar Company. The plantation stretched east across the inland valleys and foothills of Waimalu through Kalauao, with the mill and refinery located in ‘Aiea (Condé and Best 1973:313; Figure 5). Undeveloped land in the upper reaches of Kalauao Valley would have required extensive modifications to the landscape, including the removal of native forests, diversion of streams, grading, and implementation of plantation infrastructure like irrigation ditches, wells, and pumping stations. Worker barracks were constructed, hospitals were built, and an extensive transportation network was established, as described by a San Francisco Chronicle article in 1910:

The most modern devices for the economic handling of cane are used on this plantation. There are thirty-six miles of main railroad and seven miles of portable track, with four locomotives and 500 cane cars. The capacity of the mill is 900 tons of raw sugar a week and 1100 tons of cane a day. This is the only mill in the islands that turns out refined sugar, and it supplies that commodity which is used in the pineapple canneries. The mill is equipped with all kinds of auxiliary shops. (*San Francisco Chronicle* 1910 in Condé and Best 1973:328)

In 1900, a change in ownership to the Honolulu Sugar Company caused a name change to the Honolulu Plantation Company. This latter enterprise constructed the sugar mill and refinery in ‘Aiea mentioned above. It was a prosperous operation and helped create Old ‘Aiea Town, which served as the hub for the community. The ‘Ewa Plain was being used for sugar production by the early 1900s, with plantations extending from the Pearl Harbor area to the current site of the Honolulu International Airport. In 1901, a narrow-gauge railway was constructed to transport cane from the fields to the Aiea Sugar Mill. However, loss of lands during the construction of U.S. military infrastructure and the U.S. involvement in WWII, in 1947, caused the Honolulu Plantation Company to sell all remaining assets to the Oahu Sugar Company (Condé and Best 1973:330).

Rice Cultivation

In the 1850s, during the same period sugar agriculture was developing in Hawai‘i, the commercial cultivation of rice was also beginning. The demand for rice directly coincided with increasing Chinese immigration, which created a domestic market for rice cultivation and sales. Horticulturalists from the Royal Hawaiian Agricultural Society began experimenting with growing rice in Hawai‘i. Following successful harvests, rice cultivation was promoted by the society and the Hawaiian Government as a promising commercial endeavor (Coulter and Chun 1937). Hawaiians living in the wetter parts of Hawai‘i were encouraged to convert their taro lo‘i into rice paddies:

Considerable effort has been made to induce the natives to be more industrious to cultivate the soil and particularly to try to [sic] the cultivation of rice...Foreigners too have begun the culture of rice in this district extensively and it was hoped their example would stimulate the natives to cultivate their own lands, but most of them choose to hire themselves to the foreigners at low wages and put their lands in the hands of the foreigners for a few dollars rather than cultivate or improve it themselves. (Mission Station Report 1862 in Devaney et al. 1982:49)

Chinese immigrants turned to rice farming after their plantation contracts were completed. These farmers typically leased small plots or formed hui with other farmers to acquire large tracts of land. The availability of former taro lo‘i was reflected in the decreased demand for taro as a food staple due to the declining Native Hawaiian population. Rice paddies began to replace the former lo‘i and were expanding within the lowlands of Pearl Harbor. Former taro lands were expanded and modified, and unused marsh and swamp land was easily converted into rice fields. Approximately 135 acres were cultivated in neighboring Waimalu, and 262 acres were under cultivation in Waiawa, Mānana, and Waiāu (Coulter and Chun 1937). The commercial rice industry at its height (1880–1920) had become dominated by Chinese companies who controlled most aspects of the rice industry. Due to the U.S. annexation of Hawai‘i, rice cultivation began to decline after 1920 because the U.S. limited the number of Chinese immigrants allowed in Hawai‘i, which was a primary source of labor for rice farms. In addition, rice cultivation in California was increasing, which thereby eliminated an important export market. (Devaney et al. 1982)

The Oahu Railway and Land Company (OR&L)

The concept for a railroad that circumnavigated the island of O‘ahu was developed by B.F. Dillingham. His company, the Oahu Railway and Land Company (OR&L) was established in 1889. While the construction of the OR&L railroad was instrumental in aiding the transport of agricultural products for import/export, Dillingham’s true motivation for creating the railroad was to connect outlying areas of O‘ahu to stimulate development of lands owned by his business partners and himself. During the first year of construction, the railroad was capable of transporting passengers and freight from Honolulu Harbor to Pearl Harbor. By 1890, the railroad reached Pearl City, then reached Wai‘anae by 1895, then Waiāluā by 1898 and Kahuku by 1899 (Kuykendall 1967). As Dillingham had intended, the railroad contributed to the development of Pearl City where a residential subdivision was planned:

...one of [Dillingham’s] devices to build railway traffic during the first years of the struggling Oahu Railway and Land Company. Newspapers in 1890 carried numerous announcements of the “great land sale of Pearl City lots” at public auction, with special excursion rates on the new railway. Lots were sold with a guarantee that O.R. and L. would transport buyers and their families between Pearl City and Honolulu for nine years at one cent per mile, second class. (Johnson 1956:7)

The OR&L also founded the Loch View Cemetery in 1900. The cemetery offered burial packages for the indigent, such as the opening and closing of graves and use of a funeral car from a depot in Iwilei that would deliver the casket to the cemetery. The cemetery was divided into sectors by religion, which was customary at that time (Chiddix and Simpson 2004:49).



Figure 5. Map showing lands within the Honolulu Sugar Plantation (From Condé and Best 1973:331).

With the introduction of the electric streetcar and increasing use of automobiles in the 1920s, the OR&L operations and profits began to decline (Chiddix and Simpson 2004). However, in the years preceding and during WWII, the OR&L saw a temporary jump in operations and profits as the U.S. military used the railroad to transport materials, equipment, and troops to areas where military operations and installations were expanding. After the 1941 attack on Pearl Harbor, trains were running 24 hours per day, 7 days a week to support wartime transportation and shipping needs. However, with the end of the war in 1945, use of the OR&L railroad again began to decline. The railroad suffered the transition between near-constant war time operations to nearly no demand seemingly overnight, and W.F. Dillingham, son of B.F. Dillingham, realized that the business needed to cease operations, which occurred in 1946:

The sudden termination of the war with Japan changed not only the character of our transportation, but cut the freight tonnage to a third and the passenger business to a little above the pre-war level. With the increased cost of labor and material and the shrinkage in freight tonnage and passenger travel, it was definite that the road could not be operated as a common carrier. With no prospect of increased tonnage, and the impossibility of increasing rates against truck competition, your management has applied to the Interstate Commerce for authority to abandon its mainline. (W.F. Dillingham in Chiddix and Simpson 2004:257)

Commercial service of the OR&L was discontinued in 1946, and shortly thereafter nearly 150 miles of track were disassembled, and operations infrastructure was either scrapped or sold. However, in 1947, one section of railroad from the Naval ammunitions' storage magazines at Lualualei to the Pearl Harbor Naval Base was retained by the U.S. Navy for the transport of materials and equipment between the two bases of operation (Treiber 2005).

Pearl Harbor Military Development

Another major factor in shaping historic-era Kalauao was the buildup of the American military. The overthrow of the Hawaiian government by mostly foreign businessmen backed by the U.S. military, in 1893, and the subsequent supposed annexation of Hawai'i by the U.S. in 1898 set the scene for permanent American presence. It should be noted that the typical narrative which chronicles the U.S. annexation is not a narrative that is accepted by all. Another equally recognized narrative explains that the overthrow of the monarchy was illegal and not accepted by large segments of both the Hawaiian and American populations at the time, and therefore Hawai'i has been under a prolonged American military occupation since then. Still, following the war with Spain in the Philippines, and worried by the expansion of Japanese influence, the U.S. viewed Hawai'i's geographic location as extremely strategically valuable. Pearl Harbor, formerly known as Pu'uloa, was selected to base American naval forces.

Discovery of the harbor in 1789 is credited to Captain Nathaniel Portlock (Clark 2002). Foreigners to Hawai'i have long recognized the potential in Pearl Harbor as a military base of operations, but it was not until the Act of Annexation in 1901 when the U.S. Government retained 1,356 acres of land surrounding Pearl Harbor that the area was actively utilized for military activities. Pearl Harbor was dredged deep enough to allow for large warships to enter, with the dredging conducted by W.F. Dillingham beginning in 1903. Authorization for the establishment of the Pearl Harbor Navy Yard was given in 1908 and within the next few years, dredging of the channel and construction continued.

Heightened tension in the Pacific during the 1930s caused the expansion of military infrastructure at Pearl Harbor and around the island. In the years leading to the U.S. involvement in WWII, coordination between civilian interests and the U.S. military became commonplace. For instance, in 1940 and 1941, the 64th Coast Artillery (Anti-Aircraft) Regiment received blanket permission for use of lands from the Honolulu Plantation Company which allowed them to utilize all land and roads surrounding Pearl Harbor (Spalding 1945).

Pearl Harbor is most remembered for the air raid by the Imperial Japanese Navy on December 7, 1941, which launched the U.S. into WWII. After the attack on Pearl Harbor, additional infrastructure was needed to double the war effort in and around the harbor. In addition to the reconstruction of destroyed facilities, a new ammunition depot was built in Waipahu, a hospital in ‘Aiea, and the Naval Yard was improved to hold additional aircraft carrier forces (Woodbury 1946). By 1944, the U.S. government acquired approximately 2,400 acres of land surrounding Pearl Harbor for military use during the war effort (Allen 1999). Following the end of WWII, much of the infrastructure was retained, but some of the former military complexes were repurposed for other public uses. A new hospital to treat Hansen’s Disease patients, Hale Mohalu (House of Comfort), was established in one such complex to replace Kalihi Hospital that was in use since 1865 (Tayman 2005). By the mid-1900s, the imposition of the American military in Pearl Harbor irretrievably destroyed traditional Hawaiian management systems of the land and sea resources of the area.

The harbor itself is comprised of East Loch, Middle Loch, and West Loch, all of which have restricted access. The part of East Loch that is situated to the east of Moku‘ume‘ume (Ford Island) is known as Southeast Loch. In 2010, the Navy Yard integrated with the nearby U.S. Hickam Air Force Base to create Joint Base Pearl Harbor-Hickam (JBPHH), which is the command center of the U.S. Pacific Fleet. Pearl Harbor is still in active use by the U.S. military. In 1964, Pearl Harbor was deemed a National Historic Landmark District, State Inventory of Historic Places (SIHP) 50-80-13-9992 and placed on the National Register of Historic Places (NRHP). The *USS Arizona*, *USS Bowfin* and *USS Utah*, located within the harbor, are also considered National Historic Landmarks.

Historic Maps and Photographs

Historic maps help to paint a picture of Kalauao in years past and illustrate the changes that have taken place in the region. This section presents a selection of five maps from the 19th and 20th centuries that provide insight to the project area and surrounding region.

The earliest map identifies the locations of Loko Pā‘aiāu, Loko Opu, and Loko Pa‘akea (Lyons 1873; Figure 6). The word “Monument” is written along the Loko Opu wall, although it is unclear to what this refers. This map also shows the current project area as being located almost entirely within the eastern portion of Loko Opu Fishpond. A spring and wetlands are also identified. Several structures, including a schoolhouse, a tannery, and possible house structures are shown in the upper portion of Kalauao Ahupua‘a, suggesting the area was well-settled by the late 1800s. Government Road is drawn as crossing through the ahupua‘a and a tannery is located in Kalauao, near a spring and among dryland fields.

A map of Oahu’s Pearl Lochs depicts the lands surrounding Kalauao in 1897 (Nichols 1897; Figure 7). The map shows that the vicinity of the project area is cultivated in rice, with a rice mill located to the west. The tannery is still in operation at this time, and a windmill is located nearby. Loko Pa‘akea and Loko Opu are labeled, but Loko Pā‘aiāu is illustrated with no name. A few structures are scattered at the coastline between Loko Pa‘akea and Loko Opu. The OR&L railroad is depicted as a solid line extending across the coastal area. Of note is that the project area is also shown as mostly within the eastern portion of Loko Opu.

A 1902 map (Wall 1902; Figure 8) illustrates land use across O‘ahu and shows the Honolulu Plantation as stretching across several ahupua‘a, including Kalauao. By this time, the U.S. Navy Reservation had been established, and what is now known as Ford Island is labeled as “Ford’s Is (Moku Umeume) to Waimalu.” The larger LCAs are noted, including LCA 5524, which was awarded to the high chiefess Laura Kanaholo Kōnia, in the western half of Kalauao. Pearl City is shown to be a thriving center by the early 1900s. The red outlined area on the map designates sugar plantations, and the project lies within

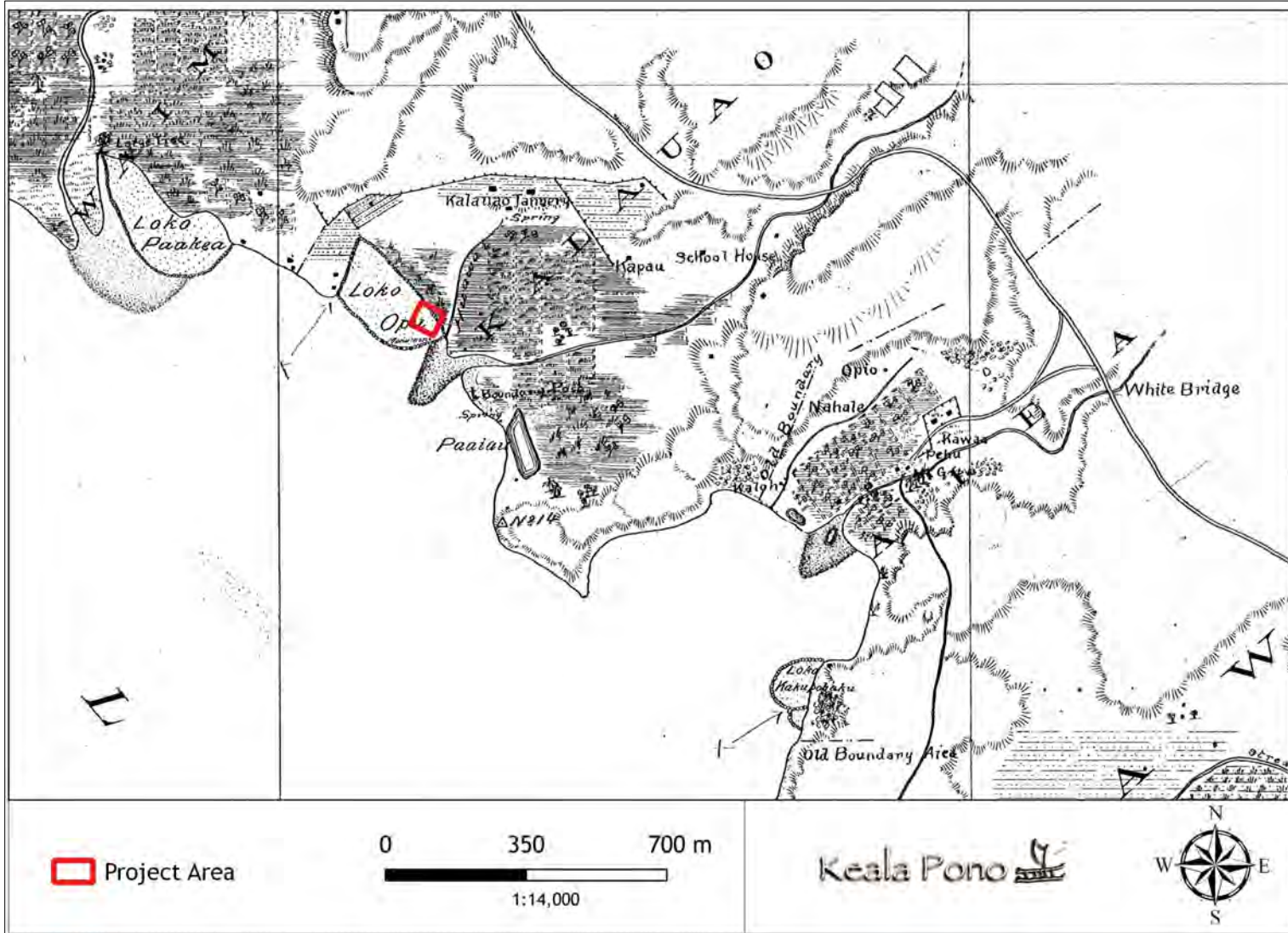


Figure 6. Portion of a Pearl Harbor (Lyons 1873; R.M. 1639).

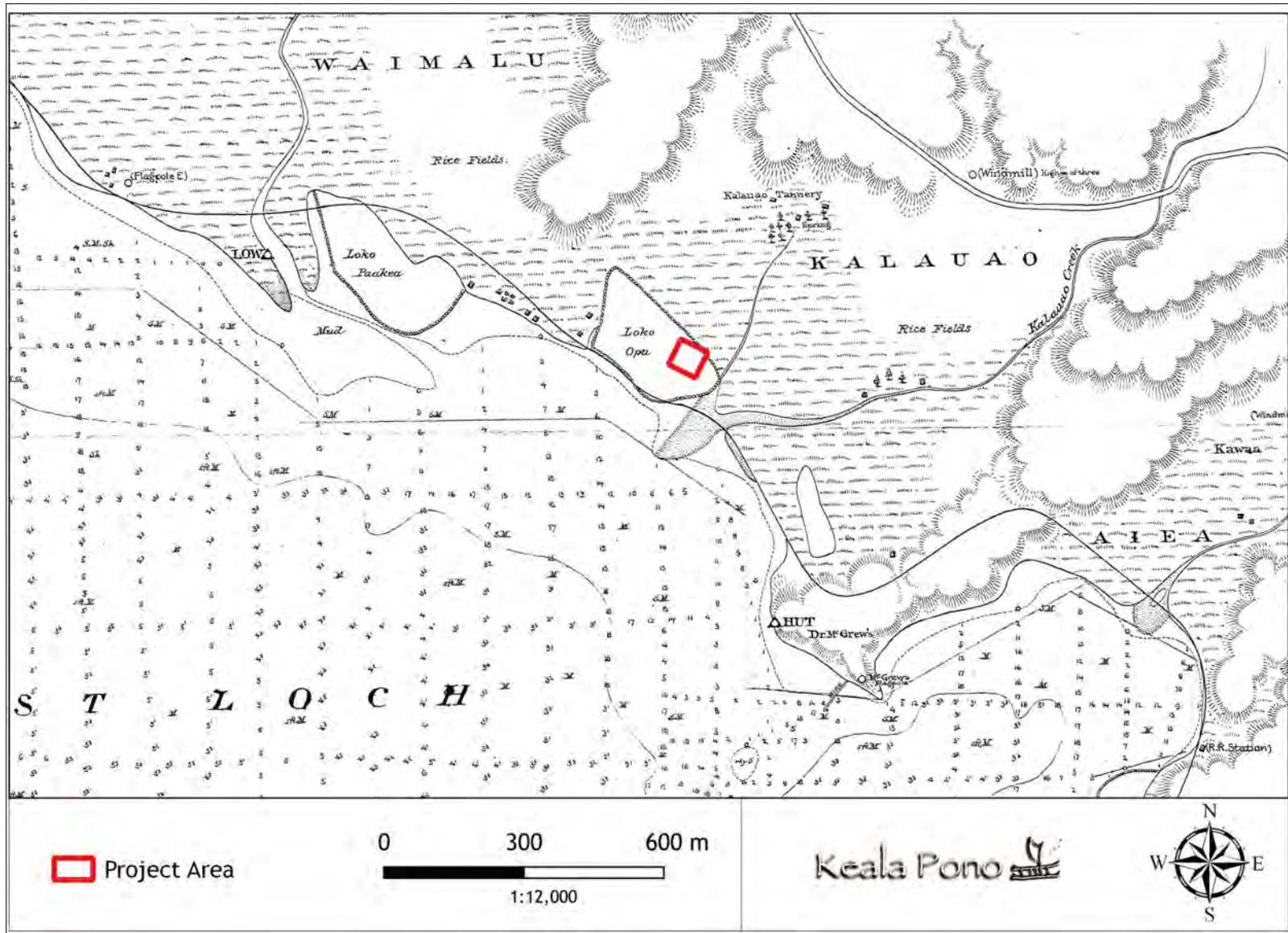


Figure 7. Portion of a map of the south coast of O'ahu (Nichols 1897; RM 1919).

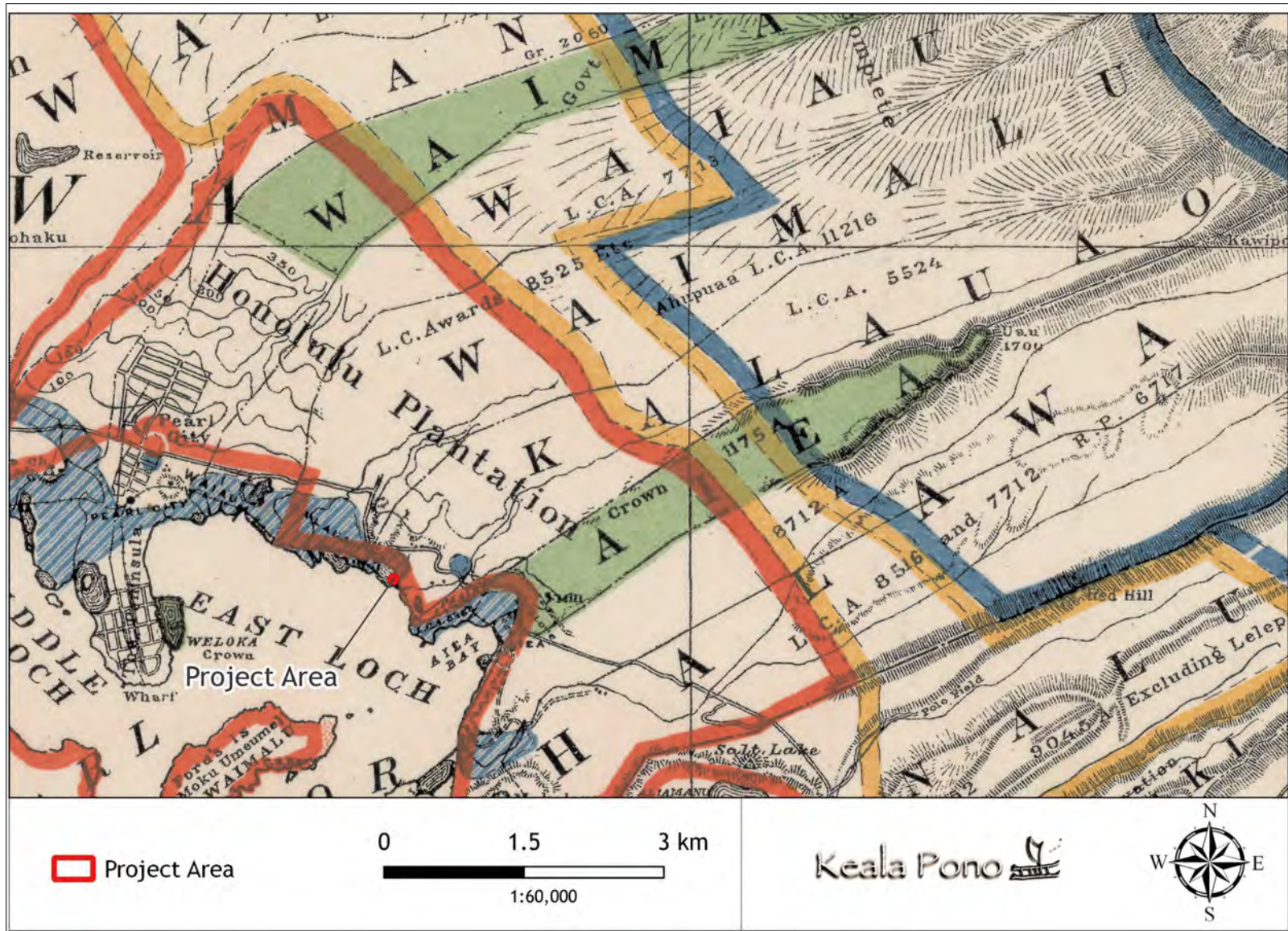


Figure 8. Portion of a Hawaii Territory Survey O'ahu map (Wall 1902).

these lands. The yellow outline signifies grazing lands, and the blue outline is for forest reserves. The diagonal blue pattern seen towards the coast shows the approximate area of wetlands used for rice and taro.

The next map identifies the numerous fisheries in the Pearl Harbor area, as well as Loko Pā‘aiāu, Loko Opu, and Loko Pa‘akea (Monsarrat 1913; Figure 9). This map also places the current project area within the eastern section Loko Opu and shows the “Oahu Rail Road” skirting the coastline. Just offshore of the study parcel is Kaonohi Fishery, while the outer waters fall in the Kalauao Fishery owned by the government.

The final historic map shows the extent of the expansive Honolulu Sugar Company cane fields (Taylor 1910–1925; Figure 10). Loko Pa‘akea and Loko Opu are labeled, while Loko Pā‘aiāu is simply labeled as “Loko.” Many more structures are now shown, as well as numerous LCA plots and large privately owned tracts of land associated with foreign names such as McCandless, Damon, and McGrew. The plantation railway and the Government Road are also depicted in Kalauao. Of note, LCA 5524 and Loko Opu are shown as partially within the current project area.

Figure 11 is a historic aerial photograph (Admiral Furlong Collection 1944; DAGS 2023) depicting the Pearl Harbor area on January 16, 1944. Of note is that Loko Pā‘aiāu (far right) and Loko Pa‘akea (far left) have not yet been filled, while Loko Opu was filled in by that time.

Previous Archaeology

Several archaeological studies have been conducted in the vicinity of the project area, with one prior archaeological survey (Sinoto 1986) covering the current study lands. The following discussion provides brief summaries of the findings of previously conducted archaeological projects located approximately 1 km from the current study parcel (Figure 12; Table 2). Previously documented archaeological sites with known locations are shown on Figure 13. The reports selected were based on availability from the SHPD library in Kapolei and are discussed in chronological order.

The earliest archaeological investigation on the island of O‘ahu consisted of an island-wide survey conducted by J.G. McAllister (1933), under the auspices of the Bernice Pauahi Bishop Museum. Four of the sites identified during this survey are in the vicinity of the current project (McAllister 1933:103):

- **Site 108 – Loko Pa‘aiāu (SIHP 50-80-09-108)** measured 190 by 600 ft., was rectangular in plan, and had one mākāhā. Three sides of the fishpond were adjoined to the land where the pond was demarcated by a basalt wall roughly 2 ft. tall. The ocean side of the pond was delineated by a wall that measured 3–4 ft. wide and 2 ft. tall. The pond was watered by the freshwater sources that fed the surrounding taro patches. It was said to have been built by chiefess Kalaimanuia.
- **Site 109 – Loko Opu (SIHP 50-80-09-109)** covered 10.5 ac. and was enclosed by a 2,700 ft.-long wall. The fishpond was also said to have been built by chiefess Kalaimanuia.
- **Site 110 – Kuki‘iahu (SIHP 50-80-09-110)** was the home of chiefess Kalaimanuia, who was said to have built Loko Pa‘aiāu, Loko Opu, and Loko Pa‘akea. Kuki‘iahu was also the location of the Battle of Kuki‘iahu (see Subsistence and Traditional Land Use and Mo‘olelo sections).
- **Site 111– Loko Pa‘akea (SIHP 50-80-09-111)** was a large fishpond formerly located on the eastern side of Waimalu Stream and was said to have been built by chiefess Kalaimanuia, who lived just east of the pond. McAllister recorded this site as covering 12 ac., with a basalt and coral wall that was 850 ft. long, 6 ft. wide, and 4 ft. high with one mākāhā. One smaller, adjoining fishpond was recorded, which was thought to be recent at the time.

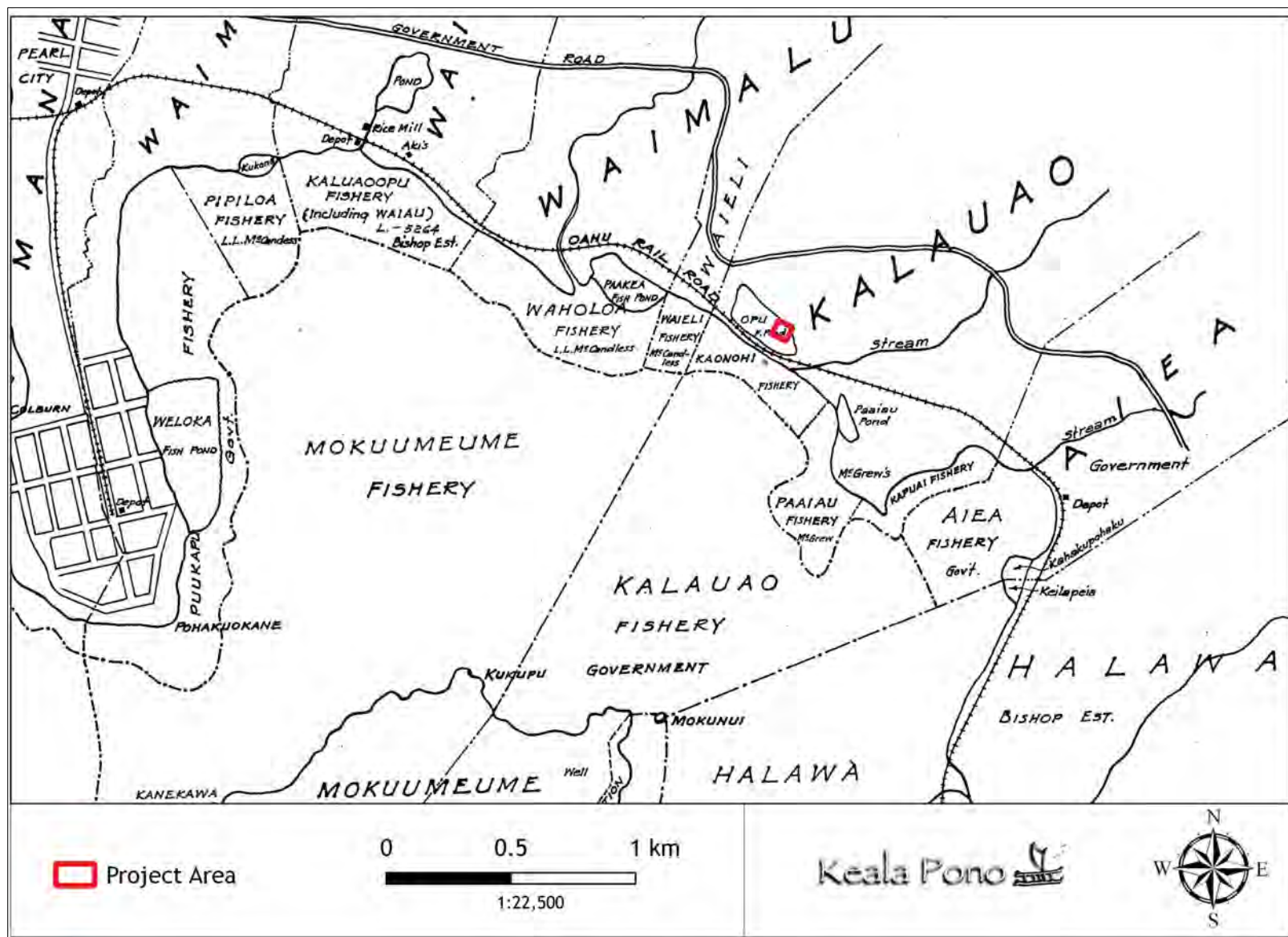


Figure 9. Portion of an O'ahu Fisheries map (Monsarrat 1913; RM 248).

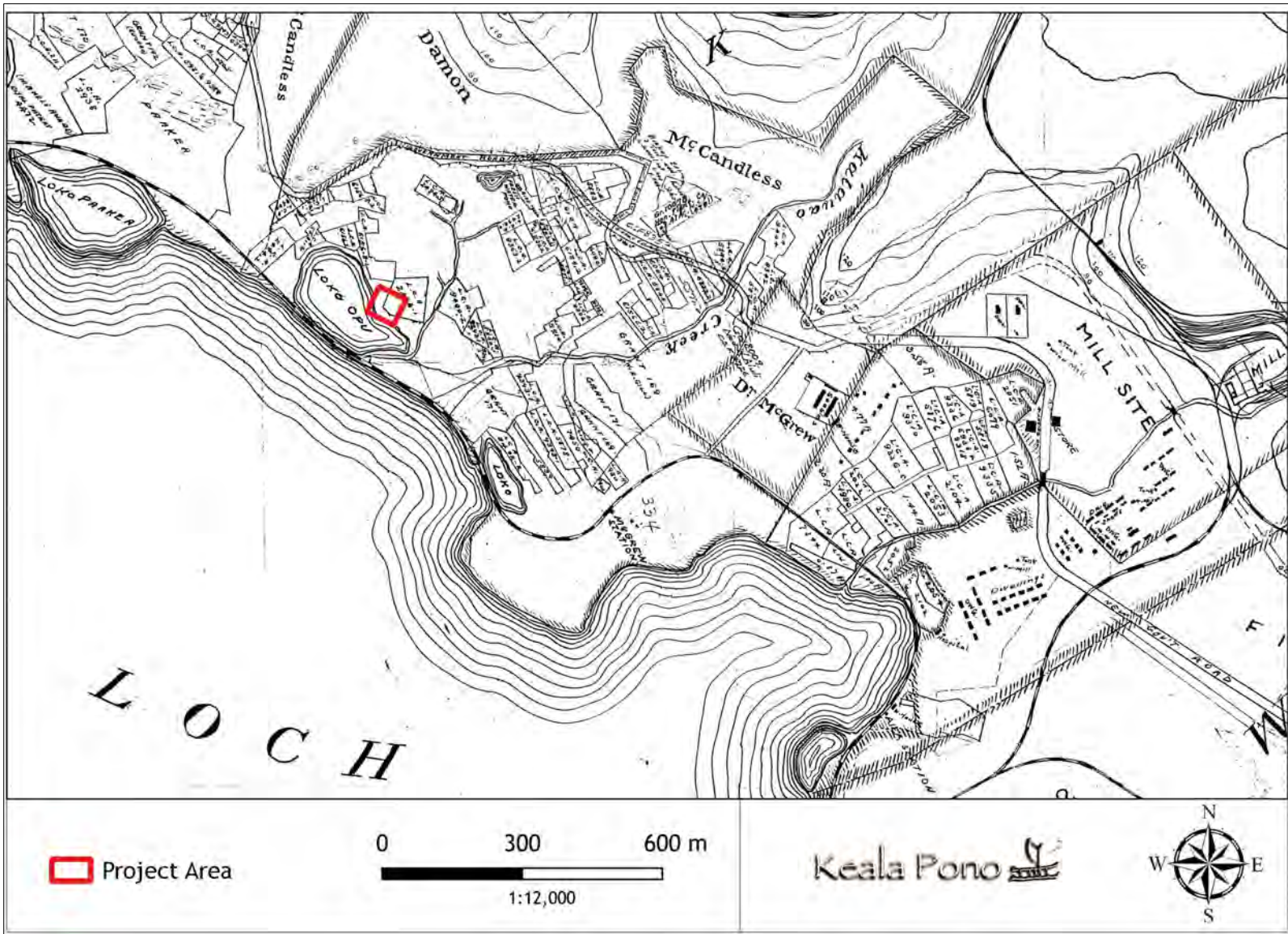


Figure 10. Portion of a map of Honolulu Sugar Co. property (Taylor 1910-1925; RM 2643).

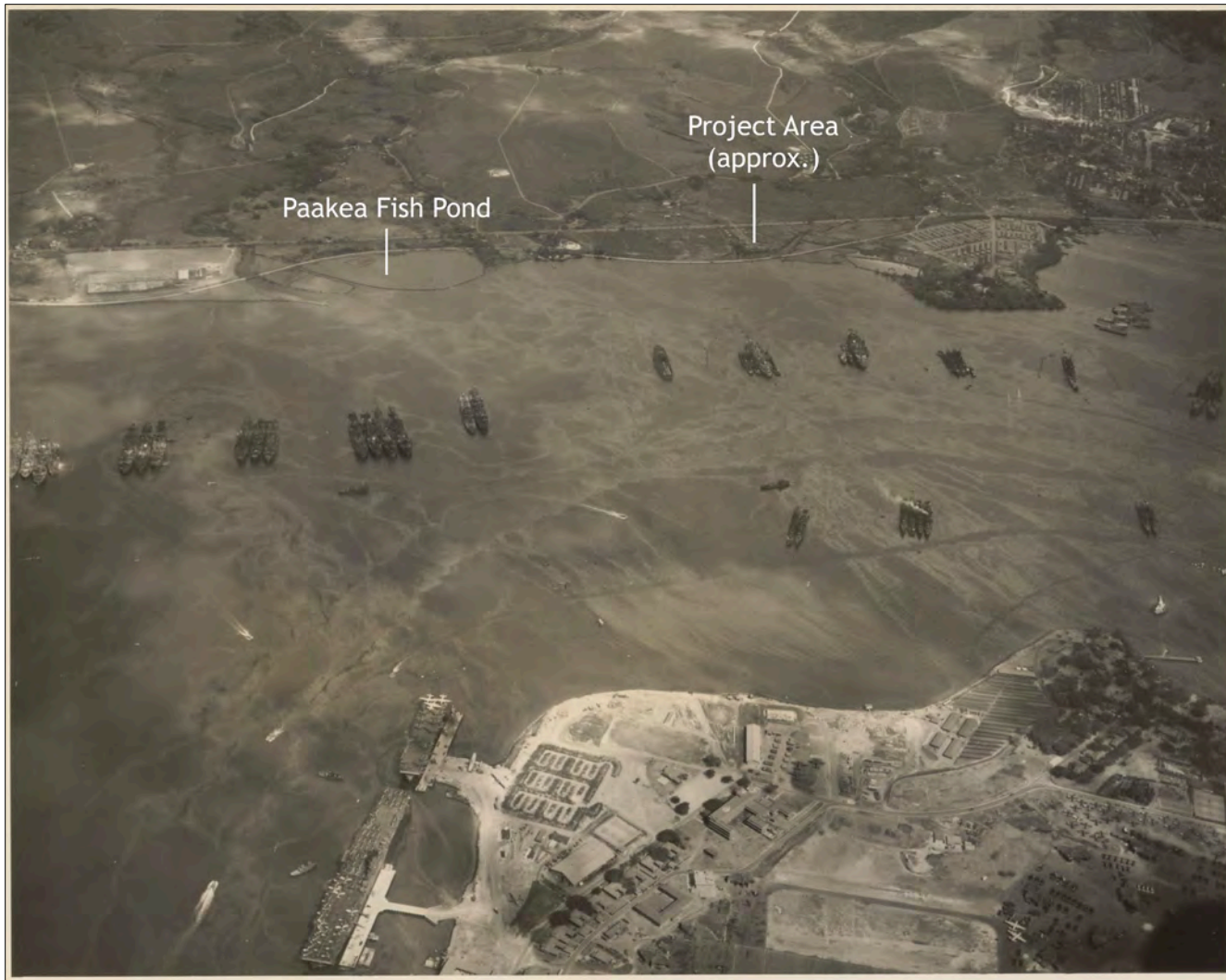


Figure 11. Aerial photograph of Pearl Harbor, looking northeast, taken on January 16, 1944 (DAGS 2023; Admiral Furlong Collection).

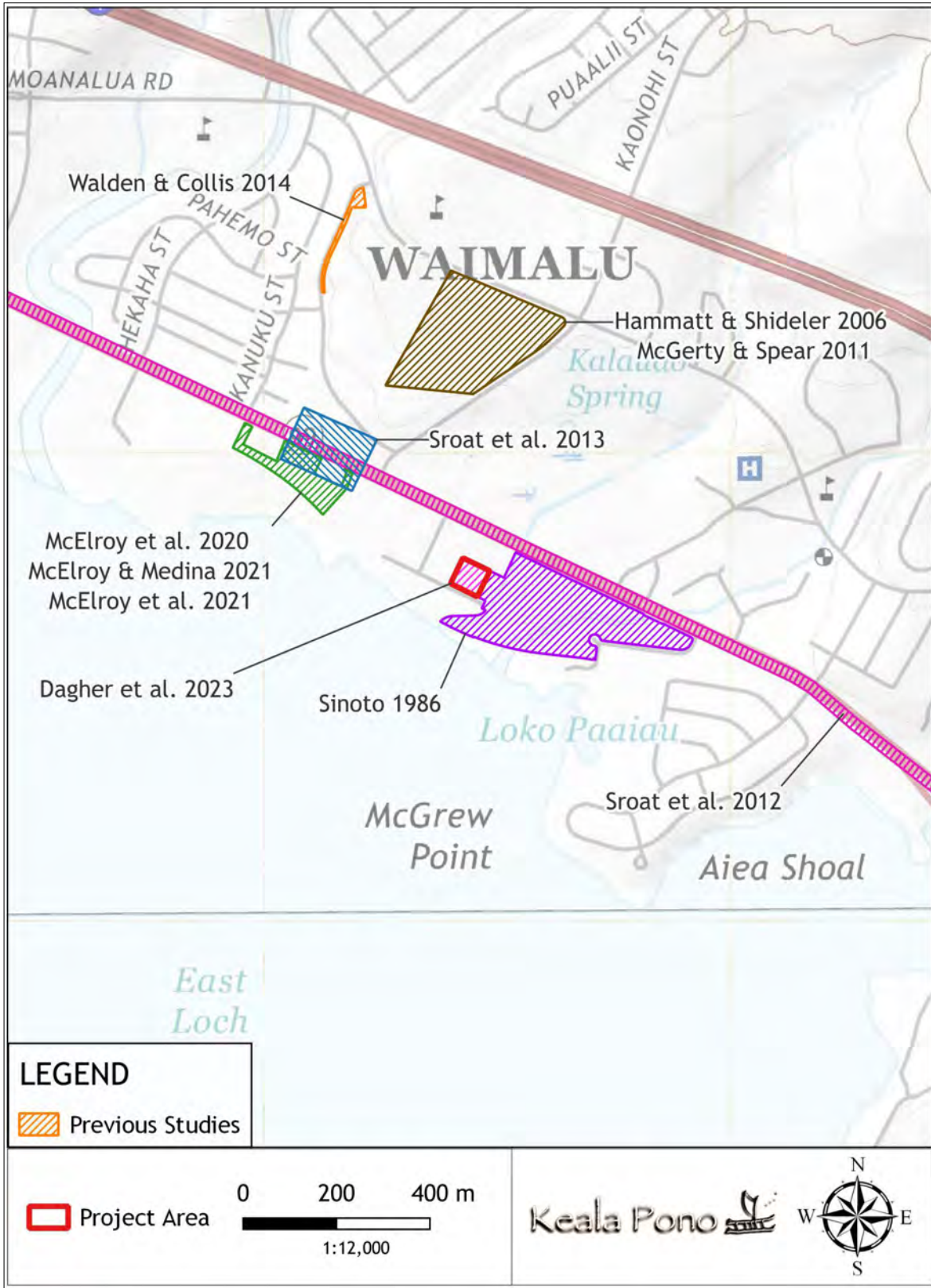


Figure 12. Previous archaeological studies in the vicinity of the project area.

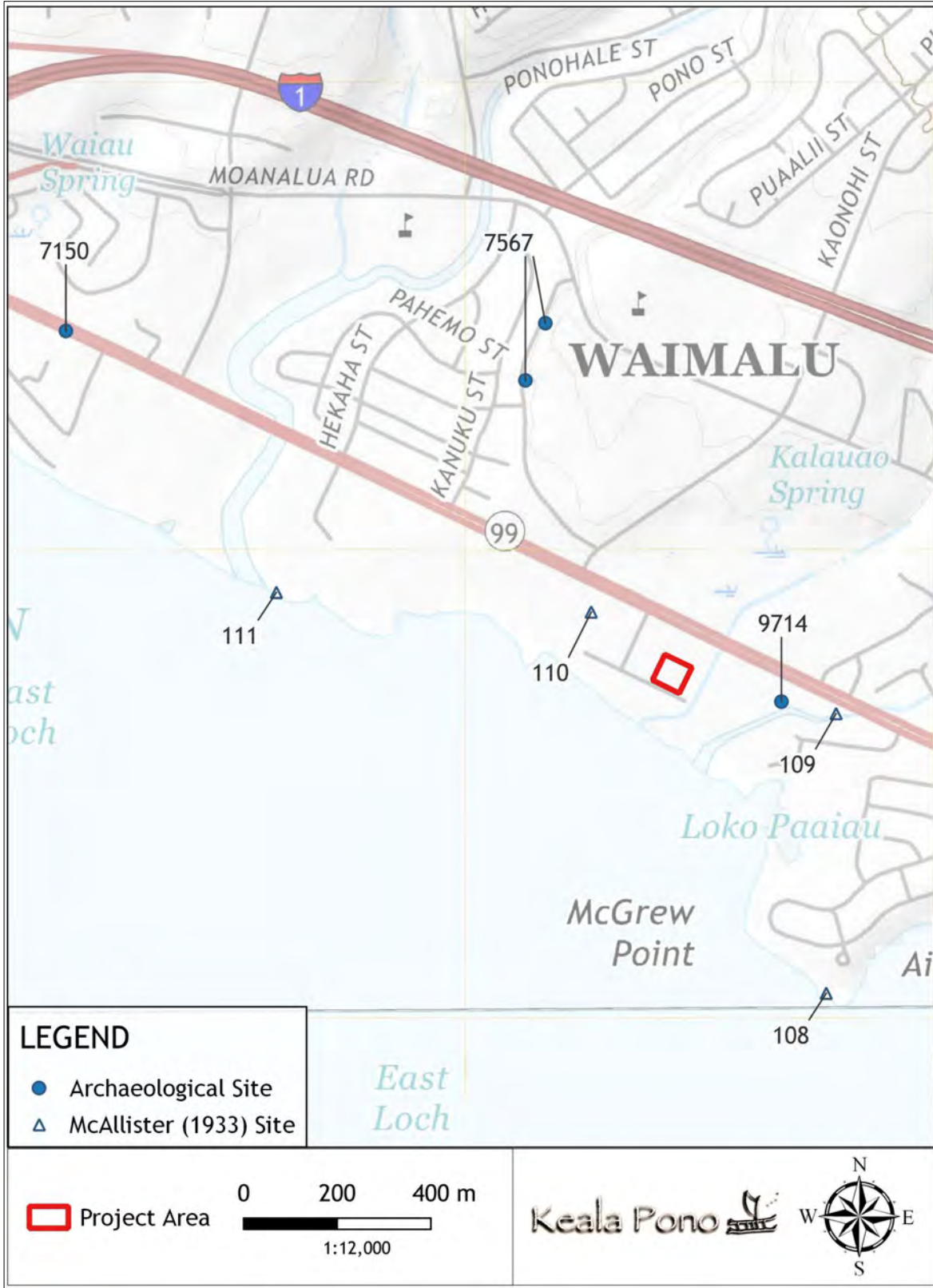


Figure 13. Previously identified archaeological sites in the vicinity of the project area.

Table 2. Previous Archaeological Studies in the Vicinity of the Project Area

Author and Year	Location	Type of Study	Results
McAllister 1933	Island-wide	Archaeological Survey	Documented three fishponds: Loko Pā'aiāu (SIHP 108), Loko Opu (SIHP 109), and Loko Pa'akea (SIHP 111) as well as Kūki'iahu, the home of chiefess Kalaimanu'ia, in the area. SIHP 109 is located within the current project area.
Sinoto 1986	Kalauao	Archaeological Survey	Identified SIHP 50-80-12-9714, an OR&L Railroad remnant.
Hammatt and Shideler 2006	Kalauao	Literature Review and Field Inspection	No new historic properties were identified.
McGerty and Spear 2011	Kalauao	Cultural Impact Assessment	No concerns pertaining to traditional cultural practices or resources were documented.
Sroat et al. 2012	Kamehameha Hwy.	Archaeological Inventory Survey	Identified SIHP 50-80-09-7150, a lo'i deposit.
Sroat et al. 2013	Kamehameha Hwy.	Supplemental Archaeological Inventory Survey	No new historic properties were identified.
Walden and Collins 2014	Moanalua Lp.	Archaeological Inventory Survey	Two Historic (mid-1950s) concrete culverts were identified (SIHP 50-80-09-7567).
McElroy et al. 2020	Waimalu	Cultural Impact Assessment	Interviewees mentioned three archaeological sites: one of the first churches in the region, an unbreakable stone, and a heiau in Hālawā.
McElroy and Medina 2021	Waimalu	Literature Review and Field Inspection	No new historic properties were identified.
McElroy et al. 2021	Waimalu	Archaeological Inventory Survey	No new historic properties were identified.
Dagher et al. 2023	Kalauao	Archaeological Field Inspection	One historic building, the PepperTree Apartment Complex, constructed in 1970

More recently, an archaeological surface survey was conducted in support of the Pearl Promenade Project, near PearlrIDGE Shopping Center, which included the current study area (Sinoto 1986). One historic property was identified to the east of the current project parcel, a remnant of the OR&L Railroad right-of-way (SIHP 50-80-12-9714). No traditional cultural resources were identified, as the entire area was filled in and graded. No further archaeological work was recommended.

Hammatt and Shideler (2006) completed an archaeological literature review and a field inspection for the Kamehameha Drive-In, located in Kalauao Ahupua'a. No new historic properties were identified. In sum, the authors stated:

It seems very unlikely that there were ever any significant subsurface cultural deposits related to habitation or significant paleoenvironmental data to be found within the project area. Anything of cultural interest as may have been present would likely have been destroyed by decades of commercial sugar cane cultivation and the grading associated with the establishment of the Kamehameha Drive In. (Hammatt and Shideler 2006:32)

Subsequently, McGerty and Spear (2011) prepared a cultural impact assessment of lands previously associated with the Kamehameha Drive-In, in Kalauao Ahupua‘a. No traditional cultural practices or cultural resources were identified.

An archaeological inventory survey was conducted in support of the Construction Phase 2 of the proposed Honolulu High-Capacity Transit Corridor (Sroat et al. 2012). One historic property (SIHP 50-80-09-7150) was identified within Test Trench E7, which is to the northwest of the current project. SIHP 7150 was described as consisting of two cultural deposits containing charcoal and decomposing organic material consistent with former lo‘i soils. The deposits were identified within LCA 9385, which was historically documented as containing lo‘i. Radiocarbon dating of charcoal samples recovered from Stratum IIIa yielded two date ranges of AD 1430–1530 and 1540–1635. Stratum IIIb yielded a date range of AD 1414–1480. The following year, a supplemental AIS was conducted in support of the Pearlridge Station for Phase 2 of the proposed Honolulu High-Capacity Transit Corridor (Sroat et al. 2013). An additional three test trenches were excavated, and no remnants of SIHP 7150 or any other historic properties were identified within any of the three trenches.

An archaeological inventory survey was required for proposed rockslide mitigation measures and improvements adjacent to Moanalua Loop, in Waimalu Ahupua‘a (Walden and Collins 2014). The survey resulted in the identification of two historic concrete culverts (SIHP 50-80-09-7567). The culverts dated to the mid-1950s and were interpreted as having served as drainages.

A cultural impact assessment was completed for a proposed bus transfer station near the current Best Buy property in Waimalu (McElroy et al. 2020). Interviewees mentioned three archaeological sites: one of the first churches in the region, an unbreakable stone, and a heiau in Hālawa. Subsequently, McElroy and Medina (2021) prepared a literature review and field inspection report for the same project. No new historic properties were identified. An archaeological inventory survey was also conducted for the bus transfer station project (McElroy et al. 2021). The survey yielded negative findings.

An archaeological literature review and field inspection was recently carried out for the current project (Dagher et al. 2023). The literature review, which consisted of archival research, identified LCA 2494, a portion of Loko Opu (a former fishpond), and former rice lands as once located on the subject property, with additional LCAs and fishponds nearby. The brief field inspection consisted of a walkthrough of parts of the property that do not currently contain existing structures. Most of the parcel is developed with six three-story buildings, a paved parking lot, and paved walkways, which make up the PepperTree Apartments complex. These six structures were built in 1970 and are thus considered a historic property as they are more than 50 years old. No other surface archaeological resources were observed during the field visit.

Summary and Anticipated Finds

During the pre-contact period, Kalauao Ahupua‘a produced valuable resources to sustain its inhabitants. Kalo was cultivated in the marshy coastal lowlands and along major waterways. Three loko were in the project vicinity: Loko Pā‘aiāu, Loko Opu, and Loko Pa‘akea. Historic maps show the project area as located within the boundaries of Loko Opu. These fishponds have long-since been filled-in, along with the surrounding lo‘i and rice lands, and developed with modern roads and buildings. A portion of LCA 2494, which was awarded to Julia Kekoa, is shown on historic maps and the Kipuka (n.d.) database, as extending into the northern portion of the current study parcel.

In the post-contact era, sugar cultivation was a driving force for the economy. Extensive cane fields, mills, ditches, the OR&L railroad, and other infrastructure forever changed the landscape. The rice

industry also became a profitable endeavor, particularly for Chinese immigrants looking to make their way in Hawai‘i. According to historic maps, the vicinity surrounding the current project area was not cultivated in rice until at least the late-19th century. Not much remains in Kalauao of the sugar industry today, but remnants of the OR&L railroad can still be found.

The findings of previous archaeological studies conducted within 1 km of the current project support the archival research. The archaeological studies resulted in the identification of three sites in the vicinity of the subject property: SIHP 7150, lo‘i deposits; SIHP 9714, an OR&L remnant; and SIHP 7567, two historic drainage culverts. Loko Opu (McAllister Site 109/SIHP 109) has been shown on historic and modern maps as partially located within the project area, but has since been filled in. While not in proximity to the current study parcel, Kūki‘iahu (McAllister Site 110/SIHP 110), the site of the home of chiefess Kalaimanu‘ia and the site of a famous battle, is of cultural and historical significance to the area in general.

The entire subject property is a developed, built environment and has undergone extensive previous disturbance. Thus, it is not likely that any surface archaeological features remain. Nevertheless, archival and previous archaeological research suggest the potential for cultural material or deposits to be present in subsurface context within the project area. These may include remnants of agricultural activity (e.g., pondfield deposits and other features associated with lo‘i, rice paddies, and/or sugarcane cultivation and infrastructure), remnants of Loko Opu (e.g., anaerobic deposits and remnants of the fishpond wall), past habitation (e.g., cultural layers and materials associated with LCA 2494), and vestiges of the OR&L railroad.

ETHNOGRAPHIC SURVEY

Not all information can be found in the archives, in textbooks, or at the library. Rather, it is through the stories, knowledge and experiences of our kama‘āina and kūpuna, that hidden information is found. Through them 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 the project area in Kalauao, ethnographic interviews were conducted with community members who are knowledgeable about the area.

Methods

This Cultural Impact Assessment was conducted through a multi-phase process between May and September 2023. Guiding documents for this work include The Hawai‘i Environmental Council’s Guidelines for Assessing Cultural Impacts, A Bill for Environmental Impact Statements, and Act 50 (State of Hawai‘i). Personnel involved with this study include Windy McElroy, PhD, Principal Investigator of Keala Pono Archaeological Consulting, and Cathleen Dagher, BA, Ethnographer.

Interviewees were selected because they met one or more of the following criteria: 1) was referred by Keala Pono Archaeological Consulting or the landowners; 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. Three individuals participated in the current study. Mana‘o and ‘ike shared during these interviews are included in this report.

Interviews were conducted in person or via email. In-person interviews were taped using a digital recorder. During the interviews, each participant was 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 CIA. Research categories were addressed in the form of open questions which allowed the interviewee to answer in the manner that he or she was most comfortable. Follow-up questions were asked based on the interviewee’s responses or to clarify what was said.

Transcription was completed by listening to recordings and typing what was said. A copy of the edited transcript was sent to each interviewee 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 interviewee.

A total of 25 potential interviewees were contacted, resulting in three interviews. The ethnographic analysis process consisted of examining each transcript and organizing information into research themes, or categories. Research topics include connections to the project lands, the history of Kalauao, the natural environment, mo‘olelo, archaeological sites and cultural practices, changes over time, and concerns and recommendations for the project. Edited transcripts are presented in their entirety in Appendices D–F. The individuals that participated in the CIA are listed in Table 3.

Interviewee Background

The following section presents background information for each interviewee, in their own, unedited, words. This includes information on the interviewee’s ‘ohana and where the interviewee was born

and raised. The participants are Mahealani Cypher, Danielle Espiritu, and K. [Kimberly] “Tiger” Mills.

Table 3. List of Interviewees

Name	Affiliation	Result of Contact
Mahealani Cypher	Historian, community advocate, Hawaiian cultural practitioner, Rail Station Naming Group, Ahupua‘a Marker project	Completed email interview
Danielle Espiritu	Ho‘ōla Hou iā Kalauao	Completed email interview
K. [Kimberly] “Tiger” Mills	Office of Conservation and Coastal Lands	Completed email interview

Mahealani Cypher

Mahealani Cypher Born and raised: ahupua‘a Kane‘ohe, b. 7/16/1946 Schools: Benjamin Parker, St. Andrew's Priory, Woodbury College, UH-Manoa.

The Cypher family is an extended ‘ohana that moved from Kalihi to Kane‘ohe in the 1930s when my grandpa George K. Cypher was assigned as a police officer at the Kane‘ohe police station, with the entire Windward coast from Waimea to Makapu‘u as his district. He was the son of George Cypher Sr. aka Sai Fu and Nellie Reuter of Hana, Maui. Grandma Cypher was born Elizabeth Keolahou Apa aka Lum Ho of Pu‘ueo, Hilo district, who moved to O‘ahu at the age of 12 to live with her half sister. She eventually met and married my grandpa. They had six children and adopted my younger sister and I when we were 1 and 3 years of age, after our birth mother moved to Japan for work...My grandparents also had several foster children, including Joe Seipel who lives in Nanakuli, Oahu. Grandpa Cypher was one of the founders of the Ko‘olaupoko Hawaiian Civic Club, established in 1937.

Danielle Espiritu

My name is Dani Espiritu. I was raised in Kāne‘ohe, Ko‘olaupoko, O‘ahu, but my mother is from Waimalu in the moku of ‘Ewa, where I have lived for the last decade and where my ‘ohana has lived for the last 70 years. I attended Kamehameha Schools Kapālama campus...My ‘ohana has lived in the area for the last 70 years. We are a local and Native Hawaiian family.

K. [Kimberly] “Tiger” Mills

K. Kimberly Tiger Mills, born September 1962 at Kapiolani Hospital in Honolulu. The family moved to ‘Enchanted Hills’ in Kalauao above Aiea High School in 1963/64. I went to Alvah Scott Elementary School and then Kamehameha Schools in 7th grade. Both my parents are from Hawai‘i, my Mom grew up in Hilo and my Dad in Honokaa. When my Dad came to UH for college, my Mom followed.

Topical Breakouts

The following sections are extended direct quotations from the interviews, organized by topic. Interviewees provided information on connections to the project lands, the history of Kalauao and adjacent lands, mo‘olelo, the natural environment, archaeological sites and cultural practices, and changes over time. They also shared their concerns and recommendations for the proposed Hale O Lipoa affordable multi-family residential development.

Connections to the Kalauao Area

I am a part of an organization named Ho‘ōla Hou iā Kalauao that cares for a spring-fed lo‘i kalo and farm space directly uka (upland) of the planned development. Ka‘ōnohi the name of the farm space we care for, it is also the name of the ‘ili ‘āina in the area. Ka‘ōnohi is just across the street of the proposed development. [D. Espiritu]

[The proposed project] appears to be located in Kalauao, same ahupuaa that I live in. [K. Tiger Mills]

We have no personal connection with the property proposed for this development. I have had work experience with the Halawa Shaft and Xeriscape garden belonging to the Honolulu Board of Water Supply, where Kukiiahu heiau is adjacent to the garden area. Its walls are still visible, located beneath the building which now houses (I believe) the FEMA headquarters. Because I learned of the heiau, I decided to research the connection with the battle of Kukiiahu. [M. Cypher]

In terms of my personal family connection to the area, my ‘ohana lives down the street. [D. Espiritu]

I have worked with [Kehaulani Lum], and practitioner Shad Kane to identify boundaries of these ahupua‘a as part of our ahupua‘a boundary marker project initiated by the O‘ahu Council of the Association of Hawaiian Civic Clubs. [M. Cypher]

When I was getting my Masters in Urban Planning, I did studies of the area. I wrote about the fishponds in the book Pohaku, did research of the area when Oahu had its own Kingdom. I love looking at the old maps and aerials of the area. I’ve been with the Aiea Community Association for almost 25 years. I like to ‘solve’ inquiries of the area. Everything I know was via research and conversations. [K. Tiger Mills]

I have spoken with my own kūpuna and ‘ohana, with practitioners in the area who care for ‘āina and who have also spent time with kūpuna from ‘Ewa who are no longer with us. I have also gathered information from secondary sources as well as primary sources and archival documents in both Hawaiian and English. KS ‘Ewa ‘Āina Inventory, Sites of O‘ahu, ‘Ōlelo No‘eau, lipine manaleo, old recorded interviews with Native Hawaiian speakers, old maps. I also spend a significant amount of time on ‘āina in the area- part of the knowledge is informed by my own connection with ‘āina and things I have observed myself. [D. Espiritu]

Mo‘olelo

There are mo‘olelo of Kāne and Kanaloa going throughout the moku of ‘Ewa with their ‘ō‘ō (digging sticks). They would travel, plunge their ‘ō‘ō in the ground, and wai, freshwater, would come up. There are mo‘olelo of Kalanimanuiā (Kalaimanuiā) making her residence in Kalauao because of the abundance of freshwater in the area...There are also mo‘olelo tied to manō and mo‘o in the area. [D. Espiritu]

Pearl Harbor has many stories related to it such as Ka‘ahupahau the Shark Goddess that guards the entrance to Puuloa [K. Tiger Mills]

During a May 23, 2023 telephone call with Mahealani Cypher, she recounted a mo‘olelo about the Battle of Kūki‘iahu, that took place in Kalauao and ‘Aiea:

Battle of Kūki‘iahu

During this battle, a female warrior was wounded. Her body was tossed on the pile of dead warriors who had been killed in the battle. During the night, she was awakened by an owl beating its wings over her and she found herself on a huge pile of corpses of the fallen warriors. The owl led her to a cave in Hālawa Valley, and later led her family members there to nurse her back to health. There, she stayed until she had fully recovered. Many

years later Kamakau met her, as an old woman, and saw the scars of her many wounds. This story is also recounted by Kamakau (1996:169–170).

History of Kalauao and Adjacent Lands

Kalauao or Multitude of Clouds was where Moi Wahine Kalanimanuia (maybe spelt [sp.] differently circa 1500) made her residence. During her reign, Pa‘akea, Opu and Pa‘aiua fishponds were commissioned. [K. Tiger Mills]

She [Kalanimanuia (Kalaimanuia)] was the daughter of Kukaniloko, for whom the sacred birth stones are named. Both are renowned mō‘ī wahine, queens, of O‘ahu. Kalanimanuia is credited with developing many of the lo‘i kalo and loko i‘a in the area. In Kalauao specifically, the area uka of the proposed development would have been spring-fed lo‘i kalo going all the way up toward the uplands, and the water there would empty into Opu, one of the fishponds Kalanimanuia is credited with constructing. Opu, no longer intact, would have been in the area of the proposed development. [D. Espiritu]

Kalanimanuia’s grandson was Kakuhihewa, when he succeeded, the land was peaceful and prosperous. With no war, society and culture flourished. During Kakuhihewa’s reign, Keaiwa Heiau located at the top of ‘Aiea was commissioned. It was believed that the Heiau was for healing and may have been a medical school. The streets of Kalauao are named after medicinal and traditionally used plants. [K. Tiger Mills]

Kalauao is also known for the Battle of Kuki‘ahu where the feathered cloak of chief Ka‘eo gave him away and he was killed in a ravine. His slain followers corpses were piled high at Pa‘aiua now known as McGrew Point. [K. Tiger Mills]

The Natural Environment

One interpretation of the name Kalauao is a multitude of clouds. Ka – the, lau – many/400 (like we would say with the word laulima), ao – light or clouds. Our placenames give us insight into what our kūpuna observed over many generations, and so that tells me about the weather patterns in the area. Kalauao, and the larger moku of ‘Ewa was famous for freshwater. [D. Espiritu]

We see that in many of the names in this area. Waimalu, Waiiau, Waimanō, Waiawa, Waipi‘o, Waipahū, Waikele. The word wai (freshwater) is repeated over and over. [D. Espiritu]

We are two traffic lights away from the proposed development, and yet in a completely different ahupua‘a. To have ahupua‘a that were so thin, speaks to the abundance of resources in Kalauao and Waimalu, and in the broader ‘Ewa moku. [D. Espiritu]

On the other side of Kalauao, closer to Kalauao stream, ‘auwai were constructed to create a sophisticated engineering system that would direct water from the stream into lo‘i kalo and then back into the stream again. That fresh water would then go into Pa‘aiua, another fishpond of Kalanimanuia where it would mix with salt water attracting fish and creating a suitable environment for them to grow. Some kūpuna say there were upwards of 100 fishponds throughout Pu‘uloa, which served as the breadbasket for the ‘Ewa moku. [D. Espiritu]

Archaeological Sites and Cultural Practices

My memory is faulty, but I think I remember walking alongside the stone walls, somewhat in disarray, of Kukiihau heiau, accompanied by archaeologist Earl Buddy Neller, who explained the possibility that these were the remains of the heiau. [M. Cypher]

There was a fishpond named Opu in the area where the proposed development is located. The freshwater coming from springs and lo‘i kalo further uka would flow down and into the fishpond, mixing with salt water and would provide food. As mentioned, Kalanimanuia,

mō‘ī wahine of O‘ahu was credited with the construction of Opu as well as the surrounding lo‘i kalo and loko i‘a. [D. Espiritu]

I think the area may have been part of Opu fishpond or adjacent. Is or was BP Bishop lands. [K. Tiger Mills]

There is a lo‘i kalo across the street, directly uka of the proposed development. Native Hawaiian varieties of taro, some that were well known in ‘Ewa, are being grown in the flooded style there as they have been for generations in Hawai‘i. Other Native dryland crops are being grown traditionally there. Food is being prepared traditionally there. Hawaiian and non-Hawaiian families are gathering to perpetuate these Native Hawaiian cultural practices just uka of the proposed development area. These practices require water. In addition, a hui is restoring Loko Pa‘aihu not far away. [D. Espiritu]

I know of the Pearl Harbor historic trail a community initiated program to bring people to the waterfront as part of the federal trails program. Nearby to the east the Pauahi Civic Club, Navy along with others and Aiea HS students have been restoring Pa‘aihu fishpond. Pa‘aihu has been used as a place to reflect and have Hooponopono. Military families and Officers are part of our community and have taken part in the gatherings and conviviality at Pa‘aihu. [K. Tiger Mills]

...Moku‘ume‘ume activities. [K. Tiger Mills]

Changes Over Time

Ka‘ōnohi is the only lo‘i kalo in either direction for several ahupua‘a. This is shocking considering ‘Ewa, and Kalauao in particular were once famous for its abundance in food and freshwater. The vast majority of the food-growing areas, which often took the form of lo‘i kalo and loko i‘a, are now filled and cemented. Ka‘ōnohi is the last lo‘i kalo in Kalauao and one of very few in the entire moku of ‘Ewa. [D. Espiritu]

When I was young, never have the highway. The highway split the community in half and made it harder to walk about. The ‘commercial district’ moved from one side of the street to the other. Strip Malls were created, stores came and went. Remember Wigwam? Kam Drive Inn? Pearlridge was created in the 1970s along with the ‘executive homes’ and high rises. The watercress fields were always there. [K. Tiger Mills]

My grandparents who lived in ‘Ewa in the 1940s and 50s used to be able to gather fish and shellfish from Pu‘uloa, just down the road and in walking distance of the proposed development. They grew up swimming in the streams and gathering and eating from them and from the ocean. My mother remembers Waimalu stream being cemented and channelized in the 1960s, part of Wai‘eli (the ridge separating Kalauao and Waimalu) being blown up to make way for what is now Moanalua Road, and the land being drilled in order for the huge posts that are now the freeway to be put up. Kama‘āina were forced to relocate. We saw similar things along Kamehameha Hwy for the rail project. I was born in the 1980s and grew up primarily in the 1990s, and for my entire lifetime I have not been able to touch the streams or ocean water in our community because I have known it was contaminated. There are signs posted in the areas where my kūpuna used to gather food that say DO NOT EAT FISH & SHELLFISH. Within three generations, Pu‘uloa and the surrounding streams have gone from a source of food and sustenance, to one of potential danger due to contamination and unregulated development, urbanization, industry, and militarization. We are now in the critical generation that will determine the future health of our aquifer and subsequently our springs. [D. Espiritu]

Because of 911, security for the Halawa Shaft and xeriscape garden has been enhanced and access is greatly limited. The tenant of the building next door changed from a Budweiser/winery facility to its current occupant, U.S. FEMA. The H-3 freeway was constructed alongside the BWS facilities at Halawa, which required realignment of Halawa Stream next to the garden. This resulted in removal of a number of very old trees on the

stream banks, and the planting of areca palms as a dust barrier alongside the new stream alignment. The noise from traffic on the freeway has increased 1000%; what was once a quiet, parklike preserve is now subjected to dust and noise from the H-3. [M. Cypher]

The springs that feed the 'āina at Ka'ōnohi come directly from the aquifer. Over the last decade, and especially in the last 5 years, we have noticed changes in the springs at Ka'ōnohi. Water levels have dropped significantly and some areas have shown elevated salinity levels, all of which happened in conjunction with increased development and construction in the surrounding area. While Kalauao and 'Ewa were once famous for its abundance in water and resources, overdevelopment and contamination have left their mark. [D. Espiritu]

Concerns and Recommendations

We are the last lo'i kalo in several ahupua'a in either direction and so we are talking about a direct threat to the remaining traditional farming and cultural practices in a huge land area. These are cultural practices protected by law. [D. Espiritu]

Due to the proximity of the planned development to Ka'ōnohi, any construction and development will have a direct impact on our ability to continue farming lo'i kalo traditionally, a cultural practice carried on in Hawai'i since time immemorial. [D. Espiritu]

I am unaware/unfamiliar of sites directly on or affected by proposed activity on your development area... There is always the possibility of adverse impacts of your development on cultural sites or viewplanes. It is in the moku of 'Ewa, in the vicinity of the historic battle of Kukiiahu, where modern developments have already been built over these places of antiquity.... Kehaulani Lum is working on restoration of an ancient fishpond at Puuloa and will definitely have more specific information for you. [M. Cypher]

Mahi'ai (farmers) are concerned about how development in 'Ewa will affect freshwater, and subsequently, all cultural practices that rely on it. What happens when the springs dry up? How do you farm lo'i kalo without water? You cannot... In addition, we have already seen with the tragedy on Maui what happens when resources are exploited for generations, water is extracted, and Native water and resource management systems are not allowed to function as they should. We are already overtaxing the aquifer, something that would not be happening if development were monitored with a generational mindset. Water levels have dropped significantly in the last decade alone. Additional developments will mean more water must be pumped into buildings to support more people in an already concentrated area. In addition, any damage to the aquifer and freshwater lens will have direct impacts on the springs and lo'i nearby. [D. Espiritu]

The proposed development, and any further development of the surrounding area, poses a direct threat to Ka'ōnohi, the nearby spring fed lo'i kalo. We have already seen a significant drop in water level due to overdevelopment in the area. Further development, especially so close to Ka'ōnohi, could result in the inability to continue farming lo'i kalo there. Should the water level continue to drop, there will not be enough water coming up through the springs to flood patches and we would lose that cultural practice entirely in this area. What happens in one area will have direct impacts in another. [D. Espiritu]

Acknowledge and recognize the stories of the past of the area; make residents of HaleLipoa aware of stories and past to create a connection to the land, volunteer opportunities and community organizations. [K. Tiger Mills]

If buffers cannot be established between nearby cultural places, streams, viewplanes, etc., and your proposed development, perhaps a combination of mitigations such as emphasis on native plant landscaping, integrating area cultural education into the architecture of the building(s), and contributions to cultural awareness organizations such as Ko'olau Foundation might be helpful. [M. Cypher]

The choice to develop is choosing to ignore community concerns. Perhaps landowners should think innovatively and generationally, looking for green solutions that allow ‘āina and people to heal, reconnect, and build in a way that benefits both. What might it look like to restore the abundance of ‘Ewa that is literally just below the surface? [D. Espiritu]

Summary of Ethnographic Survey

The interviewees have extensive knowledge about the Kalauao project lands and vicinity. All of the interviewees are widely educated about the natural and cultural environment of Kalauao Ahupua‘a and the surrounding environment. One individual is a cultural practitioner whose family has lived in ‘Ewa District for 70 years. This person belongs to a community organization that takes care of a spring-fed lo‘i kalo and farm near the proposed project site. Another interviewee lives in Kalauao Ahupua‘a and has belonged to a community organization for many years that is actively restoring Loko Pā‘aiau Fishpond. This individual has conducted research on fishponds, some of which has been published. The third individual is a cultural practitioner and historian who has personal interest in the area, has researched a famous battle that took place in Kalauao, and has participated in an island-wide project to identify and mark ahupua‘a boundaries.

The participants shared a strong interest, knowledge, and awareness of the historical, cultural, and archaeological significance of the land- and seascape and identified numerous fishponds that once lined the coast. The interviewees spoke of Kalaimanu‘ia (Kalanimanu‘ia), the Mō‘ī Wahine of O‘ahu, who lived in Kalauao and was credited with the construction of Loko Pā‘aiau, Loko Opu, and Loko Pa‘akea. Some of the interviewees noted that Loko Opu was a filled-in fishpond on which the proposed Hale O Lipoa will be built. It was mentioned that medicinal plants were once cultivated in the area and Keaīwa Heiau, a medicinal heiau in ‘Aiea, was located in the uplands. It was also noted that the streets of Kalauao are currently named after medicinal plants that were used traditionally. In addition, the participants spoke of Kūki‘iahu, the area where Kalaimanu‘ia once lived, and that remnants of her house are still visible there. In one case, these ruins were interpreted to be the remnants of a heiau. Also noted was the famous Battle of Kūki‘iahu that was fought in Kalauao and ‘Aiea. Some of the interviewees are actively involved in the restoration of Loko Pā‘aiau and in conducting cultural practices in the area.

Cultural practices identified during the interviews include activities conducted during traditional times that are still being practiced today in the vicinity of the project area. These practices include the on-going reconstruction of Loko Pā‘aiau Fishpond and the cultivation of lo‘i kalo, including varieties of wetland taro that were well known in ‘Ewa during traditional times and are being farmed across the street, mauka, from the study parcel. Native dryland crops are also being grown there utilizing traditional farming methods, and traditional methods of food preparation are being practiced there, as well. Additional traditional cultural practices identified during consultation with community members include spiritual practices such as honoring ancestors, as well as caring for, maintaining, and protecting the ceremonial and religious sites.

The community members who participated in the consultation process voiced general and specific concerns and recommendations for the proposed project and its surroundings. General concerns pertain to the coastal region of ‘Ewa District where modern development has negatively impacted historic properties and resulted in fewer remaining cultural properties, natural landscapes, and view planes. The specific concerns the interviewees raised are that the proposed development has the potential to impact the natural resources in the immediate vicinity of the project area, specifically related to freshwater, which in turn will impact on-going cultural activities, and that the selected location is not the right place for the proposed residential development. Many of the interviewees’ recommendations focused on creating beneficial connections between the development and the environment through cultural and historical awareness.

SUMMARY AND RECOMMENDATIONS

An examination of traditional and historic land use for Kalauao as demonstrated in the mo‘olelo, historic literature, and archaeological investigations, shows that this area was able to sustain a large population with its plentiful freshwater streams and springs, the harbor rich with marine resources, fishponds lining the coastal region, and cultivated lands just inland. Mo‘olelo and ‘ōlelo no‘eau also reveal a place abundant in natural resources of both land and sea; a place chosen by ali‘i for their residences and seats of government, and where an important battle was fought. As Kalauao was chosen as the primary residence and governing seat of Kalaimanu‘ia, the Mō‘ī Wahine of O‘ahu, and the ahupua‘a where she commissioned the construction of three large fishponds, this was an ahupua‘a of importance in traditional times.

Historically, many of the fishponds along the ‘Ewa coast were filled in to make way for commercial endeavors. Sugar cultivation was a driving force for the economy, and cane fields, mills, ditches, the OR&L railroad, and other infrastructure forever changed the landscape. The rice industry also became a profitable endeavor, particularly for Chinese immigrants looking to make their way in Hawai‘i. Previous archaeological studies produced limited findings, but provide evidence of the three fishponds, traditional agriculture, and the OR&L railroad in the area.

Cultural Resources, Practices, and Beliefs Identified

Archival research and ethnographic interviews compiled for the current study reveal that Kalauao Ahupua‘a and its surroundings were important locations associated with various resources, named people and deities, along with a number of traditional activities. It was a region with a wealth of coastal, marine, and freshwater resources that supported traditional subsistence activities such as aquaculture and traditional agriculture. A number of the named places adjacent to the project were associated with the natural environment, such as plants, trees, streams, and coral beds. Hence, daily life revolved around both the procurement of marine resources, as well as harvesting of kalo, ‘uala, and ‘ulu from cultivated lands just inland from the coast.

With regard to cultural practices and beliefs, the findings of this study reflect the cultural significance of natural resources, especially clean, fresh water for use in traditional agriculture and aquaculture. The findings of this study also focused on the important role aquaculture played in traditional lifeways, and specifically the three fishponds constructed in Kalauao through the efforts of Kalaimanu‘ia to feed her people and to impart cultural values upon them.

Although no traditional cultural practices or cultural resources were identified within the project area, traditional cultural practices are currently being conducted on lands immediately adjacent to the project area and in the vicinity. Importantly, interviewees stated that the proposed project area is located within Loko Opu, a filled fishpond and mentioned nearby fishpond reconstruction efforts and a native farm and lo‘i kalo.

Potential Effects of the Proposed Project

While the proposed project is not expected to block access to traditional gathering places or fishing grounds, it does have the potential to affect natural and cultural resources located within and adjacent to the project, as well as affect natural and cultural resources in the area. Awareness of this should be at the forefront to prevent any adverse effects from occurring as a result of this development. Impacts identified by interviewees focused on those related to fresh water resources. Impacts to lo‘i kalo and farming, limu, and interference with the stream were specific concerns raised by the interviewees. One interviewee voiced concerns regarding the size, nature, and location of the proposed development.

Confidential Information Withheld

During the course of researching the present report and conducting the ethnographic survey program, one of the interviewees requested that personal information be withheld in confidentiality. This information is therefore not included in the transcript. In addition, one interviewee requested not to be a part of this study, and their transcript and information are not included in this report.

Conflicting Information

No conflicting information was obvious in analyzing the ethnographic interviews. On the contrary, a number of themes were repeated and information was generally confirmed by independent sources. The interviewees emphasized both the historical and current cultural significance of the area.

Recommendations/Mitigations

Several concerns were voiced which focused on the possibility of impacting cultural practices and natural and cultural resources. According to interviewees, the proposed development has the potential to impact traditional agriculture and food preparation currently conducted on a property immediately adjacent to the project area, as well as possibly harm freshwater sources that support these activities. Given the location of the study parcel and its coastal proximity, the project has the potential to directly impact Loko Opu and the immediately adjacent marine environment. Impacts to the marine environment may also affect the restoration processes of nearby Loko Pā'aiau and the local ecosystem. Recommendations and mitigations for the project include the following:

- acknowledge stories of the past
- implement native plant landscaping in the project
- establish a buffer between nearby cultural places, streams, and view planes
- integrate cultural elements into the project's architecture
- contribute to cultural awareness organizations
- look for ways to allow the land and people to heal and reconnect
- build in a way that benefits the land and people
- preserve and protect groundwater

Summary and Conclusion

In sum, background research and oral history interviews identified Loko Opu within the project area. In addition, cultural practices and cultural and natural resources were identified in areas adjacent to the project. An archaeological inventory survey is recommended to determine if any surface or subsurface cultural resources remain on the property, with special care to look for fishpond wall remnants, anaerobic and agricultural deposits, as well as traditional and historic cultural material and deposits. As the PepperTree apartments complex is a historic property, consultation with the State Historic Preservation Division is recommended to ensure appropriate documentation. The community should be kept informed on the construction plans, and their concerns and recommendations should be considered during all phases of the proposed work. The project area and adjacent environment are clearly significant in both the past and present.

GLOSSARY

ahu	A shrine or altar.
ahupua‘a	Traditional Hawaiian land division usually extending from the uplands to the sea.
‘aiea	The tree or shrub <i>Nothocestrum</i> , one species of which was used for fire-making and thatching poles.
‘āina	Land.
aku	The bonito or skipjack (<i>Katsuwonus pelamis</i>), a prized eating fish.
akua	God, goddess, spirit, ghost, devil, image.
akule	Big-eyed or goggled-eyed scad fish (<i>Trachurops crumenophthalmus</i>).
ali‘i	Chief, chiefess, monarch.
‘āpana	Piece, slice, section, part, land segment, lot, district.
‘aumakua	Family or personal gods. The plural form of the word is ‘aumākua.
‘auwai	Ditch, often for irrigated agriculture.
‘awa	The shrub <i>Piper methysticum</i> , or kava, the root of which was used as a ceremonial drink throughout the Pacific.
‘ele‘ele	Black; a variety of taro with a blackish leaf stem.
‘ewa	Place name west of Honolulu, used as a directional term.
hale	House.
hānai	Foster child, adopted child; to raise, feed, or sustain; a provider or caretaker.
heiau	Place of worship and ritual in traditional Hawai‘i.
ho‘oponopono	To correct.
hui	A club, association, society, company, or partnership; to join, or combine.
‘ike	To see, know, feel; knowledge, awareness, understanding.
‘ili, ‘ili‘āina	Traditional land division, usually a subdivision of an ahupua‘a.
kahawai	Stream, creek, river; valley, ravine, gulch, whether wet or dry.---
kahu	Honored attendant, guardian, nurse, keeper, administrator, pastor.
kahuna	An expert in any profession, often referring to a priest, sorcerer, or magician.
kalo	The Polynesian-introduced <i>Colocasia esculenta</i> , or taro, the staple of the traditional Hawaiian diet.
kama‘āina	Native-born.
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.
ko‘a	Fishing shrine.

konohiki	The overseer of an ahupua‘a ranked below a chief; land or fishing rights under control of the konohiki; such rights are sometimes called konohiki rights.
kuapā	Wall of a fishpond.
kukui	The candlenut tree, or <i>Aleurites moluccana</i> , the nuts of which were eaten as a relish and used for lamp fuel in traditional times.
kula	Plain, field, open country, pasture, land with no water rights.
kuleana	Right, title, property, portion, responsibility, jurisdiction, authority, interest, claim, ownership.
kumulipo	Origin, source of life; name of the Hawaiian creation chant.
kupuna	Grandparent, ancestor; kūpuna is the plural form.
laulima	Cooperation; a group of people working together.
limu	Refers to all sea plants, such as algae and edible seaweed.
limu ‘ele‘ele	The long, green seaweed <i>Enteromorpha prolifera</i> , commonly eaten raw as condiments.
līpoa	The brown seaweeds (<i>Dictyopteris plagiogramma</i> and <i>D. australis</i>), highly prized as a delicacy.
lo‘i, lo‘i kalo	An irrigated terrace or set of terraces for the cultivation of taro.
loko, loko i‘a	Pond, lake, pool, fishpond.
Māhele	The 1848 division of land.
mahi‘ai	Farmer.
mai‘a	The banana, or <i>Musa</i> sp., whose fruit was eaten and leaves used traditionally as a wrapping for cooking food in earth ovens.
mālama	To care for, preserve, or protect.
mākāhā	A fishpond sluice gate.
makai	Toward the sea.
mana‘o	Thoughts, opinions, ideas.
muliwai	River mouth, estuary, or pool near the mouth of a stream, enlarged by ocean water left there at high tide.
māmaki	<i>Piptarus</i> spp., a small native tree. Fiber from its bark was used to make a kind of coarse tapa. Sometimes spelled mamake in old texts.
mangrove	The tree <i>Rhizophora mangle</i> , brought to Hawai‘i in the early 20 th Century, known to infest coastal marshes and streams.
manō	General name for shark.
mauka	Inland, upland, toward the mountain.
mele	Song, chant, or poem.
mele inoa	Name chant, composed to honor someone.
mō‘ī	King.
moku	District, island.

mo‘o	Lizard, dragon, water spirit.
mo‘olelo	A story, myth, history, tradition, legend, or record.
muliwai	River mouth, estuary, or pool near the mouth of a stream, enlarged by ocean water left there at high tide.
nehu	The anchovy, <i>Stolephorus purpureus</i> , used for eating and as a chum for bonito.
‘ohana	Family.
‘ōlelo no‘eau	Proverb, wise saying, traditional saying.
oli	Chant.
olonā	The native plant <i>Touchardia latifolia</i> , traditionally used for making cordage.
‘ō‘ō	<i>Moho nobilis</i> , the extinct black honey eater. Its black and yellow feathers were used in featherwork. Also the term for a digging stick, or to pierce, poke, or cut.
pilikia	Trouble.
pipi	<i>Pinctada radiata</i> , the Hawaiian Pearl Oyster. In songs this is referred to as the i‘a hāmau leo o ‘Ewa, or ‘Ewa’s silent sea creature, as it was believed that speaking would cause a breeze to ripple the ocean and scare the pipi.
poi	A staple of traditional Hawai‘i, made of cooked and pounded taro mixed with water to form a paste.
poke	To slice, cut into pieces, or press out.
post-contact	After A.D. 1778 and the first written records of the Hawaiian Islands made by Captain James Cook and his crew.
pūnāwai	Fresh water spring.
tūtū	Grandmother or grandfather.
‘uala	The sweet potato, or <i>Ipomoea batatas</i> , a Polynesian introduction.
uhi	The yam <i>Dioscorea alata</i> , commonly grown for food.
uka	See mauka.
‘ulu	The Polynesian-introduced tree <i>Artocarpus altilis</i> , or breadfruit.
wahine	Woman, wife; femininity. Wāhine is the plural.
wai	Water or liquid other than salt water.
wao	A general term for inland areas, usually forested and uninhabited.
wauke	The paper mulberry, or <i>Broussonetia papyrifera</i> , which was made into tapa cloth in traditional Hawai‘i.

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APPENDIX A: AGREEMENT TO PARTICIPATE

**Agreement to Participate in the Cultural Impact Assessment for the
Hale O Lipoa Development Project
Cathleen Dagher, Ethnographer, Keala Pono Archaeological Consulting**

You are invited to participate in a Cultural Impact Assessment (CIA) for the Hale O Lipoa Development project in ‘Aiea, on the Island of O‘ahu (herein referred to as “the Project”). The Assessment is being conducted by Keala Pono Archaeological Consulting (Keala Pono), a cultural resource management firm, at the request of the Lipoa Development LLC. The ethnographer will explain the purpose of the Assessment, the procedures that will be followed, and the potential benefits and risks of participating. A brief description of the Assessment is written below. Feel free to ask the ethnographer questions if the procedures need further clarification. If you decide to participate, 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 the Project in Kalauao Ahupua‘a, 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 Assessment is to identify and understand the importance of any traditional Hawaiian and/or historic cultural resources, or traditional cultural practices within the Project. This Assessment will also attempt to identify any effects that the proposed development may have on cultural resources present, or once present within the Project area.

Procedures

After agreeing to participate in the Assessment 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 Assessment 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 Assessment 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 the Assessment 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 Cultural Impact Assessment (Assessment) for the Hale O Lipoa Development (herein referred to as “the Project”). I understand that the purpose of the Assessment is to conduct oral history interviews with individuals knowledgeable about the Project and the surrounding ahupua‘a in an effort to identify and protect traditional cultural practices and cultural resources.

_____ I understand that Keala Pono Archaeological Consulting (Keala Pono) and/or Lipoa Development LLC (the client) will retain the product of my participation (digital recording, transcripts of interviews, etc.) as part of their permanent collection and that these materials will only be used for scholarly, educational, and/or land management purposes.

_____ I hereby grant to Keala Pono and the client the right to use the property that is the product of my participation (e.g., my interview, written materials, and any other materials I provide) for the Assessment 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 the client my consent for any photographs provided by me or taken of me in the course of my participation in the Assessment to be used, published, and copied by Keala Pono and/or the client and its assignees in any medium for purposes of the Assessment.

_____ I agree that Keala Pono and the client may use my name, photographic image, biographical information, statements, and voice reproduction for this Assessment 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 and edit my transcripts to ensure that they accurately depict what I meant to convey. I understand I have the power to delete any information I deem too sensitive and/or too personal for publication from the transcript. 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 Assessment, although I will still have the opportunity to make revisions during the draft review process.

_____ I further understand that not giving my consent to any portion of the above listed items will not prevent my mana‘o being included in the Assessment. For example, I may decline Keala Pono or their client permission to use my photographic image or biographical information but by signing this Consent Form, still grant my permission for my mana‘o to be included in the text of the Assessment.

By signing this consent form, I am acknowledging that I have been informed about the purpose of this Assessment, the procedure, how the data will be gathered, and how the data will be used. 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 Cultural Impact Assessment for the Hale O Lipoa Project (herein referred to as “Project”) and was interviewed for the Assessment. 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 Lipoa Development LLC 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 MAHEALANI CYPHER

1) To start please tell us about yourself...Name? Where/When you were born? Where you grew up? Where you went to school?

Name: Mahealani Cypher Born and raised: ahupua`a Kane`ohe, b. 7/16/1946 Schools: Benjamin Parker, St. Andrew's Priory, Woodbury College, UH-Manoa

2) Could you tell us about your `ohana/family background?

The Cypher family is an extended `ohana that moved from Kalihi to Kane`ohe in the 1930s when my grandpa George K. Cypher was assigned as a police officer at the Kane`ohe police station, with the entire Windward coast from Waimea to Makapu`u as his district. He was the son of George Cypher Sr. aka Sai Fu and Nellie Reuter of Hana, Maui. Grandma Cypher was born Elizabeth Keolahou Apa aka Lum Ho of Pu`ueo, Hilo district, who moved to O`ahu at the age of 12 to live with her half sister. She eventually met and married my grandpa. They had six children and adopted my younger sister and I when we were 1 and 3 years of age, after our birth mother moved to Japan for work (she was never married to our birth fathers). My grandparents also had several foster children, including Joe Seipel who lives in Nanakuli, Oahu. Grandpa Cypher was one of the founders of the Ko`olaupoko Hawaiian Civic Club, established in 1937.

3) What is your association to the subject property (family land, work place, etc.)?

We have no personal connection with the property proposed for this development. I have had work experience with the Halawa Shaft and Xeriscape garden belonging to the Honolulu Board of Water Supply, where Kukiiahu heiau is adjacent to the garden area. Its walls are still visible, located beneath the building which now houses (I believe) the FEMA headquarters. Because I learned of the heiau, I decided to research the connection with the battle of Kukiiahu.

4) What are the ways you have acquired special knowledge of this area (from your `ohana, personal research, specific sources)?

(see response #3) My memory is faulty, but I think I remember walking alongside the stone walls, somewhat in disarray, of Kukiiahu heiau, accompanied by archaeologist Earl Buddy Neller, who explained the possibility that these were the remains of the heiau.

5) Could you share your mana`o relevant to the `Aiea area, or Kalauao Ahupua`a, and the surrounding region (personal anecdotes, mo`olelo, mele, oli, place names, etc.)?

I shared that mana`o in the transcript you sent me to verify. You may want to speak with Kehaulani Lum, a cultural practitioner who is ma`a (knowledgeable) about the ahupua`a of `Aiea and Kalauao. I have worked with her and practitioner Shad Kane to identify boundaries of these ahupua`a as part of our ahupua`a boundary marker project initiated by the O`ahu Council of the Association of Hawaiian Civic Clubs.

6) 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?

Because of 911, security for the Halawa Shaft and xeriscape garden has been enhanced and access is greatly limited. The tenant of the building next door changed from a Budweiser/winery facility to its current occupant, U.S. FEMA. The H-3 freeway was constructed alongside the BWS facilities at Halawa, which required realignment of Halawa Stream next to the garden. This resulted in removal of a number of very old trees on the

stream banks, and the planting of areca palms as a dust barrier alongside the new stream alignment. The noise from traffic on the freeway has increased 1000%; what was once a quiet, parklike preserve is now subjected to dust and noise from the H-3.

7) Do you know of any traditional sites or historically significant buildings which are or were located on the Property site--for example: cultural sites, archaeological sites, historic structures and/or burials? Please elaborate.

I am unaware/unfamiliar of sites directly on or affected by proposed activity on your development area.

8) Do you think the proposed development would affect any place of cultural significance or access to a place of cultural significance? Please elaborate.

There is always the possibility of adverse impacts of your development on cultural sites or viewplanes. It is in the moku of `Ewa, in the vicinity of the historic battle of Kukiiahu, where modern developments have already been built over these places of antiquity.

9) Are you aware of any traditional gathering practices at the Property area and/or within the surrounding areas both past and ongoing?

This would be a question for Kehaulani Lum, a practitioner in this area.

10) While development of the area continues, what could be done to lessen the adverse effects on any current cultural practices in the area?

If buffers cannot be established between nearby cultural places, streams, viewplanes, etc., and your proposed development, perhaps a combination of mitigations such as emphasis on native plant landscaping, integrating area cultural education into the architecture of the building(s), and contributions to cultural awareness organizations such as Ko`olau Foundation might be helpful.

11) Are you aware of any other cultural concerns the community might have related to cultural practices within or in the vicinity of the Property site and its surrounding areas?

Not at this time, but Kehaulani Lum is working on restoration of an ancient fishpond at Puuloa and will definitely have more specific information for you.

12) Do you know of any other kūpuna, kama`āina, cultural/lineal descendants, or other knowledgeable people who might be willing to share their mana`o of the `Aiea area lor or Kalauao Ahupua`a?

APPENDIX E: INTERVIEW WITH DANIELLE ESPIRITU

1) To start please tell us about yourself...Name? Where/When you were born? Where you grew up? Where you went to school?

My name is Dani Espiritu. I was raised in Kāne‘ohe, Ko‘olaupoko, O‘ahu, but my mother is from Waimalu in the moku of ‘Ewa, where I have lived for the last decade and where my ‘ohana has lived for the last 70 years. I attended Kamehameha Schools Kapālama campus.

2) Could you tell us about your ‘ohana/family background?

My ‘ohana has lived in the area for the last 70 years. We are a local and Native Hawaiian family.

3) What is your association to the subject property (family land, work place, etc.)?

I am a part of an organization named Ho‘ōla Hou iā Kalauao that cares for a spring-fed lo‘i kalo and farm space directly uka (upland) of the planned development. Ka‘ōnohi the name of the farm space we care for, it is also the name of the ‘ili ‘āina in the area. Ka‘ōnohi is just across the street of the proposed development. The springs that feed the ‘āina at Ka‘ōnohi come directly from the aquifer. Over the last decade, and especially in the last 5 years, we have noticed changes in the springs at Ka‘ōnohi. Water levels have dropped significantly and some areas have shown elevated salinity levels, all of which happened in conjunction with increased development and construction in the surrounding area. Due to the proximity of the planned development to Ka‘ōnohi, any construction and development will have a direct impact on our ability to continue farming lo‘i kalo traditionally, a cultural practice carried on in Hawai‘i since time immemorial. While Kalauao and ‘Ewa were once famous for its abundance in water and resources, overdevelopment and contamination have left their mark. We are the last lo‘i kalo in several ahupua‘a in either direction and so we are talking about a direct threat to the remaining traditional farming and cultural practices in a huge land area. These are cultural practices protected by law. In terms of my personal family connection to the area, my ‘ohana lives down the street. We are two traffic lights away from the proposed development, and yet in a completely different ahupua‘a. To have ahupua‘a that were so thin, speaks to the abundance of resources in Kalauao and Waimalu, and in the broader ‘Ewa moku.

4) What are the ways you have acquired special knowledge of this area (from your ‘ohana, personal research, specific sources)?

I have spoken with my own kūpuna and ‘ohana, with practitioners in the area who care for ‘āina and who have also spent time with kūpuna from ‘Ewa who are no longer with us. I have also gathered information from secondary sources as well as primary sources and archival documents in both Hawaiian and English. KS ‘Ewa ‘Āina Inventory, Sites of O‘ahu, ‘Ōlelo No‘eau, lipine manaleo, old recorded interviews with Native Hawaiian speakers, old maps. I also spend a significant amount of time on ‘āina in the area- part of the knowledge is informed by my own connection with ‘āina and things I have observed myself.

5) Could you share your mana‘o relevant to the ‘Aiea area, or Kalauao Ahupua‘a, and the surrounding region (personal anecdotes, mo‘olelo, mele, oli, place names, etc.)?

One interpretation of the name Kalauao is a multitude of clouds. Ka – the, lau – many/400 (like we would say with the word laulima), ao – light or clouds. Our placenames give us insight into what our kūpuna observed over many generations, and so that tells me about the weather patterns in the area. Kalauao, and the larger moku of ‘Ewa was famous for freshwater. We see that in many of the names in this area. Waimalu, Waiau, Waimanō, Waiawa, Waipi‘o, Waipahū, Waikele. The word wai (freshwater) is repeated over and over. There are mo‘olelo of Kāne and Kanaloa going throughout the moku of ‘Ewa with their

‘ō‘ō (digging sticks). They would travel, plunge their ‘ō‘ō in the ground, and wai, freshwater, would come up. There are mo‘olelo of Kalanimanuiā (Kalaimanuiā) making her residence in Kalauao because of the abundance of freshwater in the area. She was the daughter of Kukaniloko, for whom the sacred birth stones are named. Both are renowned mō‘ī wahine, queens, of O‘ahu. Kalanimanuiā is credited with developing many of the lo‘i kalo and loko i‘a in the area. In Kalauao specifically, the area uka of the proposed development would have been spring-fed lo‘i kalo going all the way up toward the uplands, and the water there would empty into Opu, one of the fishponds Kalanimanuiā is credited with constructing. Opu, no longer in tact, would have been in the area of the proposed development. On the other side of Kalauao, closer to Kalauao stream, ‘auwai were constructed to create a sophisticated engineering system that would direct water from the stream into lo‘i kalo and then back into the stream again. That fresh water would then go into Pa‘aiāu, another fishpond of Kalanimanuiā where it would mix with salt water attracting fish and creating a suitable environment for them to grow. Some kūpuna say there were upwards of 100 fishponds throughout Pu‘uloa, which served as the breadbasket for the ‘Ewa moku. Pu‘uloa was also famous for the i‘a hāmau leo, or oysters, that were once abundant. There are also mo‘olelo tied to manō and mo‘o in the area.

6) 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?

My grandparents who lived in ‘Ewa in the 1940s and 50s used to be able to gather fish and shellfish from Pu‘uloa, just down the road and in walking distance of the proposed development. They grew up swimming in the streams and gathering and eating from them and from the ocean. My mother remembers Waimalu stream being cemented and channelized in the 1960s, part of Wai‘eli (the ridge separating Kalauao and Waimalu) being blown up to make way for what is now Moanalua Road, and the land being drilled in order for the huge posts that are now the freeway to be put up. Kama‘āina were forced to relocate. We saw similar things along Kamehameha Hwy for the rail project. I was born in the 1980s and grew up primarily in the 1990s, and for my entire lifetime I have not been able to touch the streams or ocean water in our community because I have known it was contaminated. There are signs posted in the areas where my kūpuna used to gather food that say DO NOT EAT FISH & SHELLFISH. Within three generations, Pu‘uloa and the surrounding streams have gone from a source of food and sustenance, to one of potential danger due to contamination and unregulated development, urbanization, industry, and militarization. We are now in the critical generation that will determine the future health of our aquifer and subsequently our springs.

7) Do you know of any traditional sites or historically significant buildings which are or were located on the Property site--for example: cultural sites, archaeological sites, historic structures and/or burials? Please elaborate.

There was a fishpond name Opu in the area where the proposed development is located. The freshwater coming from springs and lo‘i kalo further uka would flow down and into the fishpond, mixing with salt water and would provide food. As mentioned, Kalanimanuiā, mō‘ī wahine of O‘ahu was credited with the construction of Opu as well as the surrounding lo‘i kalo and loko i‘a.

8) Do you think the proposed development would affect any place of cultural significance or access to a place of cultural significance? Please elaborate.

As mentioned above, Ka‘ōnohi is the only lo‘i kalo in either direction for several ahupua‘a. This is shocking considering ‘Ewa, and Kalauao in particular were once famous for its abundance in food and freshwater. The vast majority of the food-growing areas, which often took the form of lo‘i kalo and loko i‘a, are now filled and cemented. Ka‘ōnohi is the last lo‘i kalo in Kalauao and one of very few in the entire moku of ‘Ewa. The proposed

development, and any further development of the surrounding area, poses a direct threat to Ka'ōnohi, the nearby spring fed lo'i kalo. We have already seen a significant drop in water level due to overdevelopment in the area. Further development, especially so close to Ka'ōnohi, could result in the inability to continue farming lo'i kalo there. Should the water level continue to drop, there will not be enough water coming up through the springs to flood patches and we would lose that cultural practice entirely in this area. What happens in one area will have direct impacts in another.

9) Are you aware of any traditional gathering practices at the Property area and/or within the surrounding areas both past and ongoing?

There is a lo'i kalo across the street, directly uka of the proposed development. Native Hawaiian varieties of taro, some that were well known in 'Ewa, are being grown in the flooded style there as they have been for generations in Hawai'i. Other Native dryland crops are being grown traditionally there. Food is being prepared traditionally there. Hawaiian and non-Hawaiian families are gathering to perpetuate these Native Hawaiian cultural practices just uka of the proposed development area. These practices require water. In addition, a hui is restoring Loko Pa'aiau not far away.

10) While development of the area continues, what could be done to lessen the adverse effects on any current cultural practices in the area?

The choice to develop is choosing to ignore community concerns. Perhaps landowners should think innovatively and generationally, looking for green solutions that allow 'āina and people to heal, reconnect, and build in a way that benefits both. What might it look like to restore the abundance of 'Ewa that is literally just below the surface?

11) Are you aware of any other cultural concerns the community might have related to cultural practices within or in the vicinity of the Property site and its surrounding areas?

Mahi'ai (farmers) are concerned about how development in 'Ewa will affect freshwater, and subsequently, all cultural practices that rely on it. What happens when the springs dry up? How do you farm lo'i kalo without water? You cannot... In addition, we have already seen with the tragedy on Maui what happens when resources are exploited for generations, water is extracted, and Native water and resource management systems are not allowed to function as they should. We are already overtaxing the aquifer, something that would not be happening if development were monitored with a generational mindset. Water levels have dropped significantly in the last decade alone. Additional developments will mean more water must be pumped into buildings to support more people in an already concentrated area. In addition, any damage to the aquifer and freshwater lens will have direct impacts on the springs and lo'i nearby.

12) Do you know of any other kūpuna, kama'āina, cultural/lineal descendants, or other knowledgeable people who might be willing to share their mana'o of the 'Aiea area lor or Kalauao Ahupua'a?

Yes

APPENDIX F: INTERVIEW WITH K. "TIGER" MILLS

1) Kimberly K. Tiger Mills born Sept 1962 at Kapiolani Hospital in Honolulu. The family moved to 'Enchanted Hills' in Kalauao above Aiea High School in 1963/64. I went to Alvah Scott Elementary School and then Kamehameha Schools in the 7th grade.

2) Both my parents are from Hawai'i, my Mom grew up in Hilo and my Dad in Honokaa. When my Dad came to UH for college, my Mom followed

3) Not much, appears to be located in Kalauao, same ahupuaa that I live in

4) When I was getting my Masters in Urban Planning, I did studies of the area. I wrote about the fishponds in the book Pohaku, did research of the area when Oahu had its own Kingdom. I love looking at old maps and aerials of the area. Ive been with the Aiea Community Association for almost 25 years. I like to 'solve' inquiries of the area. Everything I know was via research or conversations. I don't practice.

5) Kalauao or Multitude of clouds was where Moi Wahine Kalanimanuia (maybe spelt differently ca. 1500) made here residence. During her reign, Pa'akea, Opu and Pa'aiiau fishponds were commissioned. Kanekea'ana was recently identified as the Mo'o of Pa'aiiau with fire as an offering.

Kalanimanuia's grandson was Kakuhihewa, when he succeeded, the land was peaceful and prosperous, With no war, society and culture flourished. During Kakuhihewa's reign, Keaiwa Heiau located at the top of 'Aiea was commissioned. It was believed that the Heiau was for healing a may have been a medical school. The streets of Kalauao are named after medicinal and traditionally used plants.

Kalauao is also known for the Battle of Kuki'iahu where the feathered cloak of chief Ka'eo gave him away and he was killed in a ravine. His slain followers corpses were piled high at Pa'aiiau now known as McGrew Point.

Pearl Harbor has many stories related to it such as Ka'ahupahau the shark Goddess that guards the entrance to Puuloa; Moku'ume'ume activities

6) When I was young, never have the highway. The highway split the community in half and made it harder to walk about. The 'commercial district' moved from one side of the street in Aiea to the other. Strip Malls were created, stores came and went. Remember Wigwam? Kam Drive Inn? Pearlridge was created in the 1970's along with the 'executive homes' and high rises. The watercress fields were always there.

7) I think the area may have been part of Opu fishpond or adjacent. Is or was BP Bishop lands.
https://dags.hawaii.gov/maps/search/files/reg/Reg_2000-2999/Reg2335.pdf

8) No because the place has been through WWII and developed later.

9) No but I know of the Pearl Harbor historic trail a community initiated program to bring people to the waterfront as part of the federal rails to trails program. Nearby to the east the Pauahi Civic Club, Navy along with others and Aiea HS students have been restoring the Pa'aiiau fishpond. Pa'aiiau has been used as a place to reflect and have Hooponopono. Military families and Officers are part of our community and have taken part in the gatherings and conviviality at Pa'aiiau.

10) Acknowledge and recognize the stories and past of the area; make residents of HaleLipoa aware of stories and past to create a connection to the land, volunteer opportunities and community organizations.

11) No, just what was mentioned in #9

12) Kehaulani Lum; Claire Tamamoto

Appendix D

Hale O Lipoa Affordable Housing: Transportation Impact Analysis Report (TIAR)

Prepared for:

‘Ikenākea Development LLC

May 13, 2024

FEHR  PEERS

SD23-0483

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Appendix A: Traffic and Segment Counts

Appendix B: Existing (2023) Conditions Intersection Analysis Worksheets

Appendix C: Baseline (2027) Conditions Intersection Analysis Worksheets

Appendix D: Baseline (2027) Plus Project Conditions Intersection Analysis Worksheets

Appendix E: Pedestrian, Bicycle, and Transit Evaluation Worksheets (DTS Analysis)

Appendix F: 2nd Peak Hour Intersection Volumes and Evaluation Worksheets

Appendix G: NACTO Safe Speed Determination Worksheets

1. Executive Summary

This Transportation Impact Analysis Report (TIAR) presents the results of the transportation study conducted by Fehr & Peers for the proposed Hale O Lipoa Affordable Housing (Project) located in the Aiea-Pearl City neighborhood on the island of O’ahu.

The TIAR assists with the development of the project site plan including providing input on required transportation infrastructure (e.g., roadways) and multi-modal facilities to provide access to the site. Also, the TIAR identifies the impacts of the proposed project on the surrounding transportation system and was conducted per the requirements of the State of Hawai’i Department of Transportation – Highways Division Planning Branch (HDOT), which has jurisdiction over Kamehameha Highway, as well as the City & County of Honolulu Department of Planning and Permitting (DPP) Traffic Review Branch (TRB).

The proposed project is the construction of a 201H affordable and family-oriented residential community and the revitalization of an existing property utilizing the guiding principles of the Aiea-Pearl City Neighborhood Transit-Oriented Development (TOD) Plan. The project site is expected to include up to 154 residential units replacing the existing 48-unit apartment complex (currently known as Pepper Tree Apartments).

The proposed redevelopment is a new eight-story medium-density affordable housing project along the Pearl Harbor Shoreline and within an approximate ¼-mile walk of the new Pearlridge rail station known as Kalauao. According to the project team, the proposed site development is expected to be completed and fully operational by 2027.

Transportation Impact Analysis

The following provides a summary of the findings under three study scenarios: Existing, Baseline (2027), and Baseline (2027) + Project conditions.

Existing Conditions:

The project site is located within ½ distance of a major transit stop that serves several bus routes to/from the neighboring communities. Sidewalks, crosswalks, and pedestrian facilities are available connecting the proposed project to the nearby bus/rail stations. While there are no dedicated bike facilities along the Kamehameha Highway, the project residents can travel to nearby destinations using the Pearl Harbor Bike Path.



Intersection operations at Kamehameha Highway and Pearl Harbor were evaluated as part of this report. The intersection was calculated to operate at LOS A during the existing conditions. While the westbound traffic into Lipoa Place was calculated to operate at an undesirable LOS, the queues on this movement were observed to clear during each cycle. Overall, no significant pedestrian, bike, transit, or auto operation deficiencies were found within the study area.

Baseline Year 2027:

To evaluate the potential impacts of traffic generated by the proposed project on the surrounding street system, baseline future conditions in the area were developed to reflect traffic increases and network changes due to regional growth and development. Based on the review of several planning documents in the area, no additional changes were identified to be constructed before the implementation of the proposed project. Pedestrian, bicycle, transit, and auto modes were evaluated under the Baseline Year 2027 and all facilities were estimated to continue operating at a similar level under existing conditions.

Baseline Year 2027 + Project

The transportation network was evaluated with the addition of the proposed projects. The proposed project is calculated to generate approximately 393 net new trips including 28 trips (9 inbound / 19 outbound) during the morning peak hour and 26 trips (17 inbound / 9 outbound) during the evening peak hour. The findings of this report indicate no significant impact from the implementation of the proposed development. Additionally, the construction of the proposed development should not preclude the implementation of any potential enhancements to walking, biking, transit, or auto facilities.

Recommended Improvements

Site Access & Circulation

Access to the site will be provided via a new driveway on the east side of the project site and an existing driveway on the west side of the project site on Lipoa Place. Given the relatively low site-generated peak hour traffic volumes, as well as the low volume on Lipoa Place, no need for separate turn lanes on Lipoa Place was identified. The proposed driveway on Lipoa Place is recommended to be operated as a stop-controlled driveway.

Parking

The project proposed to provide 150 parking spaces including accessible parking and reserved parking for car-sharing services. The site will also include 15 short-term bicycle stalls off of the sidewalk fronting the building and 78 long-term parking stalls within the parking structure. Considering that the project site is



located within the vicinity of a major bus stop and rail station, the proposed number of parking spaces is identified to be sufficient to serve the project site.

Transportation Demand Management (TDM)

The proposed project includes the allocation of designated parking stalls for car-sharing services. It is recommended that the developer provide information in a tenant-accessible common area about the car-sharing program, instructing individuals on how to utilize the service. This information should also include information on available transit options, as well as micro-mobility (e.g., bike and e-bikes). This will serve to encourage people to choose shared transportation options, thereby reducing the reliance on private vehicles and alleviating congestion on the roads. By facilitating convenient access to car-sharing services, this measure promotes sustainability, enhances efficiency, and contributes to a more streamlined and eco-friendly transportation system within the area.

Department of Transportation Services (DTS) Analysis Requirements

The following TIA also includes the evaluation of the level and quality of service of all transportation facilities following the guidelines provided in the 2020 City and County of Honolulu TIA guide. The following table provides a summary of findings under the plus project conditions. All calculated scores were then compared to target scores for the facility type.

Facility	Pedestrian	Bicycle	Transit	Parking	Auto
<i>Intersection</i>					
Kamehameha Highway & Lipoa Place	2	n/a	n/a	n/a	1
<i>Segment</i>					
Kamehameha Highway between Kaonohi Street and Pali Momi Street	2	4	1	n/a	2
Lipoa Place between Kamehameha Highway and Project Site	1	3	n/a	4	1

The performance of all modes was compared to target scores which vary by street type throughout the City and County of Honolulu.

- Nearby pedestrian facilities along the Kamehameha Highway were calculated at comfort level 2, where *basic pedestrian conditions* exist. The goal for a parkway or boulevard is comfort level 1.
- Biking along Kamehameha Highway near the project site was calculated to maintain comfort level 4 where the highest level of traffic stress is experienced. The goal for a parkway or boulevard is comfort level 2. The level of traffic stress is estimated to improve to comfort level 3 when the proposed bike lanes along the Kamehameha are maintained. While Kamehameha Highway maintains a high level of stress, the project site has access to the nearby Pearl Harbor Bike Path that connects residents to nearby destinations.



- The pedestrian comfort level along Lipoa Place is calculated at level 1. The target for a local street is level 1.
- The level of traffic stress for bicyclists along Lipoa Place is calculated at LTS 3. The goal for a local street is LTS 2. The calculated LTS is typical for residential streets and low-volume roadways.
- The parking occupancy rating along Lipoa Place is calculated at level 4 (more than 85% occupied). The goal for a local street is level 3. It is anticipated that with the implementation of the TDM strategies implemented by the project site, the parking occupancy will be maintained at a similar level.

Safe Speed Study

As per request from DTS, a Safe Speed Study was conducted based on the National Association of City Transportation Officials (NACTO) guide. The framework determines maximum safe speed limits based on the density of conflict points and the level of activity on a roadway. According to the Conflict-Density Analysis guidelines provided by NACTO, Lipoa Place is classified under the High Conflict Density category as there are more than 3 T-intersection/Major driveways within ¼ miles of the project site. In terms of Activity Level Analysis, it is classified as the Moderate Activity category. According to the Risk Matrix, the speed limit is recommended to be 20 mph.



2. Introduction

This Transportation Impact Analysis Report (TIAR) presents the results of the mobility study conducted by Fehr & Peers for the proposed Hale O Lipoa Affordable Housing (Project) located in the Aiea-Pearl City neighborhood on the island of O’ahu.

The TIAR assists with the development of the project site plan including providing input on required transportation infrastructure (e.g., roadways) and multi-modal facilities to provide access to the site. Also, the TIAR identifies the impacts of the proposed project on the surrounding transportation system and was conducted per the requirements of the appropriate public agencies: the State of Hawai’i Department of Transportation – Highways Division Planning Branch (HDOT), which has jurisdiction over Kamehameha Highway, and the City & County of Honolulu Department of Planning and Permitting (DPP) Traffic Review Branch (TRB), which has jurisdiction over Lipoa Place.

This chapter includes a description of the proposed project, the assumptions, and methods used to conduct the study, as well as a discussion of the criteria used to identify significant impacts.

2.1 Project Description

The proposed project is the construction of a 201H affordable and family-oriented residential community and the revitalization of an existing property on TMK 1-9-8-014021 utilizing the guiding principles of the Aiea-Pearl City Neighborhood Transit-Oriented Development (TOD) Plan. The project site is located at 98-150 Lipoa Place between Kamehameha Highway and the Pearl Harbor Shoreline within an approximate ¼-mile walk of the new Pearlridge rail station known as Kalauao. Lipoa Place is fronted by residential and retail uses and connects to Kamehameha Highway and an adjacent shopping center.

The project includes up to 154 multi-family residential units replacing the existing 48-unit apartment complex currently known as Pepper Tree Apartments. The new units will be affordable studios plus one-, two-, and three-bedroom units to serve families and individuals. The units will be housed in a new eight-story building with parking included within the structure and designated as a medium-density development in an urban area.

According to the project team, the proposed site development is expected to be completed and fully occupied by 2027.

Figure 1 illustrates the proposed Project site Location. **Figure 2** illustrates the project site plan.



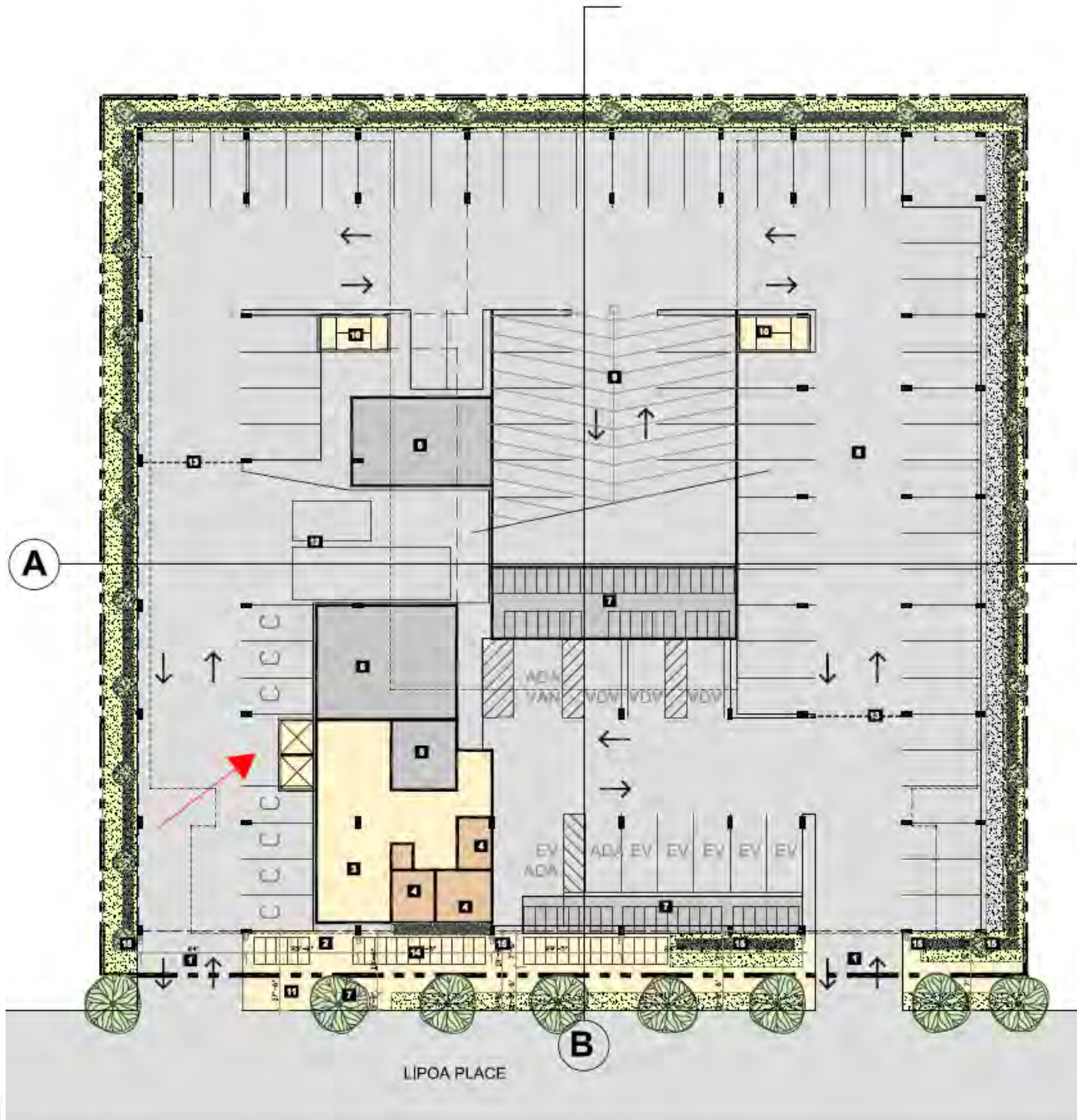


C:\Users\saahmad\OneDrive - Fehr & Peers\Desktop\My Files\Temporary Files\SD23-0483 Hale O Lipoa Affordable Housing\GIS\0483\GIS_0483.aprx

Figure 1

Project Site Location





1. VEHICULAR ENTRY
2. PEDESTRIAN ENTRY
3. RESIDENTIAL LOBBY
4. ADMINISTRATIVE OFFICE
5. MAIL ROOM
6. UTILITIES
7. BICYCLE PARKING (LONG TERM)
8. PARING
9. RAMP
10. EXIT STAIRS
11. OUTDOOR PLAZA
12. RIDE SHARE
LOADING/UNLOADING AREA
13. SECURED PARKING ENTRY POINT
14. BICYCLE PARKING (SHORT TERM)
15. STREET LIGHT

PARKING

STANDARD	61
COMPACT	7
ELECTRIC VEHICLE	5
ELECTRIC VEHICLE VAN	1
ACCESSIBLE	6
LOADING/UNLOADING (INC. RIDE SHARE)	3

SITE/GROUND FLOOR PLAN

HALE O LIPOA
DEVELOPMENT STUDY
DECEMBER 2022

Figure 2

2.2 Project Study Location

Given the anticipated low trip generation of the project, the transportation analysis focused on evaluating the potential project-related traffic impacts at one (1) existing intersection in the vicinity of the site: Kamehameha Highway & Lipoa Place. Once project-generated traffic is beyond this location, it is expected to have a negligible impact on traffic operations.

2.3 Analysis Scenarios

The operations of the study intersection were evaluated during the morning and evening peak hours for the following scenarios:

Existing (2023) Conditions – The analysis of existing traffic conditions was based on 2023 counts collected for the weekday peak hours. The existing conditions analysis includes a description of key area streets and an assessment of bicycle, pedestrian, and transit facilities and services in the study area.

Baseline (2027) Conditions – Future traffic volumes in the anticipated completion year of the full project buildout were projected by increasing the existing volumes using an annual growth factor to account for ambient growth. This scenario does not include any project traffic.

Baseline (2027) Plus Project Conditions – Traffic projections from baseline Conditions plus traffic estimated from the completion and full occupancy of the project. The impact of the project under this scenario was also assessed for potential impacts to bicycle, pedestrian, and transit facilities and services.

2.4 Analysis Methods

The analysis of roadway operations performed for this study is based on procedures presented in the *Highway Capacity Manual 6th Edition* (HCM 6), published by the Transportation Research Board in 2016. The operations of roadway facilities are described with the term level of service (LOS). LOS is a qualitative description of traffic flow based on such factors as speed, travel time, delay, and freedom to maneuver. Six levels are defined from LOS A, which is the least congested operating conditions, to LOS F, which is 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 methodology for unsignalized intersections is described below. Unsignalized intersections in this report refer to uncontrolled or stop sign-controlled intersections.



2.4.1 Signalized Intersections

Signalized intersection operations were analyzed using the method described in Chapter 19: Signalized Intersections of the HCM 6th edition. The LOS method analyzes a signalized intersection’s operation based on the average control delay per vehicle. Control delay alone is used to characterize LOS for the entire intersection or an approach. Control delay includes the initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay for signalized intersections is calculated using Synchro 11.0 software. LOS criteria for signalized intersection are shown in **Table 1**.

Table 1: Signalized Intersection Level of Service Criteria

LOS	Description	Delay (sec)
A	Progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	≤ 10.0
B	Progression is good, cycle lengths are short, or both. More vehicles stop than with LOS A, causing higher levels of average delay.	> 10.0 to 20.0
C	Higher congestion may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level, though many still pass through the intersection without stopping.	> 20.0 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	> 35.0 to 55.0
E	This level is considered by many agencies to be the limit of desirable delay. These high delay values generally indicate poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0
F	This level is considered undesirable with oversaturation, which is when arrival flow rates exceed the capacity of the intersection. This level may also occur at high V/C ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to such delay levels.	> 80.0

Source: *Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.*

2.4.2 Significant Impact Criteria for Traffic

The analysis of future conditions compares the baseline or “no project” condition with conditions that include project-generated traffic assuming full build-out and occupancy. This is done to determine whether the addition of project traffic is expected to result in a significant impact on the surrounding roadways. The minimum desired operating standard for a signalized or roundabout intersection is LOS D for the overall intersection, and this guideline is employed by both HDOT and DPP TRB. Additionally, a significant impact is defined to occur when the operation of an intersection changes from LOS D or better to LOS E or F. Also, when evaluating intersection movement or approach LOS at any location, other factors should be considered in the analysis, such as traffic volumes and potential secondary impacts on pedestrians, bicyclists, and transit travel.



Each of the identified significant impacts could be further categorized as either a cumulative impact or a project-specific impact. At a signalized or roundabout intersection, if the addition of project traffic is expected to degrade desirable service levels (LOS D or better) to undesirable service levels (LOS E or F), then the new development is considered to have a project-specific impact. Alternatively, if the intersection LOS is determined to be LOS E or F without the project and the project adds traffic to this location, causing the delay to increase by five (5) seconds or more, then this result would be characterized as a cumulative impact.

2.4.3 Significant Impact Criteria for Non-Auto Modes

The State of Hawai'i and DPP TRB do not publish formal impact criteria for pedestrian, bicycle, and transit impacts. For this analysis, these impacts are evaluated based on whether a proposed project would: 1) conflict with the existing or planned pedestrian, bicycle, or transit facilities and services, or 2) create substantive walking, bicycling, or transit use demand without providing adequate and appropriate facilities for non-motorized mobility. Existing facilities for pedestrians, bicycles, and transit users were inventoried to evaluate the quality and scope of facilities/services currently in place. The assessments of planned pedestrian, bicycle, and transit facilities were conducted using the information in planning documents, such as the *Oahu Bike Plan (2019)*, *Oahu Pedestrian Plan (2022)*, *Statewide Pedestrian Master Plan (2013)*, etc. For these modes, if the proposed project is expected to conflict with existing or planned improvements to pedestrian and bicycle facilities, or if the project is expected to generate a substantial demand that could warrant additional transit service, then the project would be determined to have a project-specific impact to non-motorized modes of transportation.



3. Existing Conditions

This chapter describes 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 establishes the scenario against which the future baseline and proposed project changes may be compared.

3.1 Roadway System

The key roadways providing access to the site are described below.

Kamehameha Highway (State Route 99) is a four- to six-lane divided road extending from Farrington Highway and the H-1 freeway in Pearl City to Center Drive at the H-1 freeway near Joint Base Pearl Harbor-Hickam. The posted speed limit is 25 miles per hour (mph) near the project site area. No designated areas for on-street parking are provided. Honolulu's Skyline elevated rail system is located in the median of Kamehameha Highway.

Lipoa Place is a two-lane local street serving an area makai of Kamehameha Highway and Pearlridge Shopping Center. This roadway provides access to a number of residential and commercial buildings and properties including the proposed project site, as well as to an adjacent shopping plaza located on the Diamond Head side of the site. The posted speed limit on this roadway is 25 miles per hour (mph). On-street parking spaces are provided along both sides of Lipoa Place.

3.2 Transit Facilities

TheBus (i.e., O'ahu Transit Service) operates several bus routes along Kamehameha Highway including Routes 11, 20, 32, 40, 42, 51, 53, 88A, and Route A near the project area. Service on these routes is provided at 15- to 60-minute headways on the weekdays and weekends depending on the route. The closest stops are located approximately ¼ miles Mauka from the project site on both sides of the Kamehameha Highway near the Kaonohi Street intersection.

A new rail service (Skyline) began operation with several stops in the Ewa region. The route provides a driverless, urban rail system along the south shore of Oahu. The closest station near the project site will be Pearlridge (Kalauao Station) approximately 0.5 miles from the project site. **Figure 3** shows the existing and future transit stations along the rail line.



Figure 3: Planned Transit Improvements



Source: <https://honolulutransit.org/about/route-map/>

3.3 Pedestrian Facilities

Pedestrian facilities consist of crosswalks, curb ramps, and pedestrian signals at signalized intersections, as well as sidewalks and paths near segments between intersections. Lipoa Place includes sidewalks on both sides of the road connecting the project site to the nearby transit facilities and adjacent commercial spaces. At the signalized Lipoa Place/Kamehameha Highway intersection, high-visibility crosswalks are provided across the south and east legs with ADA truncated dome mats on the south side.

3.4 Bicycle Facilities

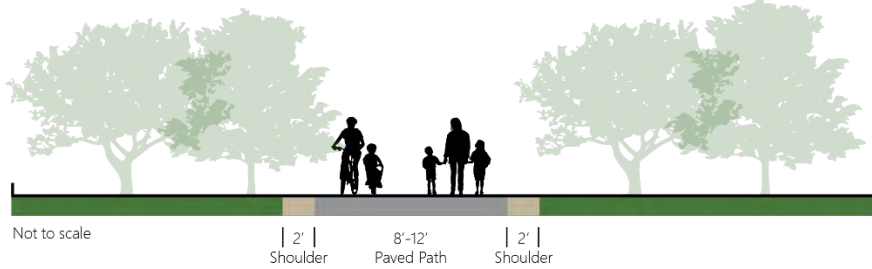
Bicycle facilities generally consist of four types of facilities, which are outlined below:

- *Bike or Shared Use Paths* provide a separate right-of-way and are designated for the exclusive use of bicycles and pedestrians (or exclusively bicycles) with the vehicle and pedestrian cross-flow minimized. Generally, the recommended pavement width for a two-directional bike or multi-use path is ten (10) feet.



BIKE OR SHARED-USE PATH

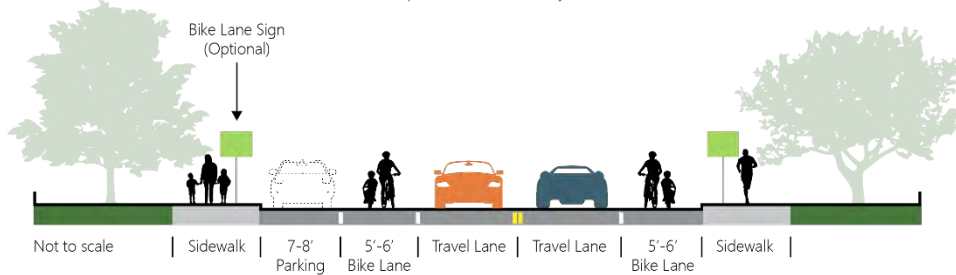
Completely separated right-of-way for exclusive use of bicycles and pedestrians



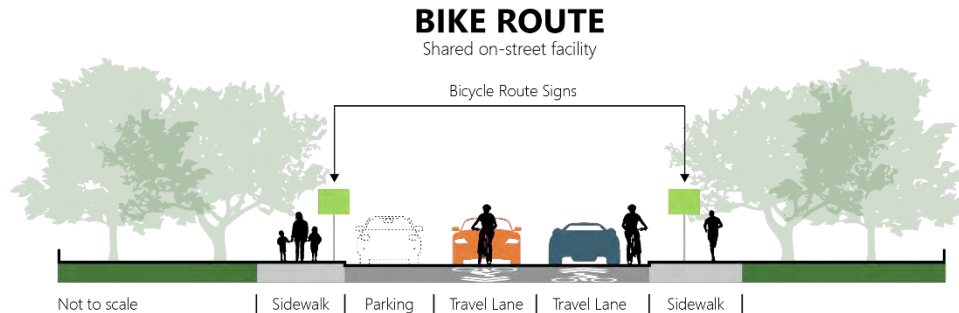
- Bike Lanes provide a restricted right-of-way and are designated for the use of bicycles with a striped lane on a street or highway. Bicycle lanes are generally a minimum of five (5) feet wide with six feet of width preferred for lanes that include a concrete gutter. Adjacent vehicle parking and vehicle/pedestrian cross-flow are permitted.

BIKE LANE

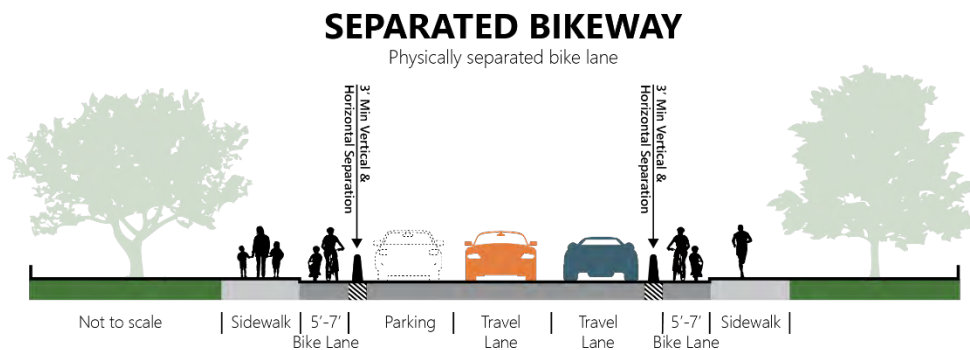
On-street striped lane for one-way bike travel



- *Bike Route or Signed Shared Roadways* provide for a right-of-way designated by signs or shared lane pavement markings, or “sharrows,” for shared use with pedestrians or motor vehicles.



- *Separated Bikeways or Cycle Tracks* provide a restricted right-of-way with physical separation and are designated for the use of bicycles with a raised barrier such as curbs or bollards. Separated bikeways are generally a minimum of five (5) feet wide with a three-foot horizontal and vertical separation area desired. Narrower separations can be provided if adjacent vehicle parking is not provided. Where adjacent parking is permitted next to the cycle track, vehicle/pedestrian cross-flow is restricted to selected locations (e.g., driveways) indicated by breaks in the barrier and buffer.



Lipoa Place is a low-speed local roadway where bicycles can share the road with other vehicles. The project site is also located within ½ mile distance from the Pearl Harbor Bike Path which connects bicyclists to several destinations along Pearl Harbor Bay including shopping centers, commercial centers, and community parks. The bike path provides an alternative to bicyclists so that they do not have to share lanes on Kamehameha Highway, where no separate or designated facilities are provided.



3.5 Existing Traffic Operations

The operations of the intersection of Kamehameha Highway & Lipoa Place were studied under existing conditions. Multimodal intersection turning movement counts were collected on Wednesday, May 10th, 2023 when schools and universities were in session. Traffic count data sheets are provided in **Appendix A**. **Figure 4** shows AM and PM peak hour turning movement volumes used in the analysis. Operations at the intersection of the two segments of Lipoa Place were not analyzed as the volumes at this location are very low, and no issues with capacity are anticipated.

Roadway segment counts were collected between May 9th and May 11th, 2023, on Kamehameha Highway (east of Lipoa Place). The segment counts were used to identify any potential variation in weekday volumes along Kamehameha Highway. **Table 2** provides the comparison results. Based on this table, the average ADT along Kamehameha Highway was estimated at 39,532 daily vehicles, which is nearly identical to the daily volume counted on Wednesday, May 10th when the intersection counts were obtained. As such, no adjustments needed to be made to the existing intersection volumes. Roadway segment count sheets are provided in **Appendix A**.

Table 2: Segment Volumes on Kamehameha Hwy

Weekday	Average Daily Traffic
Tuesday	38,571
Wednesday ^a	39,583
Thursday	40,441
<i>Average</i>	<i>39,532</i>

a. Intersection volumes collected on Wednesday



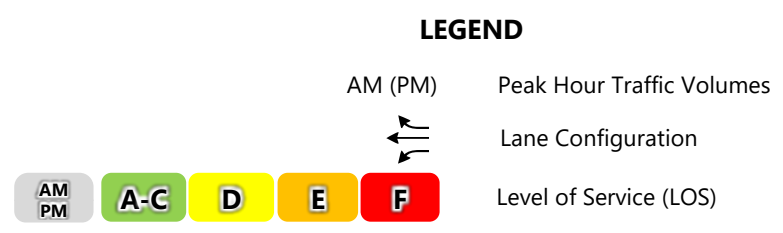
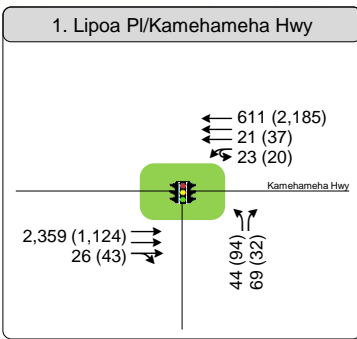


Figure 4

Peak Hour Traffic Volumes and Lane Configurations Existing Conditions (2023)



The results of the existing LOS analysis are presented below in **Table 3**, and the corresponding LOS calculation sheets are included in **Appendix B**. The results of the calculations indicate that the Kamehameha Highway and Lipoa Place study intersection operates at a good service level (LOS A) during both the AM and PM peak periods. This good overall operating level and low average delay results from low traffic volumes on the Lipoa Place approach and extended green time for high volumes of through traffic on Kamehameha Highway that experience limited delay.

Table 3: Existing Intersection Level of Service

Study Intersection	Traffic Control	Peak Hour	Existing (2023) Conditions	
			Delay (sec/veh)	LOS
1. Kamehameha Highway and Lipoa Place	Traffic Signal	AM	9.8	A
		PM	7.2	A

3.6 Field Observations

Field observations conducted in May 2023 showed that traffic generally moves well throughout the study area during the AM and PM peak hours. No significant vehicle queues were observed for through movements at the intersections of Kamehameha Highway and Lipoa Place. Occasional queuing was observed on the westbound left-turn movement on Kamehameha Highway, however, the queue was not observed to exceed the storage lane, and the movement cleared during each signal phase. The calculated existing peak hour intersection operating levels at the study intersection shown in **Table 3** are representative of field conditions.

Very low pedestrian and bicycle activity was observed during the field observation. Based on the data collected at the study intersection, 16 pedestrians were the maximum volume observed crossing the east leg of the study intersection during the PM peak hour.



4. Baseline (2027) No Project Conditions

To evaluate the potential impacts of traffic generated by the proposed project on the surrounding street system, it was necessary to first develop estimates of future traffic conditions in the area without the project. Baseline traffic conditions without the project reflect traffic increases due to regional growth and development. This scenario is referred to as baseline or “no project” conditions. The forecasted future traffic volumes were then used as a baseline to identify impacts on the roadway system from the project. The development of this baseline traffic scenario is described in this chapter.

4.1 Planned Active Transportation Improvements

Based on the review of the existing planning document in the area. The project site is located near several planned active transportation and transit improvements in the area.

According to the *Oahu Pedestrian Plan* (City and County of Honolulu Department of Transportation Services, 2022), the planned pedestrian improvements near the project site are listed in the table below and illustrated in **Figure 5**.

Improvement ID	Description
O-18	Pearl Harbor Bike Path to Pearl Ridge Transit Station - Connector pedestrian path from Kamehameha Highway to Pearl Harbor Bike Path (New facility)
2-25	Walkway along Hekaha Street between Kamehameha Hwy and Moanalua Road (New facility)
2-49	Walkway along Kanuku Street between Kamehameha Hwy-Hekaha Street (New facility)



Figure 5: Planned Pedestrian Facilities Improvements

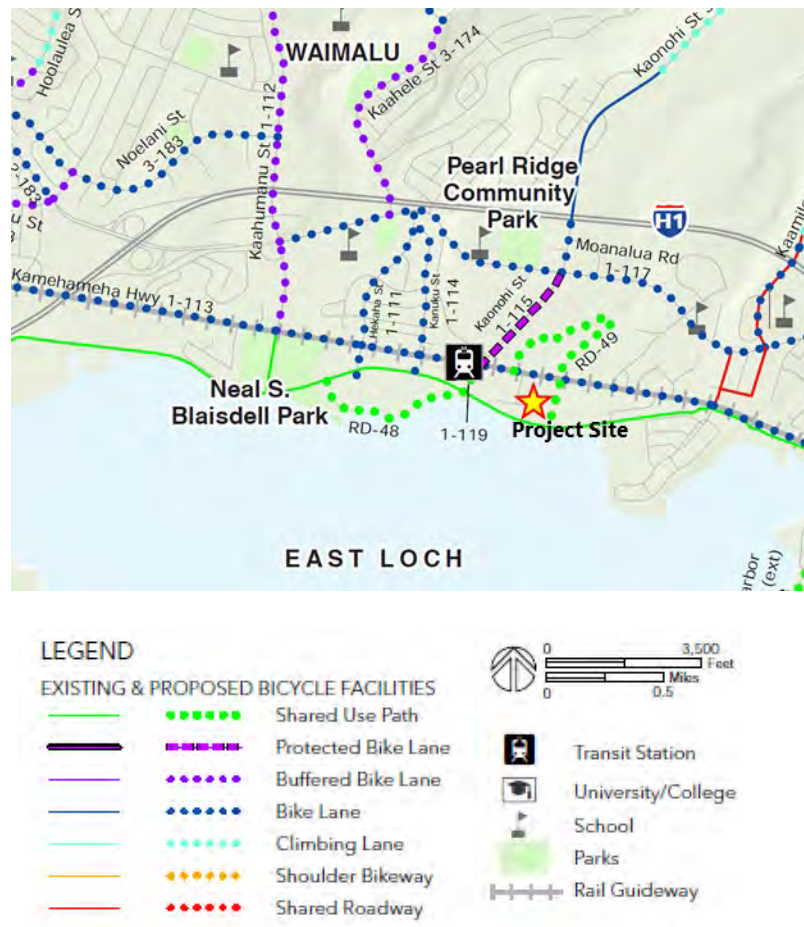


According to the *Oahu Bike Plan* (City and County of Honolulu Department of Transportation Services, 2019), the planned bicycle improvements near the project site are listed in the table below and illustrated on **Figure 6**.

Improvement ID	Description
1-111	Bike Lane along Heleka Street from Moanalua Road to the Pearl Harbor Bike Path (New facility)
1-113	Bike Lane along Kamehameha Highway (East Loch) from Waihona Street to Center Drive (New facility)
1-114	Bike Lane along Kanuku Street from Heleka Street to the Pearl Harbor Bike Path (New facility)
1-115	Protected Bike Lane along Kaonohe Street from Kamehameha Highway to Moanalua Road (New facility)
1-117	Bike Lane along Moanalua Road (Aiea) from Kaahumanu Street to Kaimakani Street (New facility)
RD-48	Shared-Use Path parallel to Pearl Harbor Historic Trail Shoreline Connection (New facility)
RD-49	Shared-Use Path along Pearl Harbor Bike Path Connector (Pearlridge Center) from Pearlridge Center to Pearl Harbor Bike Path (New facility)



Figure 6: Planned Bicycle Facilities Improvements



4.2 Planned Transit Improvements

No bus transit improvements are planned along Kamehameha Highway adjacent to the project site. However, the bus service is periodically adjusted to respond to demand and to improve service and access for transit patrons.

4.3 Baseline (2027) Street Roadway Improvements

HDOT’s Statewide Transportation Improvement Program and City & County of Honolulu Capita Improvement Programs were reviewed to identify future construction projects that are expected within the study area. No new capacity improvements are currently funded or planned for construction within the timeframe of the proposed project opening year of 2027. Therefore, no change was assumed in the condition of the roadway infrastructure near the project.



The Skyline is planned to provide 19 stations along the south shore of O’ahu. The operation began in June 2023 along 9 stations in the Ewa region. The Honolulu Authority for Rapid Transportation (HART) is in the process of continuing the transit route to the Civic Center (Remaining 10 stations). The rail transit is planned to extend to Middle Street Station by 2025 and to Civic Center Station by 2031.

4.4 Baseline (2027) Traffic Volumes

A growth factor was applied to existing traffic volumes to account for future study area growth prior to occupancy of the proposed project in 2027. The growth factor in through traffic volumes on Kamehameha Highway was calculated based on historical data available from HDOT in 2016 and field data collected in 2023:

Kamehameha Highway ADT in 2016 = 36,200 (Source: HDOT historical counts)

Kamehameha Highway ADT in 2023 = 39,532 (Source: Fehr & Peers)

Compound growth factor = 1.27%

Additionally, a background annual growth rate of 0.5% was applied to all movements in and out of Lipoa Place. Although limited new development is anticipated along Lipoa Place by 2027, the application of this growth factor results in conservative volume estimates for purposes of the traffic operations analysis.

Calculated growth rates were compounded over the five-year timeframe (2023 to the end of 2027) and applied to each of the applicable existing intersections turning movement traffic volumes. **Figure 7** illustrates the forecasted peak hour traffic volumes for Baseline (2027) No Project Conditions.

4.5 Baseline (2027) No Project Levels of Service

Levels of service (LOS) calculations were conducted using the volume data in **Section 4.4** and the existing lane configurations and traffic control to evaluate the operating levels of the study intersection under Baseline (2027) No Project Conditions with the forecasted growth in traffic. The results of the LOS analysis are presented in **Table 4**. The corresponding LOS calculation sheets are included in **Appendix C**.

Table 4: Baseline (2027) No Project Intersection Level of Service

Study Intersection	Traffic Control	Peak Hour	Baseline (2027) Conditions	
			Delay (sec/veh)	LOS
1. Kamehameha Highway and Lipoa Place	Traffic Signal	AM	10.4	B
		PM	7.5	A



The analysis results indicate that the study intersection continues to operate at LOS A during the PM peak hour and operates at LOS B during the AM peak hour under Baseline (2027) No Project Conditions, (with slight increases in delay). The increases in delay over Existing Conditions are the result of the addition of the forecast traffic growth.

It should be noted that the Ewa- or westbound left-turn movement from Kamehameha Highway into Lipoa Place is calculated to operate at LOS E during the morning and evening peak hours. Similar to the Existing Conditions, the left-turn movement must wait for the relatively longer phase length for east- or Diamond Head-bound through traffic). The westbound left-turn movement is projected to serve 45 vehicles during the morning peak hour and 58 vehicles during the evening peak hour, and these vehicles can be accommodated by the available storage length.



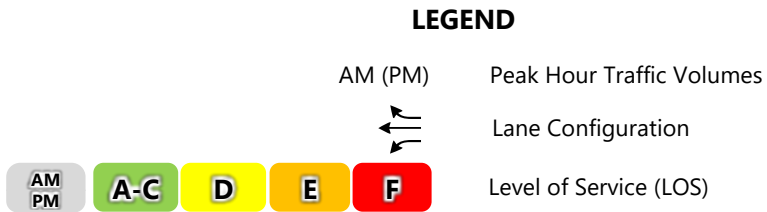
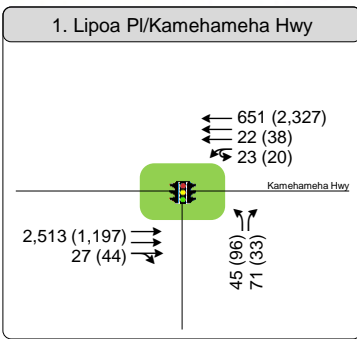


Figure 7

Peak Hour Traffic Volumes and Lane Configurations
Future Baseline Year (2027)



5. Project Traffic Estimates

This chapter describes the anticipated number of vehicle trips and the directionality of those trips that would result from implementation of the proposed project. Future traffic added to the roadway system by the project is estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. The first step estimates the amount of project-generated traffic which will be added to the roadway network. The second step identifies the direction of travel to and from the project site and the proportion of traffic on each potential travel path. The new trips are assigned to specific street segments and intersection turning movements during the third step. This process is described in more detail below.

5.1 Trip Generation

The vehicle trip generation for the proposed project was estimated using a combination of standard trip rates from the *Trip Generation Manual* (11th Edition, 2020) published by the Institute of Transportation Engineers (ITE) and data provided by the project team. Fehr & Peers' MainStreet web application, which incorporates the ITE rates, was used to estimate trip reductions resulting from mixed-use development (MXD), as well as active transportation and transit use. Main Street uses the MXD method developed in partnership with the Environmental Protection Agency (EPA) and estimates multimodal trip reductions and internalization using local travel data and has been shown to be statistically superior to other estimation methods used by ITE and other sources.

As noted in the project description in **Section 2.2**, the proposed 154 new apartments will replace the existing 48-unit complex, resulting in a net new total of 106 apartments. Thus, this net total was used to determine the amount of new traffic that would be added to the roadway network. Based on **Table 5**, the proposed project is expected to generate a total of 393 net new daily vehicle trips on a weekday, including 28 net new vehicle trips during the AM peak hour (9 inbound/19 outbound) and 26 net new vehicle trips during the PM peak hour (17 inbound/9 outbound).



Table 5: Project Vehicle Trip Generation Estimates

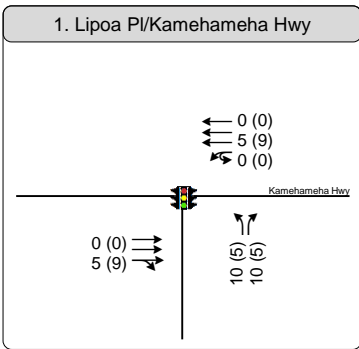
Land Use		Daily Trips	AM Peak Hour Vehicle Trips					PM Peak Hour Vehicle Trips				
			%		Trips		Total	%		Trips		Total
			In	Out	In	Out		In	Out			
Multi-Family Housing (Mid-Rise): Close to Transit	154 <i>Proposed</i>	732	36%	64%	18	32	50	65%	35%	29	16	45
	48 <i>Existing</i>	-228			-6	-10	-16			-9	-5	-14
<i>Walk, Bike, and Transit Reduction</i>		-111	-	-	-3	-3	-6	-	-	-3	-2	-5
Total Trips		393			9	19	28			17	9	26

5.2 Trip Distribution and Assignment

The geographic distribution of trips generated by the proposed project is dependent on the characteristics of the street system serving the project site, the level of accessibility of routes to and from the project site, and commercial areas where residents would be commuting. Based on the existing turning movement volumes and our general understanding of the study area, the distribution was estimated as 50% of trips traveling to/from the east and 50% of traffic traveling to/from the west side of Lipoa Place.

Using the estimated trip generation and the distribution patterns discussed above, the traffic generated by the proposed project was assigned to the individual turning movements at intersections within the street network. **Figure 8** details the project’s trip assignment at the study intersection.





LEGEND

- AM (PM) Peak Hour Traffic Volumes
- Lane Configuration
- A-C** **D** **E** **F** Level of Service (LOS)

Figure 8

Peak Hour Project Traffic Volumes
Opening Year 2027



6. Baseline (2027) Plus Project Conditions

This section describes the analysis of potential impacts on the roadway system due to projected future increases in traffic, including traffic generated by the project in 2027. The Baseline (2027) Plus Project roadway network is the same network assumed under the Baseline No Project scenario. The analysis compares the project levels of service (LOS) at each study intersection with and without the addition of project-generated trips to determine potential impacts on the transportation network.

6.1 Active Transportation and Transit Impacts

Implementation of the proposed project is not expected to conflict with any existing transit, pedestrian, or bicycle facilities, and it will not preclude the implementation of any other potential enhancements to walking, biking, or transit activity (e.g., a path or sidewalk along with a facility where it does not currently exist). Accordingly, no significant active transportation or transit impacts are anticipated.

6.2 Baseline (2027) Plus Project Intersection Level of Service

Figure 9 presents the forecasted Baseline (2027) Plus Project AM and PM peak hour volumes. The peak hour volumes were used to analyze operations using the LOS methodology described in **Section 2.4**.

The LOS analysis results for the study intersection under both Baseline (2027) No Project and Plus Project conditions are presented in **Table 6**. Detailed LOS results for intersection movements and corresponding LOS calculation sheets are included in **Appendix D**.

Table 6: Baseline (2027) Without and With Project Intersection Level of Service

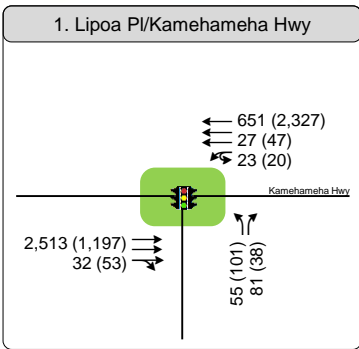
Study Intersection	Traffic Control	Peak Hour	Baseline (2027)		Baseline (2027) + Project		Δ
			Delay	LOS	Delay	LOS	
1. Kamehameha Highway and Lipoa Place	Traffic Signal	AM	10.4	B	11.5	B	1.1
		PM	7.5	A	8.0	A	0.5

Based on the results in **Table 6**, the study intersection is calculated to continue operating at a good operating level (LOS A during the PM peak hour and LOS B during the AM peak hour) with the addition of



the proposed project based on the assumptions described in **Section 5.1**. According to **Table 6**, the implementation of the project site is not expected to result in any significant impacts on the roadway network.





LEGEND

- AM (PM) Peak Hour Traffic Volumes
- Lane Configuration
- Level of Service (LOS)

Figure 9

Peak Hour Traffic Volumes and Lane Configurations
Future Baseline Year (2027) Plus Project



7. Site Access, Circulation, and Parking

7.1 Site Access Assessment

As noted in the project description, Access to the site will be provided via a new driveway on the east side of the project site and an existing driveway on the west side of the project site on Lipoa Place. Given the relatively low site-generated peak hour traffic volumes, as well as the low volume on Lipoa Place, separate turn lanes are not needed on Lipoa Place. Traffic exiting the proposed driveway on Lipoa Place will be required to stop before crossing the sidewalk is also recommended to be operated as a stop-controlled driveway.

Overall, site access is considered adequate and no modifications are recommended.

7.2 On-Site Circulation & Parking

The project proposes to include 150 parking spaces including accessible parking and reserved parking for car-sharing services. The plan proposes to locate the parking spaces on two levels. In addition, several EV charging stations will be incorporated into the design of the project. The parking aisles will feature perpendicular parking stalls, allowing for optimal access from both directions of travel. Only the area with the EV and accessible spaces will be designed as a dead-end aisle. Furthermore, short-term bicycle storage will be provided along the Lipoa Place frontage of the project site, and long-term bicycle storage is proposed for the Mauka side of the site.

No recommendations are needed regarding on-site circulation and parking supplies.



8. DTS Analysis

8.1 Introduction

The City and County of Honolulu Department of Transportation Services (DTS) provides additional methods for evaluating the potential transportation impacts of a proposed project including all modes of transportation. The evaluation process starts with identifying the level and quality of service of each mode using specific tools developed for each mode. Based on the performance evaluation methods, each street segment will receive a score of one (1) to four (4) for each mode. The scores are input into the table in the City's multimodal radar tool in Excel and a visual diagram is automatically generated that compares the target performance to the existing condition and proposed design concept performance. The following sections describe methods used to evaluate each mode.

9.1 Pedestrian Level of Service

Pedestrian LOS analysis was conducted using the most current version of the Pedestrian Environmental Quality Index (PEQI), as recommended in the DTS TIA Guidelines. PEQI measures 36 indicators across six categories: including intersection safety, traffic, street design, land use, perceptions of safety, and perceptions of walkability. Each indicator is assigned a weighted score and added together to generate a total score for a segment or an intersection. Then, a comfort rating from one (1) to four (4) is assigned to each PEQI score range representing relative pedestrian comfort. It should be noted that pedestrian LOS (PEQI score) for a segment was determined using the worst calculated scores for any given block within the segment. This means that if one segment consists of multiple blocks, then the entire segment would receive a score associated with the least comfortable (lowest scoring) segment. Pedestrian LOS analysis of the following two study segments and one study intersection is described below.

Segments:

- Kamehameha Highway from Kaonohi St to Pali Momi St – covers two blocks with similar pedestrian environments east and west of Lipoa Place. No changes to the pedestrian environment are proposed for these segments.
- Lipoa Place from Kamehameha Highway to the shopping center driveway – to the project site covers two blocks (N-S and E-W section) with similar pedestrian environments. No modifications to the pedestrian environment are proposed for these segments.



Intersections:

- Kamehameha Highway and Lipoa Place – is a signalized intersection with pedestrian signals installed at two (2) out of the three (3) legs. Additionally, high-visibility ladder crosswalks are present on two of the legs.

Table 7 provides the Pedestrian Comfort Ratings for all study segments and intersections. Detailed analysis is provided in **Appendix C**. As no changes to the pedestrian environment are proposed with the project, only existing pedestrian comfort ratings are reported below.

Table 7: Pedestrian Comfort Ratings for Study Segments and Intersections

Analysis Facility	Location	Pedestrian Comfort Rating	Target	Meet Target?
Segment	Kamehameha Highway from Kaonohi Street to Pali Momi Street	2	1	No
	Lipoa Place from Kamehameha Highway to the project site	1	1	Yes
Intersection	Kamehameha Highway/Lipoa Place	2	1	No

Source: Fehr & Peers, 2023

8.2 Bicycle Level of Service

The Level of Traffic Stress (LTS) analysis for bicycles was conducted using the City-specific LTS tool, as recommended by the DTS TIA Guidelines. The LTS tool evaluates bicycling conditions using four (4) metrics including traffic volumes, vehicle speeds, type of bicycle infrastructure, and roadway design. An LTS rating from one (1) to four (4) is assigned to each study segment or intersection representing the level of comfort for bicyclists. Segment ratings are based on the worst rating for any block within the segment to capture gaps in infrastructure. Bicycle Comfort Ratings are evaluated for the following two study segments:

- Kamehameha Highway from Kaonohi St to Pali Momi St – covers two blocks east and west of Lipoa Place with no dedicated bicycle facility. No changes to the bicycle environment are proposed with the study area, however, Kamehameha Highway is proposed to include bike lanes per the 2019 O’ahu Bike Plan.
- Lipoa Place from Kamehameha Highway to the shopping center driveway – covers two blocks (N-S and E-W sections) with similar bicycle environments.



The Bicycle Comfort Ratings for the single study segment are summarized in **Table 8**. Detailed LTS analysis sheets are provided in **Appendix C**.

Table 8: Bicycle LTS Ratings for Study Segments

Analysis Facility	Location	Existing Bicycle Comfort Rating	Future Bicycle Comfort Rating	Target	Meet Target?
Bicycle	Kamehameha Highway from Kaonohi Street to Pali Momi Street	4	3	2	No
	Lipoa Place from Kamehameha Highway to the project site	3	3	3	No

Source: Fehr & Peers, 2023

8.3 Transit Level of Service

As noted in **Section 3.2** several bus routes provide frequent bus services along the Kamehameha Highway. No substantial increase in transit demand is anticipated with the implementation of the proposed project. The relatively short walk of roughly 300 feet from the project site to the Kamehameha Highway stops will encourage most people to use the bus. Additionally, as described in **Section 4.2**, the proposed project is approximately within ½ mile from the future Pearlridge (Kalauao Station) along the High-Speed Rail transit network.

The Transit LOS analysis was conducted using the Transit Capacity and Quality of Service Manual (TCQSM), recommended by the DTS TIA Guidelines. The TCQSM tool evaluates transit operations, transit amenities, and pedestrian environment; and assigns a score to each study segment by direction. Both transit and pedestrian input scores are weighted and added together to generate the total score. A rating from one (1) to four (4) is assigned to each segment representing relative transit operations/comfort. Each direction of travel of two-way segments may receive different ratings. In these cases, the average of two directions reflects the overall rating of the segment.

The transit access rating for one (1) study segment along Kamehameha is shown in **Table 9**. The TCQSM data inputs are provided in **Appendix C**.



Table 9: Transit Access Scores for Study Segments

Analysis Category	Location	Existing and Future Transit Access Score
Segment	Kamehameha Highway from Kaonohi Street to Pali Momi Street	1

Source: Fehr & Peers, 2023

8.4 Parking Supply and Demand Assessment

To calculate the parking occupancy, which is the percent of occupied parking spaces, two inputs were used: parking supply (count of total available parking spaces) and parking utilization (count of total occupied spaces). Any parking occupancy of more than 85% receives the highest parking occupancy rating. Similar to other modes, the rating is from one (1) through four (4) representing the availability of corridor-serving parking.

While no detailed parking occupancy counts were conducted near the project site, based on field observation conducted in May 2023, the on-street spaces along Lipoa Place were observed to be almost fully utilized throughout most of the day with few available spaces.

As noted in the project description, the number of proposed parking spaces (150) will supply the project including reserved parking for the car-sharing program. This lower supply rate is consistent with the City & County of Honolulu code that does not have a minimum requirement for residential development parking, especially for those within a reasonable walking distance of frequent and high-quality transit.

With the lack of available street parking and the fact that the rail system is currently operating with a limited alignment length, parking availability will likely continue to be constrained in this area. As such, the parking occupancy score is projected to be four (4) with the project in place.

8.5 2nd Peak Hour Analysis (Intersection)

Per DTS guidelines and reflective of local priorities and goals for active transportation mode share, this vehicle LOS analysis method uses traffic volumes from the second-highest peak hour, where analyzing impacts and mitigation for the first peak hour focuses the analysis on automobile travel. The second-hour standard allows for some levels of congestion to occur and better balances the multimodal analysis. This results in decisions that do not prematurely widen roadways for additional automobile capacity. It also requires practitioners to conduct analysis that acknowledges automobile traffic can be at or above capacity for the peak hour and in some cases, there are no practical ways to build roadway improvements that eliminate such congestion without impacting walkability. With this approach, the analysis applies to



actual traffic volume counts, rather than traffic volume conditions present only during the highest 15 minutes of the day.

The second peak hour analysis was conducted for the same scenarios as the first peak hour evaluation: Existing, the Year 2027 No Project, and Year 2027 Plus Project Conditions. The results of this evaluation are presented in **Table 10**, **Table 11**, and **Table 12**. According to these tables, the intersection of Kamehameha Highway and Lipoa Place is calculated to operate at LOS A during the 2nd peak hour of the morning and evening commute peaks. The study intersection is calculated to continue operating at LOS A under the Year 2027 with/without the proposed project during the 2nd peak hour.

Table 10: Existing Intersection Level of Service

Study Intersection	Traffic Control	Peak Hour	Existing (2021) Conditions	
			Delay (sec/veh)	LOS
1. Kamehameha Highway and Lipoa Place	Traffic Signal ^a	AM	8.5	A
		PM	8.5	A

Table 11: Baseline (2027) Conditions Intersection Level of Service

Study Intersection	Traffic Control	Peak Hour	Baseline (2027) Conditions	
			Delay (sec/veh)	LOS
1. Kamehameha Highway and Lipoa Place	Traffic Signal ^a	AM	8.5	A
		PM	9.0	A

Table 12: Baseline (2027)+ Project Intersection Level of Service

Study Intersection	Traffic Control	Peak Hour	Baseline (2027) + Project Conditions	
			Delay (sec/veh)	LOS
1. Kamehameha Highway and Lipoa Place	Traffic Signal ^a	AM	9.0	A
		PM	9.4	A

Intersection analysis volumes are provided in **Appendix F**.



8.6 Roadway Segment

In addition to the intersection LOS calculations, the study road segment LOS should be calculated based on the HCM 2010 Generalized Daily Service Volumes for Urban Street Facilities. This method assumes LOS C as the best possible score. The Roadway Segment Analysis was conducted for the same scenarios as the intersection evaluation: Existing, the Year 2027 No Project, and Year 2027 Plus Project Conditions.

Table 13: Existing Roadway Segment Conditions

Roadway Segment	ADT	LOS	Vehicle Operations Scale
Kamehameha Highway from Kaonohi Street to Pali Momi Street (6-lane)	39,532	D	2
Lipoa Place from Kamehameha Highway to project site (2-lane)	2,900	C	1

Table 14: Baseline (2027) + Project Roadway Segment Conditions

Roadway Segment	ADT	LOS	Vehicle Operations Scale
Kamehameha Highway from Kaonohi Street to Pali Momi Street (6-lane)	43,197	D	2
Lipoa Place from Kamehameha Highway to project site (2-lane)	3,393	C	1

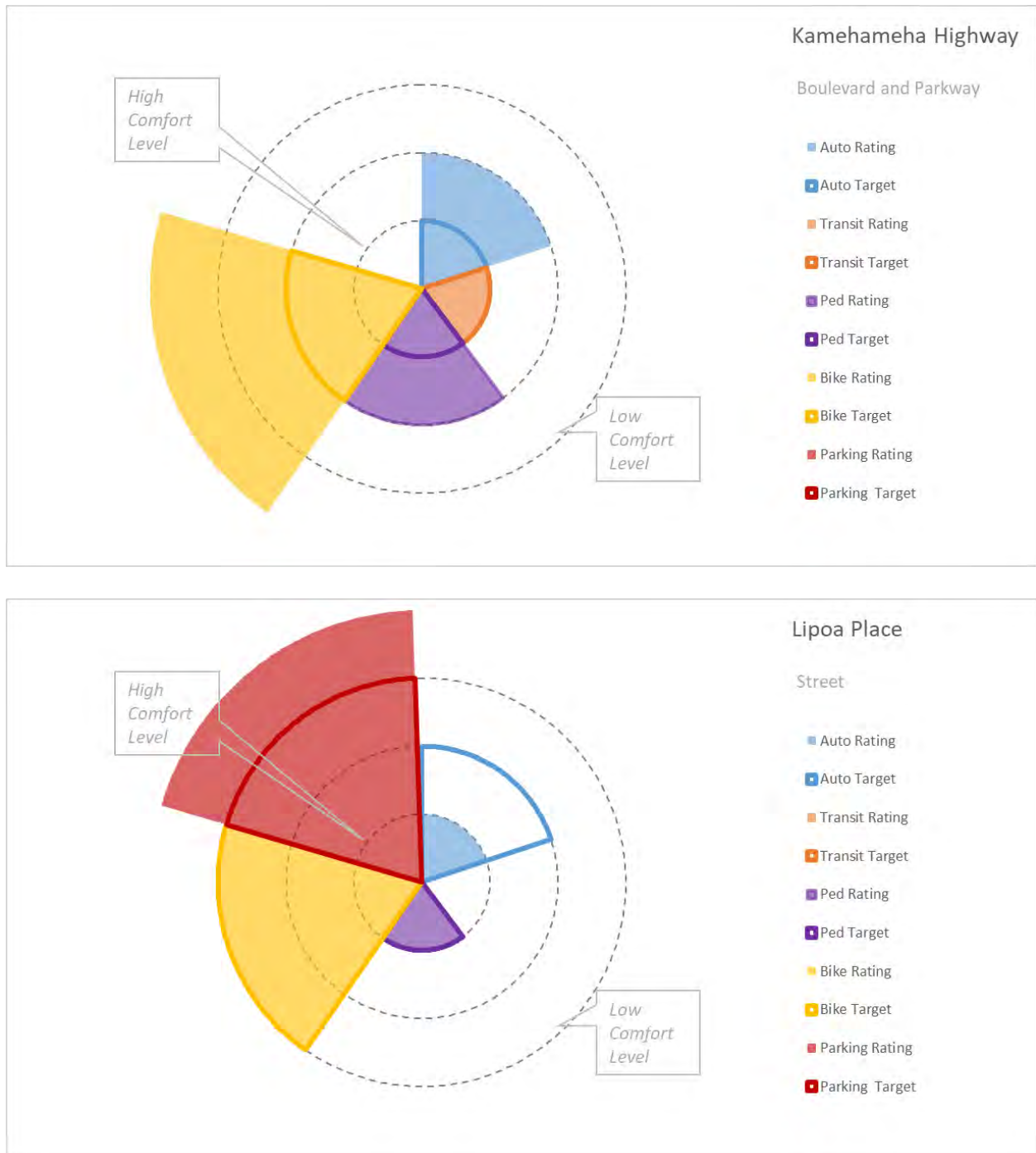
8.7 Overview of Analysis Outcomes

The performance of all modes was compared to target scores which vary by street type throughout the City and County of Honolulu. Targets are based on the priorities for the study segments. For instance, automobile traffic and transit services are prioritized on expressways, boulevards, and parkways where traffic speeds and volumes are higher, while pedestrian and bicycle comfort scores are prioritized on streets, shared streets, and mews (pedestrian malls). Another distinction is that parking is not evaluated for boulevards and parkways. Kamehameha Hwy is classified as a Boulevard/Parkway and Lipoa Place is considered a local street within the study area.

Figure 10 compares the target performance to the projected performance of all modes for each study facility. The closer to the bullseye, the better the target and ratings are aligned.



Figure 10: Street Segments Auto, Transit, Pedestrian, Bicycle, and Parking Performance Targets for Kamehameha Highway and Lipoa Place



Pedestrian

The Pedestrian Comfort Ratings was calculated at one (1) along Lipoa Place indicating *reasonable pedestrian conditions*. The study segment along the Lipoa place meets the target identified for its facility type based on the Complete Streets Modal Priority analysis tool.

The Pedestrian Comfort Rating was calculated to be two (2) along Kamehameha Highway indicating that *basic pedestrian conditions* exist within the study area connecting the project site to nearby destinations. Based on the Complete Streets Modal Priority analysis tool, the Pedestrian Comfort target for Kamehameha Highway is 1 (Reasonable/Ideal pedestrian conditions).

Currently, the sidewalks along the Kamehameha Highway are situated right next to the auto travel lane, which compromises pedestrian comfort. It is anticipated that implementing a buffered bike lane along the Kamehameha Highway, as outlined in the 2019 O'ahu Bike Plan, will create a physical separation between pedestrians and vehicles, significantly enhancing pedestrian comfort. The proposed modification, combined with an adequate margin, is calculated to elevate the Pedestrian Comfort Rating to level 1 based on the Complete Streets Modal Priority analysis tool.

Bicycle

The section of Lipoa Place between Kamehameha Highway and the shopping center driveway at its Diamond Head terminus is rated at LTS three (3). While this segment does not provide separate bicycle facilities, vehicular demand, and vehicle speeds were observed to be low and will continue that way even with project implementation. The project is expected to generate a relatively small number of additional bicycle trips, and the existing facilities can accommodate these trips from a capacity perspective. Lower-speed and lower-volume residential streets typically do not include separate bicycle facilities. Thus, no need for additional bike facilities is recommended along Lipoa Place.

Kamehameha Highway between Kaonohi Street to Pali Momi Street LTS is rated at four (4) indicating the highest level of traffic stress where only the most experienced cyclists are willing to use these roadways. With the addition of the bike lanes proposed in the O'ahu Bike Plan, the segment is rated at an improved Comfort Rating of three (3) where fewer cyclists are comfortable biking on the roadway. The LTS is still considered less than desirable for the majority of bicyclists. As an alternative, residents going to destinations on the Ewa or Diamond-Head direction are able to use the dedicated Pearl Harbor Bike Path connection to avoid the higher traffic volumes and higher speeds on Kamehameha Highway.



Transit

The study segment is calculated to maintain an Existing and Future transit access score of one (1) indicating sufficient transit access for the project site. As such, no changes to the transit environment are proposed with the proposed development only existing transit access scores are reported below.

Parking

With the lack of available street parking and the fact that the rail system is currently operating with a limited alignment length, parking availability will likely continue to be constrained in this area. As such, the parking occupancy score is projected to remain at four (4) with the project in place.

As described in section **Section 9.2**, the project is proposing to include space for car-sharing services to reduce the need for vehicle ownership at the site. Additionally, we recommend that the project developer provide residents with information regarding non-automobile modes of transportation to encourage multimodal travel and reduce parking demand.

Auto (Intersection)

Based on the 2nd Peak Hour Analysis conducted at the intersection of Kamehameha Highway and Lipoa Place, the study intersection is calculated to maintain a vehicle operation score of 1. No improvements are recommended at this location.

Auto (Segment)

Kamehameha Highway is calculated to maintain a vehicle operation score of 2 under existing and future conditions. Lipoa place is calculated to maintain a vehicle operation score of 1 under existing and future conditions. Lipoa Place is calculated to meet its facility type target based on the Complete Streets Modal Priority analysis tool. The target for a Boulevard or Parkway is an Auto rating of 1.



8.8 Safe Speed Study

As per request from DTS, a Safe Speed Study was conducted based on the National Association of City Transportation Officials (NACTO) guide. When determining a safe speed limit for a major street, there are two primary considerations:

1. Conflict Density (How frequently potential conflicts arise on a given street): A conflict exists when a normal interaction, such as crossing the street while turning vehicles yield, is so close and at such a speed that a crash would happen unless sudden action is taken. In urban conditions, this is usually a factor of how separated modes are, and what the crossing demand is.
2. Activity Level (How active a street currently is or is expected to be): Crashes that cause fatalities or serious injuries are generally the result of conflicts happening at speeds that are too high for a human body to endure. Therefore, streets with a greater number of potentially serious conflicts and a higher level of activity should have lower speed limits.

The framework determines maximum safe speed limits based on the density of conflict points and the level of activity on a roadway. According to the Conflict-Density-Analysis guideline provided by NACTO, Lipoa Place goes under the High Conflict Density category as there are more than 3 T-intersections/Major driveways within ¼ miles of the project site. In terms of Activity Level Analysis, it falls under the Moderate Activity category considering the moderate density residential or commercial uses along Lipoa Place. Having Conflict and activity Level analysis applied to the Risk Matrix, the speed limit is recommended to be 20 mph. NACTO Safe Speed determination worksheets are provided in **Appendix G**.



9. Recommended Improvements

9.1 Active Transportation

In general, the existing sidewalks and bicycle facilities are assessed as sufficient to accommodate the pedestrian/bicycle demand generated by the project for walking/biking trips to nearby destinations.

The Project driveway should be designed so that the path crossing the project driveway provides adequate sight distance for drivers and pedestrians/bicyclists exiting and entering the project site. This includes the placement of monument signage, fencing, and other potential impediments to visibility.

Additionally, it is recommended that the site facilities be ADA compliant, ensuring equal access for individuals with disabilities by implementing necessary modifications to buildings, pathways, and transportation facilities. The area would become more inclusive and accommodating, allowing everyone, regardless of their physical abilities, to actively participate in and benefit from the various transportation options available.

9.2 Transportation Demand Management (TDM)

Transportation demand management (TDM) refers to a set of strategies and policies aimed at managing and optimizing transportation systems by reducing travel demand or redistributing it by mode and time. The goal of TDM is to improve transportation efficiency, reduce congestion, enhance mobility, and promote sustainable transportation options.

The proposed project includes the allocation of designated parking stalls for car-sharing services. It is recommended that the developer provide information in a tenant-accessible common area about the car-sharing program, instructing individuals on how to utilize the service. This information should also include information on available transit options, as well as micro-mobility (e.g., bike and e-bikes). This will serve to encourage people to choose shared transportation options, thereby reducing the reliance on private vehicles and alleviating congestion on the roads. By facilitating convenient access to car-sharing services, this measure promotes sustainability, enhances efficiency, and contributes to a more streamlined and eco-friendly transportation system within the area.

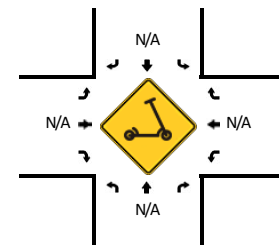
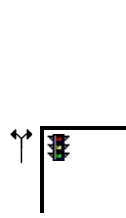
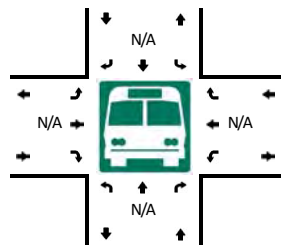
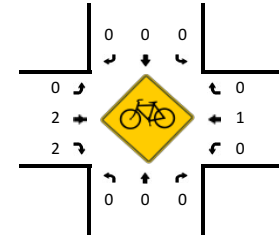
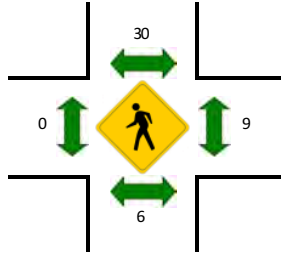
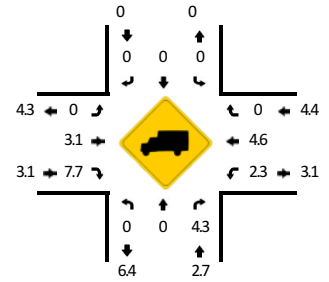
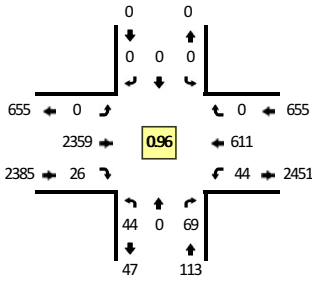


Appendix A: Traffic and Segment Counts

LOCATION: Lipoa Pl -- Kamehameha Hwy
CITY/STATE: Waimalu, HI

QC JOB #: 16185801
DATE: Wed, May 10 2023

Peak-Hour: 6:30 AM -- 7:30 AM
 Peak 15-Min: 6:30 AM -- 6:45 AM



5-Min Count Period Beginning At	Lipoa Pl (Northbound)				Lipoa Pl (Southbound)				Kamehameha Hwy (Eastbound)				Kamehameha Hwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	1	0	1	0	0	0	0	0	0	164	0	0	4	30	0	1	201	
6:05 AM	3	0	6	0	0	0	0	0	0	186	0	0	3	27	0	2	227	
6:10 AM	4	0	6	0	0	0	0	0	0	198	3	0	1	30	0	1	243	
6:15 AM	2	0	1	0	0	0	0	0	0	210	2	0	2	30	0	0	247	
6:20 AM	7	0	6	0	0	0	0	0	0	210	1	0	0	36	0	0	260	
6:25 AM	3	0	4	0	0	0	0	0	0	196	1	0	2	34	0	3	243	
6:30 AM	4	0	4	0	0	0	0	0	0	248	4	0	1	35	0	2	298	
6:35 AM	1	0	7	0	0	0	0	0	0	207	2	0	4	37	0	1	259	
6:40 AM	1	0	9	0	0	0	0	0	0	218	2	0	1	36	0	0	267	
6:45 AM	7	0	2	0	0	0	0	0	0	145	2	0	2	52	0	5	215	
6:50 AM	1	0	3	0	0	0	0	0	0	225	2	0	0	38	0	1	270	
6:55 AM	2	0	8	0	0	0	0	0	0	191	2	0	0	59	0	2	264	2994
7:00 AM	3	0	4	0	0	0	0	0	0	220	1	0	2	51	0	1	282	3075
7:05 AM	6	0	6	0	0	0	0	0	0	164	1	0	2	42	0	3	224	3072
7:10 AM	4	0	4	0	0	0	0	0	0	183	4	0	3	68	0	1	267	3096
7:15 AM	5	0	8	0	0	0	0	0	0	165	3	0	2	56	0	1	240	3089
7:20 AM	3	0	10	0	0	0	0	0	0	218	2	0	1	55	0	1	290	3119
7:25 AM	7	0	4	0	0	0	0	0	0	175	1	0	3	82	0	5	277	3153
7:30 AM	5	0	3	0	0	0	0	0	0	167	3	0	3	64	0	2	247	3102
7:35 AM	6	0	9	0	0	0	0	0	0	138	5	0	1	66	0	2	227	3070
7:40 AM	8	0	8	0	0	0	0	0	0	124	4	0	6	62	0	6	218	3021
7:45 AM	0	0	5	0	0	0	0	0	0	154	1	0	3	69	0	1	233	3039
7:50 AM	6	0	3	0	0	0	0	0	0	150	4	0	2	88	0	1	254	3023
7:55 AM	3	0	8	0	0	0	0	0	0	123	3	0	0	68	0	2	207	2966
8:00 AM	6	0	0	0	0	0	0	0	0	110	3	0	3	62	0	2	186	2870
8:05 AM	4	0	4	0	0	0	0	0	0	123	3	0	1	61	0	1	197	2843
8:10 AM	7	0	2	0	0	0	0	0	0	86	3	0	4	67	0	1	170	2746
8:15 AM	11	0	4	0	0	0	0	0	0	81	3	0	2	79	0	1	181	2687
8:20 AM	5	0	3	0	0	0	0	0	0	130	3	0	0	78	0	6	225	2622
8:25 AM	7	0	4	0	0	0	0	0	0	101	4	0	2	93	0	2	213	2558
8:30 AM	8	0	5	0	0	0	0	0	0	76	5	0	1	68	0	2	165	2476
8:35 AM	10	0	0	0	0	0	0	0	0	105	2	0	2	61	0	3	183	2432
8:40 AM	4	0	2	0	0	0	0	0	0	107	6	0	2	97	0	1	219	2433
8:45 AM	4	0	5	0	0	0	0	0	0	103	3	0	0	72	0	2	189	2389
8:50 AM	7	0	4	0	0	0	0	0	0	67	4	0	2	80	0	3	167	2302
8:55 AM	4	0	6	0	0	0	0	0	0	88	9	0	2	80	0	5	194	2289

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	24	0	80	0	0	0	0	0	0	2692	32	0	24	432	0	12	3296
Heavy Trucks	0	0	4		0	0	0		0	64	4		0	24	0		96
Buses																	
Pedestrians		8				20				0				8			36
Bicycles	0	0	0		0	0	0		0	4	4		0	0	0		8
Scoters																	

Comments:

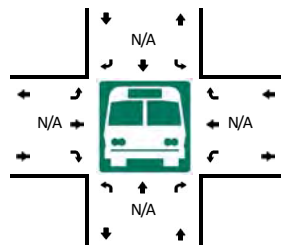
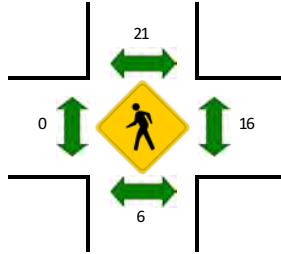
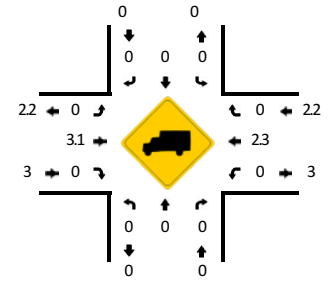
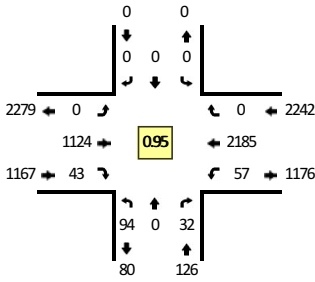
Report generated on 5/17/2023 12:29 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: Lipoa Pl -- Kamehameha Hwy
CITY/STATE: Waimalu, HI

QC JOB #: 16185802
DATE: Wed, May 10 2023

Peak-Hour: 3:10 PM -- 4:10 PM
 Peak 15-Min: 3:10 PM -- 3:25 PM



5-Min Count Period Beginning At	Lipoa Pl (Northbound)				Lipoa Pl (Southbound)				Kamehameha Hwy (Eastbound)				Kamehameha Hwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	12	0	0	0	0	0	0	0	0	62	2	0	5	151	0	5	237	
3:05 PM	12	0	4	0	0	0	0	0	0	86	2	0	0	189	0	2	295	
3:10 PM	3	0	3	0	0	0	0	0	0	103	0	0	3	194	0	3	309	
3:15 PM	4	0	3	0	0	0	0	0	0	103	2	0	2	187	0	0	301	
3:20 PM	9	0	4	0	0	0	0	0	0	103	3	0	5	191	0	3	318	
3:25 PM	12	0	2	0	0	0	0	0	0	120	4	0	1	168	0	2	309	
3:30 PM	11	0	4	0	0	0	0	0	0	70	0	0	2	187	0	2	276	
3:35 PM	2	0	2	0	0	0	0	0	0	78	9	0	5	169	0	2	267	
3:40 PM	7	0	3	0	0	0	0	0	0	96	4	0	4	182	0	1	297	
3:45 PM	12	0	3	0	0	0	0	0	0	103	3	0	2	180	0	0	303	
3:50 PM	8	0	3	0	0	0	0	0	0	88	4	0	5	191	0	1	300	
3:55 PM	8	0	1	0	0	0	0	0	0	79	5	0	1	184	0	3	281	3493
4:00 PM	3	0	1	0	0	0	0	0	0	74	5	0	5	183	0	0	271	3527
4:05 PM	15	0	3	0	0	0	0	0	0	107	4	0	2	169	0	3	303	3535
4:10 PM	9	0	4	0	0	0	0	0	0	100	2	0	10	177	0	2	304	3530
4:15 PM	17	0	4	0	0	0	0	0	0	93	0	0	5	175	0	2	296	3525
4:20 PM	9	0	2	0	0	0	0	0	0	70	1	0	5	174	0	4	265	3472
4:25 PM	13	0	6	0	0	0	0	0	0	72	3	0	1	195	0	1	291	3454
4:30 PM	7	0	2	0	0	0	0	0	0	83	4	0	4	165	0	3	268	3446
4:35 PM	10	0	2	0	0	0	0	0	0	116	10	0	1	190	0	0	329	3508
4:40 PM	11	0	1	0	0	0	0	0	0	97	4	0	5	185	0	1	304	3515
4:45 PM	11	0	6	0	0	0	0	0	0	85	7	0	5	166	0	3	283	3495
4:50 PM	7	0	2	0	0	0	0	0	0	91	4	0	6	148	0	2	260	3455
4:55 PM	9	0	7	0	0	0	0	0	0	71	5	0	4	147	0	2	245	3419
5:00 PM	8	0	4	0	0	0	0	0	0	95	3	0	2	190	0	1	303	3451
5:05 PM	11	0	2	0	0	0	0	0	0	88	3	0	6	173	0	1	284	3432
5:10 PM	6	0	3	0	0	0	0	0	0	66	3	0	6	175	0	2	261	3389
5:15 PM	11	0	3	0	0	0	0	0	0	110	11	0	1	172	0	5	313	3406
5:20 PM	7	0	7	0	0	0	0	0	0	75	4	0	3	175	0	2	273	3414
5:25 PM	14	0	4	0	0	0	0	0	0	75	4	0	6	158	0	4	265	3388
5:30 PM	13	0	4	0	0	0	0	0	0	82	7	0	4	141	0	2	253	3373
5:35 PM	16	0	4	0	0	0	0	0	0	78	3	0	5	100	0	1	207	3251
5:40 PM	16	0	1	0	0	0	0	0	0	61	7	0	1	125	0	0	211	3158
5:45 PM	5	0	4	0	0	0	0	0	0	64	4	0	3	144	0	0	224	3099
5:50 PM	7	0	3	0	0	0	0	0	0	83	4	0	5	111	0	2	215	3054
5:55 PM	4	0	2	0	0	0	0	0	0	79	4	0	0	113	0	4	206	3015

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	64	0	40	0	0	0	0	0	0	1236	20	0	40	2288	0	24	3712
Heavy Trucks	0	0	0		0	0	0		0	52	0		0	52	0		104
Buses																	
Pedestrians		8				32				0				24			64
Bicycles	0	0	0		0	0	0		0	4	0		0	0	0		4
Scoters																	

Comments:

Report generated on 5/17/2023 12:29 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

Type of report: Tube Count - Volume Data

LOCATION: Kamehameha Highway East of Lipoa Pl							QC JOB #: 16185803			
SPECIFIC LOCATION:							DIRECTION: EB			
CITY/STATE: Waimalu, HI							DATE: May 9 2023 - May 11 2023			
Start Time	Mon 9 May 23	Tue 10 May 23	Wed 11 May 23	Thu 11 May 23	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		85	94	74		84			84	
01:00 AM		47	49	57		51			51	
02:00 AM		65	60	63		63			63	
03:00 AM		96	110	105		104			104	
04:00 AM		270	296	289		285			285	
05:00 AM		1131	1136	1069		1112			1112	
06:00 AM		2277	2229	2268		2258			2258	
07:00 AM		1935	1967	2055		1986			1986	
08:00 AM		1193	1196	1293		1227			1227	
09:00 AM		1012	1075	1308		1132			1132	
10:00 AM		1097	1132	1405		1211			1211	
11:00 AM		1205	1179	1194		1193			1193	
12:00 PM		1246	1244	1223		1238			1238	
01:00 PM		1127	1154	1187		1156			1156	
02:00 PM		1156	1155	1230		1180			1180	
03:00 PM		1127	1099	1122		1116			1116	
04:00 PM		1082	1058	1044		1061			1061	
05:00 PM		965	983	1009		986			986	
06:00 PM		892	939	922		918			918	
07:00 PM		841	800	827		823			823	
08:00 PM		634	617	688		646			646	
09:00 PM		476	516	520		504			504	
10:00 PM		297	266	265		276			276	
11:00 PM		134	151	163		149			149	
Day Total		20390	20505	21380		20759			20759	
% Weekday Average		98.2%	98.8%	103%						
% Week Average		98.2%	98.8%	103%		100%				
AM Peak Volume		6:00 AM 2277	6:00 AM 2229	6:00 AM 2268		6:00 AM 2258			6:00 AM 2258	
PM Peak Volume		12:00 PM 1246	12:00 PM 1244	2:00 PM 1230		12:00 PM 1238			12:00 PM 1238	

Comments:

Report generated on 5/17/2023 10:12 AM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>)

Type of report: Tube Count - Volume Data

LOCATION: Kamehameha Highway East of Lipoa Pl							QC JOB #: 16185803			
SPECIFIC LOCATION:							DIRECTION: EB, WB			
CITY/STATE: Waimalu, HI							DATE: May 9 2023 - May 11 2023			
Start Time	Mon 9 May 23	Tue 10 May 23	Wed 11 May 23	Thu 11 May 23	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		143	164	173		160			160	
01:00 AM		104	97	105		102			102	
02:00 AM		109	102	111		107			107	
03:00 AM		137	173	158		156			156	
04:00 AM		351	414	380		382			382	
05:00 AM		1357	1346	1288		1330			1330	
06:00 AM		2716	2669	2696		2694			2694	
07:00 AM		2610	2729	2742		2694			2694	
08:00 AM		2068	2056	2277		2134			2134	
09:00 AM		1846	2011	2366		2074			2074	
10:00 AM		2153	2520	2422		2365			2365	
11:00 AM		2349	2518	2293		2387			2387	
12:00 PM		2401	2414	2295		2370			2370	
01:00 PM		2177	2380	2275		2277			2277	
02:00 PM		2604	2695	2768		2689			2689	
03:00 PM		3160	3080	3126		3122			3122	
04:00 PM		3188	3063	3110		3120			3120	
05:00 PM		2816	2641	2946		2801			2801	
06:00 PM		1940	2062	2305		2102			2102	
07:00 PM		1572	1582	1593		1582			1582	
08:00 PM		1154	1187	1269		1203			1203	
09:00 PM		818	877	918		871			871	
10:00 PM		533	498	508		513			513	
11:00 PM		265	305	317		296			296	
Day Total		38571	39583	40441		39531			39531	
% Weekday Average		97.6%	100.1%	102.3%						
% Week Average		97.6%	100.1%	102.3%		100%				
AM Peak Volume		6:00 AM 2716	7:00 AM 2729	7:00 AM 2742		6:00 AM 2694			6:00 AM 2694	
PM Peak Volume		4:00 PM 3188	3:00 PM 3080	3:00 PM 3126		3:00 PM 3122			3:00 PM 3122	

Comments:

Type of report: Tube Count - Volume Data

LOCATION: Kamehameha Highway East of Lipoa Pl							QC JOB #: 16185803			
SPECIFIC LOCATION:							DIRECTION: WB			
CITY/STATE: Waimalu, HI							DATE: May 9 2023 - May 11 2023			
Start Time	Mon	Tue	Wed	Thu	Fri	Average Weekday	Sat	Sun	Average Week	Average Week Profile
		9 May 23	10 May 23	11 May 23		Hourly Traffic			Hourly Traffic	
12:00 AM		58	70	99		76			76	
01:00 AM		57	48	48		51			51	
02:00 AM		44	42	48		45			45	
03:00 AM		41	63	53		52			52	
04:00 AM		81	118	91		97			97	
05:00 AM		226	210	219		218			218	
06:00 AM		439	440	428		436			436	
07:00 AM		675	762	687		708			708	
08:00 AM		875	860	984		906			906	
09:00 AM		834	936	1058		943			943	
10:00 AM		1056	1388	1017		1154			1154	
11:00 AM		1144	1339	1099		1194			1194	
12:00 PM		1155	1170	1072		1132			1132	
01:00 PM		1050	1226	1088		1121			1121	
02:00 PM		1448	1540	1538		1509			1509	
03:00 PM		2033	1981	2004		2006			2006	
04:00 PM		2106	2005	2066		2059			2059	
05:00 PM		1851	1658	1937		1815			1815	
06:00 PM		1048	1123	1383		1185			1185	
07:00 PM		731	782	766		760			760	
08:00 PM		520	570	581		557			557	
09:00 PM		342	361	398		367			367	
10:00 PM		236	232	243		237			237	
11:00 PM		131	154	154		146			146	
Day Total		18181	19078	19061		18774			18774	
% Weekday Average		96.8%	101.6%	101.5%						
% Week Average		96.8%	101.6%	101.5%		100%				
AM Peak Volume		11:00 AM 1144	10:00 AM 1388	11:00 AM 1099		11:00 AM 1194			11:00 AM 1194	
PM Peak Volume		4:00 PM 2106	4:00 PM 2005	4:00 PM 2066		4:00 PM 2059			4:00 PM 2059	

Comments:

Appendix B: Existing (2023) Conditions Intersection Analysis Worksheets

HCM 6th Signalized Intersection Summary
 1: Lipoa PI & Kamehameha Hwy

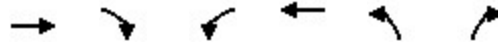
Existing (2023) Conditions
 AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	↵
Traffic Volume (veh/h)	2359	26	44	611	44	69
Future Volume (veh/h)	2359	26	44	611	44	69
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1826	1870	1870
Adj Flow Rate, veh/h	2564	28	48	664	48	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	2	2	5	2	2
Cap, veh/h	3859	42	77	4181	115	102
Arrive On Green	0.75	0.75	0.04	0.84	0.06	0.06
Sat Flow, veh/h	5331	56	1781	5149	1781	1585
Grp Volume(v), veh/h	1674	918	48	664	48	75
Grp Sat Flow(s),veh/h/ln	1689	1844	1781	1662	1781	1585
Q Serve(g_s), s	30.8	31.0	3.3	3.1	3.2	5.8
Cycle Q Clear(g_c), s	30.8	31.0	3.3	3.1	3.2	5.8
Prop In Lane		0.03	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2524	1378	77	4181	115	102
V/C Ratio(X)	0.66	0.67	0.63	0.16	0.42	0.73
Avail Cap(c_a), veh/h	3787	2068	244	6516	517	460
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.9	7.9	58.3	1.9	55.7	56.9
Incr Delay (d2), s/veh	0.3	0.6	8.1	0.0	2.4	9.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	10.9	1.7	0.7	1.5	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	8.2	8.4	66.4	1.9	58.2	66.7
LnGrp LOS	A	A	E	A	E	E
Approach Vol, veh/h	2592			712	123	
Approach Delay, s/veh	8.3			6.2	63.3	
Approach LOS	A			A	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	11.3	98.6			110.0	14.0
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	17.0	139.0			162.0	36.0
Max Q Clear Time (g_c+I1), s	5.3	33.0			5.1	7.8
Green Ext Time (p_c), s	0.1	59.6			5.5	0.3
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			9.8			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary
 1: Lipoa PI & Kamehameha Hwy

Existing (2023) Conditions
 PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	↵
Traffic Volume (veh/h)	1124	43	57	2185	94	32
Future Volume (veh/h)	1124	43	57	2185	94	32
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1222	47	62	2375	102	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	2	2	2	2	2
Cap, veh/h	3413	131	99	4081	139	124
Arrive On Green	0.68	0.68	0.06	0.80	0.08	0.08
Sat Flow, veh/h	5167	192	1781	5274	1781	1585
Grp Volume(v), veh/h	825	444	62	2375	102	35
Grp Sat Flow(s),veh/h/ln	1689	1815	1781	1702	1781	1585
Q Serve(g_s), s	10.1	10.1	3.3	17.1	5.5	2.0
Cycle Q Clear(g_c), s	10.1	10.1	3.3	17.1	5.5	2.0
Prop In Lane		0.11	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2305	1239	99	4081	139	124
V/C Ratio(X)	0.36	0.36	0.63	0.58	0.73	0.28
Avail Cap(c_a), veh/h	4793	2575	309	8446	655	583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.5	6.5	45.3	3.7	44.1	42.5
Incr Delay (d2), s/veh	0.1	0.2	6.5	0.1	7.2	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	3.4	1.6	3.9	2.7	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	6.6	6.7	51.7	3.8	51.3	43.8
LnGrp LOS	A	A	D	A	D	D
Approach Vol, veh/h	1269			2437	137	
Approach Delay, s/veh	6.7			5.0	49.4	
Approach LOS	A			A	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	11.4	72.9			84.3	13.7
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	17.0	139.0			162.0	36.0
Max Q Clear Time (g_c+I1), s	5.3	12.1			19.1	7.5
Green Ext Time (p_c), s	0.1	12.6			59.2	0.4
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			7.2			
HCM 6th LOS			A			

Appendix C: Baseline (2027) Conditions Intersection Analysis Worksheets

HCM 6th Signalized Intersection Summary
 1: Lipoa PI & Kamehameha Hwy

Year 2027 No Project Conditions
 AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	↵
Traffic Volume (veh/h)	2513	27	45	651	45	71
Future Volume (veh/h)	2513	27	45	651	45	71
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1826	1870	1870
Adj Flow Rate, veh/h	2732	29	49	708	49	77
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	2	2	5	2	2
Cap, veh/h	3937	42	75	4227	115	102
Arrive On Green	0.76	0.76	0.04	0.85	0.06	0.06
Sat Flow, veh/h	5333	55	1781	5149	1781	1585
Grp Volume(v), veh/h	1783	978	49	708	49	77
Grp Sat Flow(s),veh/h/ln	1689	1844	1781	1662	1781	1585
Q Serve(g_s), s	36.4	36.8	3.7	3.4	3.6	6.5
Cycle Q Clear(g_c), s	36.4	36.8	3.7	3.4	3.6	6.5
Prop In Lane		0.03	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2573	1405	75	4227	115	102
V/C Ratio(X)	0.69	0.70	0.65	0.17	0.43	0.75
Avail Cap(c_a), veh/h	3428	1872	221	5898	468	417
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.2	8.3	64.6	1.8	61.6	63.0
Incr Delay (d2), s/veh	0.4	0.7	9.2	0.0	2.5	10.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.8	13.1	1.9	0.8	1.7	2.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	8.6	9.0	73.8	1.9	64.1	73.6
LnGrp LOS	A	A	E	A	E	E
Approach Vol, veh/h	2761			757	126	
Approach Delay, s/veh	8.7			6.5	69.9	
Approach LOS	A			A	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	11.8	110.3			122.1	14.8
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	17.0	139.0			162.0	36.0
Max Q Clear Time (g_c+I1), s	5.7	38.8			5.4	8.5
Green Ext Time (p_c), s	0.1	65.5			6.0	0.4
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			10.4			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary
 1: Lipoa PI & Kamehameha Hwy

Year 2027 No Project Conditions
 PM Peak Hour

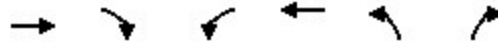


Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	↵
Traffic Volume (veh/h)	1197	44	58	2327	96	33
Future Volume (veh/h)	1197	44	58	2327	96	33
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1301	48	63	2529	104	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	2	2	2	2	2
Cap, veh/h	3552	131	95	4166	138	123
Arrive On Green	0.71	0.71	0.05	0.82	0.08	0.08
Sat Flow, veh/h	5176	185	1781	5274	1781	1585
Grp Volume(v), veh/h	877	472	63	2529	104	36
Grp Sat Flow(s),veh/h/ln	1689	1816	1781	1702	1781	1585
Q Serve(g_s), s	11.5	11.5	3.9	20.3	6.4	2.4
Cycle Q Clear(g_c), s	11.5	11.5	3.9	20.3	6.4	2.4
Prop In Lane		0.10	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2395	1288	95	4166	138	123
V/C Ratio(X)	0.37	0.37	0.66	0.61	0.75	0.29
Avail Cap(c_a), veh/h	4177	2247	269	7361	571	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.4	6.4	52.2	3.8	50.8	48.9
Incr Delay (d2), s/veh	0.1	0.2	7.7	0.1	8.1	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	4.0	1.9	4.8	3.2	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	6.5	6.6	59.9	3.9	58.9	50.2
LnGrp LOS	A	A	E	A	E	D
Approach Vol, veh/h	1349			2592	140	
Approach Delay, s/veh	6.5			5.3	56.6	
Approach LOS	A			A	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.0	85.7			97.7	14.7
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	17.0	139.0			162.0	36.0
Max Q Clear Time (g_c+I1), s	5.9	13.5			22.3	8.4
Green Ext Time (p_c), s	0.1	14.1			69.4	0.4
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			7.5			
HCM 6th LOS			A			

Appendix D: Baseline (2027) Plus Project Conditions Intersection Analysis Worksheets

HCM 6th Signalized Intersection Summary
 1: Lipoa PI & Kamehameha Hwy

Year 2027 Plus Project Conditions
 AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	↵
Traffic Volume (veh/h)	2513	32	50	651	55	81
Future Volume (veh/h)	2513	32	50	651	55	81
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1826	1870	1870
Adj Flow Rate, veh/h	2732	35	54	708	60	88
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	2	2	5	2	2
Cap, veh/h	3893	50	79	4201	128	114
Arrive On Green	0.76	0.76	0.04	0.84	0.07	0.07
Sat Flow, veh/h	5320	66	1781	5149	1781	1585
Grp Volume(v), veh/h	1787	980	54	708	60	88
Grp Sat Flow(s),veh/h/ln	1689	1842	1781	1662	1781	1585
Q Serve(g_s), s	38.5	39.0	4.2	3.6	4.5	7.7
Cycle Q Clear(g_c), s	38.5	39.0	4.2	3.6	4.5	7.7
Prop In Lane		0.04	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2551	1391	79	4201	128	114
V/C Ratio(X)	0.70	0.70	0.68	0.17	0.47	0.78
Avail Cap(c_a), veh/h	3348	1826	216	5760	457	407
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.9	9.0	66.0	2.0	62.5	64.0
Incr Delay (d2), s/veh	0.4	0.8	9.8	0.0	2.7	10.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.7	14.2	2.1	0.9	2.2	3.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	9.3	9.8	75.7	2.0	65.2	74.7
LnGrp LOS	A	A	E	A	E	E
Approach Vol, veh/h	2767			762	148	
Approach Delay, s/veh	9.5			7.3	70.8	
Approach LOS	A			A	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.2	111.9			124.2	16.0
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	17.0	139.0			162.0	36.0
Max Q Clear Time (g_c+I1), s	6.2	41.0			5.6	9.7
Green Ext Time (p_c), s	0.1	64.9			6.0	0.4
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			11.5			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary
 1: Lipoa PI & Kamehameha Hwy

Year 2027 Plus Project Conditions
 PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	↵
Traffic Volume (veh/h)	1197	53	67	2327	101	38
Future Volume (veh/h)	1197	53	67	2327	101	38
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1301	58	73	2529	110	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	2	2	2	2	2
Cap, veh/h	3481	155	105	4151	144	129
Arrive On Green	0.70	0.70	0.06	0.81	0.08	0.08
Sat Flow, veh/h	5131	221	1781	5274	1781	1585
Grp Volume(v), veh/h	885	474	73	2529	110	41
Grp Sat Flow(s),veh/h/ln	1689	1809	1781	1702	1781	1585
Q Serve(g_s), s	12.0	12.0	4.6	20.8	6.8	2.8
Cycle Q Clear(g_c), s	12.0	12.0	4.6	20.8	6.8	2.8
Prop In Lane		0.12	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2368	1268	105	4151	144	129
V/C Ratio(X)	0.37	0.37	0.70	0.61	0.76	0.32
Avail Cap(c_a), veh/h	4146	2220	267	7305	566	504
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.8	6.8	52.3	3.9	51.0	49.1
Incr Delay (d2), s/veh	0.1	0.2	8.1	0.1	8.0	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	4.3	2.3	5.0	3.4	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	6.9	7.0	60.4	4.1	58.9	50.5
LnGrp LOS	A	A	E	A	E	D
Approach Vol, veh/h	1359			2602	151	
Approach Delay, s/veh	7.0			5.7	56.6	
Approach LOS	A			A	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.6	85.4			98.0	15.2
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	17.0	139.0			162.0	36.0
Max Q Clear Time (g_c+I1), s	6.6	14.0			22.8	8.8
Green Ext Time (p_c), s	0.1	14.3			69.3	0.4
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			8.0			
HCM 6th LOS			A			

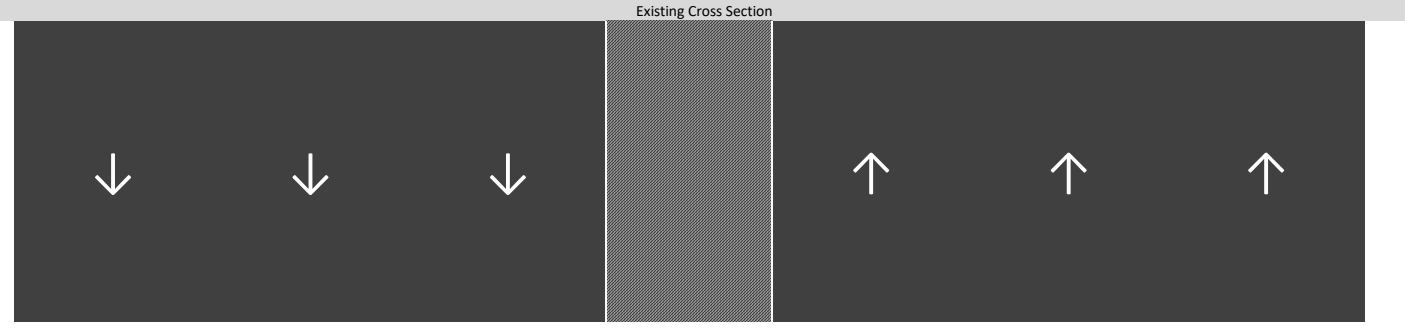
Appendix E: Pedestrian, Bicycle, and Transit Evaluation Worksheets (DTS Analysis)

Item #				11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37					
Item name	Street Name	Cross street 1	Cross street 2	lanes	two-way traffic	posted speed limit	TCFs Code	sidewalk width	sidewalk surface condition	sidewalk obstructions	curb	driveway cuts (#)	trees	planters/gardens	public seating	buffer-bike lane	store/retail use (#)	public art	graffiti	litter	ped-scale lights-private	construct'n	abandoned buildings	bike racks	vacant lots	visually attractive	feels safe	strong odors	noisy	overall how walkable	Unadjusted Score	Min score	Max Score	Adjusted Score	Ped Comfort Scale
1	Kamehameha Highway	Kaonohi	Pali Momi	6 4	1 10	20-25 22	1 20	5 ft - 7ft 11 inch 13	no impediments in surface 24	1 (perm obstructions) 9	1 17	5+ 5	a few trees, sporadically lined 11	1 9	0 7	none 4	3+ 19	0 6	0 9	0 10	0 (none) 7	0 13	0 13	0 5	0 13	2 15	2 15	2 15	2 15	7 13	323	146	463	56.00	2
1	Lipoa Place	Kamehameha Highway	Lipoa Place	2 19	1 10	20-25 22	1 20	8 ft - 11ft 11 inch 19	no impediments in surface 24	1 (perm obstructions) 9	1 17	5+ 5	a few trees, sporadically lined 11	1 9	0 7	none 4	1-2 11	0 6	0 9	0 10	0 (none) 7	0 13	0 13	0 5	0 13	2 15	2 15	2 15	1 20	7 13	341	146	463	62.00	1

Level of Traffic Stress Assessment - Existing Street Configuration

Road name: Kamehameha Hwy
 From: Kaonohi St
 To: Pali Momi St

Curb to curb width (ft) 82
 Existing stress in ↓ direction LTS 4
 Existing stress in ↑ direction LTS 4



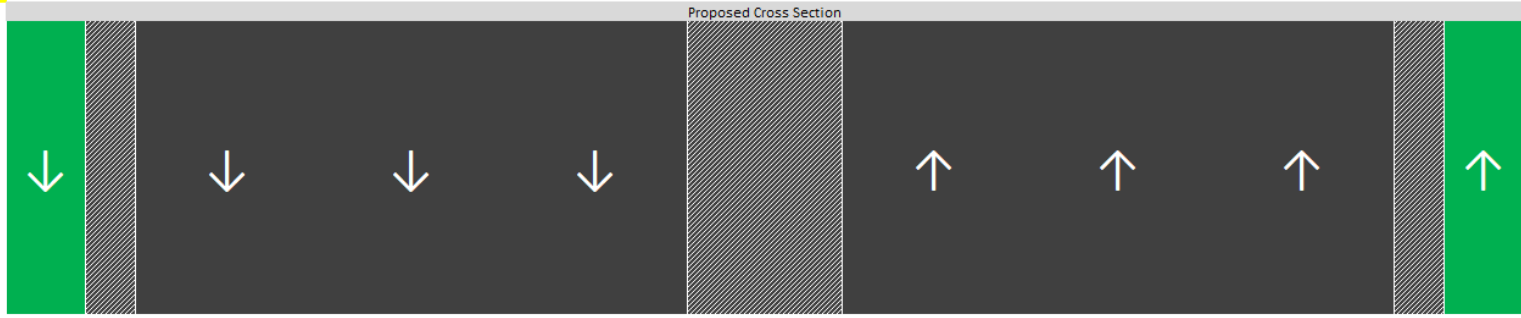
Lane width (ft)		12	12	12	10	12	12	12		
Lane type	None	Vehicle lane	Vehicle lane	Vehicle lane	Median	Vehicle lane	Vehicle lane	Vehicle lane		
Direction		↓	↓	↓	↑	↑	↑	↑		

Prevailing speed 25
 Marked centerline Yes
 AADT 39531

Level of Traffic Stress Assessment - Proposed Street Configuration

Road name:
 From:
 To:
 Alternative Name/Number:

Curb to curb width (ft)
 Proposed stress in ↓ direction
 Proposed stress in ↑ direction



Lane width (ft)	5	3	12	12	12	10	12	12	12	3	5
Lane type	Bike lane	nted bu	Vehicle lane	Vehicle lane	Vehicle lane	Median	Vehicle lane	Vehicle lane	Vehicle lane	nted bu	Bike lane
Direction	↓	↓	↓	↓	↓	↑	↑	↑	↑	↑	↑

Speed limit
 Marked centerline
 AADT

Level of Traffic Stress Assessment - Existing Street Configuration

	Road name:	Lipoa Place (NB-SB)
	From:	Kamehameha Hwy
	To:	Lipoa Place (EB-WB)
Curb to curb width (ft)	40	
Existing stress in ↓ direction	LTS 3	
Existing stress in ↑ direction	LTS 3	

Existing Cross Section



Lane width (ft)	8	12	12	8				
Lane type	Parking lane	Vehicle lane	Vehicle lane	Parking lane				
Direction	↓	↓	↑	↑				

Prevailing speed	25
Marked centerline	Yes
AADT	2900

Level of Traffic Stress Assessment - Proposed Street Configuration

Curb to curb width (ft) 40
 Proposed stress in ↓ direction LTS 3
 Proposed stress in ↑ direction LTS 3

Road name: Lipoa Place (NB-SB)
 From: Kamehameha Hwy
 To: Lipoa Place (EB-WB)
 Alternative Name/Number:

Proposed Cross Section



Lane width (ft)	8	12	12	8						
Lane type	Parking lane	Vehicle lane	Vehicle lane	Parking lane						
Direction	↓	↓	↑	↑						

Speed limit 20
 Marked centerline Yes
 AADT 3293

Multimodal Transit LOS Calculation			
		Kamehameha Hwy_EB	Kamehameha Hwy_WB
Inputs		1	2
TRANSIT OPERATIONS INFORMATION			
	Number of local buses on street segment per hour (bus/h)	12	12
	Number of express buses stopping in segment per hour (bus/h)	2	2
t_{ex}	Average excess wait time (min)	0.0	0.0
L_f	Average passenger load factor (p/seat)	0.5	0.5
S	Average transit travel speed (mi/h)	20.0	20.0
l_{pt}	Average passenger trip length (mi)	10.0	10.0
	Is the segment in the CBD of a metro area of 5 million or more?	No	No
TRANSIT AMENITY DATA			
p_{sh}	Percent stops in segment with a shelter	0%	0%
p_{be}	Percent stops in segment with a bench	100%	100%
PEDESTRIAN ENVIRONMENT DATA			
W_A	Sidewalk width (ft) (Enter 0 if no sidewalk)	8.0	6.0
W_{buf}	Buffer width from sidewalk to street (ft)	0.0	0.0
	Does a continuous barrier exist between the street and sidewalk?	No	No
	Is the street divided?	Yes	Yes
	Are parking spaces striped?	No	No
p_{pk}	Proportion of on-street parking occupied	0%	0%
W_{bl}	Bicycle lane width (ft)	0.0	0.0
W_{os}	Shoulder/parking lane width (ft)	0.0	0.0
W_{ol}	Outside travel lane (closest to sidewalk) width (ft)	12.0	12.0
v_m	Outside lane demand flow rate at midsegment (veh/h)	500	500
S_R	Average vehicle running speed, including intersection delay (mi/h)	25.0	25.0
Calculations			
f	Transit frequency (bus/h)	14	14
f_h	Headway factor	3.61	3.61
f_{pl}	Passenger load weighting factor	1.00	1.00
T_{at}	Perceived amenity time rate (min/mi)	0.0	0.0
T_{ex}	Excess wait time rate due to late arrivals (min/mi)	0.0	0.0
T_{ptt}	Perceived travel time rate (min/mi)	3.0	3.0
T_{btt}	Base travel time rate (min/mi)	4.0	4.0
f_{tt}	Perceived travel time factor	1.12	1.12
S_{w-r}	Transit wait-ride score	4.06	4.06
f_s	Motorized vehicle speed adjustment factor	0.25	0.25
f_v	Motorized vehicle volume adjustment factor	1.14	1.14
W_{aA}	Adjusted available sidewalk width (ft)	8.0	6.0
f_{sw}	Sidewalk width coefficient	3.60	4.20
f_b	Buffer area coefficient	1.00	1.00
W_t	Total width of outside lane, bike lane, and parking lane/shoulder (ft)	12.0	12.0
W_v	Effective total width as a function of traffic volume (ft)	12.0	12.0
W_1	Effective width of combined bike lane and shoulder (ft)	0.0	0.0
f_w	Cross-section adjustment factor	-4.55	-4.44
l_p	Pedestrian environment score	2.88	2.99
	Pedestrian LOS	C	C
l_t	Transit LOS score	0.34	0.36
Output			
Transit LOS		A	A

Appendix F: 2nd Peak Hour Intersection Volumes and Evaluation Worksheets

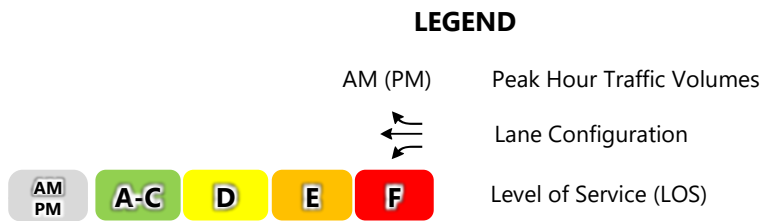
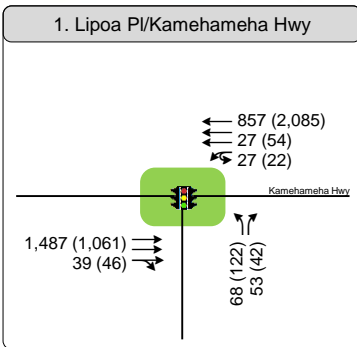
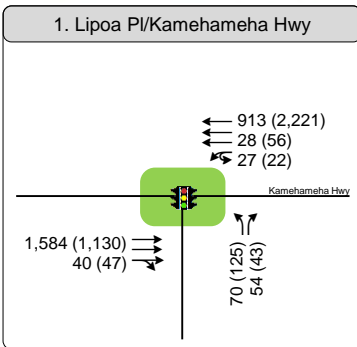


Figure A

Second Peak Hour Traffic Volumes and Lane Configurations Existing Conditions (2023)





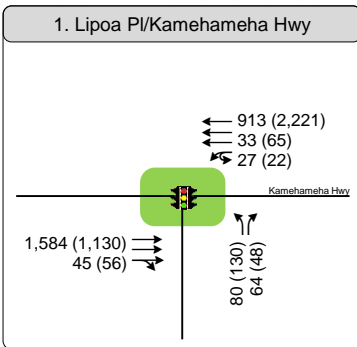
LEGEND

- AM (PM) Peak Hour Traffic Volumes
- Lane Configuration
- Level of Service (LOS)

Figure B

Second Peak Hour Traffic Volumes and Lane Configurations
Future Baseline Year (2027)





LEGEND

- AM (PM) Peak Hour Traffic Volumes
- Lane Configuration
- Level of Service (LOS)

Figure C

Second Peak Hour Traffic Volumes and Lane Configurations
Future Baseline Year (2027) Plus Project



HCM 6th Signalized Intersection Summary
 1: Lipoa PI & Kamehameha Hwy

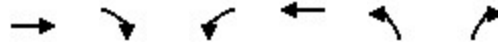
Existing (2023) Conditions
 AM 2nd Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	↵
Traffic Volume (veh/h)	1487	39	54	857	68	53
Future Volume (veh/h)	1487	39	54	857	68	53
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1826	1870	1870
Adj Flow Rate, veh/h	1616	42	59	932	74	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	2	2	5	2	2
Cap, veh/h	2878	75	140	3690	126	113
Arrive On Green	0.57	0.57	0.08	0.74	0.07	0.07
Sat Flow, veh/h	5240	132	1781	5149	1781	1585
Grp Volume(v), veh/h	1076	582	59	932	74	58
Grp Sat Flow(s),veh/h/ln	1689	1827	1781	1662	1781	1585
Q Serve(g_s), s	12.9	12.9	2.0	3.8	2.6	2.2
Cycle Q Clear(g_c), s	12.9	12.9	2.0	3.8	2.6	2.2
Prop In Lane		0.07	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1916	1037	140	3690	126	113
V/C Ratio(X)	0.56	0.56	0.42	0.25	0.59	0.52
Avail Cap(c_a), veh/h	7381	3994	476	12698	1008	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.7	8.7	27.9	2.6	28.6	28.5
Incr Delay (d2), s/veh	0.3	0.5	2.0	0.0	4.2	3.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	4.2	0.9	0.7	1.2	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	9.0	9.2	29.9	2.7	32.9	32.1
LnGrp LOS	A	A	C	A	C	C
Approach Vol, veh/h	1658			991	132	
Approach Delay, s/veh	9.1			4.3	32.5	
Approach LOS	A			A	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	11.0	42.1			53.1	10.5
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	17.0	139.0			162.0	36.0
Max Q Clear Time (g_c+I1), s	4.0	14.9			5.8	4.6
Green Ext Time (p_c), s	0.1	21.2			8.6	0.4
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			8.5			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary
 1: Lipoa PI & Kamehameha Hwy

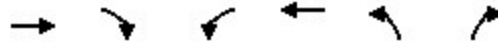
Existing (2023) Conditions
 PM 2nd Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	↵
Traffic Volume (veh/h)	1061	46	76	2085	122	42
Future Volume (veh/h)	1061	46	76	2085	122	42
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1153	50	83	2266	133	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	2	2	2	2	2
Cap, veh/h	3166	137	122	3935	176	157
Arrive On Green	0.64	0.64	0.07	0.77	0.10	0.10
Sat Flow, veh/h	5138	215	1781	5274	1781	1585
Grp Volume(v), veh/h	783	420	83	2266	133	46
Grp Sat Flow(s),veh/h/ln	1689	1810	1781	1702	1781	1585
Q Serve(g_s), s	10.1	10.1	4.2	16.8	6.7	2.5
Cycle Q Clear(g_c), s	10.1	10.1	4.2	16.8	6.7	2.5
Prop In Lane		0.12	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2150	1152	122	3935	176	157
V/C Ratio(X)	0.36	0.36	0.68	0.58	0.75	0.29
Avail Cap(c_a), veh/h	5105	2736	329	8996	697	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.9	7.9	41.8	4.4	40.3	38.4
Incr Delay (d2), s/veh	0.1	0.2	6.5	0.1	6.4	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	3.5	2.0	4.1	3.2	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	8.0	8.1	48.3	4.5	46.8	39.5
LnGrp LOS	A	A	D	A	D	D
Approach Vol, veh/h	1203			2349	179	
Approach Delay, s/veh	8.0			6.0	44.9	
Approach LOS	A			A	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.3	64.6			76.9	15.1
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	17.0	139.0			162.0	36.0
Max Q Clear Time (g_c+I1), s	6.2	12.1			18.8	8.7
Green Ext Time (p_c), s	0.1	11.6			52.0	0.5
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			8.5			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary
 1: Lipoa PI & Kamehameha Hwy

Year 2027 No Project Conditions
 AM 2nd Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	↵
Traffic Volume (veh/h)	1584	40	55	913	70	54
Future Volume (veh/h)	1584	40	55	913	70	54
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1826	1870	1870
Adj Flow Rate, veh/h	1722	43	60	992	76	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	2	2	5	2	2
Cap, veh/h	3016	75	130	3761	125	112
Arrive On Green	0.59	0.59	0.07	0.75	0.07	0.07
Sat Flow, veh/h	5246	127	1781	5149	1781	1585
Grp Volume(v), veh/h	1145	620	60	992	76	59
Grp Sat Flow(s),veh/h/ln	1689	1829	1781	1662	1781	1585
Q Serve(g_s), s	14.3	14.3	2.2	4.2	2.8	2.5
Cycle Q Clear(g_c), s	14.3	14.3	2.2	4.2	2.8	2.5
Prop In Lane		0.07	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2006	1086	130	3761	125	112
V/C Ratio(X)	0.57	0.57	0.46	0.26	0.61	0.53
Avail Cap(c_a), veh/h	6851	3710	442	11786	936	833
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.5	8.5	30.5	2.6	30.9	30.7
Incr Delay (d2), s/veh	0.3	0.5	2.5	0.0	4.6	3.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	4.7	1.0	0.8	1.3	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	8.8	9.0	33.0	2.6	35.6	34.6
LnGrp LOS	A	A	C	A	D	C
Approach Vol, veh/h	1765			1052	135	
Approach Delay, s/veh	8.9			4.3	35.1	
Approach LOS	A			A	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	11.0	46.7			57.7	10.8
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	17.0	139.0			162.0	36.0
Max Q Clear Time (g_c+I1), s	4.2	16.3			6.2	4.8
Green Ext Time (p_c), s	0.1	24.4			9.4	0.4
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			8.5			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary
 1: Lipoa PI & Kamehameha Hwy

Year 2027 No Project Conditions
 PM 2nd Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	↵
Traffic Volume (veh/h)	1130	47	78	2221	125	43
Future Volume (veh/h)	1130	47	78	2221	125	43
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1228	51	85	2414	136	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	2	2	2	2	2
Cap, veh/h	3314	138	119	4027	174	155
Arrive On Green	0.67	0.67	0.07	0.79	0.10	0.10
Sat Flow, veh/h	5149	207	1781	5274	1781	1585
Grp Volume(v), veh/h	832	447	85	2414	136	47
Grp Sat Flow(s),veh/h/ln	1689	1812	1781	1702	1781	1585
Q Serve(g_s), s	11.6	11.6	4.9	20.0	7.9	2.9
Cycle Q Clear(g_c), s	11.6	11.6	4.9	20.0	7.9	2.9
Prop In Lane		0.11	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2247	1205	119	4027	174	155
V/C Ratio(X)	0.37	0.37	0.71	0.60	0.78	0.30
Avail Cap(c_a), veh/h	4436	2380	286	7817	606	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.9	7.9	48.4	4.5	46.6	44.4
Incr Delay (d2), s/veh	0.1	0.2	7.7	0.1	7.4	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	4.2	2.4	5.1	3.8	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	8.0	8.1	56.1	4.6	54.0	45.5
LnGrp LOS	A	A	E	A	D	D
Approach Vol, veh/h	1279			2499	183	
Approach Delay, s/veh	8.0			6.4	51.8	
Approach LOS	A			A	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.1	76.4			89.5	16.4
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	17.0	139.0			162.0	36.0
Max Q Clear Time (g_c+I1), s	6.9	13.6			22.0	9.9
Green Ext Time (p_c), s	0.1	12.8			61.4	0.5
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			9.0			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary
 1: Lipoa PI & Kamehameha Hwy

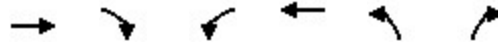
Year 2027 Plus Project Conditions
 AM 2nd Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	↵
Traffic Volume (veh/h)	1584	45	60	913	80	64
Future Volume (veh/h)	1584	45	60	913	80	64
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1826	1870	1870
Adj Flow Rate, veh/h	1722	49	65	992	87	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	2	2	5	2	2
Cap, veh/h	2994	85	128	3736	140	125
Arrive On Green	0.59	0.59	0.07	0.75	0.08	0.08
Sat Flow, veh/h	5225	144	1781	5149	1781	1585
Grp Volume(v), veh/h	1149	622	65	992	87	70
Grp Sat Flow(s),veh/h/ln	1689	1825	1781	1662	1781	1585
Q Serve(g_s), s	14.7	14.7	2.5	4.3	3.3	3.0
Cycle Q Clear(g_c), s	14.7	14.7	2.5	4.3	3.3	3.0
Prop In Lane		0.08	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1999	1080	128	3736	140	125
V/C Ratio(X)	0.57	0.58	0.51	0.27	0.62	0.56
Avail Cap(c_a), veh/h	6723	3633	434	11566	918	817
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.8	8.8	31.2	2.7	31.2	31.0
Incr Delay (d2), s/veh	0.3	0.5	3.1	0.0	4.4	3.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	4.9	1.1	0.8	1.5	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	9.1	9.3	34.4	2.8	35.6	34.9
LnGrp LOS	A	A	C	A	D	C
Approach Vol, veh/h	1771			1057	157	
Approach Delay, s/veh	9.2			4.7	35.3	
Approach LOS	A			A	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	11.0	47.3			58.3	11.5
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	17.0	139.0			162.0	36.0
Max Q Clear Time (g_c+I1), s	4.5	16.7			6.3	5.3
Green Ext Time (p_c), s	0.1	24.6			9.4	0.5
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			9.0			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary
 1: Lipoa PI & Kamehameha Hwy

Year 2027 Plus Project Conditions
 PM 2nd Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	↵
Traffic Volume (veh/h)	1130	56	87	2221	130	48
Future Volume (veh/h)	1130	56	87	2221	130	48
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1228	61	95	2414	141	52
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	2	2	2	2	2
Cap, veh/h	3247	161	129	4016	180	160
Arrive On Green	0.66	0.66	0.07	0.79	0.10	0.10
Sat Flow, veh/h	5102	245	1781	5274	1781	1585
Grp Volume(v), veh/h	840	449	95	2414	141	52
Grp Sat Flow(s),veh/h/ln	1689	1803	1781	1702	1781	1585
Q Serve(g_s), s	12.1	12.1	5.6	20.4	8.2	3.2
Cycle Q Clear(g_c), s	12.1	12.1	5.6	20.4	8.2	3.2
Prop In Lane		0.14	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2222	1186	129	4016	180	160
V/C Ratio(X)	0.38	0.38	0.74	0.60	0.78	0.33
Avail Cap(c_a), veh/h	4408	2354	284	7767	602	536
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.3	8.3	48.4	4.6	46.8	44.5
Incr Delay (d2), s/veh	0.1	0.2	8.0	0.1	7.3	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	4.4	2.7	5.3	4.0	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	8.4	8.5	56.4	4.8	54.1	45.7
LnGrp LOS	A	A	E	A	D	D
Approach Vol, veh/h	1289			2509	193	
Approach Delay, s/veh	8.4			6.7	51.8	
Approach LOS	A			A	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.7	76.1			89.8	16.7
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	17.0	139.0			162.0	36.0
Max Q Clear Time (g_c+I1), s	7.6	14.1			22.4	10.2
Green Ext Time (p_c), s	0.1	13.0			61.4	0.5
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			9.4			
HCM 6th LOS			A			

Appendix G: NACTO Safe Speed Determination Worksheets



ACTIVITY LEVEL ANALYSIS CHECKLIST

START:

IF the street is any of the following...

Downtown / Central Business District street

OR

Retail corridor

OR

High density residential or commercial street

THEN the street has:

HIGH ACTIVITY

IF NOT, proceed...

IF the street is a...

Moderate density residential or commercial street

OR

Street with light retail activity

OR

Mixed use corridor

THEN the street has:

MODERATE ACTIVITY

IF NOT, proceed...

IF the street is a...

Low density industrial or residential street

THEN the street has:

LOW ACTIVITY

PROCEED to the Risk Matrix.

PROCEED to the Risk Matrix to determine the correct speed limit for the street.

PROCEED to the Risk Matrix.

Sample Activity Level Metrics

There are many metrics that a city can use to measure a street's activity levels. The list below provides a starting point. Cities can use land use metrics as an alternative in the absence of the volumes below. Cities can set quantitative high, medium, and low activity thresholds based on local conditions.

- Pedestrian sidewalk volume per day or hour
- Scheduled transit stops per hour
- Bicycle volume per day or hour
- Social and public space use volume per day or hour
- Parking or curbside loading maneuvers per hour
- Crash volumes by mode

RESULTS FOR: Activity Level Analysis

Based on the activity level analysis, the street has:

HIGH ACTIVITY

MODERATE ACTIVITY

LOW ACTIVITY



CONFLICT DENSITY ANALYSIS CHECKLIST

START:

IF any of these apply to the street...

No sidewalks

OR

Bicycle traffic in the traffic lane, even where marked or signed (e.g., sharrows)

OR

Sidewalks directly adjacent to moving traffic

OR

≥ 3 “through” or “T” intersections (signalized or unsignalized), major driveways, or other crossing points per ¼ mile

THEN the street has:

HIGH CONFLICT DENSITY

PROCEED to the Activity Analysis.

IF NOT, proceed...

IF the street has...

1-3 “through” or “T” intersections (signalized or unsignalized), major driveways, or other crossing points per ¼ mile

AND

Curbside loading/parking lane and sidewalk, or a USDG-compliant sidewalk

AND EITHER:

A marked bike lane or better, if designated bike route

OR

A full sidewalk with permissible bike use, if not a designated bike route

THEN the street has:

MODERATE CONFLICT DENSITY

PROCEED to the Activity Analysis.

IF NOT, proceed...

IF the street has...

No “through” or “T” intersections (signalized or unsignalized), major driveways, or other crossing points per ¼ mile

AND

Curbside loading/parking lane and sidewalk, or a USDG-compliant sidewalk

AND

Passengers exiting parked or loading vehicles are not directly in general traffic lanes

AND EITHER:

Protected bike lane, shared use path, or USDG consistent sidewalk, if designated bike route

OR

Full sidewalk with legally permissible bike use, if not designated a bike lane

THEN the street has:

LOW CONFLICT DENSITY

PROCEED to the Activity Analysis.

Sample Conflict Density Metrics

There are many metrics that a city can use to measure a street’s conflict levels. The list below provides a starting point. Cities can set quantitative thresholds based on local conditions.

Pedestrian crossing volume per day or hour	Pedestrians walking in the street per hour
Left turn volume per day or hour	Midblock or uncontrolled-intersection crossings per hour per ¼ mile
Motor vehicle lane blockage or bike-lane blockage percent per hour	

RESULTS FOR: Conflict Density Analysis

Based on the conflict density analysis, the street has:

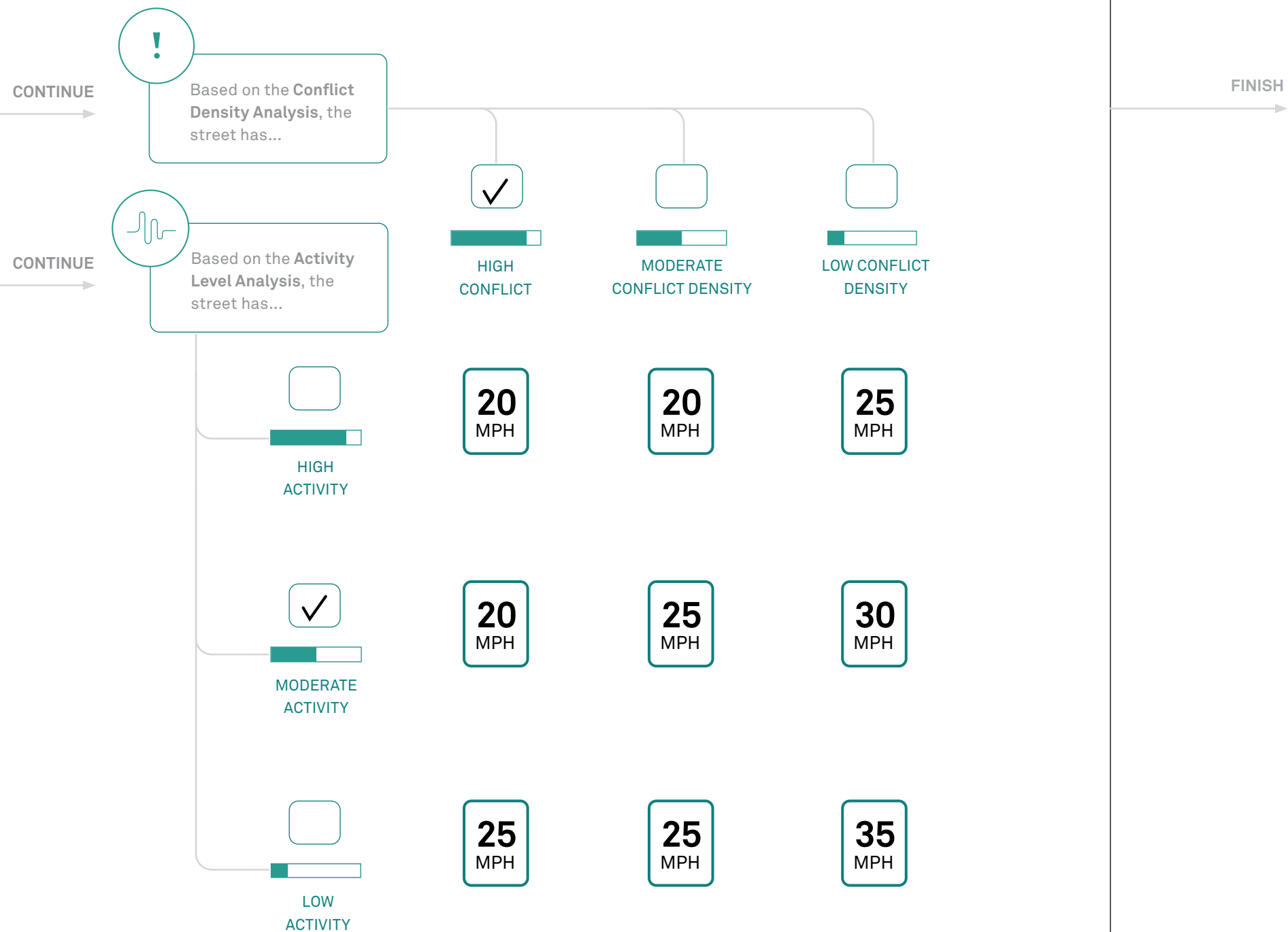
HIGH CONFLICT DENSITY

MODERATE CONFLICT DENSITY

LOW CONFLICT DENSITY



APPLYING THE CONFLICT & ACTIVITY LEVEL ANALYSIS TO THE RISK MATRIX



Based on the analyses, the major street's speed limit should be:

<input checked="" type="checkbox"/>	20 MPH	<input type="checkbox"/>	25 MPH
<input type="checkbox"/>	30 MPH	<input type="checkbox"/>	35 MPH

Appendix E

Water System

Existing Conditions

Water service connections within the project area are provided by the Honolulu Board of Water Supply (BWS). The BWS water system comprises an 8-inch water line extending east to west along Lipoa Place, a 12-inch water line extending north to south along Lipoa Place, and a 12-inch water line extending east to west along Kamehameha Highway. The existing project site connects to the 8-inch water line along Lipoa Place through a 6-inch water lateral line on the southern portion of the project site, where the water meter servicing the project site is also located. These water lines are adequate for water service and fire protection. The existing water system surrounding the project area is illustrated in *Figure E-1*.

The domestic consumption based on the *BWS 2022 Water System Standards* assumes an average daily demand of 400 gallons per unit for multi-family low rises. The average daily demand for the existing project site, which consists of six (6) two-story apartment buildings with 48 units, is 19,200-gpd. Refer to Table 1 to view the domestic consumption for each phase.

Potential Impacts and Mitigation Measures

A pre-consult letter from Ernest Y.W. Lau, P.E., from the Board of Water Supply, dated May 15, 2023, states that the existing water system is adequate to accommodate the proposed affordable housing project. The proposed development will connect to the 8-inch water line extending east to west along Lipoa Place through the existing 6-inch water lateral line and water meter on the southern portion of the project site. The final decision on water supply availability will be confirmed when the building permit application is submitted for approval, pending evaluation of the water system conditions at that time on a first-come, first-served basis.

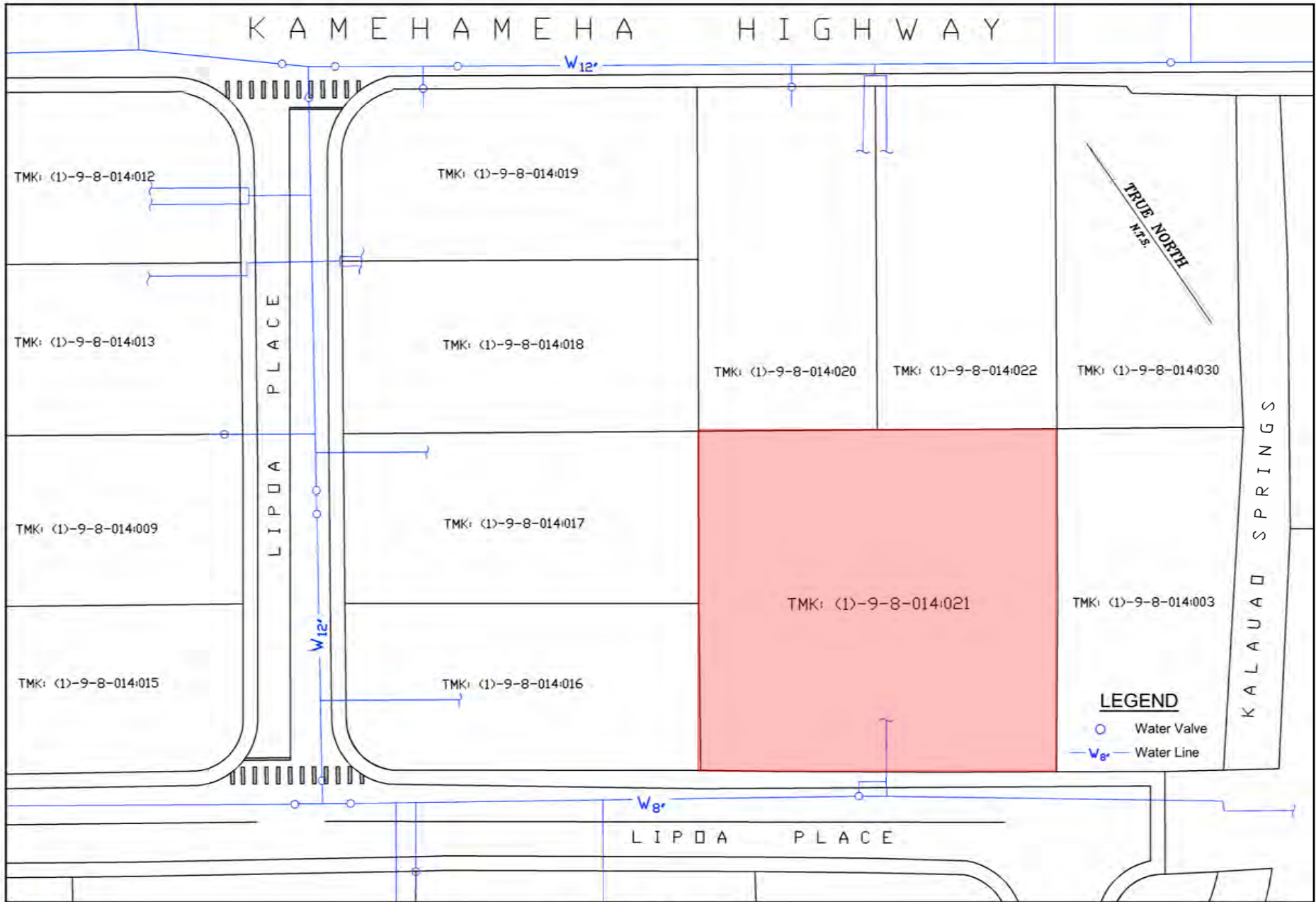
The domestic consumption based on the *BWS 2022 Water System Standards* assumes an average daily demand of 300 gallons per unit for multi-family high rises. The estimated average daily demand for the new 153-unit affordable apartment complex is 45,900-gpd. The average daily water demand by phase is summarized in Table 1 below.

TABLE 1: SUMMARY OF AVERAGE DAILY WATER DEMAND

Phase	# of Units Existing	# of Units Demolished	# of Units Added	Total # of Units	Avg. Daily Demand (gpd)
Existing	48	N/A	N/A	48	19,200
New	N/A	48	153	153	45,900

The BWS Aiea-Halawa water system capacity has been reduced due to the shut-down of the Aiea Wells and Halawa Wells pumping station as a proactive measure to prevent fuel contamination from the Navy's Red Hill Bulk Storage Tank fuel releases. The BWS is drawing water from its other sources to account for this reduction in the water system capacity.

As a result of the reduced BWS Aiea-Halawa water system capacity, BWS requests 10% voluntary water conservation of all customers until new sources are completed and require water conservation measures in all new developments. If water consumption significantly increases, progressively restrictive conservation measures may be required to avoid low water pressures and disruptions of water service. Therefore, the proposed affordable housing development will utilize water conservation measures such as the utilization of nonpotable water for irrigation using rain catchment, drought tolerant plants, xeriscape landscaping, efficient irrigation systems, such as a drip system and moisture sensors, and the use of Water Sense labeled ultra-low flow water fixtures and toilets.



HALE O LIPOA

98-150 Lipoa Place, Aiea, HI 96701

NOT TO SCALE

Figure E-1
 EXISTING WATER SYSTEM
 Lipoa Development
 April 2024

Fire Protection

Existing Conditions

The Honolulu Fire Department (HFD) comprises the Administrative Services Bureau, Fire Operations, Planning and Development, and Support Services. The Administrative Services Bureau manages the HFD's operating budget and procurement-related programs. The Fire Operations division is responsible for the majority of the activity in the HFD, including emergency responses for the island of Oahu. The Planning and Development division oversees the Department's strategic planning, emergency communications, public education, and information technology systems. The Support Services division oversees the Fire Prevention Bureau and the Training and Research Bureau under the direction of an Assistant Chief.

The nearest fire station to the project site is the Aiea Station (Fire Station 10), located approximately 1.3 miles northeast of the project site on Ulune Street. Approximately 1.9 miles northwest of the project site on the corner of Komo Mai Drive and Ka'ahumanu Street is the Waiiau Station (Fire Station 38), the second closest to the project site. The third nearest fire station to the project site is the Pearl City Station (Fire Station 20), located approximately 2.3 miles northwest of the project site on the corner of Lehua Avenue and 1st Street.

The closest fire hydrant (Fire Hydrant No. L00899) is located on the southern portion of the project site, adjacent to Lipoa Place. Fire Hydrant No. L00899 connects to the existing 8-inch water line along Lipoa Place in the east-to-west direction. An additional fire hydrant (Fire Hydrant No. L00898) is located approximately 180 feet southwest of the project site along Lipoa Place in the east-to-west direction and connects to the same 8-inch water line as Fire Hydrant No. L00899. Three (3) additional fire hydrants are located nearby: Fire Hydrant Nos. L00896, L00900, and L00901. Fire Hydrant No. L00896 is located approximately 265 feet west of the project site along Lipoa Place in the north-to-south direction, while Fire Hydrant Nos. L00900 and L00901 are located approximately 270 feet northwest and 210 feet north of the project site, respectively, along Kamehameha Highway. The locations of the mentioned fire hydrants are shown in *Figure E-2*.

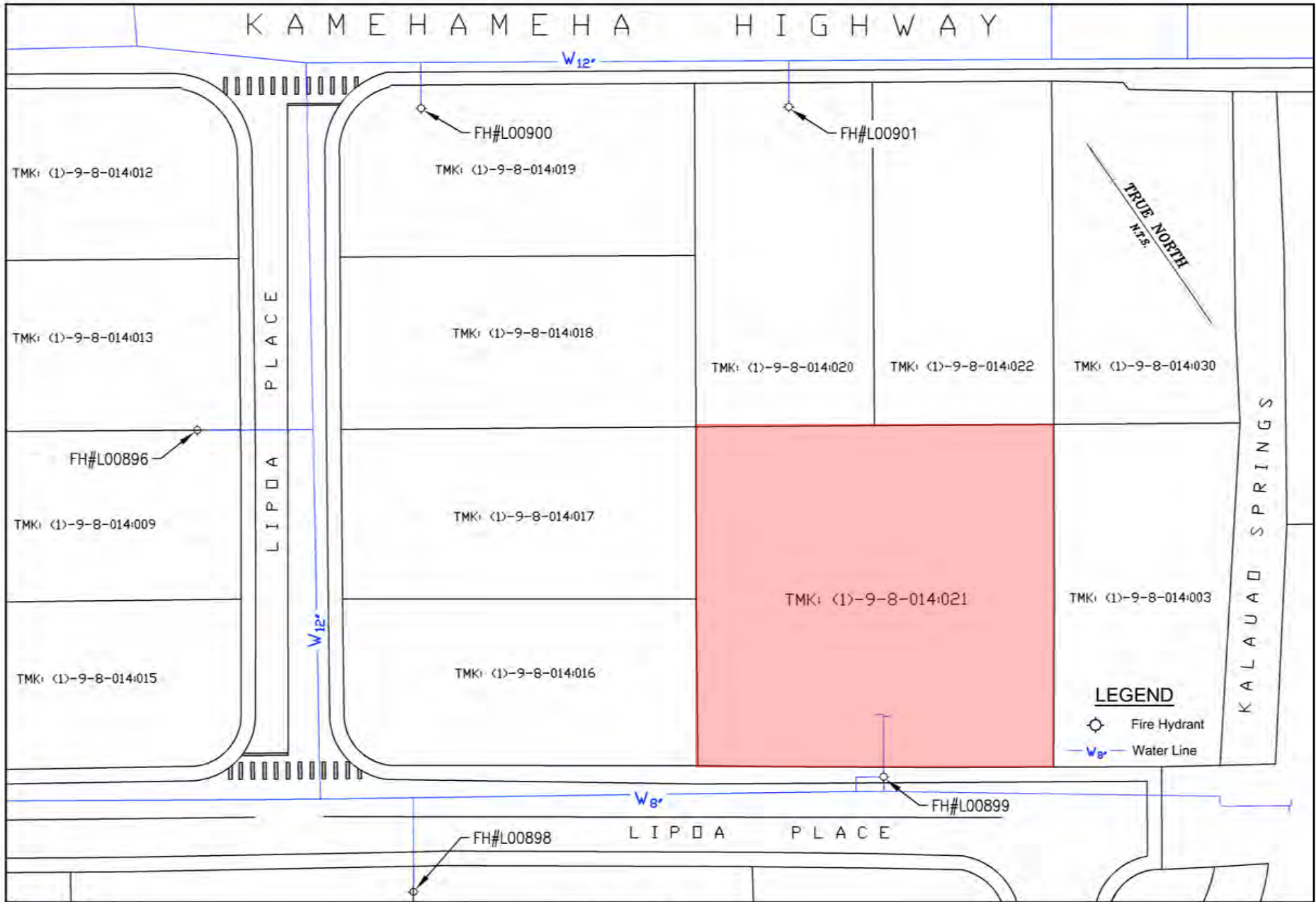
According to a pre-consult letter from Ernest Y.W. Lau, P.E. from the Board of Water Supply (BWS) dated May 15, 2023, Fire Hydrant No. L00899 has a static pressure of 116 pounds per square inch (psi) with a theoretical fire flow of 2,000 gallons per minute (gpm) at 74-psi residual pressure.

Potential Impacts and Mitigation Measures

The proposed affordable housing project is not expected to adversely affect existing or future fire protection services to the public. The development will be designed to conform to the City and State Fire Codes as well as the National Fire Protection Association (NFPA) 1 Fire Code. The required building access, fire access roads, vehicle spacing clearances, fire hydrant location, water supply, and fire sprinkler protection will be provided.

The fire department access road for the proposed project is the Lipoa Place right of way, which meets the required road width, vertical clearance, and turning radius per NFPA 1. The fire department access road, Lipoa Place, is located less than 20 feet from one (1) exterior door that can be opened from the outside and provides access to the interior of the building, where the subject exterior door is located by the pedestrian entry and residential lobby. The proposed affordable apartment complex will be protected throughout with an approved automatic sprinkler system installed in accordance with the NFPA 13 Fire Code. Therefore, Lipoa Place is located within the required distance 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 450 feet from fire department access roads as measured by an approved route around the exterior of the building. Note that the required distance of 450 feet has been revised from the initial requirement of 150 feet, but it is permitted per NFPA 1 since the building will have an automatic sprinkler system installed throughout. An approved water supply capable of supplying the required fire flow for fire protection will be provided in accordance with NFPA 1.

Civil drawings for the new affordable housing development will be submitted to the City and County of Honolulu Department of Planning and Permitting (DPP) and routed to HFD for review and approval. During site preparation and construction of the project, emergency vehicle access will be maintained at all times in accordance with Federal, State, and City regulations.



HALE O LIPOA

98-150 Lipoa Place, Aiea, HI 96701

NOT TO SCALE

Figure E-2
FIRE PROTECTION
 Lipoa Development
 April 2024



Wastewater System

Existing Conditions

The wastewater system within the project area is serviced by the City’s wastewater collection system and is within the Honouliuli Wastewater Basin of the West Mamala Region. Sewage from the existing project site, which consists of a forty-six (46) stall parking lot and six (6) two-story apartment buildings with a total of 48 units, is conveyed to the Honouliuli Wastewater Treatment Plant, where it is treated. The wastewater system comprises an 8-inch main sewer line extending east to west between the northern portion of the project site and adjacent properties (parcels 9-8-014-020 and 9-8-014-022). The existing project site provides sewer service by connecting to the 8-inch main sewer line through three (3) 6-inch sewer lateral lines on the northern portion of the project site, where one (1) sewer lateral line is located northwest of the project site, one (1) sewer lateral line is located north-northeast of the project site and one (1) sewer lateral line is located northeast of the project site. The existing wastewater system surrounding the project area is illustrated in *Figure E-3*.

The base sanitary flow (BSF) for the existing project site is 9,408 gallons per day (gpd). This is based on an average daily per capita wastewater flow of 70 gallons per capita per day (gpcd) and 2.8 persons per apartment unit, as outlined in Section 2.2 – Quantity of Wastewater of City and County of Honolulu *Wastewater System Design Standards* dated July 2017. Refer to Table 2 to view the BSF by phase.

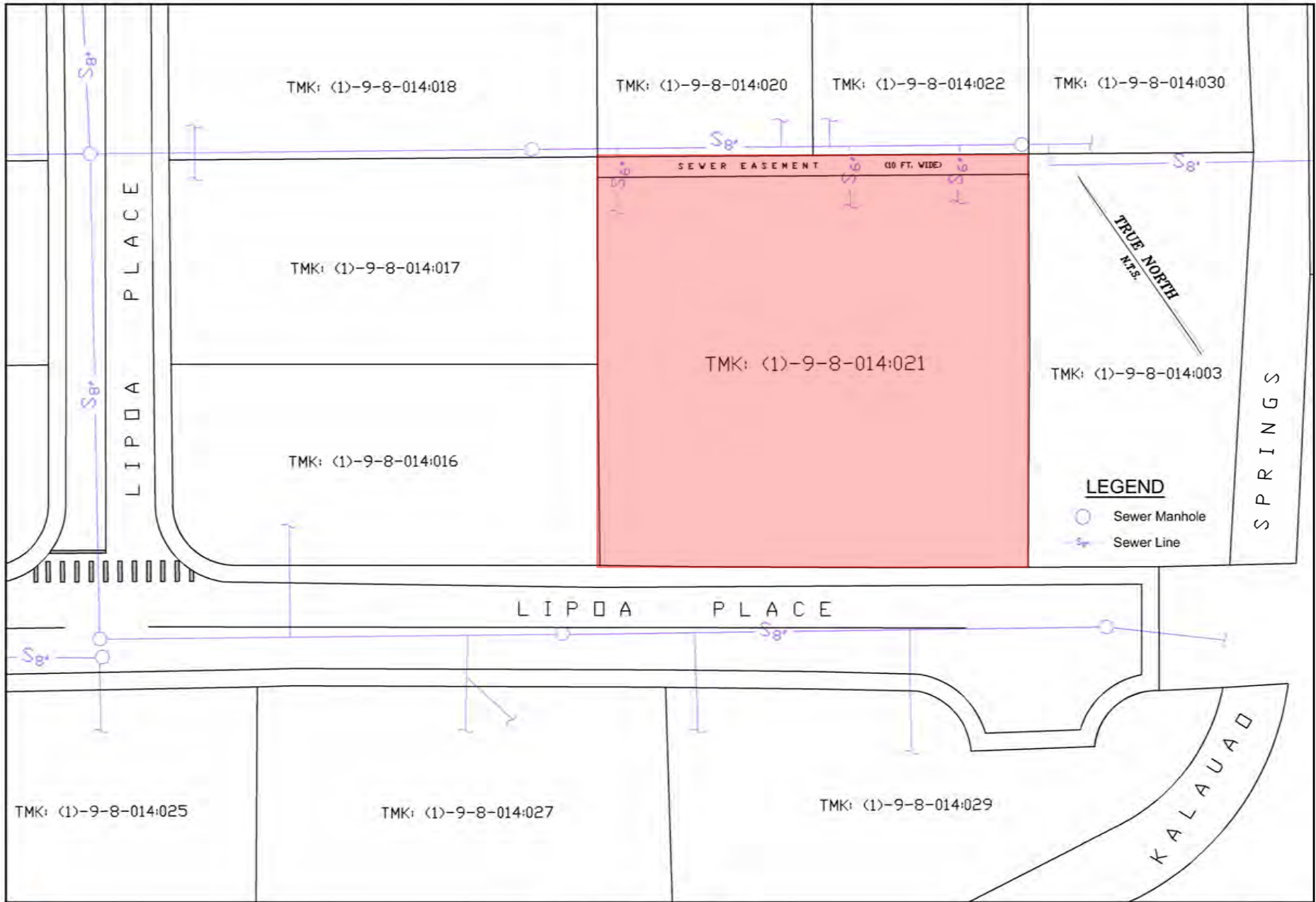
Potential Impacts and Mitigation Measures

The proposed affordable housing project will increase the wastewater flow from the project site due to the increased number of people that will be occupying the site, where residents will live within the proposed eight (8) floor, 153-unit apartment complex. However, the existing wastewater system will be sufficient in conveying the increased wastewater flow from the proposed apartment complex. The proposed development will connect to the 8-inch main sewer line through the existing three (3) 6-inch sewer lateral lines on the northern portion of the project site. The BSF of the proposed affordable housing project will be 29,988-gpd. The BSF by phase is summarized in Table 2 below.

TABLE 2: SUMMARY OF BASE SANITARY FLOWS (BSF)

Phase	# of Units Existing	# of Units Demolished	# of Units Added	Total # of Units	BSF (gpd)
Existing	48	N/A	N/A	48	9,408
New	N/A	48	153	153	29,988

A Sewer Connection Application No. 2023/SCA-0514 was approved by the Wastewater Branch on May 4, 2023. The estimated wastewater system facility charge is \$490,907.20, although the City reduces wastewater system facility charges for low-income housing projects. The City shall reduce the charges only for those housing units sold or rented to low-income households. The proposed affordable housing project will stay within the City’s 201H guidelines as 100% of the units will be affordable to low- and moderate-income households for a period of at least 61 years. However, the final decision on the reduction of wastewater system facility charges will be confirmed when the building permit application is submitted for approval.



HALE O LIPOA

98-150 Lipoa Place, Aiea, HI 96701

NOT TO SCALE

Figure E-3
EXISTING SEWER SYSTEM
Lipoa Development
April 2024

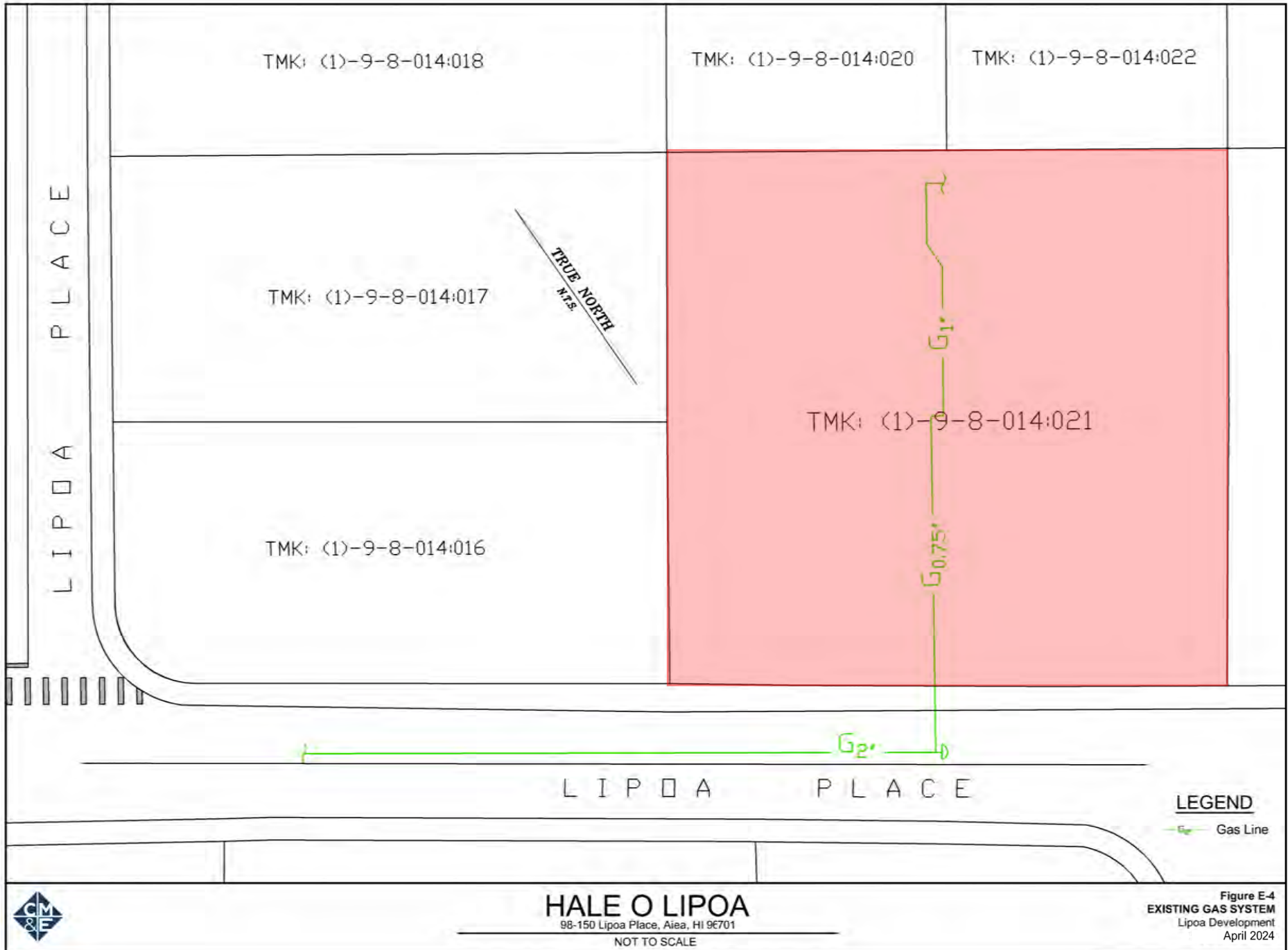
Gas System

Existing Condition

Hawaii Gas provides gas service within the project area. The existing gas system within the project area comprises a 0.75-inch and 1-inch gas line within the project site and a 2-inch gas line along Lipoa Place in the east-to-west direction. The existing project site provides gas service by connecting to the 2-inch gas line along Lipoa Place through the 0.75-inch gas line on the southern portion of the project site. The 0.75-inch gas line then runs through the center of the project site towards the northern portion of the property to connect to the 1-inch gas line. Refer to *Figure E-4* for more detail on the existing gas lines.

Proposed Condition

Gas is not planned to be used in the proposed affordable housing project. Therefore, the proposed development will abandon the active gas lines within the project site by capping off the existing 0.75-inch gas line at the southern portion of the project site for no use.



Drainage System

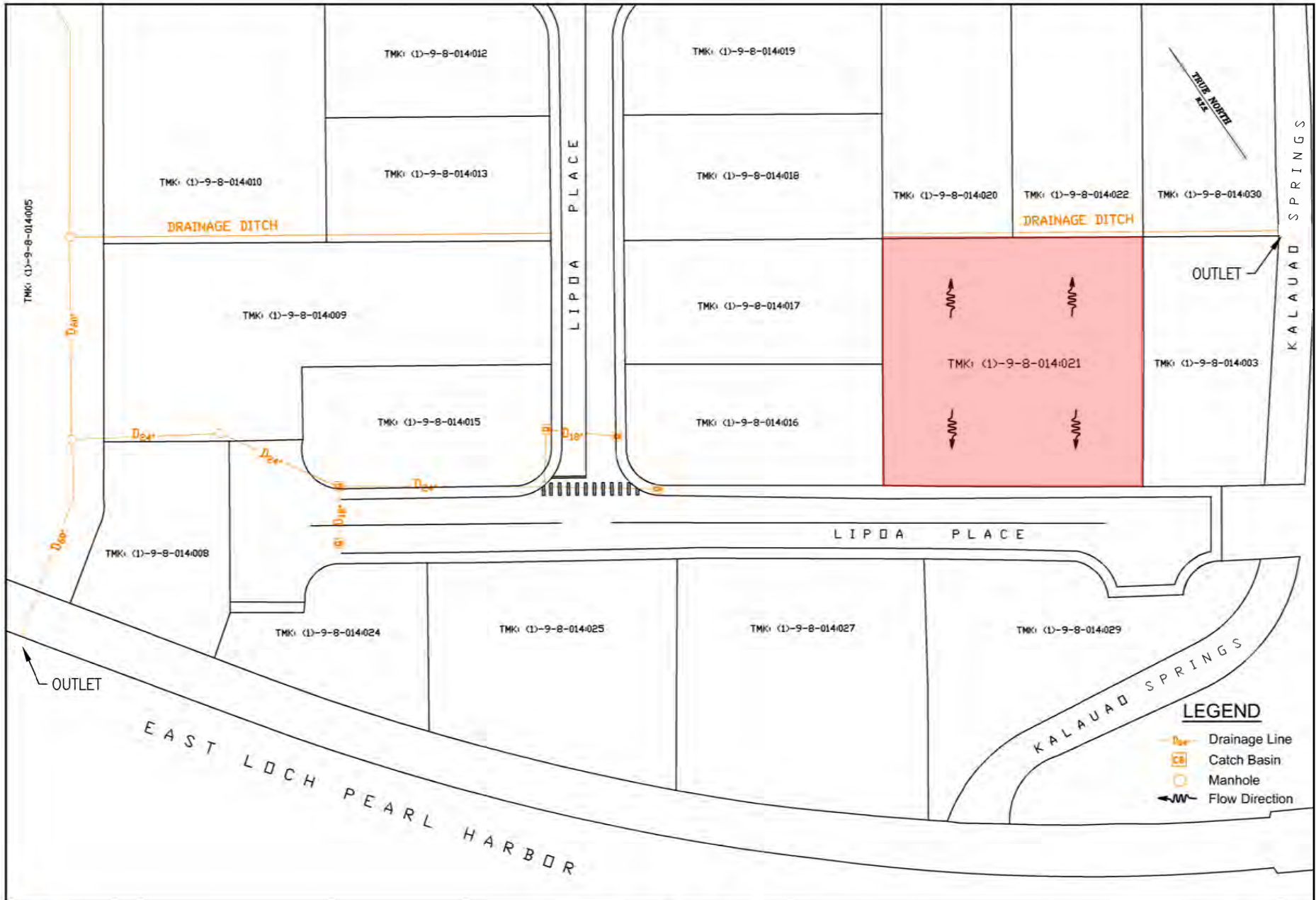
Existing Conditions

The drainage system within the project area consists of a drainage ditch extending east to west between the northern portion of the project site and adjacent properties (parcels 9-8-014:020 and 9-8-014:022) and one (1) stormwater catch basin at the intersection of Lipoa Place, along Lipoa Place in the east-to-west direction. Stormwater runoff from the project site either flows north towards the drainage ditch or south towards Lipoa Place.

Stormwater runoff flowing north from the project site is collected within the drainage ditch and flows east toward the drainage inlet at Kalauao Springs, where Kalauao Springs runs in the north-to-south direction west of Pearl Kai Shopping Center. The runoff continues to flow south along Kalauao Springs until discharged into East Loch Pearl Harbor. Stormwater runoff flowing south from the project site is collected on the concrete gutter along Lipoa Place in the east-to-west direction and flows west toward the drainage catch basin at the intersection of Lipoa Place. The drainage catch basin is connected to an 18-inch drain line that runs east to west under Lipoa Place, which connects to a 24-inch drain line after the intersection at Lipoa Place, heading westbound. Runoff then flows south through a 60-inch drain line located between parcels 9-8-014:005 (west of the stormwater conduit) and 9-8-014:008 (east of the stormwater conduit), to be discharged into East Loch Pearl Harbor. Refer to *Figure E-5* for more detail on existing drainage conditions.

Potential Impacts and Mitigation Measures

The proposed affordable housing project will meet the water quality standards for the City and County of Honolulu. The drainage improvements for the proposed project are anticipated to minimize stormwater discharge rates from the project site. The development is proposed to include site design strategies that will minimize the overall impervious area of the site and direct stormwater runoff to areas and/or structures designed to remove pollutants. The proposed development will include operations and structures that will help to prevent trash, food waste, oil, and grease from encountering stormwater runoff and thus prevent those pollutants from entering East Loch Pearl Harbor. During site preparation and construction of the proposed project, Best Management Practices (BMPs) around the perimeter of the project site, at the drainage ditch, and at the drainage catch basins along Lipoa Place shall be implemented to minimize adverse effects.



HALE O LIPOA

98-150 Lipoa Place, Aiea, HI 96701

NOT TO SCALE

Figure E-5
EXISTING DRAINAGE SYSTEM
Lipoa Development
April 2024



Parking & Loading Activities

Existing Conditions

Fronting the project site is Lipoa Place, a two-way, two-lane City and County of Honolulu right of way. Traffic along Lipoa Place travels in the east-to-west directions near the project site. The existing apartment complex has one (1) entry and exit driveway along Lipoa Place with forty-six (46) on-site standard parking stalls. On-street parking is allowed on both sides of the street along Lipoa Place in east-to-west and north-to-south directions, but no loading zones are indicated. However, approximately sixty (60) feet from the southeast corner of the project site does not allow adjacent on-street parking between 6:00 AM and 6:00 PM. Parking is also unavailable at the intersection of Lipoa Place, which meets east-to-west and north-to-south directions, and in front of property driveway entrances along Lipoa Place.

Proposed Conditions

The proposed affordable housing project will comprise a two-story parking structure for all parking and loading activities. The parking structure will allow two-way traffic for passenger vehicles and small to medium-sized delivery vehicles entering and exiting through either of the two (2) driveways on the first (1st) level along Lipoa Place, where the driveway southwest of the property contains a 24-foot-wide opening, and the driveway southeast of the property contains a 19.67-foot-wide opening.

The first (1st) level, as illustrated in *Figure E-6.1*, will include 57 standard parking stalls, seven (7) compact parking stalls, six (6) electric vehicle (EV) parking stalls, five (5) Americans with Disabilities Act (ADA) parking stalls, 62 long-term bicycle parking stalls, 30 short-term bicycle stalls, a loading area, and a ramp to access the second (2nd) level. Most standard parking stalls will be available along the top-side and right-side perimeter of the property, while the remaining standard parking stalls will be available adjacent to both exit stairs. Compact, ADA, EV, and long-term bicycle stalls will be available adjacent to the residential lobby, administrative offices, and utility room. Of the 62 long-term bicycle stalls, 23 bicycle stalls will be available on the southern portion of the property adjacent to the EV stalls, and the remaining 39 bicycle stalls will be available centrally of the parking structure adjacent to the utility room and ADA stalls. Off the sidewalk along Lipoa Place and adjacent to the outdoor plaza, 30 short-term bicycle stalls will be available for guests. Four (4) of the six (6) EV stalls will be common area “EV-ready” stalls, and the remaining two (2) EV stalls will be common area EV stalls with Level Two (2) minimum of 32 Ampere Electric Vehicle Service Equipment (EVSE) installed. “EV-ready” is a parking space served by sufficient wire, conduit, electrical panel capacity, overcurrent protection devices, and suitable termination points to connect to a future EV charging station. EVSE supplies electricity to recharge all-electric vehicles or plug-in hybrid electric vehicles, which are EV charging stations, electric recharging points, or just charging points. Similarly, as illustrated in *Figure E-6.2*, the second (2nd) level will include 71 standard parking stalls and four (4) tandem parking stalls. Tandem parking is when two (2) or more parking spaces are stacked, one (1) in front of the other, where the tandem parking stall is the stall in front of the standard stall. Thus, the car in the tandem parking stall (front) cannot get out unless the car in the standard parking stall (behind) moves first. The tandem parking stalls will be available on the top portion of the second (2nd) parking level. Of the 71 standard parking stalls allocated for the second (2nd) level, 28 stalls will be located on the parking structure’s ramp. The remaining standard stalls will be available adjacent to the ramp and along the right-side perimeter of the parking structure.

All parking stalls will be 8.25-foot-wide, except for ADA van-accessible and EV-accessible stalls. The ADA van-accessible stall and EV-accessible stalls will have a minimum width of 11 feet. Access aisles will be installed adjacent to all ADA stalls and marked with a minimum 5-foot width. Furthermore, all parking stalls will be 18 feet long, except for compact stalls, which will be 16 feet long. All parking stalls will also have an allowable maximum height of 11 feet.

The apartment complex's 56.5-foot-length by 25.67-foot-width loading area is located on the left side of the property adjacent to the utility rooms and can be accessed through both driveways. Two (2) loading stalls will be provided within the loading area for vendors and maintenance personnel, where one (1) stall will be reserved for small-sized delivery vehicles (i.e., 18-foot-length by 7-foot-width passenger cars) and the other will be reserved for medium-sized delivery vehicles (i.e., 30-foot-length by 8-foot-width single-unit trucks). The loading stall for small-sized delivery vehicles will be measured 18-foot-length by 9-foot-width, while the other loading stall for medium-sized delivery vehicles will be measured 36-foot-length by 12-foot-width. An additional 16.5-foot-length by 8.33-foot-width loading stall will be provided adjacent to residential lobby elevators for rideshare to drop off and pick up residents and visitors. Vehicles will be able to enter the covered parking lot facing forward and exit onto Lipoa Place in the same orientation through either of the two (2) driveways. Moreover, the loading area will have an increased height of 22 feet to accommodate refuse vehicles to perform their operations of automated cart collection without interruption. However, large-sized delivery vehicles (i.e., 55-foot-length by 8.5-foot-width intermediate semi-trailers) will not be able to enter and exit the covered parking lot the same way small to medium-sized vehicles will be able to. Consequently, large-sized delivery vehicles must utilize the on-street parking areas along Lipoa Place adjacent to the apartment complex to avoid the apartment complex's structural columns and parking stalls.

Overall, the proposed covered parking lot will have 150 parking stalls for residents: 128 standard parking stalls, seven (7) compact stalls, five (5) ADA stalls, four (4) tandem stalls, four (4) "EV-ready" stalls, and two (2) EV stalls with EVSE installed. Moreover, the proposed project will have 92 bicycle parking stalls available on the first (1st) floor, with 62 long-term bicycle stalls for residents and 30 short-term bicycle stalls for visitors. In addition, three (3) loading stalls will be provided on the first (1st) floor of the proposed project for vendors, maintenance personnel, and rideshare personnel. Access to the apartment complex's parking lot will be provided along Lipoa Place and adjacent to the residential lobby and administrative offices.

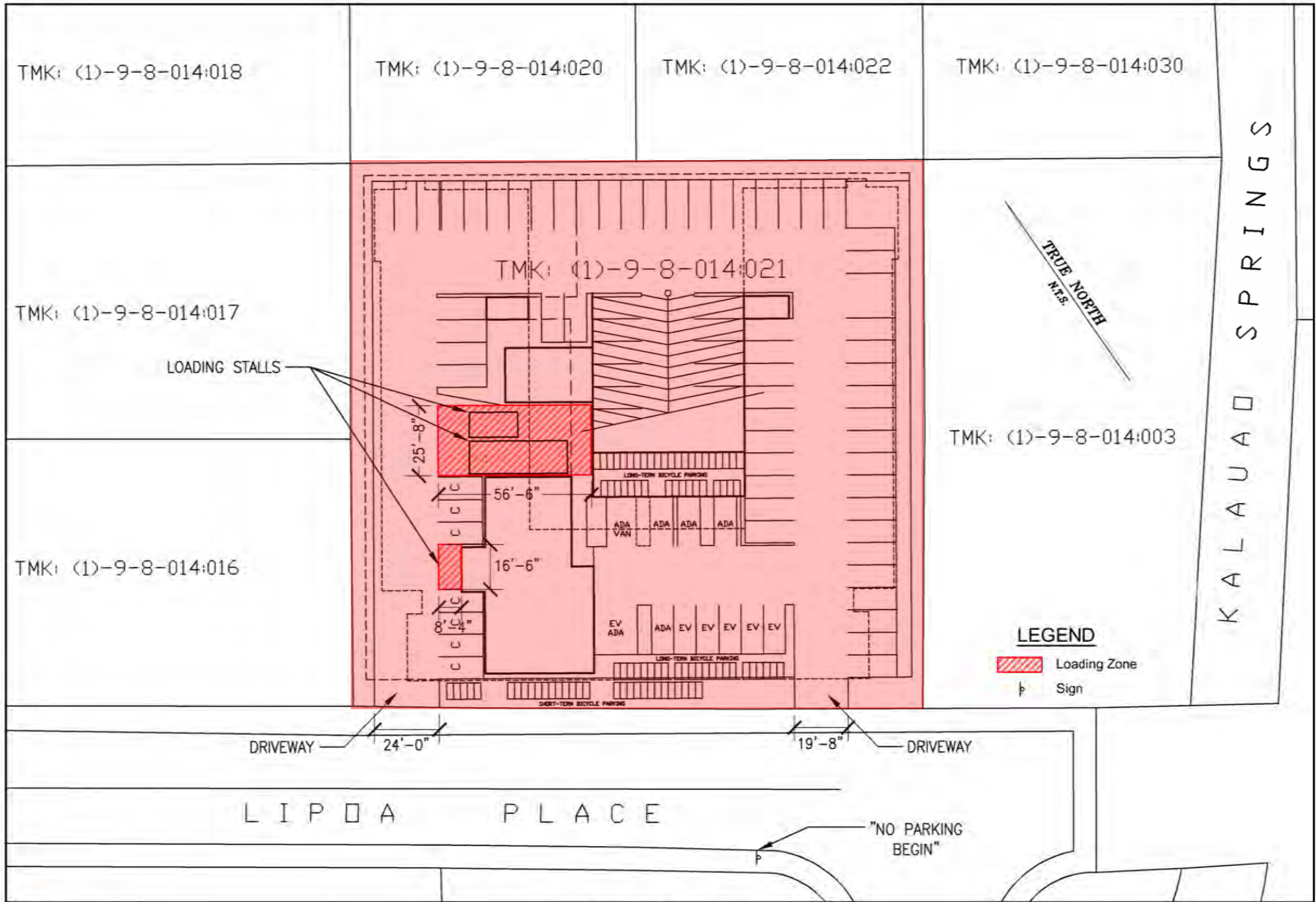
Potential Impacts and Mitigation Measures

The proposed affordable housing project will require a new driveway along Lipoa Place; therefore, an update to the City and County of Honolulu map(s) will be required. The update will be conducted and coordinated between the developer's engineers and the City. The new driveway will be designed to conform with the Standards for Access Driveways into City Streets.

Potential impacts of the affordable housing development and its loading activities will be an increase in the number of vehicles slowing down and/or stopping on Lipoa Place to either enter the apartment complex or yield to vehicles exiting the covered parking lot. Large-sized delivery vehicles will need to utilize on-street parking along Lipoa Place, adjacent to the front of the property, for loading/unloading purposes. As a result, motorists will need to stop temporarily when deliveries are being made. The slowing down and temporary stoppage of vehicles will result in a slight increase in traffic volume and congestion during peak traffic hours. Measures to help mitigate these impacts include:

- Incentivize vendors to conduct deliveries during hours of light vehicular traffic or to conform to any City restrictions that will prevent overflow onto Lipoa Place and adjacent roadways during the peak hours of traffic, and
- Incentivize vendors to use smaller delivery vehicles that can enter and exit through the apartment complex's covered parking lot in a forward-facing direction to utilize the designated loading area.

Overall, if mitigation measures are implemented, the apartment's proposed loading operations and its traffic impacts along Lipoa Place can be minimized.



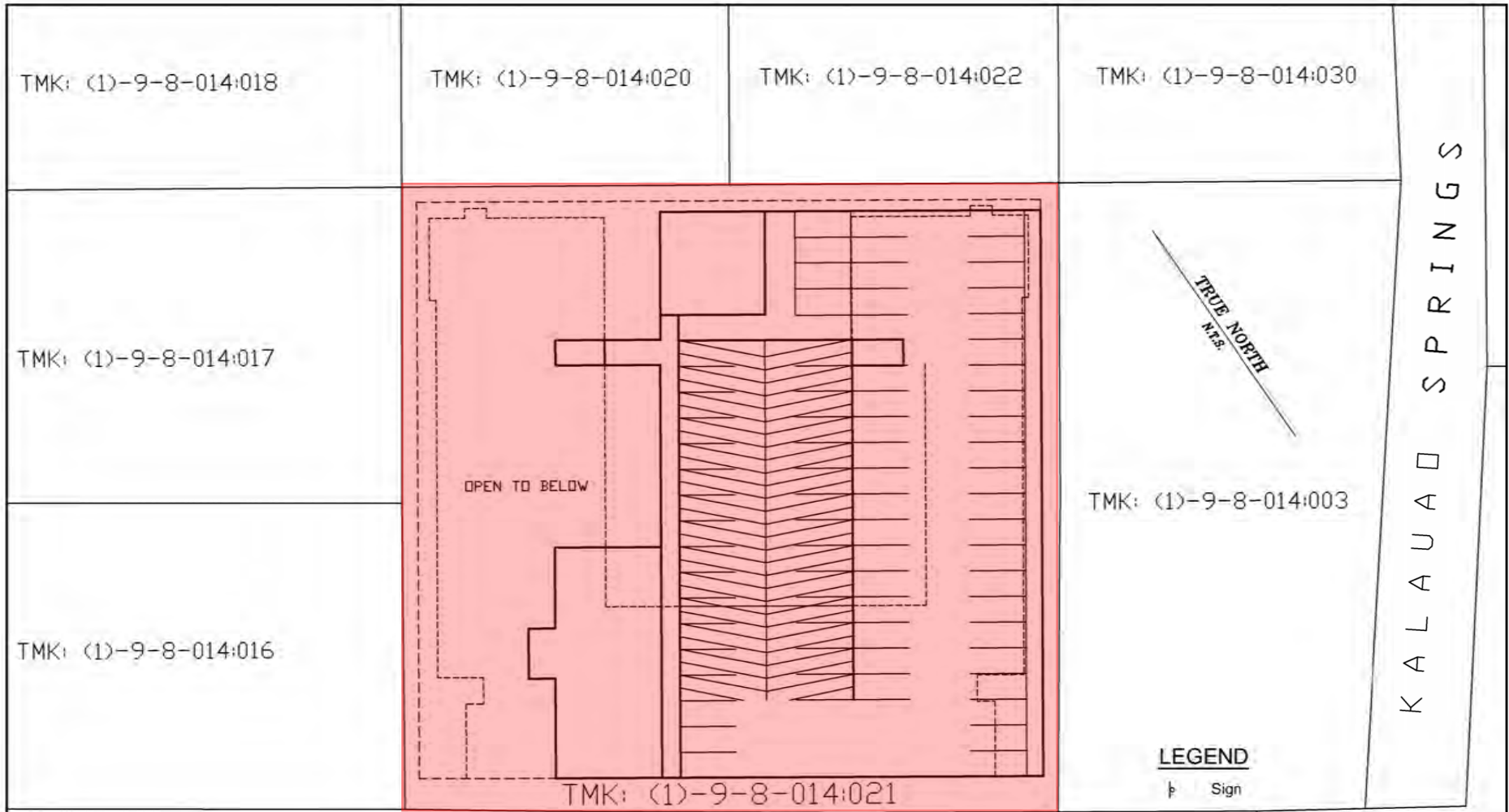
HALE O LIPOA

98-150 Lipoa Place, Aiea, HI 96701

NOT TO SCALE

Figure E-6.1
PROPOSED LOADING AND FIRST LEVEL PARKING LAYOUT
 Lipoa Development
 April 2024





Source: Construction Management & Engineering, LLC

Solid Waste Disposal

Existing Conditions

The City and County of Honolulu (City) Department of Environmental Services (ENV) Refuse Division conducts all solid waste collection and disposal activities on the island. Residential and commercial waste is collected and disposed of at waste drop-off locations, which include one (1) landfill, six (6) convenience centers, three (3) transfer stations, one (1) waste-to-energy facility, and one (1) green waste composting facility.

The Waimanalo Gulch Sanitary Landfill, located in Kapolei, is the City's primary solid waste disposal facility. The landfill accepts commercial and residential waste (i.e., dirt, gravel, sand, concrete, tile), but not combustible waste, green waste, bulky items, tires, lead acid batteries, appliances, or metal/metal-containing items.

The City's convenience centers are located in Ewa Beach, Waimanalo, Waianae, Waipahu, Wahiawa, and Laie. The transfer stations are located in Kailua (Kapaa), Haleiwa (Kawailoa), and Honolulu (Keehi). Residents are able to dispose of their household trash, bulky items, and lead-acid batteries at these locations.

The City also operates a waste-to-energy plant (H-POWER) at the Campbell Industrial Park located in Kapolei to convert waste into electricity. Approximately 2,000 tons of residential and commercial waste is collected daily and converted into electricity to produce up to 10% of Oahu's power needs. H-POWER allows the City to redirect more than 40,000 tons of bulky wastes, wastewater treatment sludge, septic tank, and cesspool waste per year from its landfill.

Waste generated from construction and demolition activities is sent to the Solid Waste Management Facility in Nanakuli, which is operated by the PVT Land Company, Ltd. Green waste is sent to the Hawaiian Earth Recycling facility in Haleiwa.

Refuse generated by local homes and businesses on Lipoa Place is manually collected by a private company/hauler through appointment. Similarly, bulky item pickup service is permitted by appointment. The collected refuse is disposed of at either the Keehi Transfer Station on Middle Street or the Pearl City Collection Yard. The Keehi Transfer Station accepts household trash, combustible bulky items, metal/metal-containing items, and lead-acid batteries; however, large metal appliances and tires are unacceptable.

Potential Impacts and Mitigation Measures

Impacts from the proposed affordable housing project include solid waste generated within the project site during site preparation and construction activities. The waste may include soil, rocks, dust, and debris. Best management practices (BMPs) will be implemented during construction. Construction personnel will manage solid waste by separating concrete, rock, asphalt, metal, cardboard, dirt, green waste, and other construction materials. Materials suitable for reuse on-site will be processed for base material if feasible. Waste that cannot be reused or recycled will be disposed of at the City's appropriate refuse facilities in accordance with the City ENV's policies.

Once the proposed apartment complex is constructed, the apartment complex and adjacent local businesses will continue with their existing procedure for refuse pickup and disposal. Access for authorized refuse vehicles along Lipoa Place will be established to ensure adequate operational support. Overall, the proposed affordable housing development is not anticipated to adversely affect the City's solid waste collection operations.

Appendix F



KAMEHAMEHA HIGHWAY

LIPOA PLACE

PROJECT SITE

LIPOA PLACE

Property Information:
 TMK: 9-8-014021
 Address: 98-150 Lipoa Place
 Lot Area: 42,000 SF

City & County of Honolulu Land Use Ordinances

	LUO
Zone:	BMX-3
Maximum Lot Area:	5,000 SF
Height Limit:	30/90 FT
Front Yard:	5 FT
Side and Rear:	10 FT
Maximum Building Area:	NOT REGULATED
Maximum Building Height:	90 FT **
Maximum Density (FAR):	2.5

Off-street parking: 1 stall per 1,000 private dwelling area

Off-street loading: 20-150 units - 1 stall

Bicycle parking: Short term - 1 stall/10 units
 Long term - 1 stall/2 units

Flood Zone: X

Tsunami Evacuation Zone: No

*Vehicular and bicycle parking, loading stall, required exit stairs and corridors are allowed to encroach into front and side yard setbacks up to 5 feet.

**Height set back:
 Transitional Height Setbacks. For any portion of a structure above 40 feet in height, additional front, side and rear height setbacks equal to one foot for each 10 feet in height, or fraction thereof, shall be provided. Within the height setback, buildings with graduated, stepped forms shall be encouraged

Allowable Uses:

- Automobile sales & rentals
- Boarding facility
- Consulate
- Convenient & retail store
- Offices
- Schools
- Theatres
- Day-care facility
- Meeting facility
- Parking facility
- Dwelling, single family
- Dwelling, multi-family
- Group living facility
- Special need housing for the elderly

SITE INFORMATION

HALE O LIPOA
 DEVELOPMENT STUDY
 MARCH 2024
 SCALE



Property Information:
 TMK: 9-8-014021
 Address: 98-150 Lipoa Place
 Lot Area: 42,000 SF

City & County of Honolulu Land Use Ordinances

	LUO	TOD
Zone:	A-1	
Maximum Lot Area:	7,500 SF	
Height Limit:	50 FT	60 FT
Front Yard:	10 FT	
Side and Rear:	5/10 FT*	
Maximum Building Area:	40% of lot area	N/A
Maximum Building Height:	30 FT**	
Maximum Density (FAR):	0.9	2.5 - 3.5

Off-street parking:
 (unit size)
 < 600 SF - 1 stall
 600-800 SF - 1.5 stalls
 >800 SF - 2 stalls

Off-street loading: 20-150 units - 1 stall

Bicycle parking:
 Short term - 1 stall/10 units
 Long term - 1 stall/2 units

Flood Zone: X

Tsunami Evacuation Zone: No

*Vehicular and bicycle parking, loading stall, required exit stairs and corridors are allowed to encroach into front and side yard setbacks up to 5 feet.

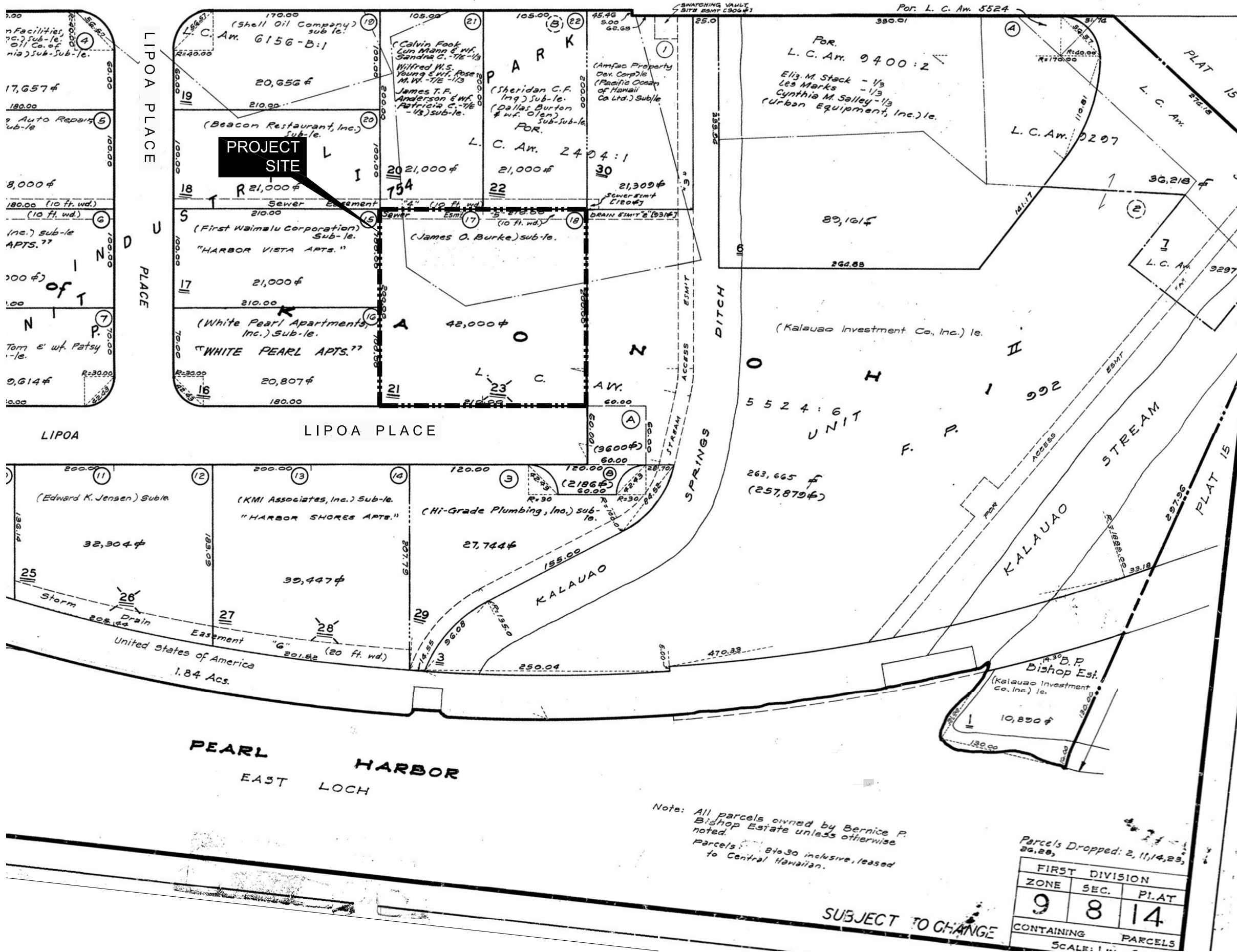
**Height set back:
 Transitional Height Setbacks. For any portion of a structure above 40 feet in height, additional front, side and rear height setbacks equal to one foot for each 10 feet in height, or fraction thereof, shall be provided. Within the height setback, buildings with graduated, stepped forms shall be encouraged

Allowable Uses:

- Home occupations
- Neighborhood grocery stores
- Boarding facility
- Consulate
- Dwelling, single family
- Dwelling, multi-family
- Group living facility
- Special need housing for the elderly
- Day-care facility
- Meeting facility
- Public uses and structures
- Schools
- Parking facility

SITE TMK

HALE O LIPOA
 DEVELOPMENT STUDY
 MARCH 2024
 SCALE



Note: All parcels owned by Bernice P. Bishop Estate unless otherwise noted.
 Parcels 8 to 30 inclusive, leased to Central Hawaiian.

Parcels Dropped: 2, 11, 14, 23, 26, 28

FIRST DIVISION		
ZONE	SEC.	PLAT
9	8	14
CONTAINING PARCELS		
SCALE: 1" = 40'		

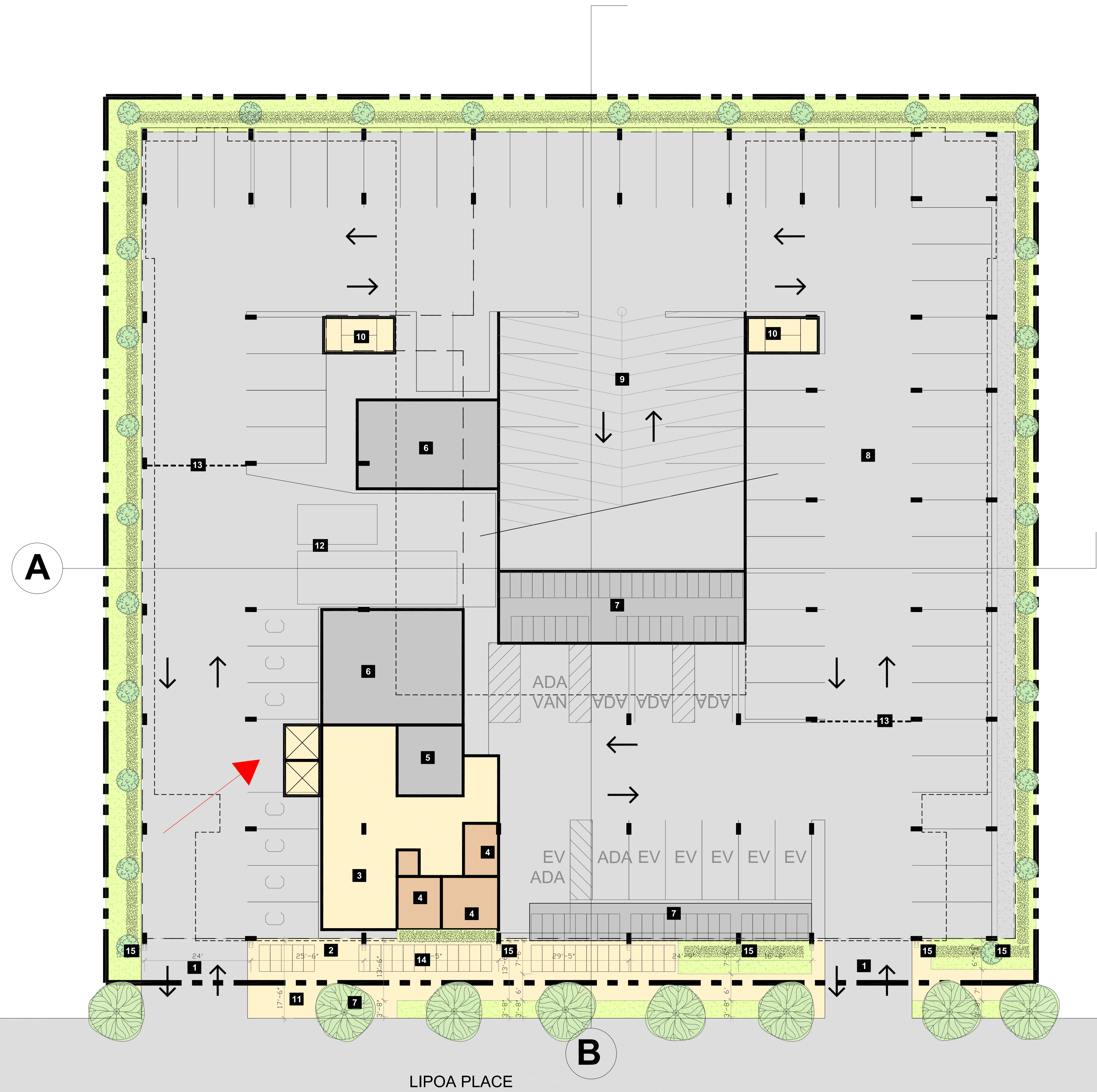
SUBJECT TO CHANGE



CONNECTIVITY PLAN

HALE O LIPOA
DEVELOPMENT STUDY
MARCH 2024
SCALE





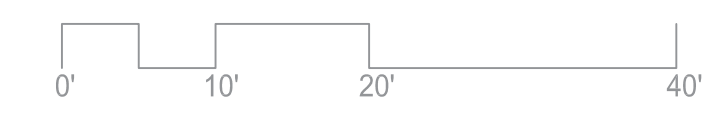
- 1. VEHICULAR ENTRY
- 2. PEDESTRIAN ENTRY
- 3. RESIDENTIAL LOBBY
- 4. ADMINISTRATIVE OFFICE
- 5. MAIL ROOM
- 6. UTILITIES
- 7. BICYCLE PARKING (LONG TERM)
- 8. PARING
- 9. RAMP
- 10. EXIT STAIRS
- 11. OUTDOOR PLAZA
- 12. RIDE SHARE LOADING/UNLOADING AREA
- 13. SECURED PARKING ENTRY POINT
- 14. BICYCLE PARKING (SHORT TERM)
- 15. STREET LIGHT

PARKING

STANDARD	61
COMPACT	7
ELECTRIC VEHICLE	5
ELECTRIC VEHICLE VAN	1
ACCESSIBLE	6
LOADING/UNLOADING (INC. RIDE SHARE)	3
BICYCLE PARKING (SHORT TERM)	30
BICYCLE PARKING (LONG TERM)	62

L1 SITE PLAN

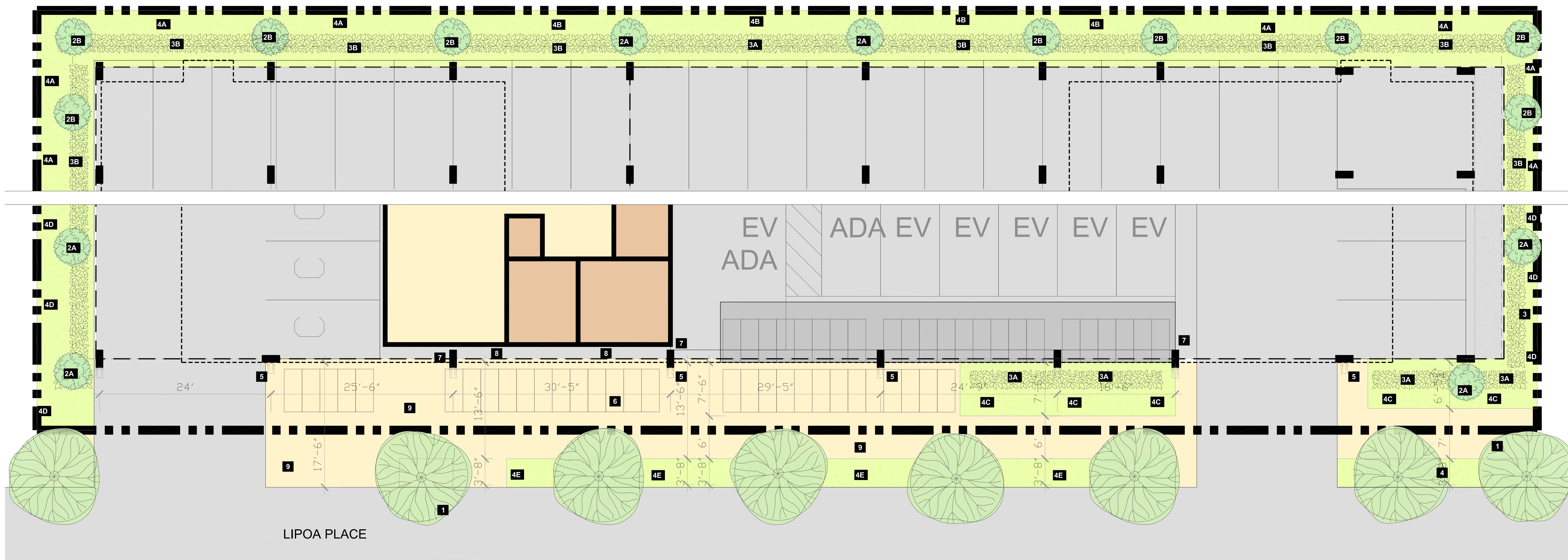
HALE O LIPOA
DEVELOPMENT STUDY
JULY 2023



LIPOA PLACE

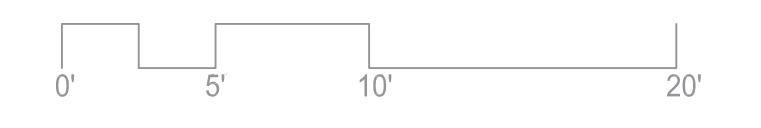
A

B



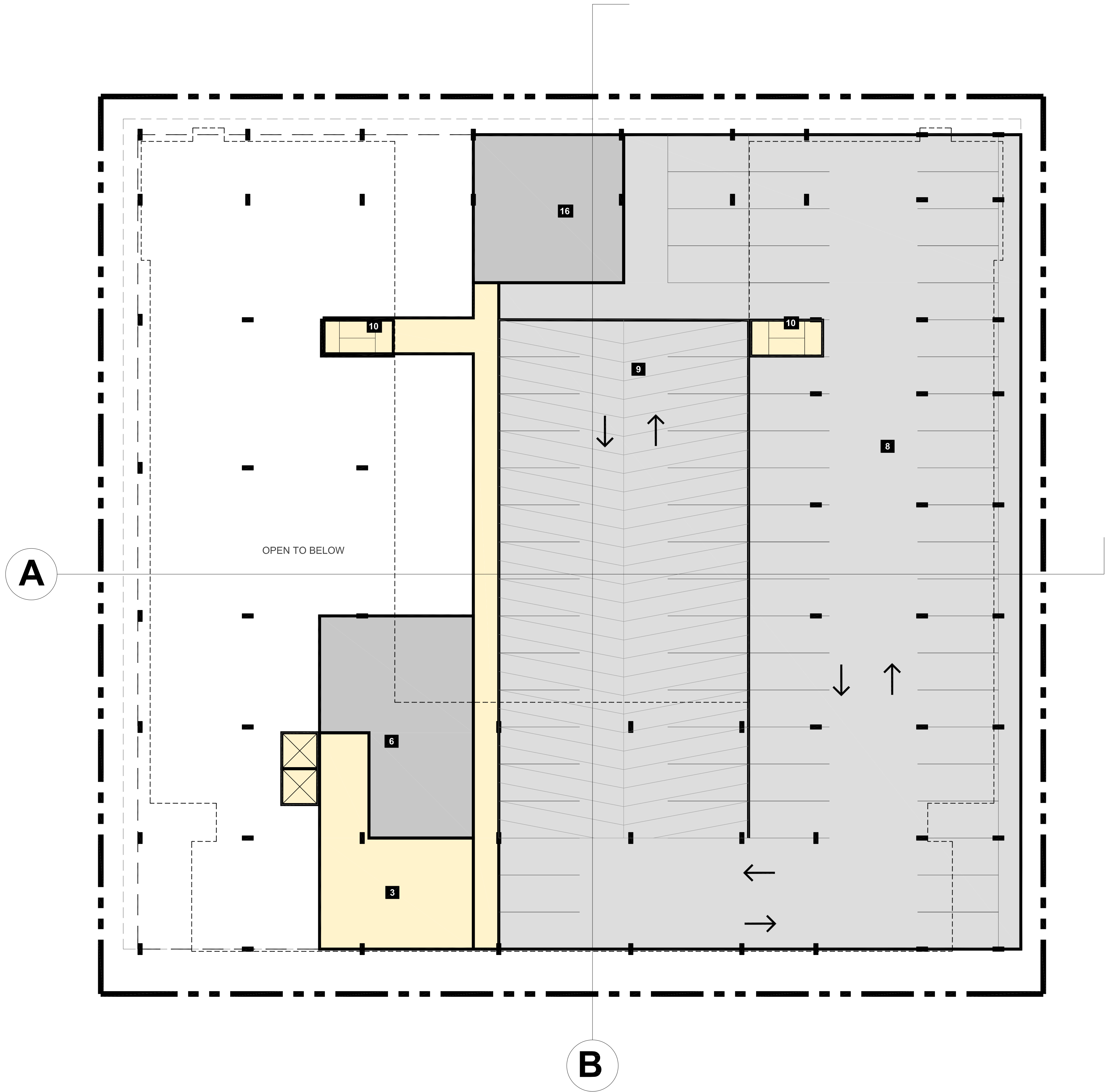
L1 LANDSCAPE PLAN

HALE O LIPOA
DEVELOPMENT STUDY
JULY 2023
SCALE



- 1** 1. TREE 1= BEACH HELIOTROPE 8' CLEAR TRUNK, 3" CALIPER 12" OVERALL HEIGHT 6' SPREAD
- 2A** 2. TREE 2A = HAO / RAUVOLFIA SANDWICENSIS, 2B ALAHEE / PSYDRAX ODORATA
- 3A** 3. SHRUB = ALTERNATING GROUPS OF TEXAS PRIVET / LIGUSTRUM JAPONICUM "TEXAS" AND KOKIO KEO / HIBISCUS WAIMEAE
- 4A** 4. GROUNDCOVER = IN SHADE WAX 4A FICUS / FICUS MICROCARPA CRASSIFOLIA AND OR 4B KUPUKUPU / NEPHROLEPIS CORDIFOLIA - IN SUNNY AREAS = 4C POHINAHINA / VITEX ROTUNDIFOLIA, 4D DWARF NATAL PLUM / CARISSA MACROCARPA "JENNY" 4E SEASHORE PASPALLUM LAWN
- 5** 5. STREET LIGHTS
- 6** 6. SHORT TERM BICYCLE PARKING
- 7** 7. TRASH RECEPTACLE
- 8** 8. SITTING BENCH
- 9** 9. CONCRETE SIDEWALK

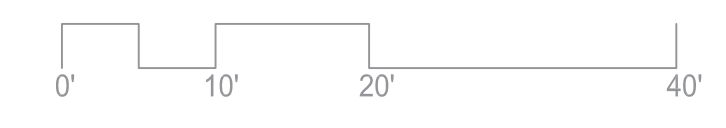


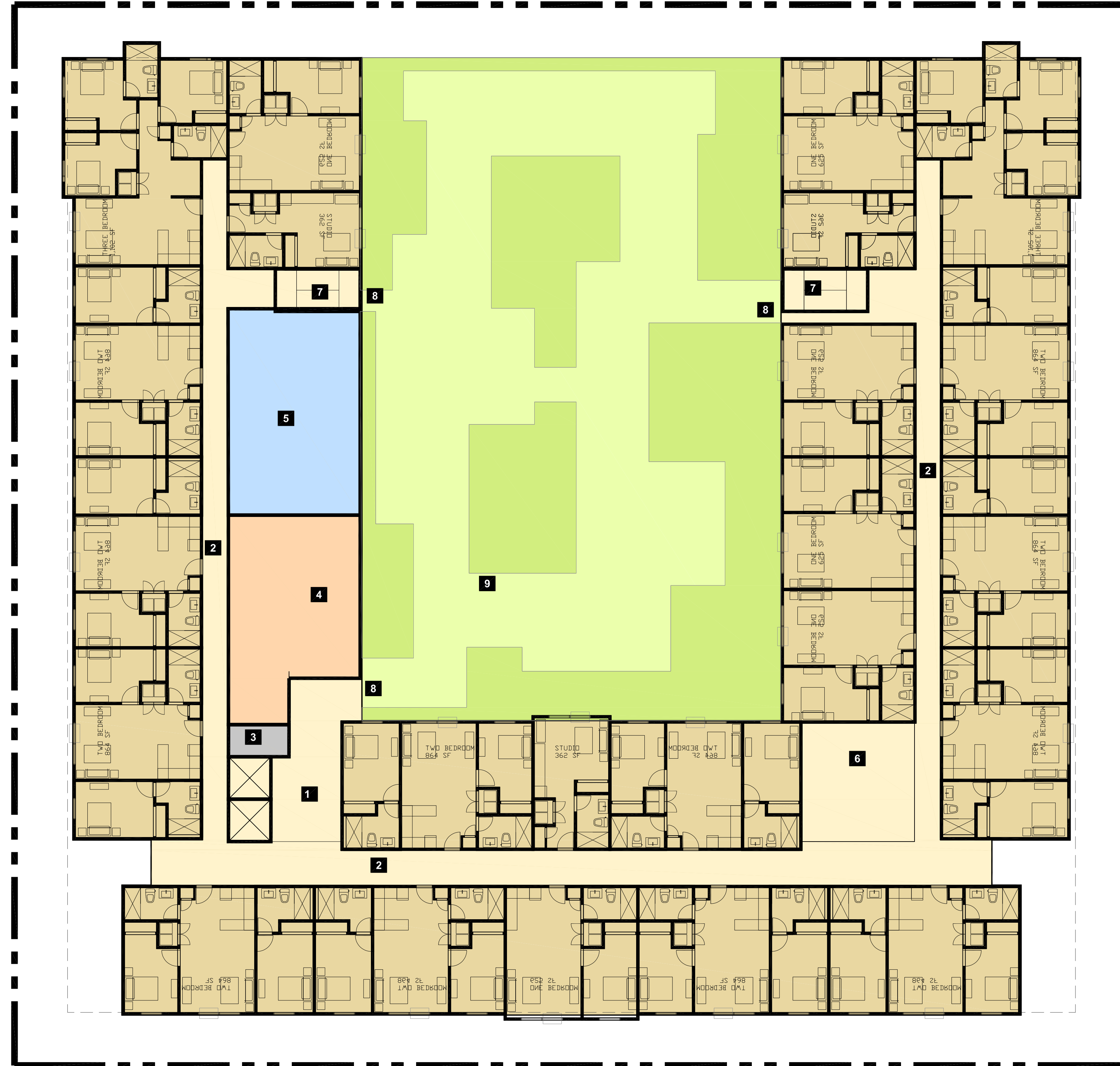


- 1. VEHICULAR ENTRY
- 2. PEDESTRIAN ENTRY
- 3. RESIDENTIAL LOBBY
- 4. ADMINISTRATIVE OFFICE
- 5. MAIL ROOM
- 6. UTILITIES
- 7. BICYCLE PARKING (LONG TERM)
- 8. PARKING
- 9. RAMP
- 10. EXIT STAIRS
- 11. OUTDOOR PLAZA
- 12. SHARED RIDE
LOADING/UNLOADING AREA
- 13. SECURED PARKING ENTRY POINT
- 14. BICYCLE PARKING (SHORT TERM)
- 15. STREET LIGHT
- 16. STORAGE

L2 FLOOR PLAN

HALE O LIPOA
DEVELOPMENT STUDY
JULY 2023

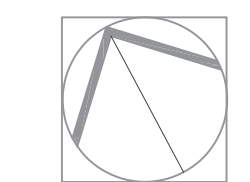


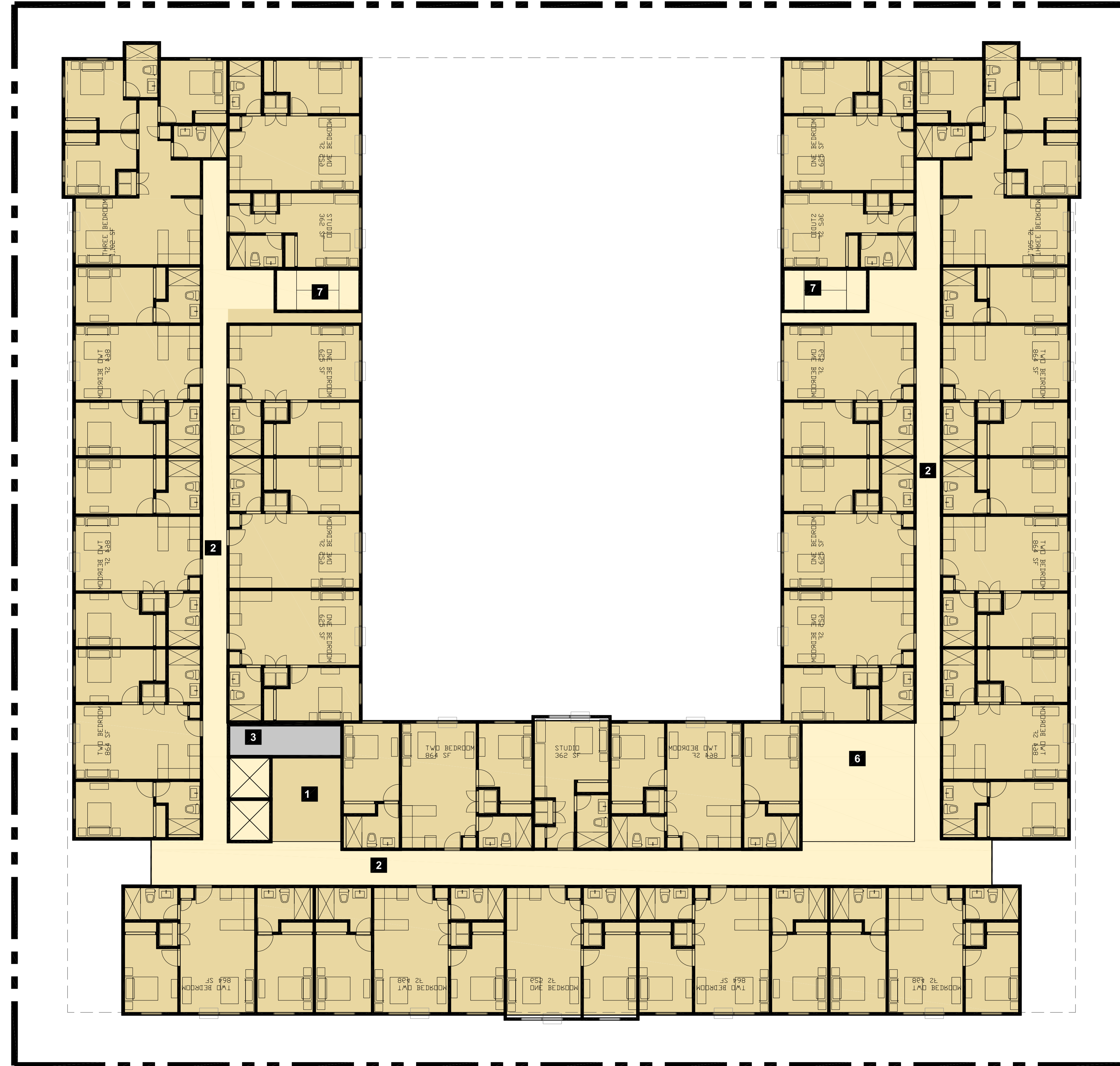


1. ELEVATOR LOBBY
2. CIRCULATION CORRIDOR
3. UTILITIES
4. RESOURCE CENTER
5. GYM
6. LOUNGE
7. EXIT STAIRS
8. COURTYARD ACCESS
9. LANDSCAPED COURTYARD

L3 FLOOR PLAN

HALE O LIPOA
DEVELOPMENT STUDY
JULY 2023
SCALE

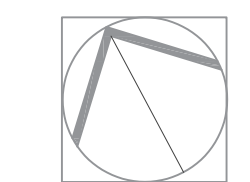


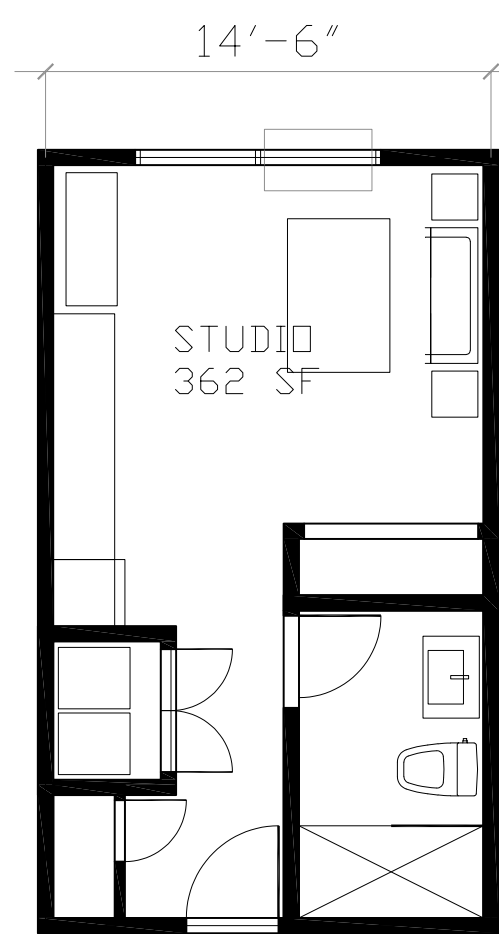


- 1. ELEVATOR LOBBY
- 2. CIRCULATION CORRIDOR
- 3. UTILITIES
- 4. RESOURCE CENTER
- 5. GYM
- 6. LOUNGE
- 7. EXIT STAIRS
- 8. COURTYARD ACCESS
- 9. LANDSCAPED COURTYARD

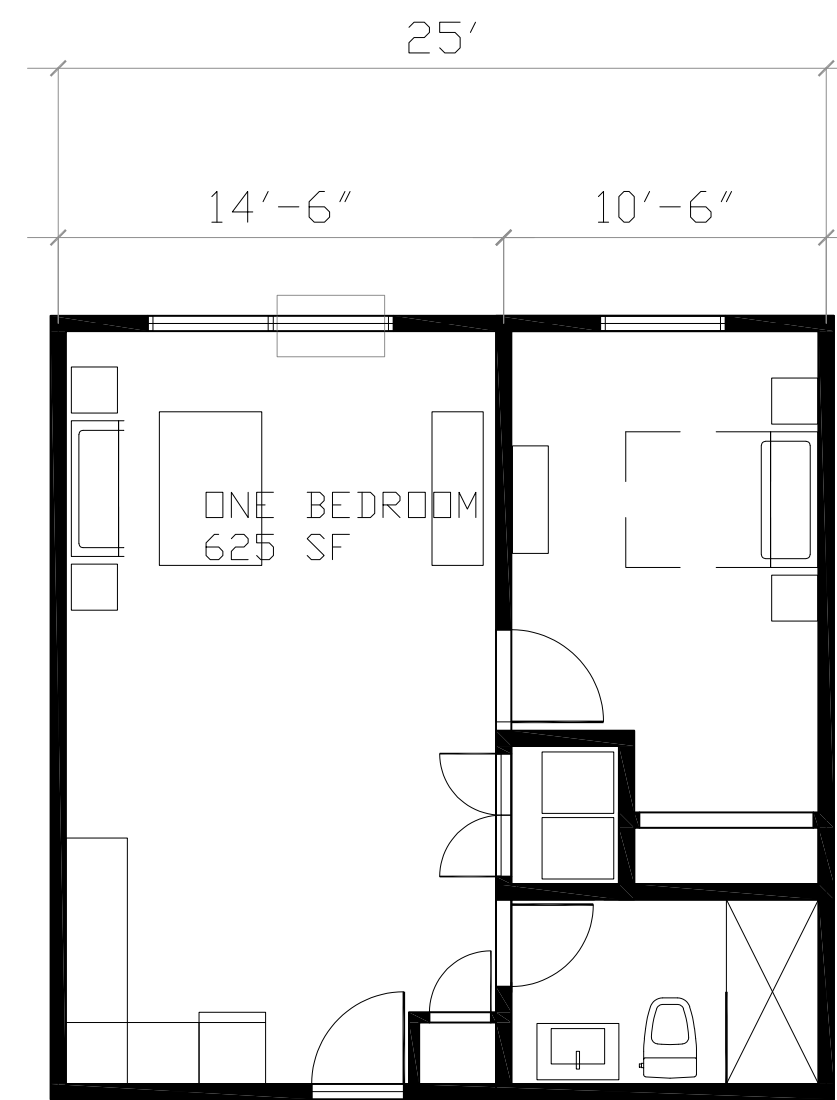
L4 - L8 FLOOR PLAN

HALE O LIPOA
DEVELOPMENT STUDY
JULY 2023
SCALE

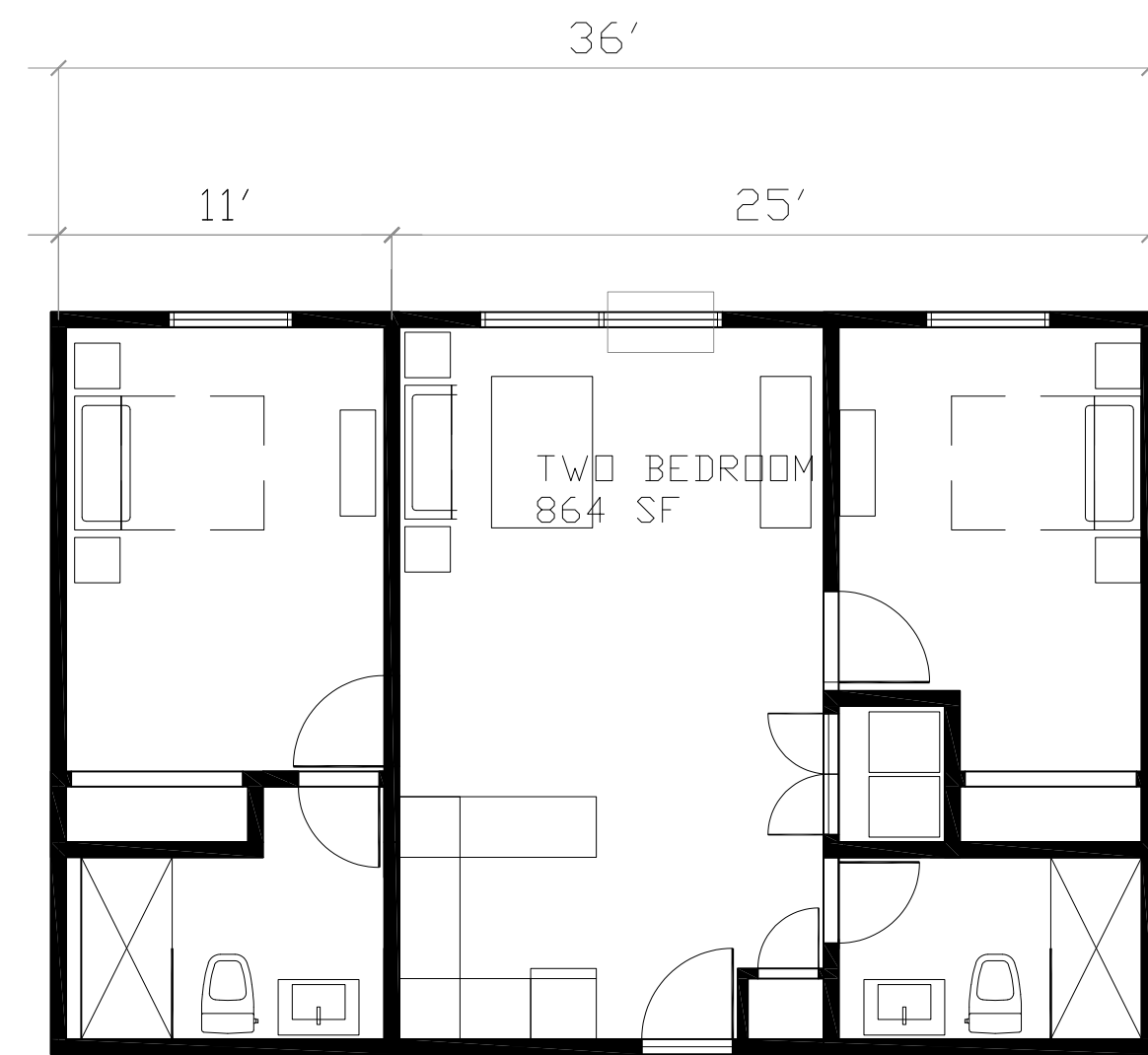




○ STUDIO
350 SF



○ ONE BEDROOM
625 SF



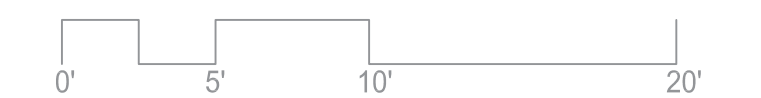
○ TWO BEDROOM
756 SF



○ THREE BEDROOM
998 SF

L4 - L7 FLOOR PLAN

HALE O LIPOA
DEVELOPMENT STUDY
JULY 2023
SCALE



TMK	9-8-014021
Lot Area	42,000 SF
Max Density (2.5 of Lot Area)	105,000 SF
Zone	BMX-3
Floos Zone	X
Tsunami Evacuation Zone	No

	Residential Units				Areas														Parking							
	Studio 362 SF	1 Bdrm 625 SF	2 Bdrm 864 SF	3 Bdrm 1,102 SF	Lounge	Utilities	Circ	Res Unit	Typ Floor	Lobby	Admin Office	Resource Center	Exercise Rm	Storage	Mail Rm	Utility	Rec Deck	Bicycle Parking	Vehicular Parking	Bicycle	Standard	Compact	Tantem	ADA	EV	Loading
Level 1							350 SF			1,210 SF	480 SF				240 SF	2,540 SF		900 SF	31,060 SF	92	61	7		5	6	3
Level 2							1,100 SF			950 SF				1,450 SF				1,105 SF	20,220 SF		67		4			
Level 3	3	6	12	2	475 SF	70 SF	2,925 SF	20,945 SF	23,500 SF	215 SF		1,040 SF	970 SF				9,875 SF									
Level 4	3	9	12	2	475 SF	130 SF	2,925 SF	22,895 SF	23,500 SF	215 SF																
Level 5	3	9	12	2	475 SF	130 SF	2,925 SF	22,895 SF	23,500 SF	215 SF																
Level 6	3	9	12	2	475 SF	130 SF	2,925 SF	22,895 SF	23,500 SF	215 SF																
Level 7	3	9	12	2	475 SF	130 SF	2,925 SF	22,895 SF	23,500 SF	215 SF																
Level 8	3	9	12	2	475 SF	130 SF	2,925 SF	22,895 SF	23,500 SF	215 SF																
	18	51	72	12	2,850 SF	720 SF	19,000 SF	135,420 SF	141,000 SF	3,450 SF	480 SF	1,040 SF	970 SF	1,450 SF	240 SF	2,540 SF	9,875 SF	2,005 SF	51,280 SF	92*	150					3

Total Residential Units	153
Studio	18
1 Bedroom	51
2 Bedroom	72
3 Bedroom	12

128 7 4 5 6 3

Total Parking Required 135 *One stall per 1,000 sf of private dwelling area*
Total Parking Provided 150

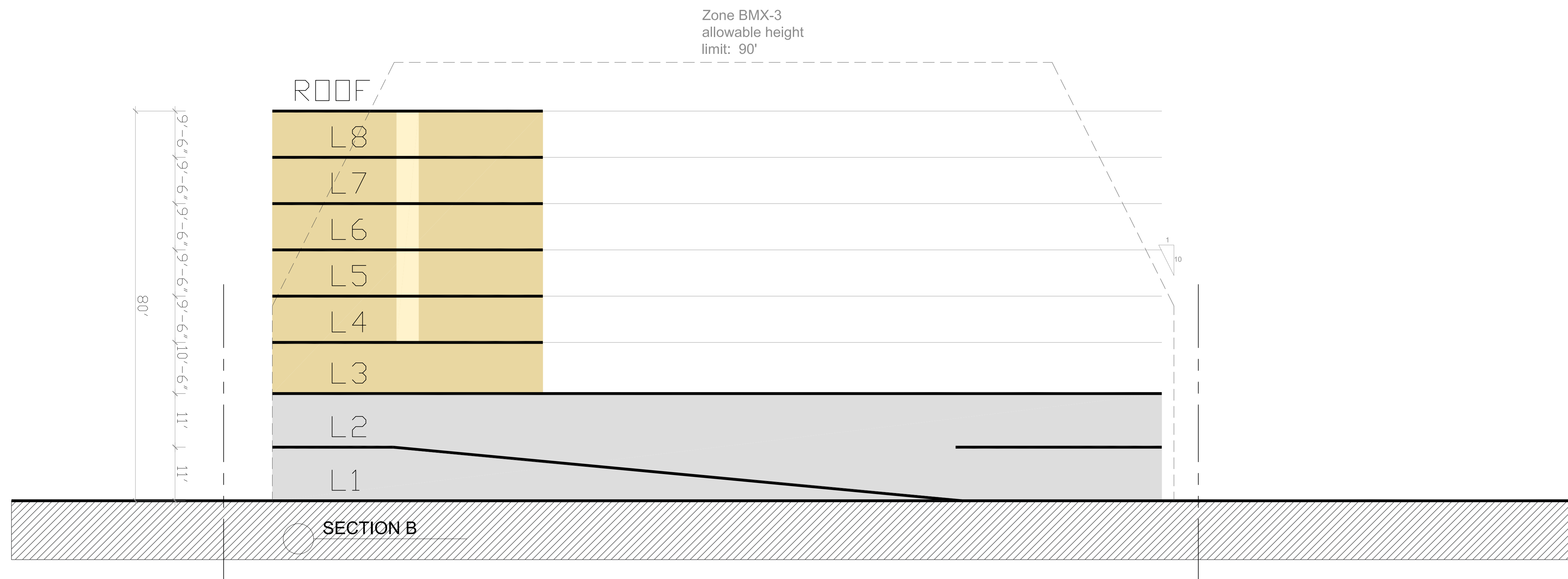
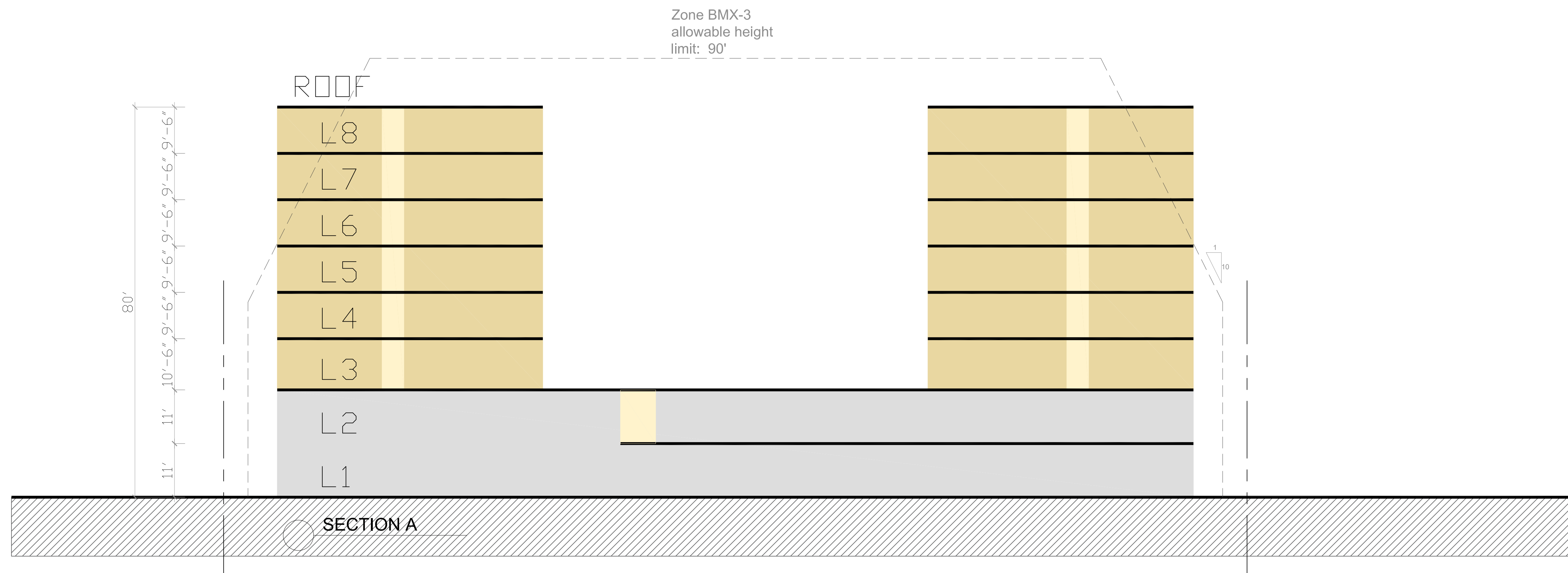
Total Bicycle Parking Required	92
Short Term	15
Long Term	77
Total Bicylce Parking Provided	92
Short Term	30
Long Term	62

Total Development Area 141,000 SF
Total Density 3.36

AREA / UNIT SUMMARY

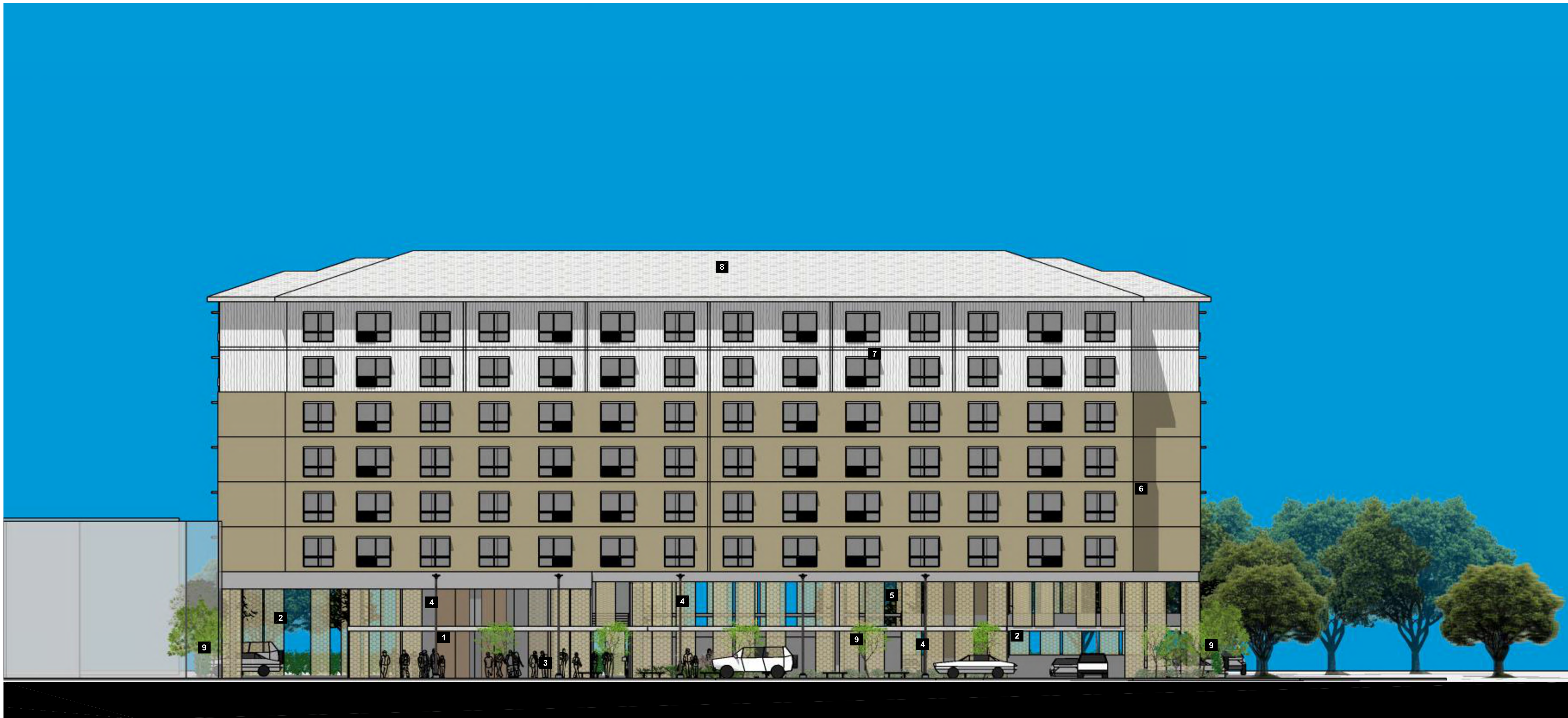
HALE O LIPOA
DEVELOPMENT STUDY
JULY 2023





BUILDING SECTIONS

HALE O LIPOA
DEVELOPMENT STUDY
JULY 2023

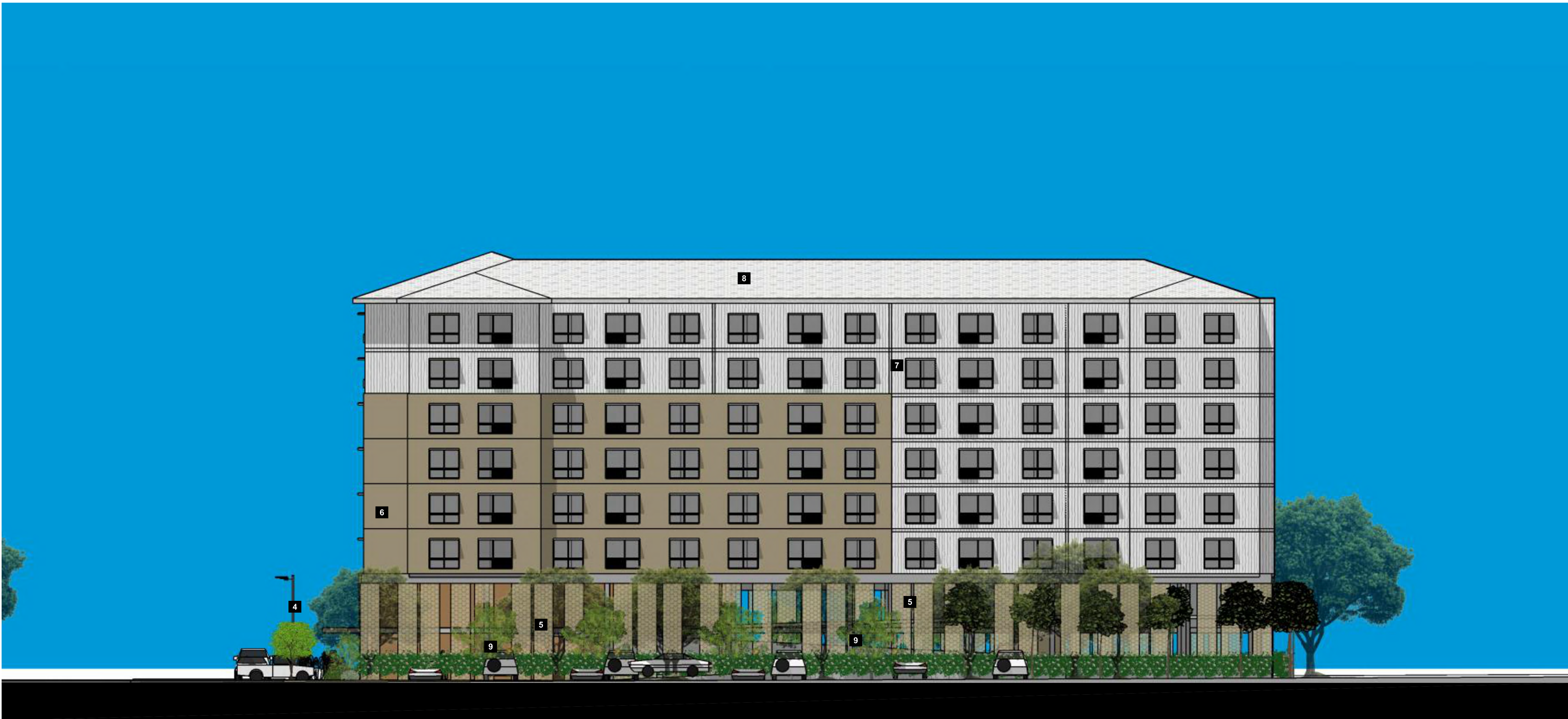


○ SOUTH ELEVATION (LIPOA PLACE)

- 1. Hale O Lipoa lobby entrance
- 2. Vehicular entrance/exit
- 3. Short term bicycle Parking
- 4. Street lighting
- 5. Perforated metal panel parking garage screen
- 6. Large panel format composite sidings
- 7. Board & batten format composite sidings
- 8. Asphalt shingle (cool) roof
- 9. Site landscaping

BUILDING ELEVATION

HALE O LIPOA
DEVELOPMENT STUDY
JULY 2023



○ WEST ELEVATION

1. Hale O Lipoa lobby entrance
2. Vehicular entrance/exit
3. Short term bicycle Parking
4. Street lighting
5. Perforated metal panel parking garage screen
6. Large panel format composite sidings
7. Board & batten format composite sidings
8. Asphalt shingle (cool) roof
9. Site landscaping

BUILDING ELEVATION

HALE O LIPOA
DEVELOPMENT STUDY
JULY 2023



○ NORTH ELEVATION

- 1. Hale O Lipoa lobby entrance
- 2. Vehicular entrance/exit
- 3. Short term bicycle Parking
- 4. Street lighting
- 5. Perforated metal panel parking garage screen
- 6. Large panel format composite sidings
- 7. Board & batten format composite sidings
- 8. Asphalt shingle (cool) roof
- 9. Site landscaping

BUILDING ELEVATION

HALE O LIPOA
DEVELOPMENT STUDY
JULY 2023









Appendix G



TECHNICAL MEMORANDUM

TO: Keegan Flaherty, Senior Development Associate, 'Ikenākea Development LLC

FROM: Kevin Gooding, CPG, INTERA Inc

DATE: May 13, 2024

Subject: Hale O Lipoa Hydrogeology Concerns

Introduction

'Ikenākea Development LLC ('Ikenākea) published a draft environmental assessment (DEA) for the Hale o Lipoa affordable rental housing project at 98-150 Lipoa Place. The existing 2-story Pepper Tree apartment buildings will be demolished and replaced with an 8-story, 153-unit affordable housing project with 150 parking spaces on 2 levels, a community center, and exercise room.

INTERA has been asked to develop short summary responses to hydrogeological concerns about the proposed apartment building. The scope of this technical memo is for a brief qualitative hydrogeologic assessment and does not include surface water hydrological concerns or quantitative hydrogeologic analysis. The Department of Planning and Permitting (DPP) and the Office of Hawaiian Affairs (OHA) had concerns with the DEA summarized below. In addition, there were general concerns about the proposed building foundation.

DPP:

1. The discussion on the relation to the UIC line must be expanded.
2. The "no adverse hydrologic impact" statement must be expanded.

OHA:

1. Requested that 'Ikenākea address concerns of interviewees in the draft Cultural Impact Statement (CIA).
 - a. The project may impact the Ka'ōnohi lo'i kalo and Sumida Farms.
 - b. The project may impact the McGrew Point fishpond.
2. The project is related to the gradual decline in flow (water levels) and increase in salinity of Kalauao Springs.

Other: The foundation piles may impact the basal aquifers in the caprock and basalt.

Hydrogeology

O'ahu is formed from two coalesced shield volcanoes. The Ko'olau volcano is to the east and the Wai'anae volcano is to the west. A shield volcano is formed by eruptions of very fluid lava that build a dome-shaped structure. The Wai'anae Basalt is composed of lava flows, intrusive dikes, and interbedded volcano-clastics. The Ko'olau Basalt primarily consists of Pliocene aged shield stage tholeiitic basalt (Lagenheim and Clague 1987). Caprock is the most prevalent sedimentary rock on O'ahu and it overlies the volcanic rocks along the coast and in deeply incised valleys. The caprock is a sedimentary sequence of reef limestones and marine/lagoonal muds that reflect historic changes in sea level and the resulting variations in depositional environments along the coastline. The Hale O Lipoa site is located near the contact (boundary) between the Ko'olau basalt and the caprock. The caprock at the site is approximately 50 feet thick (Wentworth 1951).

Historically, groundwater in the Hawaiian Islands has been categorized into four general categories: (1) basal fresh water in volcanic aquifers, (2) high-level or dike-impounded aquifers, (3) perched aquifers, and (4) sedimentary or caprock aquifers which are also basal. The project site overlies the basal caprock aquifer and the basal volcanic aquifer. Volcanic rocks of the Ko'olau basalt outcrop (occur on the ground surface) mauka of Kamehameha Highway.

Groundwater basal aquifers, also called freshwater lens systems, are the most important source of drinking water on O'ahu. Hawaiian basal aquifers can occur in basalt and other igneous rocks as well as in sedimentary formations, locally known as caprock. In a basal aquifer, lower density (lighter) fresh water can be thought of as floating on higher density (heavier) saltwater. The fresh water and saltwater are separated by a mixing or transition zone where salinity gradually increases from near-fresh to seawater concentrations. The behavior of basal groundwater is a function of the geologic properties of the rock, groundwater recharge, the dynamics of the transition zone, the nature of the groundwater discharge areas and groundwater pumping. Basal groundwater (that is not pumped out of the ground) ultimately discharges into the ocean as seeps and/or springs.

The site overlies the Waimalu Aquifer System of the Pearl Harbor Aquifer Sector. Groundwater from the Waimalu Aquifer System that is not removed from the aquifer by anthropogenic pumping discharges as seeps and springs along Pearl Harbor. Pearl Harbor is partly ringed by five groups of springs located near the inland boundary of the caprock: Kalauao, Waiau, Waimano, Waiawa and Waikele. Kalauao Springs occur in the vicinity of the project site. The highest spring flows are from areas where the basalt is exposed at breaks in slope of the land surface (Visher and Mink 1964). Spring discharge also occurs as diffuse seeps where the caprock is thin and in stream channels.

Discussion

DPP Comments

DPP is concerned about the project location in relation to the State Underground Injection Control (UIC) line.

The Department of Health (DOH), Safe Drinking Water Branch UIC program serves to protect the quality of Hawai'i's underground sources of drinking water from chemical, physical, radioactive, and biological contamination that could originate from injection well activity. The Hawai'i Administrative Rules (HAR)



§11-23 provides conditions governing the location, construction, and operation of injection wells so that the injected fluids do not migrate and pollute underground sources of drinking water. The DOH UIC program has established aquifer drinking water boundaries and general siting rules for development of both drinking water supply and disposal wells.

The UIC line is a line drawn around the island delineating the mauka limit of most injection disposal activities. HAR §11-23-04 defines classification of exempted aquifers and underground sources of drinking water. Exempted aquifers are aquifers where injection is allowed. UIC maps indicate exempted aquifers and underground source of drinking water. The boundary between the exempt aquifers and underground sources of drinking water is generally referred to as the “UIC Line”. Restrictions and exclusions on the location, construction, and operation of injection wells differ, depending on whether the area is mauka or makai of the UIC line.

The UIC program regulates injection wells and injection activities. The Hale O Lipoa project is located mauka of the UIC line, but they will not drill or use injection wells. Therefore, the project will not affect or be affected by the UIC program.

DPP has stated that the apparent contradiction of the sensitivity of the hydrologic resource with the assessment of “no adverse hydrologic impact” must be explained.

The DEA references Mink and Lau (1990) where the caprock and basalt aquifers are classified as highly to moderately vulnerable to contamination and ecologically important. The Hale O Lipoa project does not entail the use of production or injection wells so will not directly impact the groundwater. In addition, the project will be built on the footprint of an existing apartment so there will be no significant increase in hard impermeable surfaces or changes in the runoff characteristics of the area. Therefore, there will be no significant change in groundwater recharge.

OHA Comments

In summary, the people interviewed during the preparation of the draft CIA were concerned about impacts on groundwater dependent ecosystems (GDE) due to changes in water quality (primarily salinity) and declines in natural groundwater discharge. They attributed the declines in quality and quantity of groundwater to development.

Examples of GDE in the project vicinity include Kalauao Stream, the Kalauao springs, the Ka’ōnohi lo’i kalo (located near Sumida Farm) and nearshore ocean ecosystems such as the McGrew Point fishpond. The gradual declines in groundwater quality and discharge rates in the coastal springs and seeps are due primarily to aquifer pumpage, large scale changes in land cover and climate change and the proposed Hale O Lipoa development will not significantly affect these processes.

Declines in groundwater discharge in the Pearl Harbor Area are attributable to long-term pumpage from wells and shafts and changes in groundwater recharge due to climate change, land use changes and the gradual decline of native forests in the mauka watersheds (Izuka and Rotzoll 2023). U. S. Geological Survey modelling (Izuka and Rotzoll 2023) indicates that groundwater withdrawals (pumpage) on Oahu represents 37% of the total groundwater flow. The remaining 63% of groundwater flow either discharges into the ocean or into streams and springs. Note that prior to the first groundwater development, all of the groundwater flow discharged into streams, springs and the ocean. Therefore,



increases in pumpage since groundwater development began in the late 1800s has and will continue to impact groundwater discharge to GDE.

As stated above, declines in groundwater recharge have affected and will continue to affect groundwater availability in makai areas. Groundwater flow is directly dependent on rainfall and subsequent recharge in the mauka areas. Essentially all of the groundwater recharge ultimately derives from rainfall. Recharge rates have declined due to land use changes, reduction of native vegetation, and declines in rainfall. Frazier and Giambelluca (2017) analyzed rainfall data from 1920 to 2012 and found that over 90% of Hawai'i experienced drying trends indicating that recharge is declining as well.

Foundation Piles

There have been concerns that the foundation piles will affect the basal caprock or basalt aquifers.

This is a legitimate concern at some projects, but it should not be a concern at Hale O Lipoa because of the type of piles proposed. Some type of pile and foundations can artificially divert groundwater up or down the annulus (space between the pile and the geologic formation) of the pile and cause springs or seeps to run dry. 'Ikenākea has indicated that the foundation piles will consist of 24" auger cast-in-place (ACIP) end bearing piles embedded 50 to over 100 feet deep. The piles will be cast and grouted in place. Groundwater is likely to be encountered at depths of 2 to 6 feet below the existing grade. Dewatering may be required for excavations at or below groundwater.

The installation of cast-in-place piles will not significantly impact either the caprock or underlying basalt aquifer. The cast-in-place design means that the piles will be grouted in place and effective grouting of the annulus will seal the outside of the piles and eliminate the possibility of groundwater flowing vertically (up or down) the annulus of the piles. Annular grouting is standard procedure in water wells and is also required to prevent vertical groundwater migration. This contrasts with driven piles (which will not be used) which are not grouted and can allow vertical groundwater flow in the annulus.

Another potential issue with the piles is the temporary dewatering of the auger holes during construction. The effects of the dewatering will be temporary, and the effects will be localized to the immediate vicinity and it will not significantly affect the aquifer. In particular it will not significantly affect the upgradient Kalauao springs or downgradient seeps near the ocean.

References

Frazier, A., & Giambelluca, T. (2017). Spatial trend analysis of Hawaiian rainfall from 1920 to 2012. *International Journal of Climatology*, 37(5), 2522–2531.

Izuka, S.K., and Rotzoll, K., 2023, Volcanic aquifers of Hawai'i—Contributions to assessing groundwater availability on Kaua'i, O'ahu, and Maui (ver. 1.1, June 2023): U.S. Geological Survey Professional Paper 1876, 100 p., <https://doi.org/10.3133/pp1876>.

Langenheim, V. A. M. and Clague, D. A., 1987, The Hawaiian-Emperor volcanic chain, part II, stratigraphic framework of volcanic rocks of the Hawaiian Islands, chap. 1 of Decker, R. W., Wright, T. L., and Sauffer, P. H., eds., *Volcanism in Hawaii*: U.S. Geological Survey Prof. Paper 1350, v. 1.

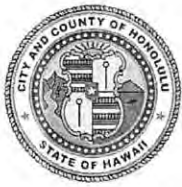


Visher, F.N. and J.J. Mink. 1964. Ground-Water Resources in southern Oahu, Hawaii: U.S. Geological Survey Water-Supply Paper 1778.

Wentworth, C.K. 1951. Geology and Ground-water Resources of the Honolulu-Pearl Harbor Area Oahu, Hawaii. Honolulu Board of Water Supply.



Appendix H



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.: **2023/SCA-0514** STATUS: **Approved**
 DATE RECEIVED: **04/25/2023** IWDP APP. NO.:
 PROJECT NAME: **2023/SCA-0514 Hale O Lipoa - 154 New MFD, Demo 6 Apartment Buildings**

\$490,907.20
Estimated Wastewater System Facility Charge*

LOCATION:

Zone	Section	Plat	Parcel
9	8	014	021

98-150 LIPOA PL Aiea 96701

42,000 Sq. Ft.

SPECIFIC LOCATION: **98-150 LIPOA PL**

APPLICANT: **Kaden Tallman**
 45 North King Street Suite 601
 Honolulu, Hawaii 96817-5649

DEVELOPMENT TYPE: **Dwelling, Multi-family**

SEWER CONNECTION WORK DESIRED: **Existing**

OTHER USES:

NON-RESIDENTIAL AREA: s.f.

APPROXIMATE DATE OF CONNECTION:

PROPOSED UNITS

EXISTING UNITS

UNITS TO BE DEMOLISHED

No. of New Units: **154**

No. of Existing Units: **48**

No. of Units to be Demolished: **48**

Studios: 36
 1-Bedroom: 28
 2-Bedroom: 60
 3-Bedroom: 30
 4-Bedroom:
 5-Bedroom:
 6-Bedroom:

Studios:
 1-Bedroom:
 2-Bedroom:
 3-Bedroom:
 4-Bedroom:
 5-Bedroom:
 6-Bedroom:

Studios:
 1-Bedroom:
 2-Bedroom:
 3-Bedroom:
 4-Bedroom:
 5-Bedroom:
 6-Bedroom:

REMARKS

APPROVAL DATE: **05/04/2023**

EXPIRATION DATE: **05/03/2025**

*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: **Jing Meng**

Site Development Division, Wastewater Branch