Modified
Phase I Environmental Site Assessment

Lihue Airport (LIH)
3901 Mokulele Loop
Lihue, Hawaii 96766

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Acronym	Definition
AFFF	Aqueous Film-Forming Foam
AIR-EE	HDOTA Environmental Section
Alamo	Alamo Rent-A-Car
amsl	above mean sea level
ARFF	Aircraft Rescue and Fire Fighting
AST	Aboveground Storage Tank
ASTM	American Society of Testing and Materials
ATCT	Air Traffic Control Tower
Avgas	Aviation Gasoline
Avis	Avis Rent-A-Car
bgs	below ground surface
BHP	BHP Hawaii Inc.
BMP	Best Management Practice
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
Budget	Budget Rent-A-Car
CAA	Civil Aeronautics Administration
CAD	Computer-Aided Design
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
CERCLIS	CERCLA Information System
CESQG	Conditionally Exempt Small Quantity Generator
CFR	Code of Federal Regulations
Clayton	Clayton Environmental Consultants
CONRAC	Consolidated Rental Car Center
COPC	Contaminants of Potential Concern
CORRACTS	RCRA Corrective Action Sites
DLNR	Department of Land and Natural Resources, State of Hawaii
DOH	Department of Health, State of Hawaii
Dollar	Dollar Rent-A-Car
EAL	Environmental Action Level
EDR	Environmental Data Resources, Inc.
EHE	Environmental Hazard Evaluation
EHMP	Environmental Hazard Management Plan
EKNA	Edward K. Noda and Associates, Inc.
EM	Electromagnetic Conductivity
ENPRO	ENPRO Environmental
EO	Executive Order
EPA	Environmental Protection Agency
ERNS	Emergency Response Notification System
ESI	Environmental Science International, Inc.
ESN	Environmental Services Network
ETC	EnviroServices & Training Center
EO	Executive Order
FAA	Federal Aviation Administration

Acronym	Definition
FEMA	Federal Emergency Management Association
FOPCO	Fuel Oil Polishing Company of Hawaii, Inc.
FRP	Fiberglass Reinforced Plastic
FUDS	Formerly Used Defense Sites
GPR	Ground Penetrating Radar
HAC	Hawaii Aeronautics Commission
Hawaiian Airlines	Hawaiian Airlines, Inc.
HDOTA	Department of Transportation – Airports Division, State of Hawaii
HEER	Hazard Evaluation and Emergency Response
Hertz	Hertz Rent-A-Car
HDPE	High Density Polyethylene Plastic
HFFC	Hawaii Fueling Facilities Corporation
HVOC	Halogenated Volatile Organic Compound
ITSI	Innovative Technical Solutions, Inc.
JRHA	J.R. Herold & Associates
KFC Airport	KFC Airport Inc.
KFD	Kauai Fire Department
KIUC	Kauai Island Utility Corporation
Kimura	Kimura International, Inc.
kv	Kilovolt
LEL	Lower Explosive Limit
LIH	Lihue Airport
LQG	Large Quantity Generator
LUST	Leaking Underground Storage Tank
Masterworks	Masterworks Auto Body and Paint, Inc.
mg/kg	Milligrams per Kilogram
MST	Mobile Storage Truck
MTBE	Methyl Tert-Butyl Ether
NAD	North American Datum
National	National Car Rental
NAVAID	Navigational Aid
NFA	No Further Action
NFRAP	No Further Remedial Action Planned
NPL	National Priorities List
NRC	National Response Center
Ogden	Ogden Environmental and Energy Services
OWS	Oil-water Separator
PAH	Polynuclear Aromatic Hydrocarbon
Par Hawaii	Par Hawaii, LLC
PCB	Polychlorinated Biphenyl
PFAS	Per- and Polyfluoroalkyl Substances
PID	Photo-Ionization Detector
PMID	Property Management Identification No.
ppm	parts per million
RCRA	Resource Conservation and Recovery Act

Acronym	Definition
Roberts	Roberts Hawaii Tours, Inc.
RTR	Remote Transmitter Receiver
SDWB	Safe Drinking Water Branch
SHWB	Solid and Hazardous Waste Branch
SMF	Soil Management Facility
SPLP	Synthetic Precipitation Leaching Procedure
SQG	Small Quantity Generator
SVOCs	Semi-volatile Organic Compounds
TBA	Tert Butyl Alcohol
THC	Total Hydrocarbons
Thrifty	Thrifty Rent-A-Car
TMK	Tax Map Key
TPH	Total Petroleum Hydrocarbons
TPH-d	Total Petroleum Hydrocarbons as diesel fuel
TPH-g	Total Petroleum Hydrocarbons as gasoline
TPH-j	Total Petroleum Hydrocarbons as jet fuel
TPH-o	Total Petroleum Hydrocarbons as oil
TPH-o&g	Total Petroleum Hydrocarbons as oil and grease
Tropical	Tropical Rent-A-Car
TSA	Transportation Security Administration
TSCA	Toxic Substances Control Act
TSD	Treatment, Storage, and Disposal
UIC	Underground Injection Control
USDA	United States Department of Agriculture
UST	Underground Storage Tank
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound
VORTAC	Co-located VHF omnidirectional range beacon and a tactical air navigation system beacon

EXECUTIVE SUMMARY

ESI performed a Modified Phase I Environmental Site Assessment for LIH. LIH consists of 23 parcels and measures approximately 867 acres. The purpose of the Phase I ESA is to identify areas of the Property that are contaminated or potentially contaminated with hazardous materials. The assessment results will be used to assist with the development of contaminated and potentially contaminated area maps in association with the HDOTA Programmatic EHE/EHMP. The Phase I ESA was not conducted in accordance with ASTM E1527-13 or 40 CFR 312 and, therefore, does not satisfy the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser protections under CERCLA.

The Phase I ESA identified the following areas as contaminated or potentially contaminated. The Finding numbers correlate to the sites and locations shown in Figures 5 to 16.

Runway Area (Figure 5)

- Former FAA LIH VORTAC UST (DOH UST Facility ID 9-703405, Finding 1)

Main Terminal Area (Figure 6)

- Current Main Terminal Emergency Generator UST(DOH Facility ID 9-701778, Finding 2)

Rental Car Area (Figure 8)

- Alamo Baseyard (Finding 3)
  - Current USTs (DOH Facility ID 9-701714/Release IDs 990239 and 050041)
- Avis Baseyard (Finding 4)
  - Former and current USTs (DOH Facility ID 9-702492/Release ID 050013)
- Budget Baseyard (Finding 5)
  - Former and current USTs (DOH Facility ID 9-701885/Release ID 970077)
- Dollar Baseyard (Finding 6)
  - Former UST (DOH Facility ID 9-701892/Release ID 040069)
- Hertz Baseyard (Finding 7)
  - Current USTs (DOH Facility ID 9-700058/Release ID 180012)

Heliport Area (Figure 9)

- Out of service Hydrant Fuel Supply System to Helipads (Finding 8)
- Par Hawaii – Two 30,000-gallon ASTs, and the potential for spills during fuel transfer operations (Finding 9)

Air Cargo and Commuter Terminal Area (Figure 10)

- Lihue Airport Avgas AST Release (Finding 10)

HDOTA Maintenance Area (Figure 11)

- Former and current USTs (DOH UST Facility ID 9-701778, Finding 11)

General Aviation Area (Figures 12A and 12B)

- Former Lihue Airport Old Generator Building UST (DOH UST Facility ID 9-701778, Finding 12)
- Current Airfield Emergency Generator UST (DOH UST Facility ID 9-702554, Finding 13)
- Former FAA ATCT UST (DOH UST Facility ID 9-703405, Finding 14)
- Former ARFF Station (Building 125) UST (DOH UST Facility ID 9-701572, Finding 15)
- Former Gray Line USTs (DOH UST Facility ID 9-701849/Release ID 910043, Finding 16)
- Former Avis USTs (DOH UST Facility ID 9-700432/Release IDs 980086 and 980087, Finding 17)
- Former Budget USTs (DOH UST Facility ID 9-701558, Finding 18)
- Former Hertz UST (DOH UST Facility ID 9-700435, Finding 19)
- Former Tropical UST (DOH UST Facility ID 9-703243, Finding 20)
- Former Kauai Island Tours USTs (DOH UST Facility ID 9-701758, Finding 21)
- Former Kenai Air Hawaii USTs (DOH UST Facility ID 9-700638, Finding 22)
- Former Dollar UST (DOH UST Facility ID 9-700623, Finding 23)
- Former Lihue Airport Renovation Project USTs (DOH UST Facility ID 9-703830, Finding 24)
- Former Murray Air Ltd. UST (DOH UST Facility ID 9-701789, Finding 25)
- Former National UST (DOH UST Facility ID 9-703085, Finding 26)
- Former Rent A Wreck USTs (DOH UST Facility ID 9-702414, Finding 27)
- Former Roberts Hawaii USTs (DOH UST Facility ID 9-701861, Finding 28)
- Former Travelers UST (DOH UST Facility ID 9-702413, Finding 29)
- Former United Car Rental USTs (DOH UST Facility ID 9-702413, Finding 30)
- Former Drywells at Roberts Hawaii and TransHawaiian Tours Facilities (Finding 31)
- Former USTs systems removed under State Project No. AK1046-12 (Finding 32)

Former Industrial Area (Figure 14)

- Former Masterworks Site (Finding 33)

Former Ahukini Dump Area (Figure 15)

- Former Ahukini Dump (Finding 34)

ARFF Station and Former Training Area (Figure 16)

- Former UST (DOH UST Facility ID No. 9-702403, Finding 35)
- Former ARFF Training Pit and Area (DOH HEER Case No. 20070222-1454, Finding 36)

SECTION 1 – INTRODUCTION

This report describes the results of the Modified Phase I Environmental Site Assessment performed by ESI, on behalf of the State of Hawaii – HDOTA, hereinafter referred to as the "Properties." They consist of 23 parcels identified by the County of Kauai Property Assessment Division as TMK Numbers (4) 3-5-001:005, 008, 009, 091, 092, 109, 128 to 137, 141, 146, 147, 148, 158, 159, and 160. A list of the parcels is provided in Appendix A. Based on available information, HDOTA intends to continue using the Properties as an airport. This Modified Phase I ESA was prepared by ESI on behalf of HDOTA under HDOTA State Contract No. 65506 and 69021.

1.1 PURPOSE

The purpose of this Modified Phase I assessment is to identify areas of the Properties that are contaminated or potentially contaminated with hazardous materials. The modified Phase I assessment results will be used to assist with the development of contaminated and potentially contaminated area maps in association with the HDOTA Programmatic EHE/EHMP.

This Modified Phase I assessment was performed in general accordance with ASTM Standard E1527-13 (ASTM, 2013). This assessment was not performed in strict accordance with 40 CFR 312 (EPA, 2019a) and, therefore, does not satisfy the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser protections under CERCLA.

This assessment does not guarantee that no environmental contamination exists within the Properties beyond that described at the time of writing this report. Therefore, the conclusions presented herein are not necessarily indicative of future conditions or operating practices within or surrounding the Properties. No warranties, expressed or implied, are made. All conclusions represent the professional opinions of the ESI personnel involved with this assessment, and the results should not be considered a legal interpretation of existing environmental conditions.

1.2 METHODOLOGY

The methods by which this assessment was performed include a review of historical data, personal interviews with people knowledgeable about the Properties, a review of federal and state agency records, and a property inspection. Particular emphasis was placed on recent historical uses of the Properties, gross surface contamination, PCB-containing items, USTs, hazardous materials, and hazardous wastes.

1.2.1 Review of Historical Data

The historical records review focused on identifying previous landowners, lessees, and land usage. These data were obtained through tax records, DOH records, maps, aerial photographs, and personal interviews. Of interest were operating practices on the Properties, development

plans, and adjacent land use, from the initial utilization of the Properties to the present day. Aerial photographs are included in Appendix D.

Tax records were reviewed to determine past owners and lessees of the Properties and are provided in Appendix E. Letters of correspondence to and from regulatory agencies, and other parties are provided in Appendix F. The information provided by the DOH SHWB and HEER Office consists of known environmental incidents (solid and hazardous wastes, wastewater discharges, chemical spills), citations and inspections by regulatory authorities, and current operating permits. Historical maps and aerial photographs present graphic illustrations of past property use. Other resources were reviewed, such as environmental audits.

Personal Interviews

Interviews with people knowledgeable about the Properties are valuable sources of information concerning past and present activities that may not be found in state or municipal records. ESI attempted to interview as many HDOTA personnel as practical that were knowledgeable about current and past practices at the Properties.

1.2.2 Review of Regulatory Information

Federal, state, and county environmental databases were reviewed for evidence of environmental impacts to the Properties and the surrounding area, in general accordance with ASTM E1527-13. These include the following information sources.

Federal Databases

1. The EPA NPL of hazardous waste sites to be considered for remediation with federal funds, including delisted NPL sites.
2. The EPA Comprehensive Environmental Response CERCLIS list of CERCLA activities. This includes NFRAP Sites.
3. The RCRA Generator List, which tracks hazardous waste from the point of generation to the point of disposal. This includes CORRACTS and TSD sites.
4. The ERNS list provides information pertaining to oil dischargers and hazardous substance releases.
5. The Facility Index System contains both facility information and “pointers” to other sources that contain more detail. These include the Resource Conservation and Recovery Information System, the Permit Compliance System, and others.
6. The Federal Hazardous Materials Information Reporting System, which includes hazardous materials spills reported to the Department of Transportation.
7. The PCB Activity Database System identifies generators, transporters, commercial storers, and/or brokers and disposers of PCBs who are required to notify the EPA of such activities.

State Databases

1. The DOH HEER Office database, which includes state-equivalent CERCLA sites, voluntary cleanup sites, release notifications, and Brownfields sites.
2. The DOH SHWB database, which includes landfill and solid waste disposal sites, UST sites, and LUST sites.

Results of the state database research are included in Section 4.2 of this report.

County Database

1. KFD database, which lists hazardous material releases and records of response.

In addition to the in-house review of records and databases, ESI uses an independent data provider, EDR. EDR provides an independent search and database that are used to help ensure that all possible agency and private records for a particular site are retrieved. In addition to the databases noted above, EDR searches several other databases, including Records of Decisions by the State and Federal Judiciary, Federal Superfund Liens, and the RCRA Administrative Tracking System. A copy of the EDR report is included in Appendix D.

1.2.3 Inspection of the Properties

The purpose of a property inspection is to gather evidence of past releases of oil or hazardous materials, soil and groundwater contamination, conditions that could constitute a threat of release of oil or hazardous materials, items suspected to contain PCBs, past or present existence of USTs, the use, or storage of hazardous materials, and waste handling and disposal. The results of the property inspection were documented using written notes and photographs. In addition to the property inspections, people knowledgeable about historical and current uses of the Properties were interviewed.

Gross Surface Contamination

Gross surface contamination often is an indication of an ongoing release or a past release of oil or hazardous materials, and it may be indicative of just a fraction of the total extent of subsurface soil or groundwater contamination. Evidence of gross surface contamination includes stained or discolored soils, stressed vegetation, and unusual odors.

PCB-Containing Items

PCBs are synthetic chemicals that were first introduced in 1929. Because of their chemical stability, electrical properties, and heat transfer capabilities, they were widely used in industry, particularly in electrical transformers, capacitors, and fluorescent light ballasts. Researchers in the 1960s found that exposure to PCBs posed a significant human health risk. In 1979, the EPA banned the commerce of PCBs and promulgated the TSCA, which regulates the use and disposal of PCB-containing items.

As part of this assessment, an inventory of electrical transformers in close proximity to the Properties was made. KIUC maintains an extensive database of transformers that includes their PCB status. In addition, EPA regulations require that all untested mineral oil transformers manufactured prior to July 1, 1979, must be considered to contain between 50 and 500 ppm PCBs. KIUC maintains that all of its transformers are in compliance with all applicable related regulations.

UST Systems

As part of the assessment, an inventory of USTs at and proximal to the Properties was made. UST system management is strictly regulated by the EPA (40 CFR 280) and by the State of Hawaii, under Chapter 342L of the Hawaii Revised Statutes. Regulations include registering all UST systems with the DOH and the KFD. USTs currently in use must meet rigorous leak detection, corrosion protection, and spill and overfill prevention performance standards. In addition, UST systems that are out of service must be abandoned and properly closed. Upon closure, an assessment of soil and groundwater contamination must be performed.

Hazardous Materials

The proper use and storage of hazardous materials are necessary to ensure a safe workplace and prevent possible environmental damage due to spills or leaks of hazardous materials to the environment. As part of this assessment, the Property was inspected for the presence of hazardous materials. If hazardous materials were observed, an inventory was made. The condition of the materials and their storage was also noted.

Hazardous Waste

Hazardous waste is strictly regulated by the EPA under RCRA. Waste generators are responsible for determining if their waste is hazardous, as defined in 40 CFR 261. The degree to which a generator is regulated is dependent upon the type and amount of waste generated. Owners and operators who improperly generate, treat, store, dispose of, or transport hazardous waste may be subject to fines imposed by local and federal regulators. In addition, poor management of hazardous waste may contribute to the contamination of air, soil, surface water, and groundwater. The cleanup of uncontrolled hazardous waste sites can be a costly and lengthy process. During the inspection, waste management practices were noted.

Important Terms

Five important terms used in describing conditions at a property include *material threat, historical recognized environmental condition,* r*ecognized environmental condition, controlled recognized environmental condition, and de minimis condition*. These terms are defined in the ASTM standard and are described below.

Material Threat. A physically observable or obvious threat that is reasonably likely to lead to a release and that could result in an impact to public health or the environment.

Historical Recognized Environmental Condition. A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to required controls (e.g., property use restrictions, institutional or engineering controls).

Recognized Environmental Condition. The presence or likely presence of any hazardous substances or petroleum products in, on, or at a property (1) due to a 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. De minimis conditions are not recognized environmental conditions.

Controlled Recognized Environmental Condition. A recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (e.g., issuance of a *No Further Action* letter or equivalent or meeting risk-based criteria established by the regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (e.g., engineering controls, institutional controls, activity and use limitations, property use restrictions).

De Minimis Condition. A condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

An example of a de minimis release of oil is one that is below the reportable quantity defined in the State Contingency Plan (DOH, 1995). A reportable quantity of oil is defined as (1) a petroleum hydrocarbon sheen on surface water or any navigable water of the State, (2) free product on groundwater, (3) greater than 25 gallons of oil released into the environment, or (4) less than 25 gallons of oil released that is not contained and remediated within 72 hours.

SECTION 2 – PHYSICAL SETTING

The characteristics of subsurface soils, topography, geology, and hydrogeology in the area of the Properties were reviewed. These characteristics were determined from a review of published federal reports and maps describing the topography, geology, and soil distribution in the area.

2.1 LOCATION AND SETTING OF THE PROPERTIES

The Properties are located on the southeastern coast of Kauai, approximately 1 mile east of the town of Lihue (Figure 1). The Properties consist of approximately 867 acres of land that occupy an area along the coastline. The Properties are bounded on the east by the Pacific Ocean and undeveloped land, on the west and north primarily by agricultural land, and the south by a golf course associated with the Hokuala Resort. In the Main Terminal area, the Properties are bordered by the Kapule Highway, beyond which is the County of Kauai police station and judicial complex. Access to the Properties is via Ahukini Road.

The Properties are below the UIC line, at surface elevations of 160 feet amsl on the western side, 50 feet amsl on the northern side near Hanamaulu Bay, and 35 feet amsl on the southern end near Nawiliwili Bay (Figure 2). The nearest major surface water body is the Pacific Ocean, located adjacent to the east side of the Properties.

2.2 CLIMATOLOGICAL CONDITIONS

The Properties are located in southeastern Kauai near the eastern side of a regional depression known as the Lihue basin. The prevailing winds are east to northeasterly trade winds. Climatological conditions in the area of the Properties consist of moderate temperatures and moderate rainfall. The average annual precipitation is approximately 39.24 inches, which occurs mainly between November and April (Giambelluca et al., 2014a). Average temperatures range from the low to high 70s (degrees Fahrenheit). The annual pan evaporation is approximately 25 inches (Giambelluca et al., 2014b).

2.3 REGIONAL AND SITE GEOLOGY

Kauai is the northwestern-most island of the main Hawaiian Islands and has been interpreted as the eroded remnants of a single, highly dissected, large shield volcano (Dana, 1849; Hinds 1930; Macdonald, Davis, and Cox, 1960). The oldest dated rocks from the main Hawaiian Islands are from Kauai. The geology of Kauai is considered more complex by comparison to the other main islands due to its greater period of subsidence, the abundance and scale of observed and inferred large faults and structural topographic features, and erosion of the volcanic shield prior to its being covered by voluminous post-erosional volcanics (Macdonald, Davis, and Cox, 1960).

The Properties are in southeastern Kauai near the eastern side of a regional depression known as the Lihue basin, an elongated lowland on the east-central side of Kauai. It is filled by lava flows of the Koloa Volcanics and bounded by steep cliffs of the Waimea Canyon Basalt on the west,

north, and south sides (Reiners, Nelson, and Izuka, 1999). The surface of the Lihue basin is covered mostly by lava flows of the Koloa Volcanics, some of which probably originated from the Kilohana volcano, a large rejuvenated-stage vent in the central-southern part of the basin that reaches an elevation of 1,050 feet (320 meters) above sea level, about 720 feet (220 meters) above the surrounding plains to the north, east, and south (Reiners, Nelson, and Izuka, 1999).

According to the USDA Soil Conservation Services, most of the soils at the Properties fall into four different classifications. Of these, the majority of the developed areas of the Properties, including the runway areas, fall into the following two classifications:

- *Lihue silty clay*, that form 0 to 8 percent slopes, are composed of Lihue, gravelly and similar soils, and are well-drained.
- *Lihue gravelly silty clay,* that form 0 to 8 percent slopes, are composed of a Lihue and similar soils, and are well-drained.

The soils in the northern area of the Properties adjacent to Hanamaulu Bay consist primarily of *Koloa stony silty clay*, that form 15 to 25 percent slopes, are composed of Koloa, stony, or similar soils, and are well-drained.

The soils in the eastern area of the Properties adjacent to the Pacific Ocean consist primarily of *Koloa stony silty clay,* that form either 3 to 8 percent or 15 to 25 percent slopes.

2.4 REGIONAL AND SITE HYDROGEOLOGY

Groundwater in Hawaii exists in two principal types of aquifers. The first and most important type, in terms of drinking water resources, is the basal aquifer. The basal aquifer exists as a lens of fresh water floating on and displacing seawater within the pore spaces, fractures, and voids of the basalt that forms the underlying bulk of each Hawaiian island. In parts of Molokai, groundwater in the basal aquifer is confined by the overlying caprock and is under pressure. Waters that flow freely to the surface from wells that tap the basal aquifer are referred to as artesian.

The second type of aquifer is the caprock aquifer, which consists of various kinds of unconfined and semi-confined groundwater. The nearly impermeable sediments that form the caprock separate the caprock aquifer from the basal aquifer. On Molokai, the narrow coastal plain of sediments acts as a weak caprock (Mink and Lau, 1992).

The Properties are underlain by the Lihue Aquifer Sector of the Hanamaulu Aquifer System and consists of an upper and lower aquifer. The upper groundwater aquifer is characterized as basal, unconfined, and sedimentary. The groundwater has potential use, is ecologically important, has low salinity (250 to 1,000 milligrams per liter), is considered irreplaceable, and is highly vulnerable to contamination. The depth to the water table beneath the Properties is unknown but is probably approximately 35 feet bgs along the western side of the Properties and increasingly shallower as the property slopes towards the coast. The general direction of groundwater flow in the area of

the Properties was not determined but is probably east to the southeast towards the ocean based on the area topography.

The lower aquifer is basal, unconfined, and of a flanking nature (i.e., horizontally extensive lavas). The water has potential use, is a drinking water source, has low salinity, is considered irreplaceable, and is moderately vulnerable to contamination (Mink and Lau, 1992).

Stormwater runoff from the Properties is collected and managed by a network of concrete pipe culverts, unlined ditches and channels, catch basins, drain inlets, field inlets, box drains, and swales. The stormwater is ultimately discharged into the ocean.

The nearest downgradient navigable water is the Pacific Ocean, located adjacent to the northeastern end of the Properties. There are two drinking water wells within 2 miles of the Properties, and there are no drinking water wells downgradient. Therefore, it is unlikely that releases of hazardous substances at or in the immediate vicinity of the Properties could have impacted current drinking water sources. A summary of non-drinking water wells is presented in Table 2.1.

TABLE 2.1
Nearest Water Wells
Lihue Airport (LIH)
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Well ID Number	Well Name or Location	Year Drilled	Elevation (feet amsl)	Distance from Properties (miles)	Gradient/Direction	Depth (feet bgs)	Status/Use
Non-Drinking Water Wells							
2-5721-01	Westin Kauai 1986	1986	23	0.53	Sidegradient/South	325	Unused
2-5721-02	Banyan Harbor Irrigation Well	2002	21	0.96	Sidegradient/Southwest	125	Irrigation
2-5821-01	Lihue STP	1974	121	0.11	Sidegradient/South	440	Unused
2-5820-01	Westin Kauai #3	1987	138	0.08	Downgradient/Southeast	315	Irrigation
2-5821-03	Westin Kauai #1	1987	160	0.03	Upgradient/West	277	Unused
2-5821-04	Westin Kauai #2	1987	125	0.03	Downgradient/East	375	Irrigation
2-5821-05	Westin Kauai #4	1987	100	0.38	Sidegradient/South	338	Other
2-5821-06	Westin Kauai #5	1987	100	0.34	Sidegradient/South	380	Other
2-5822-01	Sugar Mill 1965	1965	150	1.28	Upgradient/West	700	Industrial
Drinking Water Wells							
2-5821-02	Kauai Inn Tank	1978	156	0.76	Upgradient/West	300	Unused
2-5822-02	Lihue Old Grammer School	1961	224	2.0	Upgradient/West	593	Unused

Sources: DLNR, 1993; EDR, 2019; Hawaii Groundwater & Geothermal Resources Center, 2020

SECTION 3 – PROPERTY INFORMATION

3.1 DESCRIPTION OF THE PROPERTIES AND CURRENT LAND USE

The Properties are located on the site of the LIH. The state land use designation for the Properties is *Urban*. The surrounding property designations are summarized in Table 3.1

TABLE 3.1
Surrounding Properties
Lihue Airport
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North	East	South	West
Conservation Land (Open Space Land)	Conservation Land (Open Space Lands)	Agricultural and Urban Land (Currently developed as a golf course and resort area)	Urban Lands (Currently developed for public service use, adjacent to the southwest portion of the Properties and former agricultural lands to the northwest)

The Properties were divided into twelve principal areas (Figure 4). These areas are described below.

3.1.1 Runway Area (Figure 5)

The Runway Area occupies the eastern side of LIH. This area includes the runways, taxiways, service roads, holding aprons, runway safety areas, blast pads, and the FAA LIH VORTAC. There are two runways at the LIH. Runway 3-21 is oriented southwest-northeast and is approximately 6,800 feet long and 200 feet wide. Runway 17-35 is oriented north-south and is approximately 6,900 feet long and 200 feet wide. The runways are used to accommodate overseas and inter-island passenger planes and for private general aviation use. There are twelve taxiways at the LIH (Taxiways A to H and J to M).

Stormwater runoff at the Properties is channeled into a network of concrete pipe culverts, lined and unlined ditches and channels, drain inlets and box drains. The collected runoff is then directed to an existing gully northeast of Runway 3-21 and ultimately to the ocean.

3.1.2 Main Terminal Area (Figure 6)

The Main Terminal is located in the southwestern portion of the Properties. Located in the Main Terminal Area are the Airline Gates (3-10), Holdrooms, ticketing and security entry areas,

baggage claim, administrative offices, and aircraft parking aprons. Additionally, the terminal generator building is located southeast of the Main Terminal Parking Area. A 2,000-gallon diesel fuel UST is located near the southwest corner of the building. A list of USTs is provided in Table 5.2.

3.1.3 Main Terminal Parking Area (Figure 7)

The Main Terminal Parking Area is located northwest of the Main Terminal Area. This area consists of an asphalt paved parking lot for LIH users, employees, and travelers.

3.1.4 Rental Car Area (Figure 8)

The Rental Car Area is located northwest of the Main Terminal Parking Area and Mokulele Loop and is divided by Hoolimalima Place.

Operators in the area include Alamo, Avis, Budget, Dollar, and Hertz.

- ***Avis*** – The Avis facility is paved and consists of a customer building, a fueling station, a vehicle wash facility, and a storage shed. The fueling station consists of a 10,000-gallon gasohol UST and two fuel dispensers. A list of USTs is provided in Table 5.2.

- ***Hertz-Dollar-Thrifty*** – The Hertz-Dollar-Thrifty facility is paved and consists of a customer building, a fueling station, and a vehicle wash facility. The fueling station consists of two 5,000-gallon gasoline ASTs and two fuel dispensers. A list of ASTs is provided in Table 5.3.

- ***Budget*** – The Budget facility is paved and consists of a customer building, a vehicle maintenance shop, a fueling station, and a vehicle wash facility. The fueling station consists of two 10,000-gallon gasohol USTs and associated fuel dispensers. A 480-gallon new motor oil AST and a 480-gallon used oil AST are located adjacent to the maintenance shop. Additionally, a 125-gallon gasoline mobile storage tank and a 250-gallon gasoline mobile storage tank are located adjacent to the maintenance shop. A list of USTs is provided in Table 5.2. A list of ASTs is provided in Table 5.3. A list of MSTs is provided in Table 5.4.

- ***Alamo*** – The Alamo facility is paved and consists of a customer building, a fueling station, and a vehicle wash facility. The fueling station consists of a 10,000-gallon gasoline UST and two fuel dispensers. Additionally, a 550-gallon used oil UST is located adjacent to the customer building. A list of USTs is provided in Table 5.2. A list of ASTs is provided in Table 5.3.

- ***Hertz*** – The Hertz facility is paved and consists of a customer building, a vehicle maintenance shop, a fueling station, and a vehicle wash facility. The fueling station

consists of a 12,000-gallon gasoline UST and two fuel dispensers. A list of USTs is provided in Table 5.2.

3.1.5 Heliport Area (Figure 9)

The Heliport Area is located northeast of the Main Terminal Parking Area. The area consists of three helipads for landing and take-offs, parking pads, parking aprons for 20 helicopters, taxiways, an out of service Hydrant Fuel Supply System, and a vehicle parking area.

Additionally, Par Hawaii operates a fuel storage facility located at the northern end of the Heliport Area adjacent to the HDOTA Maintenance Baseyard Area. The facility consists of two 30,000-gallon Jet-A fuel ASTs, a loading and unloading area, and an emergency generator associated with a diesel fuel AST. A list of ASTs is provided in Table 5.3. The Hydrant Fuel Supply System was previously connected to the ASTs. The piping was capped when the system was placed out of service.

3.1.6 Air Cargo and Commuter Terminal Area (Figure 10)

The Air Cargo and Commuter Terminal Area is located northeast of the Main Terminal Area. Located in this area are the Air Cargo building, Commuter Terminal building, aprons, and paved parking area.

The Air Cargo building houses airline cargo operations, including but not limited to Aloha Air Cargo, Southwest Cargo, Alaska Air Cargo, and Hawaiian Airlines Cargo.

3.1.7 HDOTA Maintenance Baseyard Area (Figure 11)

The HDOTA Maintenance Baseyard Area is located northeast of the Heliport Area. The area is paved and consists of an office, service bays, a vehicle maintenance shop, parking areas for vehicles and machinery, a fueling station, and an equipment and vehicle wash facility. The fueling station consists of one 4,000-gallon diesel fuel UST, one 4,000-gallon gasoline UST, and two fuel dispensers. Located adjacent to the wash rack is an aboveground waste oil OWS and several 55-gallon waste sludge drums. Additionally, a generator building associated with a 500-gallon diesel fuel AST is located in the southwestern portion of the area. A list of USTs is provided in Table 5.2. A list of ASTs is provided in Table 5.3.

3.1.8 General Aviation Area (Figures 12A and 12B)

The General Aviation Area is located northeast of the Air Cargo and Commuter Terminal Area. Located in this area are:

- ***Airfield Generator Building:*** The Airfield Generator Building consists of a generator building and a 550-gallon diesel fuel UST. A list of USTs is provided in Table 5.2.

- ***Air Traffic Control Tower:*** The ATCT consists of the tower, a generator room, storage area, and parking area. A 1,000-gallon diesel fuel AST is located adjacent to the generator room. A list of ASTs is provided in Table 5.3.

- ***Kauai County Hangar:*** The Kauai County Hangar consists of a Hangar building, in which a Jet-A fuel MST is located, and a wash pad area. An aboveground OWS is located behind the wash pad area. A list of MSTs is provided in Table 5.4.

- ***Airborne Aviation:*** Airborne Aviation, a helicopter utility company, consists of a paved area, a tent that serves as a helicopter hangar, and an unpaved area in which a trailer used as an office and a storage area are located.

- ***T-Hangars (Building 410 & 411):*** The T-Hangars (Buildings 410 and 411) consist of two main buildings. The buildings are divided into several units in which storage and minor aircraft maintenance are performed.

- ***Jack Harter Helicopters Hangar:*** The Jack Harter Helicopters Hangar consists of a paved area where a helicopter hangar is located, and an unpaved area used for parking and storage.

- ***Blue Hawaiian Hangar:*** The Blue Hawaiian Hangar consists of a paved area in which a helicopter hangar, parking, and storage areas are located. Additionally, an aboveground OWS is located adjacent to the hangar building.

- ***Air Service Hawaii Area:*** The Air Service Hawaii Office consists of an office building and a grass-covered and paved area in which a 12,000-gallon Avgas AST and MSTs are located. The grass-covered area contains a 6,000-gallon Avgas unused AST, which was previously located in the Air Cargo and Commuter Terminal Area. A list of ASTs is provided in Table 5.3.

- ***Private Hangar:*** The Private Hangar consists of a covered helicopter parking area and an out-of-use washing area, in which an aboveground OWS is located.

- ***National Weather Service:*** The National Weather Service Facility provides weather data. The National Weather Service consists of an office building and satellite station. A 250-gallon diesel fuel AST is located adjacent to the main office building. A list of ASTs is provided in Table 5.3.

3.1.9 Bulk Fuel Storage Area (Figure 13)

The Bulk Fuel Storage Area is located northeast of the General Aviation Area along the southeast side of Ahukini Road. Located within the area are the LIH fuel farm, two loading racks, and an MST parking area. The fuel farm was recently constructed (circa 2018) and is operated by HFFC and contains three 100,000-gallon capacity Jet-A vertical ASTs and a generator associated with

a 700-gallon diesel fuel AST. The MST parking area is on the southeast side of the fuel farm. A list of ASTs is provided in Table 5.3.

3.1.10 Former Industrial Area (Figure 14)

The Former Industrial Area is located at the northeastern end of the Properties near Ahukini Landing. The area currently consists of a grass-covered area, two former building foundations, and a roll-off and dumpster storage area.

Former operators of the area included the Masterworks salvage facility and the Lihue Plantation Company Ltd.'s Ahukini Terminal, Standard Oil Company, Hawaiian Bitmuls, and The Ahukini Corporation. The historical use of the area is further discussed in Sections 3.3.2 and 4.2.1.10.

3.1.11 Former Ahukini Dump Area (Figure 15)

The Former Ahukini Dump Area is located east of the northern end of Runway 17-35 and adjacent to the Pacific Ocean. The area currently consists of an area covered with grass and native vegetation located on a slope adjacent to the Pacific Ocean.

The historical use of the area is further discussed in Section 4.2.1.11.

3.1.12 ARFF Station and Former ARFF Training Area (Figure 16)

- ***ARFF Station:*** The ARFF Station is located between Runways 3-21 and 17-35 and south of Taxiway D. Located at the station is a 3,000-gallon AFFF AST and a 500-gallon capacity diesel fuel AST. In addition, two OWSs are located in the area. A list of ASTs is provided in Table 5.3.

- ***Former ARFF Training Area:*** The Former ARFF Training Area was located approximately 75 feet south of the ARFF Station. The area was actively used for fire-fighting training until 2006 when training activities were moved off-island, and the facility was decommissioned. The area is currently vacant and covered with gravel.

- ***FAA RTR Area:*** The RTR is located west of the ARFF Station and Former ARFF Training Area. The area consists of three radio towers and a transmission/receiver building.

3.2 HISTORY OF THE PROPERTIES

Tax information, historical maps, aerial photographs, topographic maps, interviews with people knowledgeable about the Properties, and other sources of historical information were used to compile a history of the Properties and the surrounding area. Aerial photographs from 1950 to 2019 were reviewed. The aerial photographs reviewed are listed in Table 3.3, and those provided by EDR are included in Appendix D. The historical maps reviewed are listed in Table 3.4. The Sanborn Maps reviewed are listed in Table 3.5.

3.2.1 History of the Properties and Adjacent Areas

The Properties were used for agricultural purposes since the late 1800s. The Lihue sugar mill, located about a mile west of LIH, began operating by 1851 (MFA, 2006). By 1876 the sugarcane fields extended seaward and included the area of the Properties. The 1910 topographic map indicated the area of the Properties was under agricultural cultivation. Railroad tracks ran through the Properties and terminated at Ahukini Landing. A review of the 1927 Sanborn Map shows the northeastern end of the Properties (Former Industrial Area) was part of the Lihue Plantation Company Ltd.'s Ahukini Terminal. Improvements in the area included three large sugar warehouses, a freight warehouse, above-ground conveyors, rail lines, a railroad car shed, and a roundhouse supporting sugar operations. In addition, a Standard Oil Company tank farm was present. The tank farm had nine ASTs used to store gasoline (a 429,000-gallon and a 55,000-barrel tank), fuel oil (a 55,000-barrel tank), diesel fuel (a 70,000-gallon tank), kerosene (two 70,0000-gallon tanks), and three smaller tanks (contents unknown).

In 1945, the State Legislature appropriated funds to prepare plans to construct the LIH, and in 1947 the construction of LIH was approved. In October 1948, groundbreaking ceremonies were held, and the construction of LIH commenced in November 1948. The airport was opened in September 1949 to limited operations while the terminal building was under construction. The terminal's construction was completed in January 1950, including space for airline ticket offices, taxi and U-drive desks, and tour services. Additional projects in the 1950s included the paving of parallel taxiways, an additional aircraft parking apron, an auto-park area, and the relocation of Ahukini Road. Immediately on the opening of Lihue Airport in 1950, passenger traffic started a rate of increase beyond all expectations, and the continued rise in 1951 taxed the facilities of the terminal building.

EO No. 1451 was issued in 1951, which set aside 152.261 acres of land for LIH Airport to be under the control and management of the HAC. In March 1951, the Lihue Plantation was given a 15-year lease for 30 acres of airport land with a withdrawal clause permitting the HAC to take back the land if needed for aeronautical purposes.

A Jeep crash fire truck was put into operation at Lihue Airport in January 1951. The air freight terminal was completed in February 1951. In 1952, the runway was extended to a total length of 5,100 feet, the terminal was enlarged to handle increased passenger traffic, and three steel frame T-hangars for private planes were completed. By 1955, the land area at Lihue Airport encompassed 160 acres, including one paved runway, which was 100 feet wide and 5,100 feet long. The airport included a terminal building, restaurant, ground transportation, parking lot, paved runway and warm-up apron, medium intensity lights, lighted wind cones, rotating beacon and obstruction lights, parking apron, T-Hangars, freight terminal, CAA Communications Station (24-hour), U.S. Weather Bureau (24 hours), 80 octane fuel storage, and Crash & Fire protection. In October 1958, a parking lot was added to the existing terminal area, and a restaurant building connected to the terminal was completed in March 1959.

EO No. 1874 was issued in January 1959 and withdrew 35.02 acres of land at LIH for an exchange with Lihue Plantation Company. The exchange acquired land for additional aircraft parking and future master plan development in return for land not needed for airport purposes. In August 1959, EO No. 1880 added 344.353 acres of land to LIH for aviation purposes. In May 1961, EO No. 1950 set aside an additional 2.759 acres at LIH. Construction of a new Ground Transportation Building and additional plane and auto parking was completed in September 1962.

Expansion of LIH continued through the 1970s with the issuance of four EOs (EO No. 2600, EO No. 2602, EO No. 2705, and EO No. 2928), which set aside an additional 215.5079 acres of land to LIH. Two additional EOs (EO No. 3259 and EO No. 3500) were issued in the 1980s, which set aside 8.461acres of land for addition to LIH.

Improvements to the Properties continued through the later 1970s, 1980s, and 1990s. A new fire station was dedicated in September 1978. A new 6,500-foot runway was dedicated in April 1984. A groundbreaking ceremony was held on May 24, 1984, for a new Lihue Airport Terminal Complex. The new passenger terminal was dedicated on February 25, 1987. An expanded roadway system, parking lot and utility systems, and new maintenance baseyard were completed in 1987. A dedication was held for a new 30,000 square foot cargo building and a 4,800 square foot Commuter Terminal in March 1991, which included aprons and taxiways for the two facilities. A new ARFF station was dedicated in March 1995. The facility replaced one built in 1978 when the airport had only interisland flights (State of Hawaii, 2021).

Based on the review of the aerial photographs, the land surrounding the Properties and portions of the Properties remained in agricultural use until at least 1978. From 1978 to 1996, developments on adjacent lands included a sawmill, wastewater treatment plant, refuse station, and a tropical fruit disinfestation facility (MFA, 2006).

The Airport Modernization Program at Lihue includes Terminal Holdroom Improvements, Ticket Lobby and Holdroom Improvements, NAVAID and Windcone replacement, parking improvements, and Runway 3-21 relocation of runway safety area (Hawaii Airports Modernization Project, 2021).

TABLE 3.2
Historical Aerial Photographs Reviewed
Lihue Airport
Modified Phase I Environmental Site Assessment

Date of Photograph	Source
1950	EDR
1959	EDR
1960	EDR
1975	EDR
1978	EDR

Date of Photograph	Source
1992	EDR
1985	Google Earth
2003	Google Earth
2005	Google Earth
2007	Google Earth
2010	Google Earth
2011	Google Earth
2012	Google Earth
2013	Google Earth
2014	Google Earth
2019	Google Earth

TABLE 3.3
Historical Maps Reviewed
Lihue Airport
Modified Phase I Environmental Site Assessment

Year	Source
1876	Plan of the Lihue Plantation, Situated on the Island of Kauai (J.W. Gay)
1910	USGS, 7.5 Minute Series (Topographic) Lihue / Northwest Kapaa
1963	USGS, 7.5 Minute Series (Topographic) Lihue / North Kapaa
1983	USGS, 7.5 Minute Series (Topographic) Lihue / North Kapaa
1996	USGS, 7.5 Minute Series (Topographic) Lihue / North Kapaa
2007	Geologic Map of the State of Hawaii, Sheet 4 – Island of Molokai (Sherrod et al., 2007)
2013	USGS, 7.5 Minute Series (Topographic) Lihue / North Kapaa

TABLE 3.4
Sanborn Maps Reviewed
Lihue Airport
Modified Phase I Environmental Site Assessment

Date of Photograph	Source
1927	EDR
1945	EDR
1975	EDR
1980	EDR
1990	EDR

3.2.2 Owners and Lessees of the Properties

3.3.2.1 Property Owners

Between 1945 and 1948, the Territory of Hawaii acquired the initial Properties for use as an airport. Portions of the Properties were added or removed by EO through the 1980s. The Properties are currently under the control of the HDOTA.

According to State records, all TMKs within the airport boundary are currently owned by HDOTA.

3.3.2.2 Lessees

The HDOTA has its own system for establishing leases and subleases that may not correlate with parcel boundaries. Therefore, the information contained in the Real Property Assessment Division summaries may not accurately reflect the sub-lessees for individual parcels.

A list of the title holders is provided in Appendix B. The owners of the individual parcels are provided in Appendix E.

3.3 HDOTA ENVIRONMENTAL RECORDS

In addition to federal, state, and county records which are Summarized in Section 4. Additional environmental records and reports were obtained from the HDOTA. A summary of these records and reports is provided below.

3.3.1 Final Environmental Compliance Audit, Module III: Hawaii and Kauai County Airports (July 1994)

In 1994, an environmental compliance audit was performed (Ogden, 1994). Items of concern are summarized below by area. Based on the items of concern identified in the compliance audit, the areas identified below and in the corresponding figures are identified as areas or features evaluated as potentially contaminated or known contaminated areas.

RENTAL CAR AREA (FIGURE 8)

Alamo Rent-A-Car – 3276 Hoolimalima Place:

- One 10,000-gallon gasoline UST and one 550-gallon waste oil UST (DOH UST Facility ID 9-701714).
- Vehicle maintenance area and car washing. Car wash water runoff is allowed to flow to adjacent stormwater drains along Hoolimalima Place.
- Four 55-gallon drums of oil and assorted cleaning products stored on asphalt. No evidence of spillage or staining was noted.

Avis Rent-A-Car – 3259 Hoolimalima Place:

- One 10,000-gallon gasoline UST and one 550-gallon waste oil UST (DOH UST Facility ID 9-702492).
- Car wash water is collected in an OWS and recycled. Excess water is piped to an adjacent field in lieu of the airport sewer system at the request of HDOTA.
- Vehicle maintenance area.
- Four 55-gallon motor oil drums, 25 gallons of paint thinner, assorted cans of aerosols, paint thinner, and cleaners were stored in a flammable materials cabinet.
- No evidence of spillage or staining was observed at the time of the audit.

Budget Rent-A-Car – 3285 Hoolimalima Place:

- Two 12,000-gallon gasoline USTs, one 1,000-gallon new oil UST, and one 550-gallon waste oil UST (DOH UST Facility ID 9-701885).
- Vehicle maintenance area and car wash. Car wash water was recycled.
- Heavy staining was located on the floor of the room used to store motor oil. According to Budget personnel, adsorbent material used to pick up the oil is disposed of in the trash.

Dollar Rent-A-Car – 3273 Hoolimalima Place:

- One 10,000-gallon gasoline UST (DOH UST Facility ID 9-701892).

Hertz Corporation – 3250 Hoolimalima Place:

- A 12,000-gallon gasoline UST and a 550-gallon waste oil UST (DOH UST Facility ID 9-700058).
- Vehicle maintenance and car wash areas. A sump on the car wash area is connected to an OWS.
- A 55-gallon drum of cleaner and a 20-gallon solvent wash station.
- No evidence of spillage or staining was observed in the areas of chemical storage.

HELIPORT AREA (Figure 9)

BHP Petroleum (Currently Par Hawaii):

- Two 30,000-gallon ASTs located within secondary containment.
- A 5,000-gallon fuel MST.
- Four 55-gallon drums of waste fuel.
- Assorted one-gallon containers of motor oil and greases in a flammable materials cabinet.
- Some slight staining was noted in the fuel truck loading area.

AIR CARGO AND COMMUTER TERMINAL AREA (Figure 10)

Former Aloha Airlines:

- A 3,000-gallon Jet-A fuel MST.
- Vehicle maintenance area.
- Four 55-gallon drums of waste oil, one 55-gallon drum of degreaser, and one 55-gallon drum of oily wastes and used sorbent.
- Storage of motor oil, transmission fluid, aircraft hydraulic fluid, paints, and solvents.
- Several instances of small de minimis fluid spills (less than 5 gallons).
- Some staining on the maintenance area flooring.

Hawaiian Airlines:

- A 1,000-gallon Jet-A fuel MST.
- Vehicle maintenance area.
- Hazardous materials and wastes were stored on the paved area east of the Hawaiian Airlines facility. Six 55-gallon drums of oils and lubricants. Staining was evident in the area.

Former FEMA Storage Yard:

- The FEMA storage area contained approximately 50 to 60 generators and carts which were observed to be stained.
- Approximately 20 55-gallon drums stored on pallets along the fence line appeared to be leaking. The drums were of unknown contents and origin.

The exact location of the FEMA Storage area is unknown and therefore is not depicted on Figure 10. According to Chief Lemn of the LIH Fire Department and HDOTA Maintenance Baseyard personnel, the FEMA generators were likely stored in the area of the old terminal building (currently the Air Cargo and Commuter Terminal Area). The absence of storage location information is considered a data gap.

Former Century Aviation, Inc.:

A 5,000-gallon Jet-A fuel MST.

HDOTA MAINTENANCE BASEYARD AREA (Figure 11)

HDOTA Maintenance Baseyard:

- Vehicle maintenance area.
- Two 4,380-gallon USTs and one 6,380-gallon UST (DOH UST Facility ID 9-701778).

- Chemical storage, including fertilizers and herbicides in the groundskeeping shop; 55-gallon drums in the mechanic shop; and numerous 5-gallon containers of hydraulic oil, motor oil, and greases.
- 5-gallon containers of paints and 1-gallon containers of solvents and aerosols in a flammable materials cabinet.
- A 550-gallon diesel fuel AST associated with an emergency generator.
- A 650-gallon waste oil AST with evidence of spillage.
- Storage of AAAF firefighting foam. Ogden had identified the material as AAAF; however, they did not define the acronym in their report. It is possible that the material stored was AFFF.

GENERAL AVIATION AREA (Figures 12A and 12B)

Former ARFF Facility (Building 125):

- According to the Fire Station Chief, there had been no large fuel spills at LIH. At the time of Ogden's inspection, the largest spill encountered was a 50-gallon fuel spill at United Airlines; however, no specific information regarding the location and cleanup of the spill was provided.
- 6,545 gallons of AAAF (possibly AFFF) were stored on pallets outside the facility.
- Two 55-gallon drums of hydraulic oil, three 50-gallon pails of strippers and cleaners, and assorted 1-gallon and 5-gallon cans of motor oils and paints. In addition, one half-filled 55-gallon drum of waste oil was present at the facility.

FAA Facilities:

- A 1,000-gallon diesel fuel UST was located at the FAA ATCT (DOH UST Facility ID 9-703405).
- Westinghouse 37.5 kv wet transformers were used at the LIH VORTAC radar facility, which the FAA operated. A 550-gallon AST was also used to fuel the transformers.

Former Fly Kauai:

- A 300-gallon and a 3,800-gallon MST.
- The facility also generated waste oil; however, no additional information was provided regarding how the waste oil was stored or its disposal method.

Former Hertz:

- Hertz was previously a tenant in the old terminal building prior to moving to its rental car operation to 3250 Hoolimalima Place. An 8,000-gallon gasoline UST (DOH UST Facility ID 9-700435) was out of service at the time of Ogden's audit.

Former Kauai Island Tours:

- Kauai Island Tours operated a ground transportation/tour service out of a temporary structure and an office trailer. Evidence of spillage and ground staining was evident in the storage area of two 120-pound grease containers in the temporary structure and along the back fence line of the lot. Approximately 18 to 20 drums of grease and oil, observed to be leaking, were stored on pallets along the fence line. Approximately 20 used batteries were stacked on a pallet behind a trailer adjacent to the temporary structure.
- At the time of inspection, Kauai Island Tours contained three 8,000-gallon USTs which were approximately 17 years old. There were permit records on file for the tanks.
- Stormwater flowed into a private cesspool tank. The maintenance manager did not know if the cesspool had ever been pumped.

Former Kenai Aviation:

- Three 55-gallon drums of waste oil and one 55-gallon drum of hydraulic were stored on pallets in front of a Matson container. Heavy staining was noted in the immediate area. There were no drains in the area. Water and stormwater runoff flowed down to a grassy field.

Former Roberts Hawaii:

- Employees stated to Ogden that two old USTs containing gasoline were removed from the lot two to three years before the audit date; however, KFD records indicated a 2,000-gallon gasoline UST, a 6,000-gallon gasoline UST, and an 8,000-gallon gasoline UST were located on-site (DOH UST Facility ID 9-701861).
- Heavy staining was observed in the Roberts vehicle maintenance area. Approximately 80 used batteries were stored on the ground in a maintenance storage area. Roberts personnel stated that the batteries had been stored there for some time and were not recycled.
- Stormwater runoff flowed into a sump equipped with an oil/water separator. Heavy staining and sludge buildup around the sump were observed. Heavy staining was also observed around 55-gallon storage drums stored adjacent to the sump.
- Five drums of waste oils and fluids stored in the area appeared to be leaking or had been spilled.

Former Roto Wing Hawaii

- Roto Wing occupied a facility adjacent to the FAA ATCT and performed maintenance on helicopters for commercial clients.
- Four 55-gallon drums of waste oil were stored on pallets in an area fronting the hangar. Some slight staining was noted on the pavement.

Former Thrifty:

- The Thrifty facility was located in the area of the old terminal building.
- National Car Rental previously occupied the site. Two unknown capacity out of service gasoline USTs were located at the site.
- Two abandoned 55-gallon storage drums of unknown contents were leaking an oily liquid at the time of inspection.
- An abandoned car wash sump was also observed.

Former TransHawaiian Tours – 3601 Ahukini Road:

- The facility consisted of an office building, vehicle maintenance shop, bus parking lot, and storage areas.
- Two leaking 55-gallon storage drums along with heavy staining were observed in the vehicle maintenance area.
- Two 55-gallon drums of gasoline were stored on a pallet behind the office.

Former Tropical (aka Former Budget):

- The Tropical facility was located adjacent to the TransHawaiian Tours lot.
- The facility included a vehicle maintenance shop and a car wash area.
- A 10,000-gallon gasoline UST (DOH UST Facility ID 9-701558) provided gasoline to the facility fuel pump.
- Three 55-gallon drums of waste oil were stored on a pallet in the corner of the lot.

ARFF STATION AND FORMER TRAINING AREA (Figure 16)

Former ARFF Fire Training Area:

- The Fire Training area located near Taxiway “G” (currently, Taxiway “D”) was lined and fueled with a mixture of Jet-A fuel and water. The fuel was pumped in from a 6,000-gallon UST (DOH UST Facility ID 702403).

3.3.2 Kauai County Airports, Lihue Airport, Port Allen Airport, Environmental Compliance Audit (May 1999)

In 1998, an environmental compliance audit was performed (Kimura, 1999a). Based on the items of concern identified in the compliance audit, the areas identified below and in the corresponding figures are identified as areas or features evaluated as potentially contaminated or known contaminated areas.

MAIN TERMINAL AREA (Figure 6)

Former AMR:

- Used oil storage. Kimura did not report the type of storage or the quantity.

Former Bradley Air Service:

- An 8,000-gallon Jet-A MST

RENTAL CAR AREA (Figure 8)

Alamo Rent-A-Car – 3276 Hoolimalima Place:

- A 10,000-gallon gasoline UST (DOH UST Facility ID 9-701714).
- A car wash and sump.
- A parts washer.

Avis Rent-A-Car – 3259 Hoolimalima Place:

- A 10,000-gallon gasoline UST and a 550-gallon waste oil UST (DOH UST Facility ID 9-702492).
- Unknown quantities of 55-gallon drums containing new oil and used oil filters
- Car wash and sump unit.
- A parts washer.

Budget Rent-A-Car – 3285 Hoolimalima Place:

- Two 10,000-gallon gasoline USTs (DOH UST Facility ID 9-701885).
- A 1,000-gallon used oil AST and a 1,000-gallon new oil AST.
- Car wash and sump unit.
- An OWS.
- A parts washer.

Dollar Rent-A-Car – 3273 Hoolimalima Place:

- A 10,000-gallon gasoline UST (DOH Facility ID 9-701892).
- A car wash and a sump.

Hertz Rent-A-Car – 3250 Hoolimalima Place:

- A 10,000-gallon gasoline UST and a 550-gallon waste oil UST (DOH UST Facility ID 9-700058).
- A parts washer.

- A 55-gallon drum containing waste antifreeze.
- A car wash and sump unit.

HELIPORT AREA (Figure 9)

Former Tesoro - BHP (Currently Par Hawaii):

- Two 30,000-gallon Jet-A fuel ASTs.
- A 9,500-gallon Jet-A MST.
- An OWS.
- Several 55-gallon waste fuel drums.

AIR CARGO AND COMMUTER TERMINAL AREA (Figure 10)

Former Aloha Airlines:

- A 3,000-gallon Avgas MST.
- Two 55-gallon waste oil drums, one 55-gallon waste paint thinner drum, one 55-gallon waste Jet-A fuel drum, and one 30-gallon gasoline drum.

Federal Express:

- A 500-gallon waste oil AST.

Hawaiian Airlines:

- A 55-gallon waste oil drum.
- A parts washer.

Former Bradley Air Service:

- A 5,000-gallon Jet-A MST.

Former Century Aviation:

- A 5,000-gallon Jet-A MST.
- Two 55-gallon drums containing Jet-A fuel and water.

Former Fly Kauai:

- A 4,000-gallon Avgas AST.

HDOTA MAINTENANCE BASEYARD AREA (Figure 11)

HDOTA Maintenance Baseyard:

- A 4,000-gallon diesel UST, a 4,000-gallon gasoline UST, a 500-gallon diesel fuel UST, and a 2,000-gallon diesel fuel UST.
- A 550-gallon waste oil AST.
- A temporary 1,000-gallon diesel AST.
- Two 55-gallon drums of used thinner.
- Dark staining of soil directly beneath the used oil AST at HDOTA Maintenance.
- Paint-related material had been solidified with kitty litter and dumped onto plastic sheeting. Baseyard personnel did not know how or where the material was to be disposed of.
- Several 5-gallon pails filled with water and residual product were overflowing into the surrounding grass.
- A parts washer.

GENERAL AVIATION AREA (Figures 12A and 12B)

Former Fly Kauai:

- A 10-gallon steel waste oil storage container.

Former K&C Aviation:

- Several 55-gallon drums containing unused solvent, waste oil, and waste fuel.
- A parts washer.

Former Rotor Wing:

- Several 55-gallon drums of used oil and several 55-gallon drums of waste fuel.
- A parts washer.

Former Safari Aviation:

- A partially filled 55-gallon drum containing an unknown liquid was observed adjacent to a Matson container.

Former South Seas Helicopters:

- Several unlabeled and covered 5-gallon pails of liquid.
- Small quantities of thinner and petroleum-based materials were stored in a manner that may have been considered “poor housekeeping.”
- A 55-gallon used oil drum and a 10-gallon drum of Jet-A fuel. In addition, two 55-gallon drums that were rusty and accumulating rainwater were observed.

- A parts washer.

FORMER INDUSTRIAL AREA (Figure 14)

Former Masterworks Site:

- Subsurface petroleum contamination was identified along the northwest end of the airport at the former Masterworks site. Two cesspools were observed at depths of approximately 20 feet bgs. One of the holes was sampled, with the results indicating that the sample contained elevated levels of BTEX. This site is discussed further in Section 4.

ARFF STATION AND FORMER TRAINING AREA (Figure 16)

ARFF Station and Former Training Area:

- 6,000-gallon Jet-A UST (DOH UST Facility ID 9-702403, at the ARFF Training Facility).
- Two 550-gallon unregistered USTs containing used oil were identified at the Former ARFF Station. It is possible that Kimura incorrectly identified the OWSs as USTs.
- An OWS that collected accumulated water and Jet-A fuel in the fire training pit and a holding pond (at the ARFF Training Facility).

3.3.3 Lihue Apron Site Preparation and Road Realignment Project – Former Roberts Hawaii and TransHawaiian Tours Facilities

In August and September 2000, two dry wells were closed at LIH. One dry well was located at the former Roberts Hawaii facility and the second dry well was located at the former TransHawaiian Tours facility, both of which were located on adjacent lots in the General Aviation Area (RMTC, 2001, Figure 5H). During the dry well closures, releases were discovered and reported to the DOH HEER office. The releases were assigned case numbers 20000831-1317 and 20000831-1434, respectively, and are discussed further in Section 4.2.1.7. In addition, this site was identified as Ahukini Road, NRC Report No. 540665 in the EDR Report. A summary of the information within the EDR report is included in Section 4.1.6.3.

An estimated quantity of 2,000 gallons of waste oil was released into and from the injection wells. The excavation of the TransHawaiian Tours dry well involved removing over 550 cubic yards of contaminated soil. The Roberts Hawaii dry well excavation involved the removal of approximately 500 cubic yards of contaminated soil. Two composite soil samples were collected from the TransHawaiian Tours excavation, and one composite sample was collected from the Roberts Hawaii excavation. The samples were analyzed for TPH-d, TPH-o, PCBs, PAHs, and reactive sulfides, which were not detected. The excavations were backfilled with low-strength concrete and compacted soil.

The contaminated soil from each excavation was moved to a SMF located at the northeastern portion of the Properties near Ahukini Landing. Waste characterization samples were collected

and were analyzed for VOCs, SVOCs, and eight RCRA metals. The results of the analysis indicated the presence of primarily petroleum hydrocarbons. Based on the sampling results, the soils were left in the treatment cells at the SMF for on-site biodegradation of the hydrocarbons. The soils within the SMF were tilled on a bi-weekly basis to facilitate the degradation. In January 2001, soil samples were collected from the stockpiled soils and were analyzed for oil and grease hydrocarbons, TPH-d, TPH-g, BTEX, and PAHs. Based on the analysis results, the soils from all but one of the treatment cells were used for fill material on the project. The soils that exceeded DOH action levels were to be disposed of at a landfill. ESI was not provided with copies of documentation for these soils and their ultimate disposal at a landfill. ESI considers this site to be a known contaminated area.

3.3.4 Apron, Commuter Building and Cargo Facilities, Lihue Airport Complex (State Project No. AK1046-12

ESI was provided with a set of as-built CAD drawing for the Apron, Commuter Building and Cargo Facilities construction project (State Project No. AK1046-12) at the LIH Airport Complex. A review of these drawings shows that two UST systems were removed as part of the project. Each system contained one 4 feet diameter by 12 feet long (approximately 1,100-gallon) UST and one 4 feet diameter by 6 feet long (approximately 550-gallon) UST. One UST system was located east of the former ARFF Station (Building 125), and one UST system was located southeast of the former station. The locations of these tanks are depicted in Figure 12A. A closure report was not located for either of these UST systems, nor were any DOH records or UST Facility IDs identified the tanks. Although the information is not definitive, the tanks are listed as removed on the as-built CAD drawing. It is unknown if there were releases from these USTs. ESI considers each of the UST system locations a potentially contaminated area.

SECTION 4 – RECORDS REVIEW AND PREVIOUS FINDINGS

A summary of the federal, state, and county records that were reviewed is provided below. This summary is based on information contained in the EDR report (EDR, 2019) and information in state and county records and environmental investigative reports regarding the Properties.

4.1 FEDERAL REGULATORY RECORDS

Federal regulatory records were reviewed for evidence of environmental conditions at the Properties and nearby parcels. Environmental conditions identified by regulatory records were evaluated based on the location of the site and the potential that the environmental condition could impact the Properties.

4.1.1 NPL Sites

There are no NPL sites or delisted NPL sites within one mile of the Properties.

4.1.2 CERCLIS and CERCLIS-NFRAP Sites

There are no CERCLIS or CERCLIS-NFRAP sites within one-half mile of the Properties.

4.1.3 RCRA CORRACTS and TSD Sites

There are no RCRA CORRACTS sites or TSD facilities within one-half mile of the Properties.

4.1.4 RCRA Generators List

Based on information contained in the EDR report, there are no registered RCRA LQGs, SQGs, or CESQGs located at the Properties or the adjoining sites. There is one SQG located at the Properties, which is the TSA. The TSA generates ignitable hazardous wastes, corrosive hazardous waste, reactive hazardous waste, cadmium, lead, mercury, methyl ethyl ketone, acetone, dichloromethane. Based on the records review, no violations were identified and therefore, it is unlikely that the identified RCRA Generator has adversely impacted the Properties.

4.1.5 Federal Institutional Control/Engineering Control Sites

The Properties do not have any federal institutional or engineering controls or such controls on parcels within one-half mile.

4.1.6 ERNS Sites

There are three locations on the Properties listed as ERNS sites.

4.1.6.1 3901 Mokulele Loop – NRC Report No. 780269

According to the EDR report, a spill occurred on November 22, 2005, while refueling a helicopter at "Air Services," a private enterprise located at the Lihue Airport. Approximately 50 gallons of jet fuel (JP-8) was released, which was contained around the ramp. Based on the estimated quantity of jet fuel released (50 gallons) and the reported containment around the ramp, the release is not considered to have adversely affected the environmental integrity of the Properties.

4.1.6.2 3901 Mokulele Loop – NRC Report No. 1072501

According to the EDR report on January 29, 2014, 20 gallons of jet fuel spilled from a commercial aircraft owned by Alaska Airlines Inc. at Gate 9 due to a broken gauge. The spill was released onto concrete, and the weather conditions included rain. It was estimated that approximately one gallon of jet fuel entered a storm drain. Clay absorbent, pads, and socks were used to contain and clean the spill. Based on the estimated quantity of jet fuel released (20 gallons) and the reported containment and clean-up, the release is not considered to have adversely affected the environmental integrity of the Properties.

4.1.6.3 Ahukini Road – NRC Report No. 540665

Based on information contained in the EDR report and discussed in Section 3.3.3, in August 2000, approximately 2,000-gallons of waste oil were discovered during the closure of a UIC well (dry well). The DOH was notified, and a contractor was hired to excavate soil as part of the remedial action. The Roberts Hawaii and TransHawaiian Tours facilities are considered known contaminated areas.

4.2 STATE REGULATORY RECORDS

State regulatory records were reviewed for evidence of environmental conditions at the Properties and nearby sites. Environmental conditions identified by regulatory records were evaluated based on the location of the site and the potential that the environmental condition could impact the Properties.

4.2.1 DOH Records

Based on ESI's review of DOH SHWB and HEER Office records and the EDR report, there have been several hazardous material incidents at the Properties. These incidents are summarized below. There are no other documented hazardous material incident sites located within one-half mile of the Properties. All current and former UST locations are considered either a known contaminated area or a potentially contaminated area.

4.2.1.1 Runway Area (Figure 5)

LIH FAA VORTAC (DOH UST Facility ID 9-703405)

In May 1992, American Processing Co., Inc., on behalf of the FAA, permanently closed and removed a 1,000-gallon UST system at the LIH VORTAC facility. The UST system was intact upon removal with no visual or olfactory indications of a release. Two soil samples were collected from native soil beneath both ends of the 1,000-gallon UST. The samples were analyzed for TPH-g, BTEX, and lead, none of which were detected in either sample. Groundwater was not encountered in the excavation (AMPROCO, 1992).

The DOH issued a determination of *No Further Action* for the site on March 22, 2000 (DOH, 2000a).

In addition, according to information provided by the HDOTA, a 500-gallon gasoline UST (DOH UST Facility 9-703405) is associated with LIH. However, a review of the DOH database list indicates that the tank was associated with the FAA South Kauai VORTAC. The FAA South Kauai VORTAC is located at Latitude 21°54'01.413" N and Longitude, 159°31'43.943" W (AirportGuide, 2021) and is approximately 13 miles west-southwest of the Properties. In addition, ESI confirmed with FAA personnel at LIH that the South Kauai VORTAC is not located on the Properties.

4.2.1.2 Main Terminal Area (Figure 6)

Main Terminal Emergency Generator (DOH UST Facility ID 9-701778)

One 2,000-gallon diesel fuel UST is associated with the Main Terminal Emergency Generator, which was installed in 1987. There are no documented releases associated with this tank.

Airport Lihue Kauai Loading Cart White Powder Anthrax Scare (Case No. 20011013-0955)

On October 13, 2001, the DOH was notified of a suspicious white powder found on carted luggage leaving a plane. Airport personnel requested assistance in identifying the substance. The fear was the possibility that a bioterrorism agent, anthrax, could be present. The DOH issued a determination of *No Further Action* for the incident. This incident is unlikely to pose a risk to the environmental integrity of the Properties.

4.2.1.3 Rental Car Area (Figure 8)

Alamo – 3276 Hoolimalima Place (DOH UST Facility ID 9-701714)

A 10,000-gallon gasoline double-walled FRP UST and a 550-gallon double-walled FRP used oil UST were installed in August 1987 (DOH Facility ID No. 9-701714). The 10,000-gallon UST is currently in use, and the 550-gallon UST is registered temporarily out of service according to a June 2016 underground storage tank permit application. ESI cannot locate any records explaining the reason for the temporary closure.

A confirmed release notification was submitted in September 1999 due to line tightness test failure and subsequent leak identified at the shear valve under dispenser 3. Upon a confirmatory sample

identifying levels of COPCs above the DOH EALs in effect at the time, Release ID 990239 was assigned to this facility. Contaminated soil was excavated and stockpiled, and the remaining soil in the ground was determined to meet the DOH soil action levels in effect at that time (Kimura, 1999b). The excavated area was then backfilled with clean fill. Upon receipt of disposal documentation of the excavated contaminated soil, the DOH issued a determination of *No Further Action* in June 2000 (DOH, 2000b).

In 2005, renovations to relocate the dispenser islands were completed at the site. The work included removing and permanently closing a section of double-walled fiberglass underground piping. A release was confirmed by a sample collected from the soil beneath dispenser 2 and reported to the DOH in August of 2006 (Release ID 050041). The sample exceeded TPH-g and BTEX Tier 1 EALs in effect at that time (CPR, 2005). ESI has not been able to locate any additional site assessment documents or a copy of the DOH *No Further Action* determination letter associated with Release ID 050041; however, the DOH database indicates a determination of *No Further Action* was issued for this release.

Based on the documented releases and subsequent response activities, ESI considers the site a known contaminated area.

Avis – 3259 Hoolimalima Place (DOH UST Facility ID 9-702492)

There were two double-walled FRP USTs installed in 1989 (DOH UST Facility ID 9-702492). The 10,000-gallon gasohol UST is currently in use. The 550-gallon used oil UST was removed in March 2005. A review of the closure report shows that one soil sample contained 370 mg/kg of TPH-o, which was below the DOH EAL of 5,000 mg/kg in effect at the time and is also below the current action level of 500 mg/kg (MFA, 2005). In August 2005, the DOH issued a *No Further Action* determination for the release (DOH, 2005a). ESI considers the site a known contaminated area.

Budget – 3285 Hoolimalima Place (DOH UST Facility ID 9-701885)

There are two 10,000-gallon double-walled FRP gasoline USTs in use at the facility. The tanks are registered as containing 87 octane with 10 percent ethanol (DOH Facility ID 9-701885). The tanks were installed in March 1988 and are currently in use. There was one 1,000-gallon used oil UST and one 1,000 gallon lube oil UST associated with the facility, which were also installed in March 1988 that have been removed and replaced with ASTs.

The removal of the used oil and lube oil USTs was performed in 1997. At the time of the removal, visual contamination was identified at the remote fill to the used oil tank and reported in April 1997 as a confirmed release (WCL, 1997). Release ID 970077 was assigned by the DOH to this case. Thirteen soil samples were collected as part of the lube oil and used oil UST closures. The sample depths ranged from 0.5 feet to 10 feet bgs. TPH-o was detected in two samples at concentrations equal to or above the DOH Tier 1 action level in effect at the time.

The two soil samples containing TPH-o at levels exceeding the DOH action levels were associated with the used oil remote fill port, and the impacts were attributed to overfill spillage. The soil in the area of the fill port was excavated and thermally treated offsite. Other samples

resulting in low TPH-o concentrations were indications of releases most likely attributed to minor spills or minor piping leaks. In September 1997, the DOH issued a *No Further Action* determina*tion* in response to the closure report and corresponding release response activities (DOH, 1997a). ESI considers this site to be a known contaminated area.

Dollar – 3273 Hoolimalima Place (DOH UST Facility ID 9-701892)

There was one 10,000-gallon gasoline UST installed in 1987 at this facility(DOH UST Facility ID 9-701892). A release notification submitted in September 2004 stated that monthly inventory reconciliation records for August 2004 indicated a release likely occurred, and subsequently, the DOH assigned Release ID 040069. The tank was taken out of service, gasoline was removed, and final closure activities began in December 2004. Upon removing the UST system, the system was observed to be intact, with no visual soil staining or olfactory detection of petroleum vapors observed. Groundwater was not encountered during the removal activities. A total of nine confirmation soil samples were collected from the UST area ranging from depths of 12 feet bgs to 1.5 feet bgs. None of the nine confirmation soil samples contained detectable concentrations of TPH-g; therefore, it was recommended that no further action was necessary for this facility (BES, 2005). The DOH issued a determination of *No Further Action* in May 2005 (DOH, 2005b).

Hertz – 3250 Hoolimalima Place (DOH Facility ID 9-700058)

A 12,000-gallon gasoline UST and a 550-gallon used oil UST installed in May 1987 are currently in use at the facility (DOH Facility ID No. 9-700058). Based on the review of DOH documents, in July 2017, a suspected release (Release ID 180012) from the 12,000-gallon UST was reported by a DOH inspector during a routine inspection due to an alarm indicating gasoline was present in the interstitial space of the double-walled UST. Per DOH requirements, the tank system was taken out of service, and a tank and line tightness test was performed in August 2017. The tightness test indicated the piping passed; however, the UST failed. Therefore, a site assessment was completed to assess a potential release of gasoline in the vicinity of the UST. In September 2017, Tetra Tech collected soil gas screening samples from the area in the vicinity of the UST and dispensers. Two sets of soil gas samples were collected from five locations at a depth of 3 feet bgs and 10 feet bgs. The samples were analyzed for BTEX, TPH-g, MTBE, and TBA as agreed upon with DOH. None of the soil vapor sample results exceeded the DOH EALs for commercial/industrial use. Tetra Tech concluded the results of the soil vapor sampling verified that there was no significant fuel release at the UST and only minor concentrations of petroleum constituents in soil vapor were present at the site. Based on the result, Tetra Tech noted that no further remedial action was warranted; however, they recommended that the UST pass tightness testing prior to being placed back into service or be replaced (Tetra Tech, 2017).

ESI did not locate any confirmed release documents associating a Release ID assigned to this location or any documented response from DOH for no further action required. A review of the DOH UST database shows that Release ID 180012 is assigned to the facility. Furthermore, ESI did not locate any records indicating a passed tank tightness test prior to this UST being returned to service. DOH documents indicate a subsequent routine DOH compliance inspection was performed in March 2018, indicating the system was in use with no significant operational or suspected release concerns identified at that time. Based on COPCs detected in the soil vapor at the site, ESI considers the site a known contaminated area.

4.2.1.4 Air Cargo and Commuter Terminal Area (Figure 10)

Lihue Airport Avgas AST

In December 2001, JRHA contracted ESN to collect soil samples surrounding the Air Service Hawaii Avgas AST. The investigation activity was performed as part of a real estate evaluation and was not performed in response to a reportable release. Soil samples were collected from six boring locations around the AST and were analyzed for TPH as Avgas and BTEX. In response to the results, JRHA contracted the Dawson Group to collect additional samples in January 2002. The results of the investigations revealed that concentrations of benzene and ethylbenzene exceeded the DOH Tier I EALs in use at the time. Based on the results of field observations, field measurements, and laboratory testing, JRHA concluded that the soil contamination associated with the AST was limited to the area within a 10-foot radius of the AST fill pipe at a depth of less than 15 feet bgs (JRHA, 2002).

Utilizing Tier II Groundwater-Protection Soil Action Levels generated for the site and after applying a Dilution Attenuation Factor, ENPRO developed site-specific Tier II Action levels for benzene and ethylbenzene and proposed the installation of a protective concrete cap over the impacted area (ENPRO, 2003).

Following the review of all pertinent information and data submitted regarding the investigation performed in response to the identified release, on September 21, 2005, the DOH HEER Office issued a determination of *No Further Action* for the Avgas AST release (DOH, 2005c). ESI considers this site to be a known contaminated area.

4.2.1.5 HDOTA Maintenance Baseyard Area (Figure 11)

HDOTA Maintenance Baseyard (DOH UST Facility ID 9-701778)

There is one 4,000-gallon diesel fuel UST and one 4,000-gallon gasoline UST currently in use at the HDOTA Maintenance Baseyard facility. According to DOH records both USTs were installed in 1990.

An additional four USTs were located at this facility and have been permanently closed and removed. In August 1998, FOPCO permanently closed and removed a 4,300-gallon gasoline UST (Tank 1), a 4,300-gallon diesel fuel UST (Tank 2), a 6,380-gallon diesel fuel UST (Tank 3), and a 310-gallon used oil UST (Tank 4). During the project, no visual soil staining or olfactory detection of petroleum vapors was observed. Field screening performed during closure activities indicated hydrocarbon levels of less than 5 ppm for the diesel fuel and gasoline USTs and 25 to 40 ppm for the used oil UST (FOPCO, 1998).

Seventeen soil samples were collected during closure activities. The samples associated with Tank 1, 2, and 3, the piping, and the soil pile were analyzed for TPH-g and TPH-d. Based on the detection of TPH-d in a sample from beneath the fill port for Tank 3, it was additionally analyzed for BTEX and the PAHs acenaphthene, naphthalene, fluoranthene, and benzo[a]pyrene. The samples from Tank 4 were analyzed for TPH-o&g. Except for one sample from Tank 3, TPH-g

and TPH-d were reported as not detected. TPH-d was detected in the sample from beneath the fill port at a concentration of 89 mg/kg. No BTEX or PAHs were detected in the Tank 3 fill port sample. TPH-o&g were not detected in the used oil tank samples (FOPCO, 1998). Two releases identified during the UST closure were reported to the DOH. Release ID 980245 was assigned to the release identified from the 6,380-gallon diesel fuel UST (Tank 3). Release ID 980256 was assigned to the 310-gallon used oil UST (Tank 4) based on the field indications of a suspected release. The DOH issued a determination of *No Further Action* for Release ID 989245 in January 2001 (DOH, 2001) and for Release ID 980256 in April 2004 (DOH, 2004).

4.2.1.6 General Aviation Area (Figures 12A and 12B)

This area underwent extensive renovations and reconfiguration in the late 1980s to mid-1990s. Numerous USTs were removed during multiple construction projects, and closure documentation for some USTs is limited. In addition, multiple unregistered or previously undocumented tanks were identified and removed during the various construction projects. Therefore, USTs may still be present in the area associated with its prior use.

Airfield Emergency Generator (DOH UST Facility ID 9-702554)

There is one 550-gallon double-wall FRP diesel fuel UST that was installed in August 1991 and is currently in use at the airfield emergency generator. All available documents appear to indicate that this tank is operating in compliance.

FAA ATCT (DOH UST Facility ID 9-703405)

The 1,000-gallon diesel fuel UST located at the FAA ATCT (DOH UST Facility ID 9-703405) was removed in September 1998. Laboratory analysis of four soil samples collected during the closure indicated TPH-d concentrations ranging from 23 to 1,500 mg/kg. A Release ID 990171 was subsequently assigned to this facility (Volpe, 1998). No BTEX was detected above method reporting limits, and TPH-d levels were below the DOH EALs in effect at the time. However, the concentrations detected in one sample exceed current DOH Tier I EALs. In March 1999, the DOH issued a *No Further Action* determination for the release (DOH, 1999).

Former ARFF Station (Building 125, DOH UST Facility ID 9-701572)

A 10,000-gallon diesel fuel UST was associated with the former ARFF Station (Building 125) facility. No closure assessment report could be located for the tank removal. Although the evidence that the UST was removed is not definitive, the DOH lists the UST as permanently out of use as of September 1, 1990. ESI considers this area a potentially contaminated area.

Former Gray Line (DOH UST Facility ID 9-701849)

One 4,000-gallon kerosene UST, one 10,000-gallon diesel fuel UST, and one 3,000-gallon kerosene UST are associated with this facility. Based on information obtained as part of the completion of this report, Gray Line occupied a leased lot that was located west of the FAA ATCT and south of the current Airfield Generator Building. A July 1991 closure report produced by Clayton Environmental Services included the removal of 18 USTs (DOH UST Facility ID 9-703830) as part of the Relocation of Generator Building and Utility Improvements Project (State Project No. AK1046-17) being performed in the area that time (Clayton, 1991b). The tanks at the

Gray Line facility were identified in the Clayton report as Tanks 5, 6, and 7 and were noted as two 4,000-gallon gasoline USTs and one 11.000-gallon diesel fuel UST. There were visible signs of stained soil and strong petroleum hydrocarbons odors observed during the closure activities. Over-excavation of the visibly contaminated soil was performed. Based on the release identified during closure activities, additional subsurface investigation activities were conducted as part of a project-wide investigation for State Project No. AK1046-17 (Release ID 910043). The details of the subsurface investigation are discussed in further detail under the Lihue Airport Renovation Project (DOH UST Facility ID 9-703830).

Per the Clayton report, a total of 18 soil samples were collected associated with the closure of the tanks and were analyzed for TPH-g, TPH-d, and BTEX. TPH-g results ranged from not detected to 540 mg/kg. TPH-d results ranged from not detected to 4,200 mg/kg. BTEX results ranged from not detected to 0.7 mg/kg for benzene, not detected to 0.5 mg/kg for toluene, not detected to 0.32 mg/kg for ethylbenzene, and not detected to 2.3 mg/kg for xylenes. TPH-g and TPH-d were over DOH action levels in effect at the time. The DOH assigned Release ID 910043 to all USTs within the renovation area with confirmed releases, including the former Gray Line USTs. The DOH issued a *No Further Action* determina*tion* for the release in July 1997 (DOH, 1997b). ESI considers this area a known contaminated area.

Former Avis (DOH UST Facility ID 9-700432)

There was a 500-gallon used oil UST (Tank B-1) and a 10,000-gallon gasoline UST (Tank B-2) with unknown installation dates associated with the former Avis facility (DOH Facility ID No. 9-700432). Records indicate the USTs were removed in November 1996 as part of the Lihue Airport Apron and T-Hangars project (State Project No. AK1046-22). DOH records included a January 1997 closure report and subsequently confirmed release notification submitted in April 1998. Release IDs 980086 and 980087 were assigned to the USTs.

During the excavation of the USTs, no petroleum odors were noted, nor were other indications of petroleum contamination observed in the soils around the tanks and piping system other than at the fill pipe to the used oil tank (EKNA, 1997). No groundwater was encountered in the lower portion of the excavations. The used oil tank had light soil staining and a slight odor around the fill pipe, with an initial soil sample containing TPH-o, detected at a concentration of 6,900 mg/kg. A subsequent soil sample excavated near the fill pipe indicated TPH-o at a concentration of 2,400 mg/kg, which was below DOH action levels for soil in effect at the time of closure; however, the result exceeds the current DOH Tier I EAL. No discoloration or odor of soil around the gasoline UST was encountered at the time of closure. A soil sample indicated TPH-g at a concentration of 54.0 mg/kg. A subsequent sample indicated TPH-g at a concentration of less than the method reporting limit of 25 mg/kg (also below current DOH EALs). EKNA presumed that all the in-situ soil that would have produced a detectable concentration of TPH-g was consumed during the collection of the verification sample. In April 1998, the DOH issued a determination of *No Further Action* (DOH, 1998). Based on the detections of COPCs identified during the closure assessment, ESI considers the site a known contaminated area.

Former Budget (DOH UST Facility ID 9-701558)

As part of a closure project for eight out of service USTs performed for Lihue Airport Apron & T-Hangars (State Project No. AK1046-22), one 10,000-gallon gasoline UST (Tank C-2) and one 4,000-gallon used oil UST (Tank C-3) were removed in November 1996 (EKNA, 1997). During the excavation of the USTs, the work area was continuously monitored both visually to identify any stained soils or free product and with a PID to determine the presence of hydrocarbon vapors. During the excavation of the USTs, no petroleum odors were noted, nor were other indications of petroleum contamination observed in the soils around the tanks and piping systems. Additionally, no groundwater was encountered in the lower portion of the excavations. Soil samples collected at the time of closure indicated no COPCs were detected at concentrations above the current DOH EALs or those in effect at the time of closure. A release was not reported to the DOH as required by regulation. In April 1998, the DOH issued a determination of *No Further Action* (DOH, 1998). In addition, the DOH performed a routine inspection in June 1997 to document that the tanks were removed. Based on COPCs being identified in the soil during the closure of the UST, ESI considers the site a known contaminated area.

Former Hertz (DOH UST Facility ID 9-700435)

As part of a closure project for eight out of service USTs performed for Lihue Airport Apron & T-Hangars (State Project No. AK1046-22), an 8,000-gallon gasoline UST (Tank C-1) was removed in November 1996 (EKNA, 1997). During the excavation of the UST, the work area was continuously monitored both visually to identify any stained soils or free product and with a PID to determine the presence of hydrocarbon vapors. During the excavation of the UST, no petroleum odors were noted, nor were other indications of petroleum contamination observed in the soils around the tanks and piping systems. Additionally, no groundwater was encountered in the lower portion of the excavations. A review of the soil analytical data shows that several COPCs were detected at concentrations below the DOH EALs in effect at the time and the current DOH Tier I EALs. No DOH Release ID was assigned for this tank; however, because the UST removal was associated with the removal of USTs at Avis (DOH Facility ID 9-700432), Budget (DOH Facility ID 9-701558), and Kauai Island Tours (DOH Facility ID 9-701758) the Hertz facility was included in the April 1998 DOH *No Further Action* determination (DOH, 1998). Based on COPCs being identified in the soil during the closure of the UST, ESI considers the site a known contaminated area.

Former Tropical (DOH UST Facility ID 9-703243)

According to the DOH UST database, an unknown capacity UST was associated with the former Tropical facility. Records received from the DOH indicate that Tropical was a prior lessee of the same site as the Former Hertz (DOH UST Facility 9-700435). It is unclear from the records received whether Tropical and Hertz operated their own UST at the site or operated the same UST (Tank C-1) registered under two different DOH UST Facility IDs. If Tropical operated its own UST, a closure report for the UST was not provided in the records received from the DOH.

Former Kauai Island Tours (DOH UST Facility ID 9-701758)

As part of a closure project for eight out of service USTs performed for Lihue Airport Apron & T-Hangars (State Project No. AK1046-22), one 10,000-gallon gasoline UST (Tank A-1), one 6,000-gallon gasoline UST (Tank A-2), and one 10,000-gallon diesel fuel UST (Tank A-3) were removed

at the Kauai Island Tours facility (EKNA, 1997). During the excavation of the USTs, the work area was continuously monitored both visually to identify any stained soils or free product and with a PID to determine the presence of hydrocarbon vapors. During the excavation of the USTs, no petroleum odors were noted, nor were other indications of petroleum contamination observed in the soils around the tanks and piping systems. Additionally, no groundwater was encountered in the lower portion of the excavations. A review of the soil analytical data shows that several COPCs were detected at concentrations below the DOH EALs in effect at the time and the current Tier I EALs. No DOH Release ID was assigned for these tanks; however, because the UST removal was associated with the removal of USTs at Avis (DOH Facility ID 9-700432), Budget (DOH Facility ID 9-701558), and Hertz (DOH Facility ID 9-700435) the Kauai Island Tours facility was included in the April 1998 DOH *No Further Action* determination (DOH, 1998). Based on COPCs being identified in the soil during the closure of the UST, ESI considers the site a known contaminated area.

Former Kenai Air Hawaii (DOH UST Facility ID 9-700638)

According to DOH database information, one 2,000-gallon gasoline UST, one 2,000-gallon diesel fuel UST, and one 1,000-gallon gasoline UST are associated with the Kenai Air Hawaii facility. No closure assessment report could be located for the tank removals. DOH lists the USTs as permanently out of use as of June 1, 1990. ESI considers this area a potentially contaminated area.

Former Dollar (DOH UST Facility ID 9-700623)

One 10,000-gallon gasoline UST (DOH Facility ID No. 9-700623) installed in approximately May 1982 was removed in 1989. No soil samples were collected at the time of removal. In March 1990, FOPCO produced a closure assessment document stating the tank was removed in July 1989. However, a February 1990 letter prepared by MLA Associates stated the tank was removed on June 3, 1989, and was associated with State Project No. AK1046-12. As part of the closure assessment, the excavation was re-opened, soil samples were collected from the fill pipe end and on the side of the excavation, and the samples were analyzed for BTEX and TPH-g. BTEX concentrations ranged from less than 0.005 mg/kg to 0.010 mg/kg, and TPH-g was reported at a concentration of less than 5 mg/kg. There was no visual evidence of contamination in the excavation or odor. The tank, which was still available for inspection at another location, was visually inspected and found to be in good condition. It is unclear if the UST system included piping and a dispenser, which is typical at facility configurations of this type. Because the closure assessment did not include samples of any piping and dispenser locations, a gasoline release from these locations cannot be ruled out. Therefore, ESI is considering this location as a potentially contaminated area.

Lihue Airport Renovation Project aka Relocation of Generator Building and Utility Improvements Project (State Project No. AK1046-17, DOH UST Facility ID 9-703830)

The DOH database lists seven USTs associated with the Relocation of Generator Building and Utility Improvements Project (State Project No. AK1046-17) under DOH Facility ID 9-703830. The USTs consisted of two 550-gallon gasoline USTs, one 1,000-gallon gasoline UST, two 2,000-gallon gasoline USTs, and two 8,200-gallon gasoline USTs. Based on the review of documents completed during this report, these USTs were likely unregistered with the DOH at the time of

closure or could not be reconciled with DOH or HDOTA records and assigned to an existing DOH UST Facility ID. According to the DOH database, these USTs were listed as permanently out of use in February 1991.

Based on the Clayton UST Closure Report (Clayton, 1991b) and other records reviewed during the completion of this report, the following tanks correlate to the USTs listed under DOH UST Facility ID 9-703830.

- Tank 8 – A 550-gallon gasoline UST
- Tank 9 – A 550-gallon gasoline UST
- Tank 12 – A 2,000-gallon gasoline UST
- Tank 13 – A 1,000-gallon gasoline UST
- Tank 14 – An 8,200-gallon gasoline UST
- Tank 15 – An 8,200-gallon gasoline UST
- Tank 16 – A 2,000-gallon gasoline UST

On February 19, 1991, Tanks 8 and 9 were removed and were described as intact at the time of removal. Strong hydrocarbon odors were observed in the excavation, and soil samples collected during the excavation activities contained PID readings of 50 to 100 ppm. Six soil samples were collected and analyzed for TPH-g and BTEX. TPH-g concentrations ranged from not detected to 540 mg/kg. No benzene was detected. Toluene concentrations ranged from not detected to 1.1 mg/kg. Ethylbenzene concentrations ranged from not detected to 3.6 mg/kg. Xylenes concentrations ranged from not detected to 28 mg/kg. Due to reported levels over DOH action levels in effect at that time, the DOH assigned Release ID 910043.

On February 20, 1991, Tank 12 was removed and was described as intact at the time of removal. No hydrocarbon odors or soil staining were observed in the tank excavation bottom or sidewalls. Two soil samples were collected during the closure of the tank and were analyzed for TPH-g and BTEX. The results for the samples were reported as not detected (Clayton, 1991b). It is possible Tank 12 is the 2,000-gallon gasoline tank registered to National under DOH UST Facility ID 9-703085, which is discussed in additional detail below.

On February 22, 1991, Tank 13 was removed and was described as intact at the time of removal. No hydrocarbon odors or stained soil were observed in the tank excavation bottom or sidewalls. Two soil samples were collected and analyzed for TPH-g and BTEX. The results of the samples were reported as not detected for the COPCs.

On February 22, 1991, Tanks 14 and 15 were removed and were described as intact at the time of removal. A slight hydrocarbon odor was observed in the tank excavation bottom. It was reported that low PID readings were detected in the soil at the time of the excavation. Four soil samples were collected and analyzed for TPH-g and BTEX. Only toluene was detected at concentrations ranging from not detected to 0.011 mg/kg, which was below DOH action levels in effect at the time and the current DOH Tier I EALs.

On February 26, 1991, Tank 16 was removed and was described as intact at the time of removal. No visible staining was observed in the tank excavation bottom or sidewalls. However, hydrocarbon odors were noted, and PID readings ranged from 0 to 300 ppm. Four soil samples were collected and analyzed for TPH-g and BTEX. TPH-g was detected in one soil sample at a concentration of 0.6 mg/kg, which was below DOH action levels in effect at the time and the current DOH Tier I EALs.

Following the closure of the USTs under State Project No. AK1046-17, a subsurface investigation was initiated for Tanks 5, 6, 8, and 9, the filler pipes associated with Tanks 5, 6, and 7, and the fuel dispenser for Tank 3 (Release ID 910043). Contaminated soil had been over excavated during the closure activities and in some areas to a maximum depth of 20 feet bgs. The soil was placed into treatment beds. The final deposition of the contaminated soil is unknown.

As part of the subsurface investigation activities, 41 soil samples were collected, and ten monitoring wells were installed. Samples collected during the additional investigation were analyzed for TPH-g, TPH-d, BTEX, and lead as appropriate. The results of the subsurface investigation indicated soil contamination above the DOH action levels in effect at the time extended to depths of 26 feet bgs. Benzene was detected in the groundwater over the DOH action level in effect at the time. Additional remedial investigation activities and continued groundwater monitoring we recommended by Clayton. ESI was not provided with any reports documenting these additional investigation activities, and the final deposition for the contaminated soil is unknown. In July 1997, The DOH issued a determination of *No Further Action* for Release ID 910043 (DOH, 1997b).

Former Murray Air Ltd. (DOH UST Facility ID 9-701789)

According to DOH database information, one 6,250-gallon gasoline UST is associated with the Murray Air Ltd. facility. No closure assessment report could be located for the tank removal. The DOH lists the UST as permanently out of use as of February 15, 1990. ESI considers this area a potentially contaminated area.

Former National (DOH UST Facility ID 9-703085)

There was one 2,000-gallon gasoline UST associated with a site formerly occupied by National and Taylor Transportation. The tank is listed as permanently out of use according to DOH database information. However, there is no date of closure listed in the DOH database. An April 1988 document available to ESI indicates the tank was emptied approximately a year prior (1987) due to National's move to a new facility located offsite of the Properties. A closure report by EKNA documents research and a field investigation completed in February 2000 to determine if the UST was present at the site, which was referenced as PMID 003124. In the period since National vacated the site (PMID 003124) in 1987, this space had been redeveloped for the construction of the new General Aviation Apron and T-Hangars. As a result of this field investigation and review of all available files, EKNA could not provide any evidence of the UST still being present at the site. Therefore, EKNA concluded it is likely that the UST had been removed or destroyed, and no further action was recommended (EKNA, 2000a). ESI was not able to locate a DOH letter responding to EKNA's report.

Taylor Transportation occupied the portion of the site north of the former ARFF Station (Building 125) and northwest of T-Hangar 410. It is possible the 2,000-gallon gasoline UST was Tank 12 removed by Clayton as part of the Relocation of Generator Building and Utility Improvements Project (State Project No. AK1046-17). Based on the report, Tank 12 was removed in February 1991 and was intact at the time of removal. No hydrocarbon odors or soil staining were observed in the tank excavation bottom or sidewalls. Two soil samples were collected during the closure of the tank and were analyzed for TPH-g and BTEX. The results for the samples were reported as not detected (Clayton, 1991b). The Clayton UST removal project received a DOH determination of *No Further Action* in July 1997 (DOH, 1997b).

Former Rent A Wreck (DOH UST Facility ID 9-702414)

There was one 500-gallon gasoline UST and one 1,000-gallon gasoline UST associated with the Rent A Wreck facility. Based on information obtained as part of the completion of this report, Rent A Wreck occupied a leased lot that was located west of the FAA ATCT and south of the current Airfield Generator Building. In February 1991, Clayton removed the USTs from the site as part of the Relocation of Generator Building and Utility Improvements Project (State Project No. AK1046-17) being performed in the area (Clayton, 1991b). The tanks at the Rent A Wreck facility were identified in the Clayton Report as Tanks 3A and 3B. Four soil samples were collected and were analyzed for TPH-g and BTEX. No TPH-g or BTEX were detected in the samples. The Clayton UST removal project received a DOH determination of *No Further Action* in July 1997 (DOH, 1997b).

Former Roberts Hawaii (DOH UST Facility ID 9-701861)

According to the DOH database and records, one 2,000-gallon gasoline UST, one 6,000-gallon gasoline UST, and one 8,000-gallon diesel fuel UST were registered to Roberts Hawaii. Based on information obtained as part of the completion of this report, Roberts Hawaii occupied a leased lot that was located west of the FAA ATCT and south of the current Airfield Generator Building. In February 1991, Clayton removed the USTs from the site as part of the Relocation of Generator Building and Utility Improvements Project (State Project No. AK1046-17) being performed in the area (Clayton, 1991b).

The tank capacities provided in the UST registration information are inconsistent with tank capacities removed by Clayton. Based on the Clayton UST Closure Report (Clayton 1991a), the 6,000-gallon gasoline UST was reported as an 8,000-gallon gasoline UST (Tank 1), the 8,000-gallon diesel fuel UST was reported as a 10,000-gallon diesel fuel UST (Tank 2), and the 2,000-gallon gasoline UST was reported as Tank 3. At the time of removal, no visible signs of stained soil were observed in the tank excavation bottom or sidewalls. However, hydrocarbon odor was noted near the flange where the product line connected to Tank 3. PID readings were collected from the soil during closure activities ranging from 0 to 150 ppm. Over-excavation of the visibly contaminated soil was performed. Based on the release identified during closure activities, additional subsurface investigation activities were part of a project-wide investigation for State Project No. AK1046-17. The details of the subsurface investigation are discussed in further detail in the Lihue Airport Renovation Project (DOH UST Facility ID 9-703830) discussion.

Five soil samples were collected during the closure. The samples from the gasoline USTs were analyzed for TPH-g and BTEX. The samples from the diesel fuel UST were analyzed for TPH-d and BTEX. TPH-g concentrations ranged from not detected to 370 mg/kg. TPH-d concentrations ranged from not detected to 19 mg/kg. Benzene was detected at concentrations ranging from not detected to 0.011 mg/kg. Toluene was detected at concentrations ranging from not detected to 0.9 mg/kg. Ethylbenzene was detected at concentrations ranging from not detected to 9.3 mg/kg. Xylenes were detected at concentrations ranging from not detected to 56 mg/kg. All results were below DOH action levels in effect at the time except for the ethylbenzene (9.3 mg/kg) and the TPH-g (370 mg/kg) in samples collected at Tank 3. In addition, the xylene result of 56 mg/kg exceeds the current DOH Tier I EALs. Based on the release identified during closure activities, additional subsurface investigation activities were conducted as part of a project-wide investigation for State Project No. AK1046-17 (Release ID 910043). The details of the subsurface investigation are discussed in further detail in the Lihue Airport Renovation Project (DOH UST Facility ID 9-703830) discussion. The Clayton UST removal project received a DOH determination of *No Further Action* in July 1997 (DOH, 1997b).

Former Travelers (DOH UST Facility ID 9-702413)

There was one 1,000-gallon gasoline UST associated with Travelers facility. Based on information obtained as part of the completion of this report, Travelers occupied a leased lot that was located west of the FAA ATCT and south of the current Airfield Generator Building. In February 1991, Clayton removed the USTs from the site as part of the Relocation of Generator Building and Utility Improvements Project (State Project No. AK1046-17) being performed in the area (Clayton, 1991b). The tank at the Travelers facility was identified in the Clayton Report as Tank 4. Two soil samples were collected from the UST excavation and were analyzed for TPH-g and BTEX. No TPH-g or BTEX were detected in the samples. The Clayton UST removal project received a DOH determination of *No Further Action* in July 1997 (DOH, 1997b).

Former United Car Rental (DOH UST Facility ID 9-701560)

According to DOH records, two 1,000-gallon gasoline USTs are associated with the United Car Rental facility. Based on information obtained as part of the completion of this report, United Car Rental occupied a leased lot that was located north of the FAA ATCT and east of the current Airfield Generator Building. A review of DOH records shows that United Car Rental had registered a 5,000-gallon gasoline UST (Tank 1, installed on May 5, 1976) for their Kauai facility; however, a February 1991 DOH letter (DOH, 1991) states that one 1,000-gallon gasoline UST was associated with the facility. Sometime before 2013, the DOH database records were updated to reflect a 1,000-gallon capacity for the 5,000-gallon UST, and the second 1,000-gallon UST was added to the Facility ID. In February 1991, Clayton removed the two USTs from the site as part of the Relocation of Generator Building and Utility Improvements Project (State Project No. AK1046-17) being performed in the area (Clayton, 1991b). The United Car Rental facility tanks were identified in the Clayton Report as Tanks 10 and 11.

Four soil samples were collected as part of this UST closure. TPH-g was detected at concentrations ranging from not detected to 0.4 mg/kg. BTEX was not detected in any soil sample. The Clayton UST removal project received a DOH determination of *No Further Action* in July 1997 (DOH, 1997b).

Lihue Airport Old Generator Building (DOH UST Facility ID 9-701778)

A 1,700-gallon diesel fuel UST was associated with the former Airfield Generator Building and DOH UST Facility ID 9-701778. In August 1991, the UST (Clayton Tank 17) was removed following the completion of the new Airfield Generator Building associated with the Relocation of Generator Building and Utility Improvements Project (State Project No. AK1046-17). The UST condition was reported as intact, and there were no visible signs of stained soil or hydrocarbon odors encountered during the closure activities. Two soil samples were collected following the removal of the tank and were analyzed for TPH-d, BTEX, and lead. TPH-d, BTEX, and lead were not detected in either sample (Clayton, 1991a). The Clayton UST removal project received a DOH determination of *No Further Action* in July 1997 (DOH, 1997b).

Former Drywells at Roberts Hawaii and TransHawaiian Tours Facilities

As discussed in Section 3.3.3, two dry wells were closed at the Roberts Hawaii and TransHawaiian Tours facilities as part of the Lihue Airport Apron Site Preparation and Road Realignment project. ESI received copies of release notifications from the DOH HEER Office, which are summarized below.

Lihue Airport Old Dry Well (Case No. 20000831-1317)

On August 31, 2000, the DOH received a report that during the building of an industrial subdivision, an old dry well was found beneath a building. One hundred gallons of a hydrocarbon substance was found in the well. The case was referred to the DOH SDWB UIC Program.

Ahukini Road Well Dumping (Case No. 20000831-1434)

On August 31, 2000, the DOH received a report that during the closure of a well, it was discovered that 2,000 gallons of motor oil had been dumped into the well. According to the Release Notification form received from the DOH HEER office, the case was closed due to incomplete documentation.

4.2.1.7 Former Industrial Area (Figure 14)

Former Masterworks Site – 3130 Ahukini Road

Masterworks formerly owned and operated a salvage facility located at 3130 Ahukini Road. The site is located on the northeast end of the Properties on the Ahukini Peninsula and covers approximately 4.3 acres. Before its use as a salvage facility, the land was used for various industrial purposes since about 1927. Notable tenants at the site included Lihue Plantation Company, Ltd., Standard Oil Company, Hawaiian Bitumuls, the Ahukini Corporation, and Masterworks.

Lihue Plantation Company Ltd. operated the Ahukini Terminal, which included three large sugar warehouses, above-ground conveyors, rail lines, and a railroad car shed that supported the sugar operations. A fertilizer warehouse was located off the property across Ahukini Road to the south. Standard Oil Company operated a tank farm which contained:

- One 429,000-gallon AST used to store gasoline

- One 55,000-barrel AST used to store gasoline
- One 55,000-barrel AST used to store fuel oil
- One 70,000-gallon tank used to store diesel fuel
- Two 70,000-gallon tanks used to store kerosene
- Several other small tanks of unknown contents

Hawaiian Bitumuls was a tenant at the Standard Oil Company facility. No operational history for Hawaiian Bitumuls was provided; however, their operations likely included asphalt manufacturing. According to aerial photographs, the 429,000-gallon AST and 55,000-barrel AST were removed before 1955. The other tanks would remain at the site until their removal in 1974 (CFC, 1993).

In 1993, CFC performed an expanded Phase I Environmental Site Assessment (CFC, 1993). CFC concluded that both historic and current (at the time) uses of the site could potentially have resulted in a release or material threat of a release of hazardous substances or petroleum products. The expanded assessment included the collection of soil samples from 10 excavated test pits. Samples were collected at 6 inches bgs, 4 to 6 feet bgs, and at 10 feet bgs. The depths were referred to as horizons A, B, and C, respectively. All samples were analyzed for TPH, lead, and cadmium. TPH was used as a screening indicator for additional analysis, which is discussed further below. The following locations were sampled.

- Location #1 – The area adjacent to the car compactor. The A-horizon sample was analyzed for TPH, PCBs, PAHs, HVOCs, lead, and cadmium. The B-horizon sample was not analyzed. The C-horizon sample was analyzed for TPH, total lead, and total cadmium.
- Location #2 – A shallow drainage swale, located approximately midway along the northern side of the concrete pad. The area received runoff from an adjacent drum storage area. The drum contents were identified as gasoline, oil, and solvents. The A-horizon sample was analyzed for TPH, PAHs, PCBs, HVOCs, lead, and cadmium. The B-horizon sample was not analyzed. The C-horizon was analyzed for TPH, lead, and cadmium.
- Location #3 – A 55-gallon storage drum area located near a wood-and-tin tire shed, which was located near the foundation of former Building A. The A-horizon sample was analyzed for TPH, PAHs, PCBs, HVOCs, lead, and cadmium. The B-horizon sample was not analyzed. The C-horizon was analyzed for TPH, lead, and cadmium.
- Location #4 – The area beneath the former 429,000-gallon gasoline AST. No analysis was completed on the A- and B-horizon samples. The C-horizon sample was analyzed for TPH, lead, and cadmium.
- Location #5 – Was sampled to investigate for potential residual contamination from the former ASTs. No analysis was completed on the A- and B-horizon samples. The C-horizon sample was analyzed for TPH, total lead, and total cadmium.
- Location #6 – Consisted of a composite soil sample from the junk car storage area. The sample was analyzed for TPH, PAHs, PCBs, VOCs, lead, and cadmium.
- Location #7 – The area adjacent to a scrap metal cutter. The A-horizon sample was analyzed for TPH, PAHs, PCBs, BTEX, lead, and cadmium. The B-horizon sample was not analyzed. The C-horizon sample was analyzed for TPH, lead, and cadmium.
- Location #8 – Sampling was completed near five former USTs that were stored at the site. The A-horizon sample was analyzed for TPH, PAHs, PCBs, BTEX, lead, and cadmium.

The B-horizon sample was not analyzed. The C-horizon sample was analyzed for TPH, lead, and cadmium.

- Location #9 – Consisted of a composite sample from a tailwater sump and was representative of a topographical low in the cane field irrigation network. The sample was analyzed for TPH, lead, cadmium, organochlorine herbicides, and organochlorine and organophosphorus pesticides.
- Location #10 – Consisted of a composited background sample and was presumed to represent natural site conditions not impacted by site activities. The sample was analyzed for TPH, PCBs, lead, and cadmium.

The assessment results identified three locations containing constituents above the DOH EALs in use at the time. Specifically, the following locations were identified as having constituents above the DOH EALs.

- Location #1 – TPH-d and TPH-o
- Location #2 – Benzo[a]pyrene
- Location #7 – TPH-o, lead, and cadmium

In 1998, Kimura completed a remedial action at the site and the closure of the former salvage yard. During their work, two cesspools (Cesspool #1 and Cesspool #2) were identified that were in addition to the three locations (Locations #1, #2, and #7) identified by CFC (Kimura, 1999c).

The area identified as Cesspool #1 consisted of a hole in the ground, which was suspected of being a cesspool and was located around the southeastern portion of the site. No free liquids, soil staining, or other indications of petroleum contamination were observed within Cesspool #1.

The area identified as Cesspool #2 consisted of a hole in the ground, which was suspected of being a former cesspool and was located in the central portion of the site. An oily sludge was observed at the base of the cesspool (approximately 20 feet bgs). In June 1998, the sludge within the cesspool was sampled and analyzed for TPH-g, TPH-d, TPH-o, and BTEX. Laboratory results indicated high concentrations of TPH (TPH-g at 988 mg/kg, TPH-d at 5,900 mg/kg, and TPH-o at 87,200 mg/kg).

Cesspool #1 was excavated to a depth of approximately 15 feet and a diameter of 16 feet. During excavation, field screening and observations did not suggest the presence of petroleum contamination in the soils of the cesspool. One post remedial verification sample was collected and analyzed for TPH-g, TPH-d, TPH-o, PAHs, HVOCs, lead, and cadmium. Laboratory results indicated the sample contained no detectable concentrations of contaminants or contaminants levels below the DOH EALs in effect at the time.

A total of 3,500 cubic yards of petroleum-impacted soil were removed from the Cesspool #2 area. The final excavation measurements were 60 feet wide by 110 feet long by 40 feet deep. A sump unit and pipe were discovered during the excavation work, and petroleum staining was observed around the features. Twenty-eight post remedial verification samples were collected and analyzed for TPH-g, TPH-d, TPH-o, PAHs, PCBs, HVOCs, BTEX, lead, and cadmium. There were no

detectable concentrations or concentrations above the DOH EALs in effect at the time. A review of the data shows that one sidewall soil sample contained concentrations of TPH-o and lead above their current DOH Tier I EALs.

Locations #1, #2, and #7 were all excavated to a depth of 2 feet bgs and continued in a horizontal direction until field screening and site observations suggested that the limits of the petroleum contamination were removed from the ground.

Approximately 18 cubic yards of petroleum impacted soil was excavated from Location #1, and eight post remedial verifications samples were collected. The samples were analyzed for TPH-g, TPH-d, TPH-o, PAHs, PCBs, HVOCs, BTEX, MTBE, lead, and cadmium.

Approximately 25 cubic yards of petroleum-impacted soil was excavated from Location #2, and five post remedial verifications samples were collected. The samples were analyzed for TPH-g, TPH-d, TPH-o, PAHs, PCBs, HVOCs, BTEX, lead, and cadmium.

Approximately 14 cubic yards of petroleum-impacted soil was excavated from Location #7, and six post remedial verifications samples were collected. The samples were analyzed for TPH-g, TPH-d, TPH-o, PAHs, PCBs, HVOCs, BTEX, lead, and cadmium.

Soil samples from the base and walls of the excavations for Locations #1, #2, and #7 contained no detectable concentrations of contaminants or contaminant levels were below the DOH EALs in effect at the time. However, a review of the analytical data shows that at Locations #1 and #7, TPH-o and total lead were detected above their current DOH Tier I EALs.

During the remedial excavation work, the excavated petroleum impacted soils from Cesspool #1, Cesspool #2, Location #1, Location #2, and Location #7 were placed into 12 soil containment units (treatment cells) within a Soil Management Facility that was established as part of the project. The soil was allowed to undergo passive remediation within the units before reusing as backfill at the site.

HDOTA contracted EKNA to evaluate the concentrations of petroleum hydrocarbons and their constituents remaining in the 12 treatment cells. One sample was collected per treatment cell and analyzed for TPH-o, PAHs, PCBs, lead, and cadmium. All soil samples were below the laboratory detection limits or below DOH Tier I EALs in effect at the time. However, TPH-o exceeded the current DOH Tier I EAL. EKNA recommended no further action for the soils contained in the treatment cells. EKNA further recommended that the soils be placed as fill material in the excavation created by the removal (EKNA, 2000b). The HDOTA stated to Kimura that the remediated soil was used as fill material on-site.

Backfilling activities of Cesspool #2 were completed between May and June 1999, and the area was backfilled per the Backfill Plan approved by the DOH on April 8, 1999. A Special Management Area Minor Permit (SMA (M) -99-27) was issued by the County of Kauai Planning Department on March 18, 1999, for the inclusion of 200 tons of tires contained in bales as part of the backfill for the excavation (Kimura, 1999d).

Based on the field observations and laboratory results, Kimura recommended no further action or investigation at the site. The DOH issued a "verbal" determination of *No Further Action* and written approval to backfill the Cesspool #2 location at the site (Kimura, 1999d). ESI was not provided with written correspondence regarding the *No Further Action* determination by the DOH. A review of the DOH HEER Office database shows the site as having response action complete on June 1, 2001.

In addition to the remedial actions performed at the site, closure activities were completed for the salvage facility. The final closure included the removal of the following:

- 609.23 tons of rubber tires
- 719.47 tons of miscellaneous trash and debris
- Approximately 600 tons of scrap metal
- Four truckloads of vegetation debris
- 187.48 tons of wood, soil, and metal debris
- 71.25 tons of concrete construction debris
- 96 automotive battery cores

Kimura concluded that the former salvage facility had been properly closed in accordance with all applicable rules and regulations and recommended no further action for the site (Kimura, 2001). ESI was not provided with any DOH correspondence regarding the closure of the salvage facility, and it is unknown if the DOH concurred with Kimura's recommendation.

Based on the exceedances of TPH-o and lead in the post remedial verification samples at Cesspool #2 and Locations #1 and #7, ESI considers this site a known contaminated area.

4.2.1.8 Former Ahukini Dump Area (Figure 15)

Former Ahukini Dump

The former Ahukini Dump site was located east of the northern end of Runway 17-35 and is roughly situated between the following coordinates, delineated by the UTM Coordinate System, NAD 83, 21°58'49.10" N, 159°20'01.16" W and 21°58'41.04" N, 159°19'59.69" W (Figure 4).

In 1872, the Lihue Plantation Company acquired approximately 17,000 acres of Hanamaulu for sugar cane cultivation. This included land occupied by the former Ahukini Dump site. The land was left uncultivated from 1920 until 1943 when Governor Stainback issued EO No. 1029, which set aside 1.606 acres of land for the Ahukini Dump site. From 1943 to 1975, the dump was primarily used for the disposal of household trash. The trash was often burned, resulting in residual ash and melted glass, cans, bottles, plastics, metals, and tires.

Additionally, construction debris and large metal machinery were found to be deposited at the site. In 1978, Governor George Ariyoshi closed the dump and included the site in a land transfer to HDOTA for the expansion of the Lihue Airport. In 1981, a two-foot layer of soil was placed over the refuse to serve as a cap for the closed site. No structures had ever been erected at the site,

which has remained undeveloped to provide a public easement to the shoreline and a scenic corridor for the airport (ETC, 2009).

In November 2004, KFC Airport, in partnership with Geolabs, Inc., conducted an exploration of the Ahukini Dump site, which is detailed in their report Lihue Airport: *"Former Ahukini Dump Site Erosion Abatement – Final."* Geophysical surveys were conducted at the site with GPR, EM, and metal detection techniques. Additionally, twenty-three test pits were examined and found to contain household trash, construction debris, metal machinery, and larger metallic debris such as automobile parts (ETC, 2009). ESI was not provided with a copy of the KFC Airport report.

In the early 2000s, it was discovered that cumulative natural erosion at the site, specifically within the seaward-facing cliffs, had progressively exposed portions of the once buried refuse. Accordingly, the HDOTA, in collaboration with the DOH, created plans to grade and terrace the seaward facing cliffs at the site, landward to stabilize its failing slope. The objective of the earthwork was to permanently contain the refuse and prevent it from impacting the shoreline and the State waters (ETC, 2009).

In August 2009, ETC completed site screening activities to determine whether soil and soil vapor presented a risk to human health or the environment based on the area's historical use as a dump. The sampling rationale, COPCs, and analyses were taken from the March 2009 *Site Screening Work Plan* prepared by ETC, based on the DOH HEER Office November 2008 *Draft Sampling Plan for Initial Chemical Characterization of Former Ahukini Dump Soil and Soil Vapor*. ETC advanced 20 soil borings across the site and collected the following samples for analysis:

- One composite sample at a depth of 9.5 to 10 feet bgs on the eastern portion of the site for the presence of heavy metals, chlorinated herbicides, organochlorine pesticides, and SVOCs
- One composite sample at a depth of 4.5 to 5 feet bgs on the western portion of the site for the presence of heavy metals, chlorinated herbicides, organochlorine pesticides, and SVOCs
- One composite sample at a depth of 0.5 to 1 foot bgs throughout the site for the presence of heavy metals, chlorinated herbicides, organochlorine pesticides, and SVOCs
- One duplicate composite sample at a depth of 0.5 to 1 foot bgs throughout the site for the presence of heavy metals, chlorinated herbicides, organochlorine pesticides, and SVOCs
- One discrete soil sample for the presence of dioxin/furans
- Five soil vapor samples for BTEX, THC as gas, and 2-propanol via EPA Method TO15 as well as for methane via EPA Method TO3
- Additionally, the three composite soil samples and the one duplicate composite sample were analyzed to determine the leaching potential for metals and dieldrin using the SPLP

The soil samples contained cobalt, copper, nickel, vanadium, and dieldrin at concentrations that exceeded DOH EALs in effect at the time.

SPLP extractions were performed and analyzed for all metals detected in the soil and dieldrin. The analytical data indicated that the leaching of these constituents into the groundwater is not a

significant concern at the site. Furthermore, although cobalt, copper, nickel, and vanadium were detected above their respective DOH EALs, research showed that the concentrations present are below documented background levels for Hawaii soils.

Analytical results of soil vapor samples collected at the site indicated benzene, 2- propanol, THC as gas, toluene, and xylene were detected in several soil vapor samples. All detected constituent concentrations were below their respective DOH EALs for unrestricted land use. Additionally, methane was not detected at concentrations that exceeded 10 percent of the LEL. Therefore, the soil vapor present at the site was not considered a significant concern.

In addition, ETC performed an EHE for the site. Based on the results of the EHE, ETC concluded that although potential environmental hazards and exposure pathways were identified at the site based on the site screening activities, analysis of these hazards had indicated that none are of significant concern. Therefore, based on these findings and the continued lack of development at the site, ETC recommended that grading and capping activities be completed to stabilize the soil and solid waste. ETC further recommended that an EHMP be written for long-term management of the solid waste at the site, including a requirement for annual monitoring of the dump to ensure that the cap remains intact to protect human health and the environment.

On March 11, 2010, the DOH HEER Office reviewed the EHE and concurred with ETC's findings. Grading and capping activities commenced at the site around 2010 and progressed through 2013. In 2013, a nesting Wedge-tailed Shearwater (an endangered species) population halted the grading activities, and the project was subsequently canceled. The HDOTA has placed the project back in the design phase; however, the DOH or DLNR have not authorized the completion of the project. In addition, an EHMP was not prepared for the site. ESI considers this site a known contaminated area.

4.2.1.9 ARFF Station and Former ARFF Training Area (Figure 16)

ARFF Training Area (DOH UST Facility ID 9-702403)

One 6,000-gallon double-walled FRP Jet-A fuel UST was located in this area. The UST was installed in 1991. Fuel was transferred from the UST to the Fire Training Pit via underground piping. In November 2006, the UST was removed, and the ARFF Training Pit area was decommissioned. A total of 32 soil samples were collected during the UST closure activities and were analyzed for TPH-j. TPH-j was not detected in any of the soil samples. In addition to the 6,000-gallon Jet-A fuel UST, a 6,000-gallon FRP UST used to contain water was also removed and subsequently disposed of. No release assessment was performed for this UST. ESI considers the ARFF Training Area as a known contaminated area.

Former Lihue Airport ARFF Training Facility (DOH HEER Case No. 20070222-1454)

The former ARFF training area was located south of the ARFF facility and south of Taxiway D, connecting Runways 3-21 and 17-35. The training area was demolished in 2006. In December 2006, the HDOTA requested approval from the DOH to discharge approximately 142,000 gallons of wastewater that contained trace levels of petroleum to the open areas adjacent to the training area. The DOH approved the HDOTA's request on December 29, 2006.

According to a December 18, 2006, letter sent to the DOH HEER Office by the HDOTA regarding the removal of USTs and the demolition of the ARFF training area, the burn pit was lined with two layers of 80-millimeter HDPE plastic. The liner was overlain by one foot of sand and six inches of gravel. Jet fuel was pumped through a pipe network within the burn pit and set ablaze to simulate an aircraft fire. In January 2007, the DOH HEER Office had a telephone conversation with ITSI regarding the HDOTA's questions about the notification requirements for petroleum-contaminated soil associated with the former ARFF training area. According to ITSI, the burn pit gravel was analyzed and determined to be impacted by petroleum hydrocarbons, and it was placed into an on-site treatment bed where it was periodically tilled to encourage the volatilization of contaminants. Soil samples were collected from beneath the plastic liner, and the results indicated the soils were not impacted by petroleum. In consideration of the following, the DOH concluded that no release of hazardous substances to the environment has occurred since all jet fuel was contained during the operation and demolition of the burn pit:

- The burn pit was designed to contain all jet fuel used in the training exercises and to prevent leaks of fuel to the ground
- No leaks of jet fuel to the ground beneath the burn pit had been detected
- The treatment bed to which the burn pit contents were moved was similarly designed to prevent leaks to the ground

The DOH further concluded that following initial notification by the HDOTA of the identified burn pit contamination, the HEER Office would issue a release identification number and a *No Further Action* determination for the site. Subsequently, no further reporting or oversight by the HEER Office was necessary.

The DOH further stated that based on conversations with the HDOTA, the HDOTA was considering reusing the gravel within the treatment bed after treatment was completed and potentially relocating the treatment bed. Both of these activities may have required oversight by the SHWB; hence, the HDOTA was instructed to contact the SHWB to determine if there were reporting or permitting requirements for these activities. The final deposition of the burn pit contents from the treatment cell is unknown.

Based on information in the March 2017 DOH HEER Office database, in March 2007, the DOH issued a determination of *No Further Action* for the release. ESI considers this site to be a known contaminated area.

In addition, the AFFF products used during the Lihue Fire Department response may have contained PFAS, which are emerging contaminants. ESI considers these areas as known contaminated areas.

4.2.2 Voluntary Cleanup Sites

There are no voluntary cleanup sites within one-half mile of the Properties.

4.2.3 Solid Waste Landfill Sites

There are no permitted Solid Waste Landfills within one-half mile of the Properties.

4.2.4 State Brownfields Sites

There are no Brownfields sites within one-half mile of the Properties.

4.2.5 UST Sites

The UST sites that are located on the Properties are summarized in Table 4.1. The UST sites located within one-quarter mile of the Properties are summarized in Table 4.2.

4.2.5.1 USTs on the Properties

Based on ESI's review of DOH files and the EDR report, there are 27 DOH UST Facility IDs and two unknown UST Facility IDs associated with the Properties (Table 4.1). These USTs also are described in Section 4.2.1.

4.2.5.2 Nearby USTs

Based on ESI's review of DOH files and the EDR report, there is one UST site located adjacent to the Properties. There have been no documented release at the site; therefore the site is unlikely to pose a risk to the environmental integrity of the Properties.

Due to the proximity of nine of the LUST sites to the Property, releases from these sites have the potential to have adversely impacted the environmental integrity of the Property and therefore are identified as potentially contaminated areas.

4.2.6 LUST Sites

Based on ESI's review of DOH files and the EDR report, nine LUST sites are located on the Properties (Table 4.3). These LUSTs are described in Section 4.2.1. There are eight LUST sites within a half-mile of the Properties (Table 4.4). Based on the distance of LUST sites from the Properties, it is unlikely the sites pose a risk to the environmental integrity of the Properties.

TABLE 4.1
UST Sites Located on the Properties
Lihue Airport
Modified Phase I Environmental Site Assessment

Location	Site	DOH UST Facility ID No.	Capacity	Contents	Date Closed	Status
Runway Area	FAA-LIH VORTAC	9-703405	500	Gasoline	5/27/1992	Permanently out of use
Main Terminal Area	HDOTA Main Terminal Emergency Generator	9-701778	2,000	Diesel	-	Currently in use
Rental Car Area	Hertz	9-700058	12,000	Gasoline	-	Currently in use
			550	Motor Oil (Used)	-	Currently in use
	Alamo	9-701714	550	Motor Oil (Used)	-	Temporarily out of use
			10,000	Gasoline	-	Currently in use
	Budget	9-701885	1,000	Lube oil	4/16/1997	Permanently out of use
			1,000	Motor Oil (Used)	4/16/1997	Permanently out of use
			10,000	Gasohol	-	Currently in use
			10,000	Gasohol	-	Currently in use
	Dollar	9-701892	10,000	Gasoline	12/28/2004	Permanently out of use
	Avis	9-702492	550	Motor Oil (Used)	3/3/2005	Permanently out of use
			10,000	Gasohol	-	Currently in use
Air Cargo and Commuter Terminal Area	Former Airfield Emergency Generator	9-701778	1,700	Diesel Fuel	8/21/1991	Permanently out of use
General Aviation Area	Former Avis	9-700432	10,000	Gasoline	10/31/1996	Permanently out of use
			500	Motor Oil (Used)	10/31/1996	Permanently out of use
	Former Dollar	9-700623	10,000	Gasoline	Not Listed	Permanently out of use
	Former Hertz	9-700435	8,000	Gasoline	10/31/1996	Permanently out of use
	Former Kenai Air Hawaii	9-700638	2,000	Gasoline	6/1/1990	Permanently out of use
			2,000	Diesel Fuel	6/1/1990	Permanently out of use

Location	Site	DOH UST Facility ID No.	Capacity	Contents	Date Closed	Status
			1,000	Gasoline	6/1/1990	Permanently out of use
	Former Budget	9-701558	10,000	Gasoline	10/31/1996	Permanently out of use
			4,000	Gasoline	12/31/1996	Permanently out of use
	Former United Car Rental	9-701560	1,000	Gasoline	2/20/1991	Permanently out of use
			1,000	Gasoline	2/20/1991	Permanently out of use
	Former ARFF Station (Bldg. 125)	9-701572	10,000	Diesel	9/1/1990	Permanently out of use
	Former Kauai Island Tours	9-701758	6,000	Gasoline	10/30/1996	Permanently out of use
			10,000	Diesel Fuel	10/31/1996	Permanently out of use
			10,000	Gasoline	10/31/1996	Permanently out of use
	Former Murray Air	9-701789	6,250	Gasoline	2/15/1990	Permanently out of use
	Former Gray Line Hawaii	9-701849	4,000	Kerosene	N/A	Permanently out of use
			10,000	Diesel Fuel	N/A	Permanently out of use
			3,000	Kerosene	N/A	Permanently out of use
	Former Roberts	9-701861	2,000	Gasoline	2/12/1991	Permanently out of use
			6,000	Gasoline	2/12/1991	Permanently out of use
			8,000	Diesel	2/12/1991	Permanently out of use
	Former Travelers USA	9-702413	1,000	Gasoline	2/14/1991	Permanently out of use
	Former Rent A Wreck	9-702414	500	Gasoline	2/12/1991	Permanently out of use
			1,000	Gasoline	2/12/1991	Permanently out of use
	LIH Airfield Emergency Generator	9-702554	550	Diesel Fuel	-	Currently in use
	Former National	9-703085	2,000	Gasoline	Unknown	Permanently out of use
	FAA ATCT	9-703405	1,000	Diesel	9/14/1998	Permanently out of use
	LIH Renovation Project	9-703830	550	Gasoline	2/19/1991	Permanently out of use
			2,000	Gasoline	2/20/1991	Permanently out of use
			1,000	Gasoline	2/20/1991	Permanently out of use
			8,200	Gasoline	2/22/1991	Permanently out of use
			8,200	Gasoline	2/22/1991	Permanently out of use
			550	Gasoline	2/19/1991	Permanently out of use
			2,000	Gasoline	2/26/1991	Permanently out of use

Location	Site	DOH UST Facility ID No.	Capacity	Contents	Date Closed	Status
	Apron, Commuter Building and Cargo Facilities construction project (State Project No. AK1046-12)	Unknown	Approximately 1,100	Unknown	Unknown	Permanently out of use
			Approximately 550	Unknown	Unknown	Permanently out of use
		Unknown	Approximately 1,100	Unknown	Unknown	Permanently out of use
			Approximately 550	Unknown	Unknown	Permanently out of use
Maintenance Baseyard Area	HDOTA Baseyard	9-701778	4,000	Diesel	-	Currently in use
			4,000	Gasoline	-	Currently In use
			310	Used Oil	21-Dec-98	Permanently out of use
			4,380	Diesel	06-Aug-98	Permanently out of use
			4,380	Gasoline	06-Aug-98	Permanently out of use
			6,380	Diesel	06-Aug-98	Permanently out of use
ARFF Station and Former ARFF Training Area	ARFF Training Area	9-702403	6,000	Jet A Fuel	11/27/2006	Permanently out of use

- Not applicable – UST currently in use.

TABLE 4.2
UST Sites Located within One-Half Mile of the Properties
Lihue Airport
Modified Phase I Environmental Site Assessment

Site	Location	Distance (miles)	Direction	DOH Facility ID No.	Status
Kauai Lagoons Golf Maintenance	3351 Hoolaulea Way	0.1	Southwest	9-702437	Currently in use
					Permanently out of use

TABLE 4.3
LUST Sites Located on the Properties
Lihue Airport
Modified Phase I Environmental Site Assessment

Location	Site	DOH Facility ID No.	DOH Release ID No.	Status
Rental Car Area	Hertz	9-700058	180012	Confirmed Release
	Alamo	9-701714	990239 050041	NFA
	Budget	9-701885	970077	NFA
	Dollar	9-701892	040069	NFA
	Avis	9-702492	050013	NFA
General Aviation Area	Former Avis	9-700432	980086 980087	NFA
	FAA ATCT	9-703405	990171	NFA
	Lihue Airport Renovation	9-703830	910043	NFA
Maintenance Baseyard Area	HDOTA Maintenance Baseyard	9-701778	980245 980256	NFA

TABLE 4.4
LUST Sites Located within One-Half Mile of the Properties
Lihue Airport
Modified Phase I Environmental Site Assessment

Site	Location	Distance (miles)	Direction	DOH Facility ID No.	DOH Release ID No.	Status
Kauai Builders, Ltd.	3988 Halau Street	0.25	Southwest	9-702838	940103	NFA
Lihue Industrial Park	3070 Peleke Street	0.31	Southwest	9-701075	990020	NFA
Lihue Base Yard	4040 Halau Street	0.26	Southwest	9-700609	920090	NFA
Thrifty Car Rental	3120 Oihana Street	0.4	Southwest	9-702438	110016	NFA
Lindy's Trans & Repair Center	3018 Aukele Street	0.41	Southwest	9-700634	970075	NFA
Aukele Cardlock Lihue	3011 Aukele Street	0.46	Southwest	9-701796	000047 150022	NFA
Westin Kauai Sewage Pump Station	Rice Street	0.44	South-southwest	9-701792	890022	NFA

4.2.7 State Institutional/Engineering Control Registry Sites

According to the EDR report, the former Lihue ARFF Training Facility has institutional controls. Based on information contained in the listing, the DOH SHWB must be contacted before reusing the gravel or moving the treatment bed. The final deposition of the burn pit contents from the treatment cell is unknown, and it is also unknown if the DOH SHWB was contacted to confirm any reporting or permitting requirements.

There are no other registered state institutional or engineering controls at the Properties.

4.3 COUNTY REGULATORY RECORDS

A request for information regarding hazardous material incidents or fires was submitted to the KFD. The KFD response dated May 30, 2019, indicated that three hazardous material incidents had occurred at the Properties.

- In November 2011, a chemical hazard was reported at the Airport. The chemical hazard was not a spill or a leak and included a report of TSA employees being nauseous.
- In May 2014, a 4-feet tall gas cylinder was found near a dirt road behind the Airport.

- In August 2014, a powdery substance was found sitting in a mail envelope within a broken plastic bag.

Based on the nature and description of the reported incidents, none are expected to have an adverse effect on the Properties. Correspondence with the KFD is included in Appendix F.

4.4 ENVIRONMENTAL LIENS AND RESTRICTIONS

ESI reviewed recorded land title records and judicial records and could find no documentation indicating that there are environmental liens, restrictions, or activity and use limitations for the Properties. The lien and activity and use limitations search report is included in Appendix D.

4.5 UNDERGROUND PIPELINES

An underground fuel pipeline extends from the Par Hawaii ASTs to the Hydrant Fuel Supply System in the Heliport Area. The pipeline has been disconnected from the ASTs and is out of service.

An underground fuel pipeline extends from the HFFC ASTs to the loading racks in the Bulk Fuel Storage Area.

4.6 PLANS AND PERMITS

ESI completed an online search of the County of Hawaii Tax Assessors Office records for associated building permits. A summary of the plans and permits is provided below.

4.6.1 Plans

The LIH operates under two plans. These are described briefly below.

4.6.1.1 Airport Master Plan

The LIH Master Plan provides guidance for future development (HDOTA, 1989). The plan's goals are to provide a high level of service to passengers, support island and state economic development, enhance services for air cargo operations, encourage international flights, accommodate existing and future aviation customer needs, and minimize environmental impacts.

4.6.1.2 SPCC Plan

The LIH operates under an SPCC Plan (HDOTA, 2020), which is required under 40 CFR 112 (EPA, 2019b). The purpose of the plan is to establish procedures, methods, equipment, and other requirements to prevent the discharge of oil into the navigable waters or adjoining shorelines of the United States. The SPCC Plan covers the following areas:

- HDOTA Maintenance Baseyard
- Terminal Emergency Generator
- Airfield Emergency Generator
- ARFF Station

4.6.2 Permits

County building permits issued for the Property were reviewed. Based on the review of the permits, numerous building permits have been issued for construction at the Property. The permits of concern included permits associated with building additions, modifications, renovations, and the construction of car rental facilities and car wash facilities.

SECTION 5 – PROPERTY INSPECTION

ESI personnel conducted inspections of the Properties. The purpose of the inspections was to gather evidence concerning past releases of oil or hazardous materials, soil and groundwater contamination, conditions that could constitute a threat of a release of oil or hazardous materials, items suspected to contain PCBs, and evidence of the past or present existence of USTs. Although observations were made regarding the use and storage of hazardous materials and waste handling and disposal, these were not the focus of the inspection because the HDOTA Environmental Section routinely inspects facilities within the LIH for compliance with the HDOTA BMP manual (HDOTA, 2021).

5.1 INSPECTION OF THE PROPERTIES

On July 13, 2021, an onsite inspection was conducted by Ms. Bianca Lindsay and Mr. Peter Morris. The following areas were not inspected.

- Runway Area (partially inspected)
- ATCT Interior (General Aviation Area)
- National Weather Service (General Aviation Area)
- WWPS (Main Terminal Area)

The photographic documentation of the inspections is presented in Appendix C. A summary of the observations made during the inspection is provided in Table 5.1. Per Table 5.1, observations marked as "Yes" are further discussed below.

TABLE 5.1
General Observations
Lihue Airport
Modified Phase I Environmental Site Assessment

Condition	Runway Area	Main Terminal Area	Main Terminal Parking Area	Rental Car Area	Heliport Area	Air Cargo and Commuter Terminal Area	HDOTA Maintenance Baseyard Area	General Aviation Area	Bulk Fuel Storage Area	Former Industrial Area	Former Ahukini Dump Area	ARFF Station and Former Training Area
Hazardous Substances, Petroleum Products, and Waste Materials	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes
Unidentified Substances or Containers	Yes	Yes	No	No	No	No	No	Yes	No	No	No	Yes
Potential PCB-Containing Items	No	Unknown	No	Unknown	Unknown	Unknown	Unknown	Unknown	No	No	No	Unknown
Stains or Corrosion	No	No	No	No	Yes	No	Yes	Yes	No	No	No	No
Pits, Ponds, Lagoons, or Pools of Liquid	No	Yes	No	Yes	No	No	No	No	No	No	No	No
Stained Soil	No	No	No	No	No	No	No	No	No	No	No	No
Stressed Vegetation	No	No	No	No	No	No	No	No	No	No	No	No
Onsite Wastewater Treatment and Disposal Systems	No	No	No	No	No	No	Yes	Yes	No	No	No	Yes
Wells	No	No	No	No	No	No	No	No	No	No	No	No
Piping Containing Petroleum or Hazardous Substances	No	No	No	Yes	Yes	No	Yes	No	Yes	No	No	No
Underground Hydraulic Hoists	No	No	No	No	No	No	No	No	No	No	No	No
Flaking Paint	No	No	No	No	No	No	No	No	No	No	No	No
Painting or Sandblasting Grit	No	No	No	No	No	No	No	No	No	No	No	No

5.2 RUNWAY AREA (FIGURE 5)

Due to safety concerns, the runway area was only partially inspected. At the time of the inspection, containers and out-of-use luggage carts were observed in an unpaved area located southwest of the Main Terminal building (Photograph 01; Appendix C). Additionally, a support facility for asphalt milling was observed southwest of the Main Terminal building (Photograph 02; Appendix C). A stormwater outfall that discharges into the Pacific Ocean was observed south of the Former Industrial Area (Photograph 03; Appendix C).

A description of the items marked "Yes" in Table 5.1 are provided below:

Hazardous Substances, Petroleum Products, and Waste Materials observed include the following:

- Out-of-use luggage carts southwest of the Main Terminal building (Photograph 01; Appendix C).
- The support facility machinery for asphalt milling (Photograph 02; Appendix C).

Unidentified Substance Containers observed include the following:

- Containers southwest of the Main Terminal building (Photograph 01; Appendix C).

5.3 MAIN TERMINAL AREA (FIGURE 6)

At the time of the inspection, the Main Terminal (Photograph 04; Appendix C) consisted of airline gates 3-10, holdrooms, ticketing and security entry areas, baggage claim, administrative offices, and aircraft parking apron. Containers, roll-off dumpsters, and a puddle of water without signs of contamination were observed southwest of the Main Terminal building (Photograph 05; Appendix C). A 2,000-gallon diesel UST (Photograph 06 and 07; Appendix C) is located on the western side of the terminal generator building along with two pad-mounted electrical transformers (Photograph 08; Appendix C).

A description of the items marked "Yes" in Table 5.1 are provided below:

Hazardous Substances, Petroleum Products, and Waste Materials observed include the following:

- The 2,000-gallon diesel UST (Photograph 06; Appendix C).

Unidentified Substance Containers observed include the following:

- Containers southwest of the Main Terminal building (Photograph 05; Appendix C).

Potential PCB-Containing Items observed include the following:

- Two pad-mounted electrical transformers (Photograph 08; Appendix C).

Pits, Ponds, Lagoons, and Pools of Liquid observed include the following:

- The puddle of water with no signs of contamination at the main terminal (Photograph 05; Appendix C).

5.4 MAIN TERMINAL PARKING AREA (FIGURE 7)

At the time of the inspection, the Main Terminal Area consisted of an asphalt paved parking lot for LIH users, employees, and travelers.

No environmental concerns were observed during the inspection.

5.5 RENTAL CAR AREA (FIGURE 8)

The LIH Rental Car Area consists of several rental car facilities occupied by Alamo, Avis, Budget, Hertz-Dollar-Thrifty, and Hertz. All of the rental car facilities were located on Hoolimalima Place. HDOTA AIR-EE has a BMP program to correct deficiencies related to the storage and disposal of hazardous materials and solid waste (HDOTA, 2021).

5.5.1 Avis Rent-A-Car

At the time of the inspection, the Avis facility consisted of a customer building (Photograph 09; Appendix C), a fueling station (Photograph 10; Appendix C), a vehicle wash facility (Photograph 11; Appendix C), and a storage shed (Photograph 12; Appendix C). The fueling station consisted of a 10,000-gallon gasohol UST and two fuel dispensers (Photograph 10; Appendix C).

5.5.2 Hertz-Dollar-Thrifty Rent-A-Car

At the time of the inspection, the Hertz-Dollar-Thrifty facility consisted of a customer building (Photograph 13; Appendix C), a fueling station (Photograph 14; Appendix C), and a vehicle wash facility (Photograph 16; Appendix C). The fueling station consists of two 5,000-gallon gasoline ASTs (Photograph 15; Appendix C) and two fuel dispensers.

Regarding the vehicle wash water, it was observed that the wash water was being discharged directly into the storm drain system (Photographs 17 and 18; Appendix C). The wash water presented signs of detergent contamination. A pad-mounted electrical transformer (Photograph 19; Appendix C) was also observed.

5.5.3 Budget Rent-A-Car

At the time of the inspection, the Budget Facility consisted of a customer building (Photograph 20; Appendix C), a vehicle maintenance shop (Photograph 21; Appendix C), a vehicle wash facility (Photograph 22; Appendix C), and a fueling station. The fueling station consists of two 10,000-gallon gasohol USTs (Photograph 23; Appendix C) and associated fuel dispensers (Photograph 24; Appendix C). A 480-gallon new motor oil AST and a 480-gallon used oil AST

(Photograph 25; Appendix C) were located adjacent to the maintenance shop. An area with 55-gallon used oil drums (Photograph 26; Appendix C), a 125-gallon gasoline mobile storage tank, and a 250-gallon gasoline mobile storage tank (Photograph 27; Appendix C) was observed.

5.5.4 Alamo Rent-A-Car

At the time of the inspection, the Alamo Facility consisted of a customer building (Photograph 28; Appendix C), a vehicle wash facility (Photograph 29; Appendix C), and a fueling station (Photograph 30; Appendix C). The fueling station consists of a 10,000-gallon gasoline UST (Photograph 31; Appendix C) and two fuel dispensers. Additionally, a 550-gallon motor oil (used) UST is located adjacent to the customer building (Photograph 32; Appendix C). A pad-mounted electrical transformer (Photograph 33; Appendix C) was also observed.

5.5.5 Hertz Rent-A-Car

At the time of the inspection, the Hertz facility consisted of a customer building (Photograph 34; Appendix C), a vehicle maintenance shop (Photograph 36; Appendix C), a fueling station, and a vehicle wash facility (Photograph 37; Appendix C). The fueling station consists of a 12,000-gallon gasoline UST and two fuel dispensers. A 550-gallon used oil UST is also present at the facility (Photograph 38, Appendix C).

A description of the items marked "Yes" in Table 5.1 are provided below:

Hazardous Substances, Petroleum Products, and Waste Materials observed include the following:

- The 10,000-gallon gasohol UST at Avis (Photograph 10; Appendix C).
- The two 5,000-gallon gasoline ASTs at Hertz-Dollar-Thrifty (Photograph 15; Appendix C).
- The two 10,000-gallon gasohol USTs at Budget (Photograph 23; Appendix C).
- The 480-gallon new motor oil AST at Budget (Photograph 25; Appendix C).
- The 480-gallon used oil AST at Budget (Photograph 25; Appendix C).
- The 55-gallon used oil drums at Budget (Photograph 26; Appendix C).
- The 125-gallon and 250-gallon gasoline mobile storage tanks at Budget (Photograph 27; Appendix C).
- The 10,000-gallon gasoline UST at Alamo (Photograph 31; Appendix C).
- The 550-gallon used oil UST at Alamo (Photograph 32; Appendix C).
- The 12,000-gallon gasoline UST at Hertz.
- The 550-gallon used oil UST at Hertz (Photograph 38, Appendix C).
- The aboveground and underground fuel piping associated with the fueling racks at Avis (Photograph 10; Appendix C), Hertz-Dollar-Thrifty (Photograph 14; Appendix C), Budget (Photograph 24; Appendix C), Alamo (Photograph 30; Appendix C), and Hertz (Photograph 38; Appendix C).

Potential PCB-Containing Items observed include the following:

- The pad-mounted electrical transformers at Hertz-Dollar-Thrifty (Photograph 19; Appendix C) and Alamo (Photograph 33; Appendix C). The PCB status of the electrical transformers is unknown. HDOTA is currently inventorying electrical transformers at LIH.

Pits, Ponds, Lagoons, and Pools of Liquid observed include the following:

- The wash water with signs of detergent contamination being discharged directly into the storm drain system at Hertz-Dollar-Thrifty (Photographs 17 and 18; Appendix C).

Piping Containing Petroleum or Hazardous Substances observed include the following:

- The aboveground and underground fuel piping associated with the fueling racks at Avis (Photograph 10; Appendix C), Hertz-Dollar-Thrifty (Photograph 14; Appendix C), Budget (Photograph 24; Appendix C), Alamo (Photograph 30; Appendix C), and Hertz (Photograph 38; Appendix C).

5.6 HELIPORT AREA (FIGURE 9)

Due to safety concerns, the heliport area was partially inspected. At the time of the inspection, the Heliport consisted of three helipads for landing and take-offs, parking pads, parking aprons for 20 helicopters, taxiways, an out of service Hydrant Fuel Supply System (Photograph 39; Appendix C), and a parking area.

Additionally, the Par Hawaii facility was partially inspected. At the time of the inspection, the facility consisted of two 30,000-gallon Jet-A fuel ASTs (Photograph 40; Appendix C), a loading and unloading area, and an emergency generator associated with a diesel fuel AST (Photograph 41; Appendix C). Oil-stained pavement (Photograph 40; Appendix C) and a pad-mounted electrical transformer (Photograph 42; Appendix C) were also observed.

A description of the items marked "Yes" in Table 5.1 are provided below:

Hazardous Substances, Petroleum Products, and Waste Materials observed include the following:

- The out of service Hydrant Fuel Supply System (Photograph 39; Appendix C).
- The two 30,000-gallon Jet-A fuel ASTs at Par Hawaii (Photograph 40; Appendix C).
- The diesel fuel AST associated with the emergency generator at Par Hawaii (Photograph 41; Appendix C).
- The aboveground and underground fuel piping associated with the fueling racks at out of service Hydrant Fuel Supply System (Photograph 39; Appendix C) and Par Hawaii (Photograph 40; Appendix C).

Potential PCB-Containing Items observed include the following:

- The pad-mounted electrical transformer (Photograph 42; Appendix C).

Stains or Corrosion observed include the following:

- The oil-stained pavement at Par Hawaii (Photograph 40; Appendix C).

Piping Containing Petroleum or Hazardous Substances observed include the following:

- The aboveground and underground fuel piping associated with the fueling racks at the out of service Hydrant Fuel Supply System (Photograph 39; Appendix C) and Par Hawaii (Photograph 40; Appendix C).

5.7 AIR CARGO AND COMMUTER TERMINAL AREA (FIGURE 10)

At the time of the inspection, the Air Cargo and Commuter Terminal Area housed airline cargo operations, including but not limited to Aloha Air Cargo (Photograph 43; Appendix C), Southwest Cargo, Alaska Air Cargo, and Hawaiian Airlines Cargo. Additionally, a pad-mounted electrical transformer (Photograph 44; Appendix C) was observed.

A description of the items marked "Yes" in Table 5.1 are provided below:

Potential PCB-Containing Items observed include the following:

- The pad-mounted electrical transformer (Photograph 44; Appendix C).

5.8 HDOTA MAINTENANCE BASEYARD AREA (FIGURE 11)

At the time of the inspection, the HDOTA Maintenance Baseyard Area consisted of an office, service bays, vehicle maintenance shop (Photograph 45; Appendix C), parking areas for vehicles and machinery (Photograph 46; Appendix C), a fueling station (Photograph 47; Appendix C), and an equipment and vehicle wash facility (Photograph 48; Appendix C). The fueling station consisted of one 4,000-gallon diesel fuel UST, one 4,000-gallon gasoline UST, and two fuel dispensers (Photograph 47; Appendix C). Located adjacent to the wash rack is an aboveground OWS (Photograph 49; Appendix C) and several 55-gallon drums of used oil and sludge from the OWS (Photograph 50; Appendix C). A generator room associated with a 500-gallon diesel fuel AST was located north of the maintenance service bays (Photograph 54; Appendix C). Additionally, asphalt residue in the landscaping area (Photograph 51; Appendix C), stained pavement (Photographs 45, 48, 53; Appendix C), and a pad-mounted electrical transformer (Photograph 52; Appendix C) were observed.

A description of the items marked "Yes" in Table 5.1 are provided below:

Hazardous Substances, Petroleum Products, and Waste Materials observed include the following:

- The 4,000-gallon diesel fuel UST (Photograph 47; Appendix C).
- The 4,000-gallon gasoline UST (Photograph 47; Appendix C).
- The aboveground OWS (Photograph 49; Appendix C).

- Several 55-gallon drums of used oil and sludge from the OWS (Photograph 50; Appendix C).
- The 500-gallon diesel AST associated with the generator room (Photograph 54; Appendix C).
- The aboveground and underground fuel piping associated with the fuel dispensers (Photograph 47; Appendix C).

Potential PCB-Containing Items observed include the following:

- The pad-mounted electrical transformer (Photograph 52; Appendix C).

Stains or Corrosion observed include the following:

- The oil-stained pavement (Photographs 45, 48, 53; Appendix C).
- The asphalt residue in the landscaping area (Photograph 51; Appendix C).

Onsite Wastewater Treatment and Disposal Systems observed include the following:

- The aboveground OWS (Photograph 49; Appendix C).

Piping Containing Petroleum or Hazardous Substances observed include the following:

- The aboveground and underground fuel piping associated with the fuel dispensers (Photograph 47; Appendix C).

5.9 GENERAL AVIATION AREA (FIGURES 12A, 12B, AND 12C)

The General Aviation Area is located northeast of the Air Cargo and Commuter Terminal Area. Located in this area are:

- ***Airfield Generator Building:*** At the time of the inspection, the Airfield Generator Building consisted of a generator building (Photograph 55; Appendix C) and a 550-gallon diesel fuel UST (Photograph 56; Appendix C). A pad-mounted electrical transformer (Photograph 55; Appendix C) was observed.

- ***FAA ATCT:*** At the time of the inspection, the ATCT consisted of the tower, a generator room (Photograph 57; Appendix C), a storage area with containers (Photograph 59; Appendix C), and a parking area. A 1,000-gallon diesel fuel AST (Photograph 58; Appendix C) was located adjacent to the generator room.

- ***Kauai County Hangar:*** At the time of the inspection, the Kauai County Hangar consisted of a Hangar building (Photograph 60; Appendix C) and a wash pad area (Photograph 63; Appendix C). A waste oil aboveground OWS (Photograph 64; Appendix C) was located behind the wash pad area. Additionally, a Jet-A fuel MST (Photograph 61; Appendix C) and an out-of-use scissor lift with signs of corrosion (Photograph 62; Appendix C) were observed.

- ***Airborne Aviation:*** At the time of the inspection, the Airborne Aviation (a helicopter utility company) consisted of a paved area, in which a helicopter covered parking area (Photograph 65; Appendix C) was located; and an unpaved area, in which a trailer used as an office and storage area is located. A pad-mounted electrical transformer (Photograph 66; Appendix C) was observed.

- ***T-Hangars (Building 410 & 411):*** At the time of the inspection, the T-Hangars (Building 410 & 411) consisted of two main buildings (Photograph 67; Appendix C). Additionally, two pad-mounted electrical transformers (Photographs 68 and 69; Appendix C) were observed.

- ***Jack Harter Helicopters Hangar:*** At the time of the inspection, the Jack Harter Helicopters Hangar consisted of a paved area, in which a helicopter hangar was located (Photograph 70; Appendix C); and an unpaved area, used for parking and storage (Photograph 71; Appendix C). A pad-mounted electrical transformer (Photograph 72; Appendix C) was observed.

- ***Blue Hawaiian Hangar:*** At the time of the inspection, the Blue Hawaiian Hangar consisted of a paved area, in which a helicopter hangar (Photograph 73; Appendix C), parking, and storage areas were located. Additionally, an aboveground OWS (Photograph 74; Appendix C), used oil storage (Photograph 75; Appendix C), and a pad-mounted electrical transformer (Photograph 76; Appendix C) were located adjacent to the hangar building.

- ***Air Service Hawaii Area:*** At the time of the inspection, the Air Service Hawaii Area consisted of an office building and a paved area with a 12,000-gallon Avgas AST (Photograph 77; Appendix C) and MSTs (Photograph 78; Appendix C) were located. The facility also consisted of a grass-covered area, in which containers (Photograph 79; Appendix C), an out-of-use fueling area with signs of corrosion (Photograph 80; Appendix C), and an empty 6,000-gallon Avgas AST that was previously located where the Air Cargo and Commuter Terminal Area (Photograph 81; Appendix C) were located. Additionally, a pad-mounted electrical transformer (Photograph 82; Appendix C) was observed.

- ***Private Hangar:*** At the time of the inspection, the Private Hangar consisted of a covered helicopter parking area (Photograph 83; Appendix C) and an out-of-use washing area, in which an aboveground OWS was located (Photograph 84; Appendix C).

- ***National Weather Service:*** At the time of the inspection, the National Weather Service consisted of an office building and satellite station (Photograph 85; Appendix C). A 250-gallon diesel fuel AST (Photograph 86; Appendix C) was located adjacent

to the main office building. Additionally, a pad-mounted electrical transformer (Photograph 87; Appendix C) was observed.

A description of the items marked "Yes" in Table 5.1 are provided below:

Hazardous Substances, Petroleum Products, and Waste Materials observed include the following:

- The 550-gallon diesel fuel UST at the Airfield Generator building (Photograph 56; Appendix C).
- The 1,000-gallon diesel fuel AST at the ATCT (Photograph 58; Appendix C).
- The aboveground OWS at the Kauai County Hangar wash pad area (Photograph 64; Appendix C).
- The mobile fueler at the Kauai County Hangar (Photograph 61; Appendix C).
- The out-of-use scissor lift with signs of corrosion at the Kauai County Hangar (Photograph 62; Appendix C).
- The aboveground OWS at Blue Hawaiian Hangar (Photograph 74; Appendix C).
- The 12,000-gallon Avgas AST at Air Service Hawaii (Photograph 77; Appendix C).
- The 6,000-gallon Avgas unused AST at Air Service Hawaii (Photograph 81; Appendix C).
- The aboveground OWS at Private Hangar (Photograph 84; Appendix C).
- The 250-gallon diesel fuel AST at the National Weather Service (Photograph 86; Appendix C).

Unidentified Substance Containers observed include the following:

- Containers at the ATCT storage area (Photograph 59; Appendix C).
- Containers at Air Service Hawaii Area (Photograph 79; Appendix C).

Potential PCB-Containing Items observed include the following:

- The pad-mounted electrical transformer at Airfield Generator Building (Photograph 55; Appendix C), Airborne Aviation (Photograph 66; Appendix C), T-Hangars (Building 410 & 411) (Photographs 68 and 69; Appendix C), Jack Harter Helicopters Hangar (Photograph 72; Appendix C), Blue Hawaiian Hangar (Photograph 76; Appendix C), Air Service Hawaii (Photograph 82; Appendix C), and National Weather Service (Photograph 87; Appendix C). The PCB status of the electrical transformers is unknown. HDOTA is currently inventorying electrical transformers at LIH.

Stains or Corrosion observed include the following:

- The out-of-use scissor lift with signs of corrosion at the Kauai County Hangar (Photograph 62; Appendix C).
- The out-of-use fueler area with signs of corrosion (Photograph 80; Appendix C).

Onsite Wastewater Treatment and Disposal Systems observed include the following:

- The waste oil aboveground OWS at the Kauai County Hangar wash pad area (Photograph 64; Appendix C).

- The aboveground OWS at Blue Hawaiian Hangar (Photograph 74; Appendix C).
- The aboveground OWS at the Private Hangar (Photograph 84; Appendix C).

5.10 BULK FUEL STORAGE AREA (FIGURE 13)

At the time of the inspection, the Bulk Fuel Storage Area (Photograph 88; Appendix C) consisted of the LIH fuel farm and the MST parking area. The fuel farm contains three 100,000-gallon capacity Jet-A fuel vertical ASTs (Photograph 89; Appendix C), two loading racks, and a generator associated with a 700-gallon diesel fuel AST (Photograph 90; Appendix C). The MST parking area (Photograph 91; Appendix C) was located adjacent to the fueling station (Photograph 92; Appendix C).

A description of the items marked "Yes" in Table 5.1 are provided below:

Hazardous Substances, Petroleum Products, and Waste Materials observed include the following:

- The three 100,000-gallon capacity Jet-A fuel vertical ASTs (Photograph 89; Appendix C).
- The 700-gallon diesel fuel AST associated with the generator (Photograph 90; Appendix C).
- The aboveground and underground fuel piping associated with the fueling rack (Photograph 92; Appendix C).

Piping Containing Petroleum or Hazardous Substances observed include the following:

- The aboveground and underground fuel piping associated with the fueling rack (Photograph 92; Appendix C).

5.11 FORMER INDUSTRIAL AREA (FIGURE 14)

At the time of the inspection, the Former Industrial Area consisted of a roll-off and dumpster storage (Photograph 93; Appendix C). Additionally, former building foundations and solid waste with signs of corrosion were observed (Photograph 94; Appendix C).

A description of the items marked "Yes" in Table 5.1 are provided below:

Hazardous Substances, Petroleum Products, and Waste Materials observed include the following:

- Solid waste with signs of corrosion (Photograph 94; Appendix C).

5.12 FORMER AHUKINI DUMP AREA (FIGURE 15)

At the time of the inspection, the Former Ahukini Dump Area consisted of an area covered with grass and native vegetation located in a slope adjacent to the Pacific Ocean (Photograph 95; Appendix C).

No environmental concerns were observed during the inspection.

5.13 ARFF Station and Former Training Area (Figure 16)

At the time of the inspection, the ARFF Station (Photograph 96; Appendix C) consisted of a 3,000-gallon AFFF AST (Photograph 97; Appendix C), a 500-gallon capacity diesel fuel AST (Photograph 98; Appendix C), and two OWSs (Photographs 99 and 100; Appendix C). A pad-mounted electrical transformer (Photograph 101; Appendix C) was located adjacent to the ARFF Storage Area. The Former ARFF Training Area (Photograph 102; Appendix C), located between the ARFF Station and RTR Area, consisted of an empty out-of-use gravel/grass-covered area.

There were no stockpiles of gravel from the training pit observed during the site inspection. The deposition of the gravel is unknown; however, according to Chief Lemn of the LIH Fire Department, the gravel was disposed of offsite. However, no records of offsite disposal were made available to ESI for review.

Additionally, the FAA RTR Area consisted of three radio towers and a transmission building (Photograph 103; Appendix C). Containers (Photograph 104; Appendix C) and a pad-mounted electrical transformer (Photograph 105; Appendix C) were also observed.

A description of the items marked "Yes" in Table 5.1 are provided below:

Hazardous Substances, Petroleum Products, and Waste Materials observed include the following:

- The 500-gallon diesel fuel AST at the ARFF Station (Photograph 98; Appendix C).
- The two OWSs at the ARFF Station (Photographs 99 and 100; Appendix C).
- Residual of petroleum substances used for training at the Former ARFF Training Area.

Unidentified Substance Containers observed include the following:

- Containers at the FAA RTR (Photograph 104; Appendix C).

Potential PCB-Containing Items observed include the following:

- The pad-mounted electrical transformer at the ARFF Station (Photograph 101; Appendix C) and the FAA RTR (Photograph 105; Appendix C).

Onsite Wastewater Treatment and Disposal Systems observed include the following:

- The two OWSs (Photographs 99 and 100; Appendix C).

TABLE 5.2
USTs Observed on the Properties
Lihue Airport
Modified Phase I Environmental Site Assessment

Location	Site	Capacity (Gallons)	DOH UST Facility ID No.	Contents	Status
Main Terminal Area	Terminal Generator Building	2,000	9-701778	Diesel Fuel	Currently in use
Rental Car Area	Alamo	10,000	9-701714	Gasoline	Currently in use
		550		Used Oil	Temporarily out of use
	Avis	10,000	9-702492	Gasohol	Currently in use
	Budget	10,000	9-701885	Gasohol	Currently in use
		10,000		Gasohol	Currently in use
	Hertz	12,000	9-700058	Gasoline	Currently in use
		550		Used Oil	Currently in use
HDOT Maintenance Baseyard Area	HDOTA Maintenance Baseyard	4,000	9-701778	Diesel Fuel	Currently in use
		4,000		Gasoline	Currently in use
General Aviation Area	Airfield Generator Building	550	9-702554	Diesel Fuel	Currently in use

TABLE 5.3
ASTs Observed on the Properties
Lihue Airport
Modified Phase I Environmental Site Assessment

Location	Capacity (Gallons)	Contents	Status
Rental Car Area			
Hertz-Dollar-Thrifty	5,000	Gasoline	Currently in use
Hertz-Dollar-Thrifty	5,000	Gasoline	Currently in use
Budget	480	New motor oil	Currently in use
Budget	480	Used oil	Currently in use
Heliport Area			
Par Hawaii	30,000	Jet-A Fuel	Currently in U use
Par Hawaii	30,000	Jet-A Fuel	Currently in Use
Par Hawaii	Unknown	Diesel fuel	Currently in use (associated with generator)
HDOTA Maintenance Baseyard			
HDOTA Maintenance Baseyard	500	Diesel fuel	Currently in use
General Aviation Area			
ATCT	1,000	Diesel fuel	Currently in use
Air Service Hawaii	12,000	Avgas	Currently in use
Air Service Hawaii	6,000	Avgas	Unused
National Weather Service	250	Diesel Fuel	Currently in use
Bulk Fuel Storage Area			
Bulk Fuel Storage Facility	100,000	Jet-A Fuel	Currently in use
Bulk Fuel Storage Facility	100,000	Jet-A Fuel	Currently in use
Bulk Fuel Storage Facility	100,000	Jet-A Fuel	Currently in use
Bulk Fuel Storage Facility	700	Diesel Fuel	Currently in use (associated with generator)
ARFF Station and Former ARFF Training Area			
ARFF Station	3,000	3% AFFF	Currently in use
ARFF Station	500	Diesel Fuel	Currently use

- Not observed during the site inspection. Information provided by HDOTA personnel.

TABLE 5.4
MSTs Observed on the Properties
Lihue Airport
Modified Phase I Environmental Site Assessment

Location	Capacity (Gallons)	Contents	Status
Rental Car Area			
Budget	125	Gasoline	Currently in use
Budget	250	Gasoline	Currently in use
General Aviation Area			
Kauai County Hangar	Unknown	Jet-A Fuel	Currently in use

SECTION 6 – DATA GAPS AND LIMITATIONS

6.1 DATA GAPS AND LIMITATIONS

- The interior of structures and the following exterior areas of the Property were not inspected.
  - Runway Area (partially inspected)
  - ATCT Interior (General Aviation Area)
  - National Weather Service (General Aviation Area)
  - WWPS (Main Terminal Area)

- The exact location of the FEMA storage area is unknown. According to Chief Lemn of the LIH Fire Department and HDOTA Maintenance Baseyard personnel, the FEMA generators were likely stored in the area of the old terminal building (currently the Air Cargo and Commuter Terminal Area). The absence of the storage location information is considered a data gap.

SECTION 7 – REFERENCES

AirportGuide, 2021 Website: (https://airportguide.com/navaid/SOK/VORTAC)

AMPROCO, 1992, Underground Storage Tank Removal Report, Federal Aviation Administration, Contract DFTA 08-92-C-02987, Closure of Underground Storage Tanks, Various Locations, Hawaiian Islands, American Processing Co. Inc., July 13, 1992.

ASTM, 2013, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Method E1527-13, November 1, 2013.

BES, 2005, Underground Storage Tank Closure Report, Dollar Rent-A-Car Facility, 3272 Hoolimalima Place, Lihue. Kauai, Hawaii, 96799, Facility ID No. 9-701892, January 28, 2005.

CFC, 1993, Expanded Phase I Environmental Site Assessment marked Draft, For: AMFAC/JMB, Ahukini Street, Lihue, Kauai, Hawaii, CFC Jon #93101, Cotton and Frazier Consultants, Inc., November 24, 1993.

Clayton, 1991a, Underground Tank Closure for Old Generator Building Tank at Lihue Airport, Lihue, Kauai, Hawaii, Clayton Project No. 33610.02, Clayton Environmental Consultants, October 10, 1991.

Clayton, 1991b, Underground Storage Tank Removal and Soil Excavation at Lihue Airport, Lihue, Kauai, Hawaii, Clayton Project No. 33610.00, Clayton Environmental Consultants, July 12, 1991.

Clayton, 1991c, Status report on the Tank Removal, Soil Excavation and Subsurface Investigation at Lihue Airport, Lihue, Kauai, Hawaii, Clayton Project No. 33610.00, Clayton Environmental Consultants, May 22, 1991.

CPR, 2005, State of Hawaii Department of Health Release Report, Environmental Oversight of Product Piping Removal, 3276 Hoolimalima Place, Lihue Airport, Lihue, Kauai, Hawaii, CPR Project 5-3, August 26, 2005.

Dana, James Dwight. 1849. Geology. New York, NY: G.P. Putnam.

DOH, 1991, Letter from Roxanne Lau (DOH) to Steven Wong (HDOTA), DOH Correspondence U0202RL, February 4, 1991.

DOH, 1997a, Budget Rent-A-Car, Lihue, Facility ID No. 9- 701885 / Release I.D. No. 970077: Letter from Steven Y.K. Chang (DOH) to Mr. Karl S. Westermann (Budget Rent-A-Car), DOH Correspondence U0864SO, September 3, 1997.

DOH, 1997b, Lihue Airport Renovation (State Project #AK 1046-17), Facility I.D. 9-703830: Letter from Steven Y.K. Chang (DOH) to Mr. Ernest Kurosawa (HDOTA), DOH Correspondence U0760JAR, July 25, 1997.

DOH, 1998, Lihue Airport Underground Storage Tank Closures, Facility I.D. 9-701758, 9-700435, 9-701558 and 9-700432/Release ID 980086 & 980087: Letter from Steven Y.K. Chang (DOH) to Mr. Stan S. Sekimoto (Kauai Airports District Manager), DOH Correspondence U0425JAR, April 8, 1998.

DOH, 1999, Lihue Air Traffic Control Tower (LIH ATCT), Facility I.D. 9-703405, Release I.D. 990171: Letter from Steven Y.K. Chang (DOH) to Mr. Michael D. Yim (FAA), DOH Correspondence U03085DH, March 30, 1999.

DOH, 2000a, Federal Aviation Administration,(Please see attachment for various FAA facilities in Hawaii) Facility I.Ds. 9-101779, 9-601616, 9-701552, 9-500391, 9-501592, and 9-402613: Letter from Steven Y.K. Chang (DOH) to Mr. Thomas A. Smith (FAA), DOH Correspondence U03026RSM, March 22, 2000.

DOH, 2000b, Alamo Rent-A-Car, 3276 Hoolimalima Place, Facility ID 9-701714, Release ID 990239: Letter from Steven Y.K. Chang (DOH) to Ms. Shirley Smith (Alamo), DOH Correspondence U06046RT, June 24, 2000.

DOH, 2001, Lihue Airport Baseyard (6380-gallon diesel UST), Facility ID 9-701778, Release ID 980245: Letter from Steven Y.K. Chang (DOH) to Mr. Terry Kearny (HDOTA), DOH Correspondence U12035SL, January 8, 2001.

DOH, 2004, Lihue Airport Baseyard – No Further Action, Waste Oil Underground Storage Tank, Lihue, Kauai, Facility ID No. 9-701778, Release ID No. 980256: Letter from Steven Y.K. Chang (DOH) to Mr. Davis Yogi (HDOTA), DOH Correspondence U04001RH, April 5, 2004.

DOH, 2005a, Avis Rent-A-Car, 3259 Hoolimalima Place, Lihue, Kauai, Facility ID 9-702492, Release ID No. 050013: Letter from Steven Y.K. Chang (DOH) to Ms. Rose Pelino (Cendant Car Rental), DOH Correspondence U08029CP, August 12, 2005.

DOH, 2005b, Dollar Rent-A-Car Facility, 3273 Hoolimalima Place, Lihue, Kauai, Facility ID 9-701892, Release ID No. 040069: Letter from Steven Y.K. Chang (DOH) to Mr. Steve Betts (DTG Operations, Inc.), DOH Correspondence U05069CP, May 27, 2005.

DOH, 2005c, No Further Action Required for Soil Contamination Investigated by J.R. Harold & Associates/ENPRO Environmental during 2001-2003 at (Air Service Hawaii) AVGAS Above Ground Fuel Storage Site at Lihue Airport, Kauai: Letter from Mr. Keith E. Kawaoka (DOH) to Mr. Michael Markov (Murrayair), DOH Correspondence 05-485-JP, September 21, 2005.

EDR, 2019, Lihue Airport, Lihue, HI 96766, Environmental Data Resources Radius Map with GeoCheck: Inquiry Number: 5616650.2s, April 9, 2019.

EKNA, 1997, Closure of Eight Underground Storage Tanks (UST), Lihue Airport Apron & T-Hangars, Lihue, Kauai, Hawaii, DOH UST Facility ID #'s 9-701758, 9-700432, 9-700435, and 9-701558, Edward K. Noda & Associates, Inc., January 1997.

EKNA, 2000a, Closure Report, Former National Rent-a-car Station, Lihue Airport, Lihue, Kauai, Hawaii, Hawaii DOH Facility ID 9-703085, State Project No. AS 1090-01, Delivery Order 30, Edward K. Noda & Associates, Inc., March 7, 2000.

EKNA, 2000b, Closure of PCS Remediation Cells, Former Masterworks Site, Lihue Airport, Lihue, Kauai, Hawaii, State Project No. AS 1090-01, Delivery Order 34, Edward K. Noda & Associates, Inc., May 26, 2000.

ENPRO, 2003, Response to Department of Health Comments, Air Service Hawaii, Lihue, Kauai, ENPRO Project Number 310260018-HNL: Letter from Mr. Kenton Beal (ENPRO) to Mr. Gary Callahan (DOH), December 19, 2003.

EPA, 2019a, Innocent Landowners, Standards for Conducting All Appropriate Inquiries: 40 CFR 312, July 1, 2019.

EPA, 2019b, Oil Pollution Prevention: 40 CFR 112, July 1, 2019.

ETC, 2009, Site Screening Activities Report, Former Ahukini Dump Site, 3651 Ahukini Road, Lihue, Kauai, Hawaii 96766, TMK (4) 3-5-1:Parcel 8, EnviroServices & Training Center, LLC, October 2009.

FOPCO, 1998, Site Assessment Report for Underground Storage Tank Closure, Lihue Airport Maintenance Baseyard, Lihue Airport, Lihue, Kauai, Hawaii, DOH Facility I.D. Number 9-701778, The Fuel Oil Polishing Company of Hawaii, November 5, 1998.

Giambelluca et al., February 2014a, Giambelluca, T.W., Q. Chen, A.G. Frazier, J.P. Price, Y.-L. Chen, P.-S. Chu, J.K. Eischeid, and D.M. Delparte, 2013: Online Rainfall Atlas of Hawai'i. *Bull. Amer. Meteor. Soc.* 94, 313-316, doi: 10.1175/BAMS-D-11-00228.1.

Giambelluca et al., February 2014b, Giambelluca, T.W., X. Shuai, M.L. Barnes, R.J. Alliss, R.J. Longman, T. Miura, Q. Chen, A.G. Frazier, R.G. Mudd, L. Cuo, and A.D. Businger, 2014, Evapotranspiration of Hawai'i, Final Report: Department of Geography, University of Hawai'i at Mānoa, October 2014.

Hawaii Airports Modernization Project, 2021. Website: http://www.hawaiiairportsmodernization.com

HDOTA, 1989, Lihue Airport Master Plan, Lihue, County of Kauai: State of Hawaii Department of Transportation, Airports Division, Prepared by Wilson Okamoto & Associates, Inc, Aries Consultants Ltd., Y. Ebisu & Associates, October 1989.

HDOTA, 1999, Apron Preparation and Road Realignment, Phase I, Lihue Airport, AIP Project Nos. 3-15-0013-18 & 19, State Project No. AK 1046-21, Prepared by R.M. Towill Corporation, July 1999.

HDOTA, 2020, Spill Prevention, Control, and Countermeasure Plan, Lihue Airport: State of Hawaii Department of Transportation, Airports Division, Prepared by EnviroServices & Training Center, LLC, August 2020.

HDOTA, 2021, Best Management Practice Field Manual for Operations at State of Hawaii Airports: State of Hawaii Department of Transportation, Airports Division, Version 3, January 2021.

Hinds, Norman E.A. 1930. The Geology of Kauai and Niihau. Bernice P. Bishop Museum, Bulletin 71.

JRHA, 2002, Air Service Hawaii, Kauai, Above Ground Aviation Fuel Tank, J.R. Harold & Associates Project Number 2E024010, September 9, 2002.

Kimura, 1999a, Kimura International, Inc., Kauai County Airports, Lihue Airport, Port Allen Airport, Environmental Compliance Audit, May 1999.

Kimura, 1999b, Short Term Release Response Site Investigation, Alamo Rent-A-Car, Inc., 3276 Hoolimalima Place, Lihue Airport, Kauai, Hawaii, Release Identification Number 990239, Kimura International, Inc., September 27, 1999.

Kimura, 1999c, Removal Action and Closure Report for Petroleum Contaminated Soil at the Former Masterworks Site, 3130 Ahukini Road, Lihue, Kauai, Hawaii, Kimura International, Inc., April 1999.

Kimura, 1999d, Addendum to Removal Action and Closure Report for Petroleum Contaminated Soil (April 23, 1999) and Status Update for Closure Plan / Report Related to the Solid Waste Management Permit (March 19, 1999) for the Former Masterworks Site, 3130 Ahukini Road, Lihue, Kauai, Hawaii, Kimura International, Inc., August 1999.

Kimura, 2001, Final Closure Report, The Former Masterworks Scrap Yard at Lihue Airport, Island of Kauai, Fuel Oil Polishing Company, Inc. and Kimura International Inc., June 2001.

Macdonald, G. A., D. A. Davis, and D. C. Cox. 1960. Geology and Ground-Water Resources of the Island of Kauai, Hawaii. Bulletin 13. Prepared in cooperation with the Geological Survey. Honolulu: Hawaii (Terr.) Department of Public Lands, Division of Hydrography.

MFA, 2005, UST Closure and Final Release Response Report, 550-gallon Underground Storage Tank, 3259 Hoolimalima Place, Lihue, Hawaii, Facility ID 9-702492, Masa Fujioka & Associates, May 11, 2005.

Mink, J. F. and Lau, L. S., 1992, Aquifer Identification and Classification for Kauai: Groundwater Protection Strategy for Hawaii: Water Resources Research Center Technical Report No. 186, September 1992.

Ogden, 1994, Ogden Environmental and Energy Services, Final Environmental Compliance Audit, Module III, Hawaii and Kauai County Airports, Hilo International Airport, Hilo, Hawaii, Keahole Airport, Kona, Hawaii, Waimea Airport, Kamuela, Hawaii, Upolu Airfield, Upolu Point, Hawaii, Lihue Airport, Lihue, Kauai, Port Allen Airfield, Port Allen, Kauai, July 1994.

Reiners, Peter W., Bruce K. Nelson, and Scot K. Izuka. 1999, "Structural and Petrologic Evolution of the Lihue Basin and Eastern Kauai, Hawaii," GSA Bulletin 111 (5): 674–85, doi:10.1130/0016-7606(1999)111<0674:SAPEOT>2.3.CO;2.

RMTC, 2001, Follow-up Release Report for Lihue Airport Apron Site Preparation and Road Realignment Phase I, AIP Project No. 3-15-0013-18 & 19 and State Project No. AK1046-21, Lihue Airport, Lihue, Hawaii, 96766, R.M. Towill Corporation, March 2001.

State of Hawaii, 2021, Hawaii Aviation, An Archive of Historic Photos and Facts, Website: http://aviation.hawaii.gov/

Tetra Tech, 2017, Site Assessment Report, Hertz Rent A Car Facility, Lihue Airport, 3250 Hoolimalima Place, Lihue, Kauai, Hawaii. Tetra Tech, November 8, 2017.

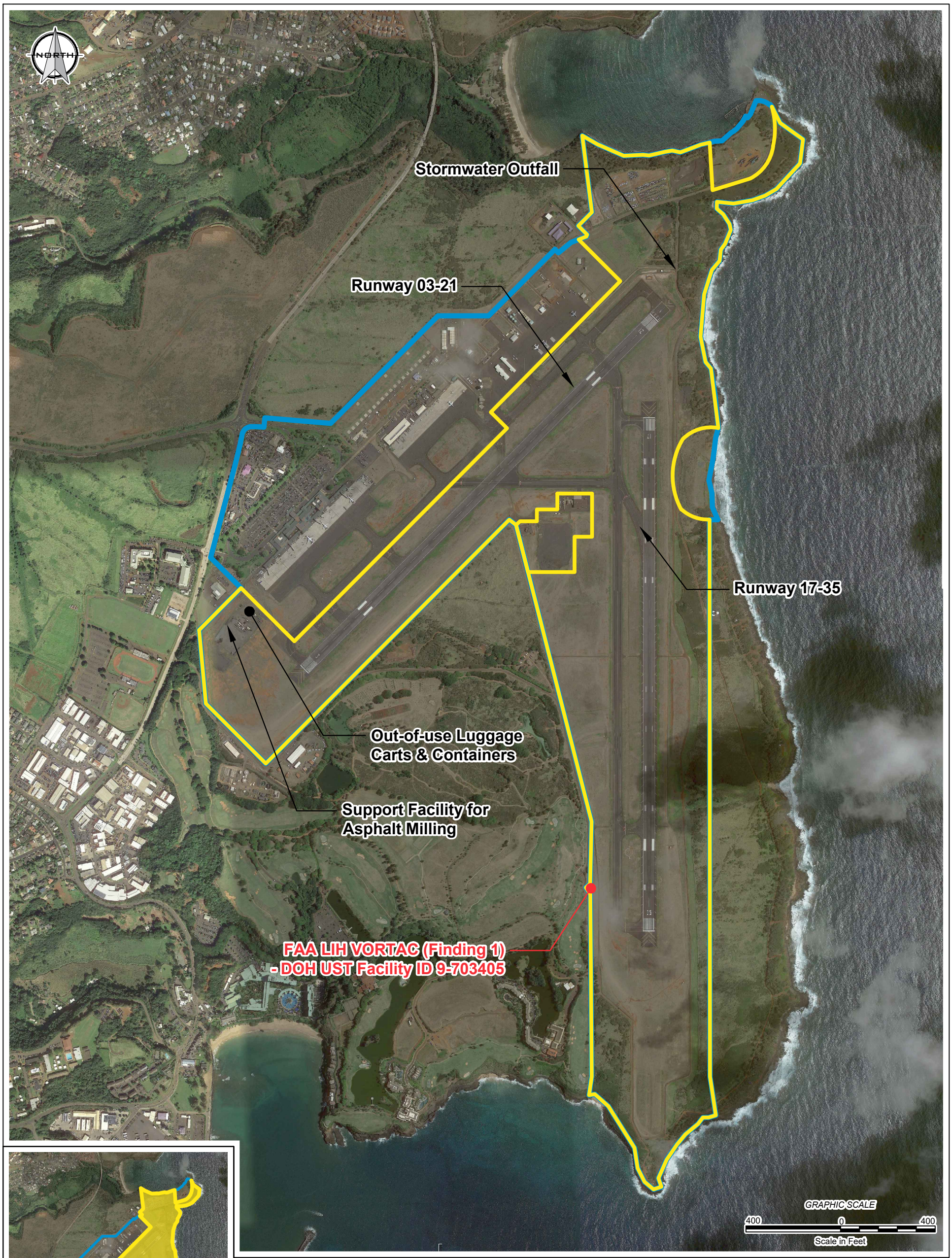
Volpe, 1998, Federal Aviation Administration, Western Pacific Region, Closure Report, Underground Storage Tank Removal, Lihue ATCT, John A. Volpe National Transportation Systems Center, October 1998.

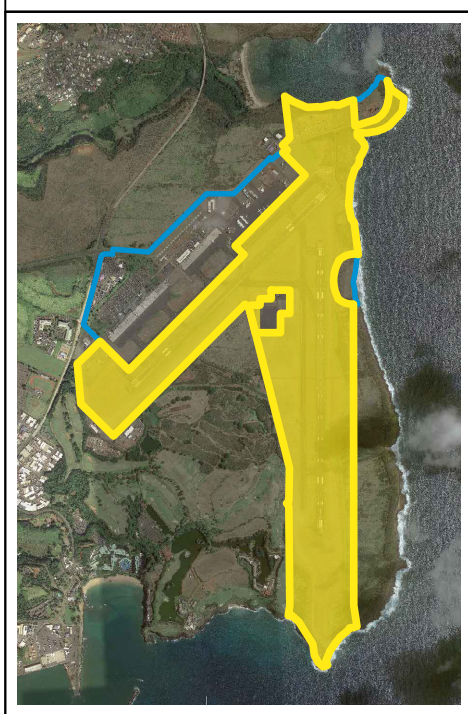
WCL, 1997, Underground Storage Tank Closure Report, Budget Rent A Car Ready/Return Facility, Lihue Airport, 3285 Hoolimalima Road, Lihue, Kauai, Hawaii 96766, TMK No. 3-5-01:132, DOH Facility ID 9-701885, DOH Release ID 970077, July 1997.

Interviews Conducted and Records Requested:

EDR Report	Records Request
DOH SHWB	Records Request
DOH HEER Office	Records Request
Kauai Fire Department	Records Request
Mr. Reid Kawane, HDOTA	Interviewed

FIGURES





LEGEND

- LIHUE AIRPORT BOUNDARY
- MAIN AREA - RUNWAY AREA
- CONTAMINATED / POTENTIALLY CONTAMINATED LOCATION

NOTES

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SOURCES

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AutoCAD Drawings, State of Hawaii Department of Transportation, Airports Division, 2019.

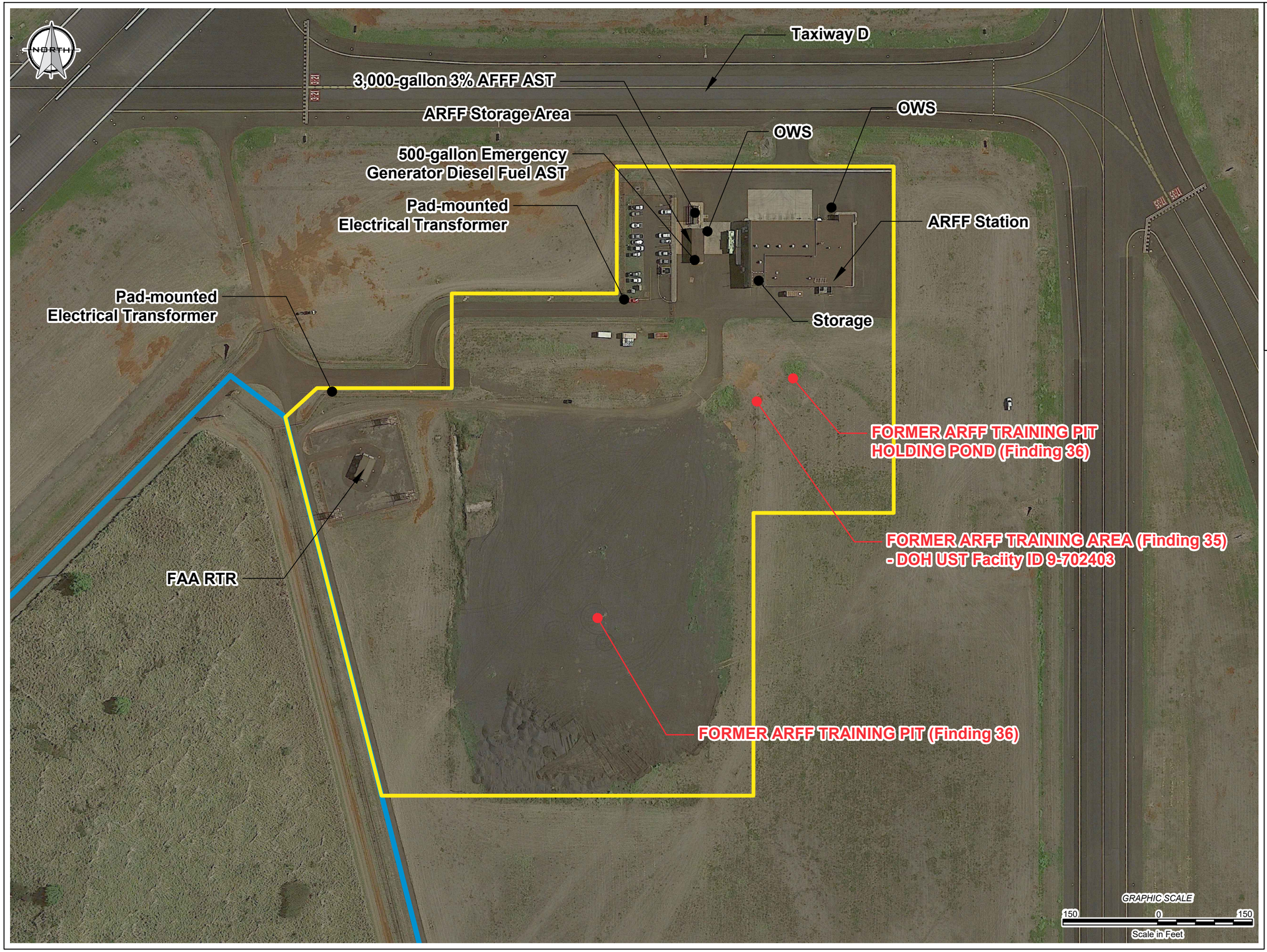
http://planning.hawaii.gov/gis/, 2020.

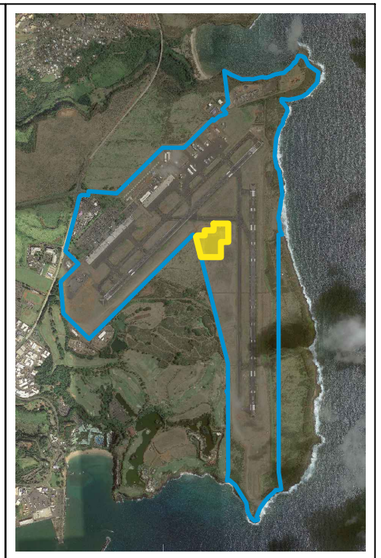
FIGURE 5

RUNWAY AREA SITE MAP

MODIFIED PHASE I ENVIRONMENTAL SITE ASSESSMENT
Lihue Airport
3901 Mokulele Loop, Lihue, Kauai, Hawaii
State of Hawaii Department of Transportation
Airports Division

ENVIRONMENTAL SCIENCE INTERNATIONAL





LEGEND

- LIHUE AIRPORT BOUNDARY
- MAIN AREA - ARFF STATION & FORMER ARFF TRAINING AREA
- CONTAMINATED / POTENTIALLY CONTAMINATED LOCATION

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FIGURE 16

ARFF STATION & FORMER ARFF TRAINING AREA SITE MAP

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Lihue Airport
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ENVIRONMENTAL SCIENCE INTERNATIONAL

Photo 01: Containers and out-of-use luggage carts – Runway Area.

Photo 02: Support facility for asphalt milling – Runway Area.

Photo 03: Stormwater canal discharge point – Runway Area.

Photo 04: Main Terminal.

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Request No.: _____

State of Hawaii Department of Transportation – Airports Division
Contaminated Soil and Groundwater Review Form

Instructions:

1. Requestor (e.g., Designer) will complete Section 1 of the Contaminated Soil and Groundwater Review Form and submit to DOTA Environmental Section (AIR-EE). AIR-EE will then forward to Environmental Consultant at Environmental@esciencei.com.
2. Environmental Consultant will review the HDOT-AIR Environmental Database and complete Section 2 of the Contaminated Soil and Groundwater Review Form and provide information back to DOTA Environmental Section and the Requestor.

If you have any questions, contact the Environmental Consultant by email: Environmental@esciencei.com, or Phone: (808) 261-0740 and request HDOT-AIR Environmental Consultant.

SECTION 1. To Be Completed By Requestor

Requestor: Jamie Hikiji Date: 5/24/22

Project Engineer: Duke Young

Email: jamie.hikiji@aecom.com Phone: 808-529-7229

Department: AECOM

Title: Project Manager

Project No: AK1031-14

Project Name: Relocate Runway 3-21

Brief Description of Project and Location (provide coordinates, address, or attach site plans):

Project is located at the Lihue Airport (LIH), with work to be constructed mainly at the Runway 3 and 21 ends. The Project will consist of the relocation of Runway 3-21 to comply with FAA design standards for runway safety areas (RSAs). Work will include the relocation of Runway 3 and extension of Taxiway A, construction of new extended Runway 3 blast pad, relocation of Runway 21 threshold, construction of retaining walls on both ends of the the runway, grading of extended RSA, construction of jet blast deflector on Runway 3 end, relocated vehicle service roads, storm drain improvements, provision of new LED airfield lighting and signage, relocation/replacement of visual NAVAIDs, and replacement of the airfield electrical system, including rewiring of the four (4) airfield lighting circuits. Please refer to the site plans for additional information.

SECTION 2. To Be Completed By Environmental Consultant

ESI Reviewer: Douglas Heard Date: 7/1/2022

Email: dheard@esciencei.com Phone: 808-359-8332

Contaminated Soil or Groundwater Documented in Project Area (Yes/No): No

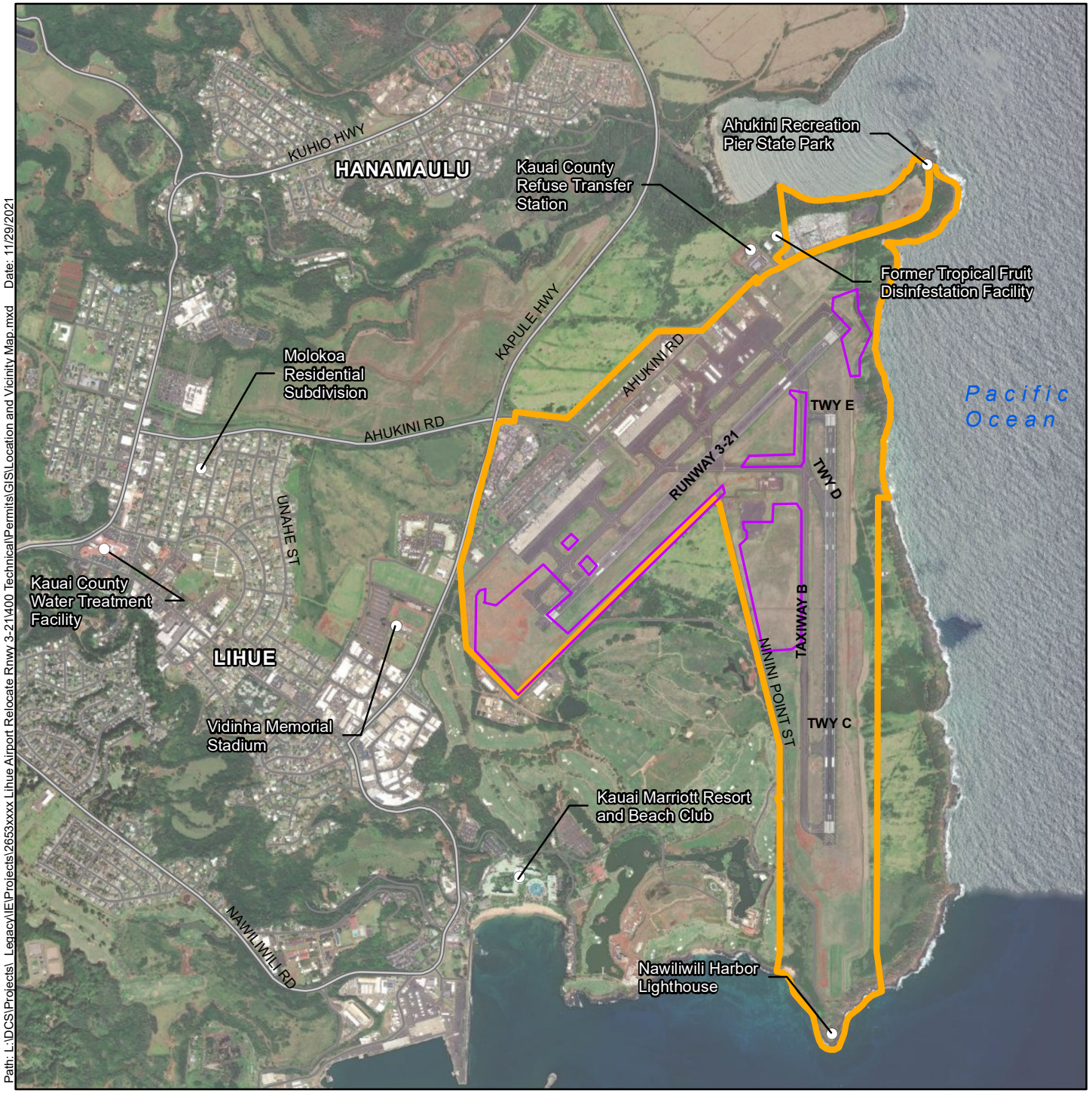
Comments:

Although there are no documented areas of contamination, there are two areas of concern for potential contamination within and near the Project Area. The two areas include the Aircraft Rescue and Fire Fighting Facility [ARFF] former training pit and training areas and a former asphalt hot-mix plant (ESI, 2021 - see Figures 5, 16 and Photograph 2). The ARFF area is located between Runways 3-21 and 17-35 and the former asphalt plant was located northwest of the western end of Runway 3-21.

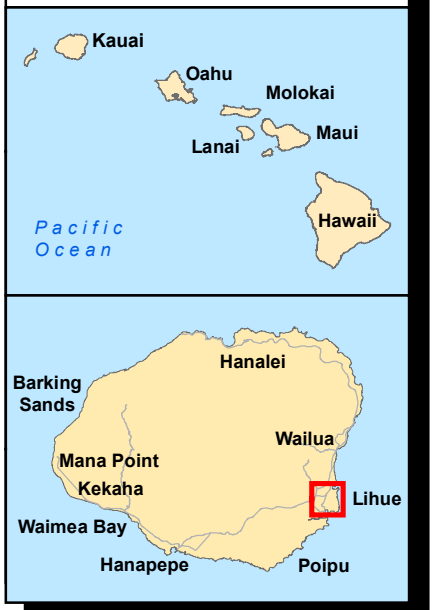
In 2006, a soil investigation was performed for the 6,000-gallon jet fuel UST, ancillary equipment, and pit liner, associated with the ARFF facility. The assessment involved collection and analyses of 32 soil samples for jet fuel [TPH-j] (ETC, 2006). No TPH-j was detected and the Department of Health [DOH] subsequently issued a no further action letter (DOH, 2009). However, this facility had a 3,000-gallon Aqueous

Attached Documents:

DOH, 2009, No Further Action letter, July, 2009.
ESI, 2021, Modified Phase I Assessment, Lihue Airport (partial), April 16, 2021.
ETC, 2007, UST Closure Report, ARFF Facility ID -9-702403, March 2007.



LOCATION MAP



LEGEND

- Lihue Airport Boundaries
- Project Area
- Major Road
- Other Road

NOTES

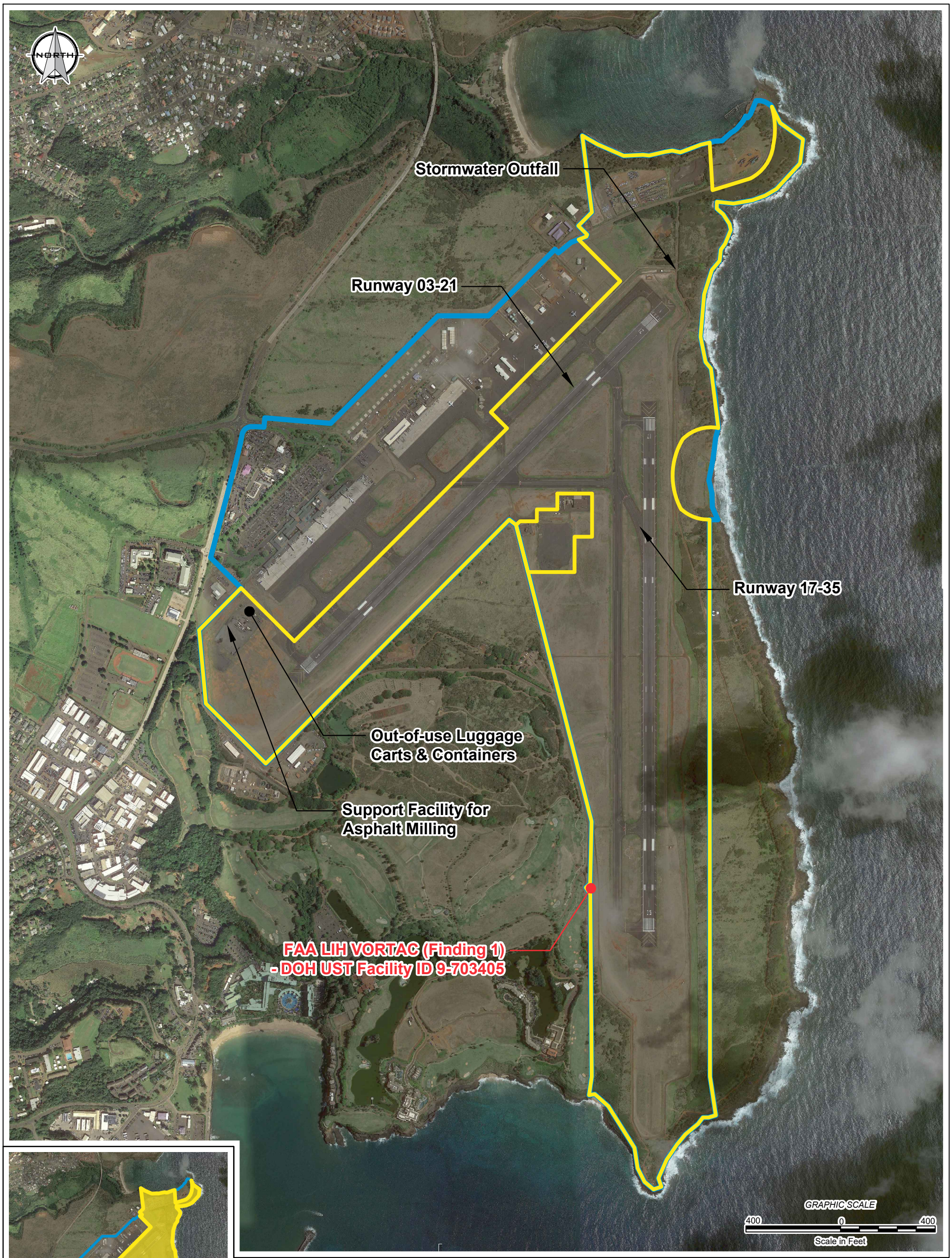
1. Map projection is Hawaii State Plane, Zone 4, NAD83.
2. Base map; ArcGIS Imagery

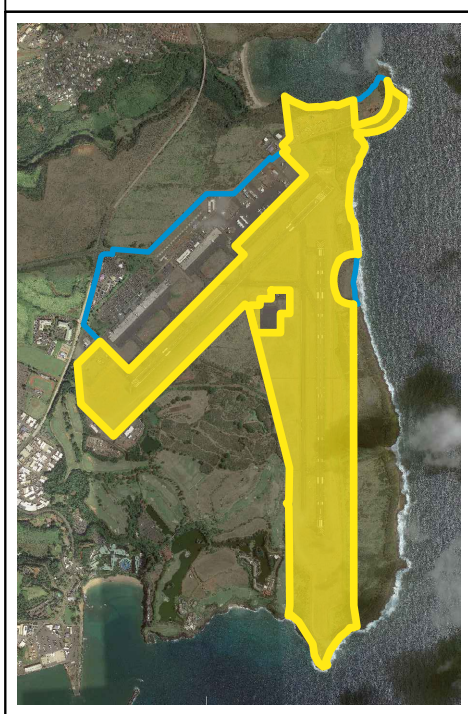
N

0 1,000 2,000 Feet

Attachment A-1
Location and Vicinity Map
Relocate Runway 3-21
at Lihue Airport
Kauai, HI

Path: L:\DCS\Projects_Legacy\IE\Projects\2653xxxx Lihue Airport Relocate Rnwy 3-21\400 Technical\Permits\GIS\Location and Vicinity Map.mxd Date: 11/29/2021





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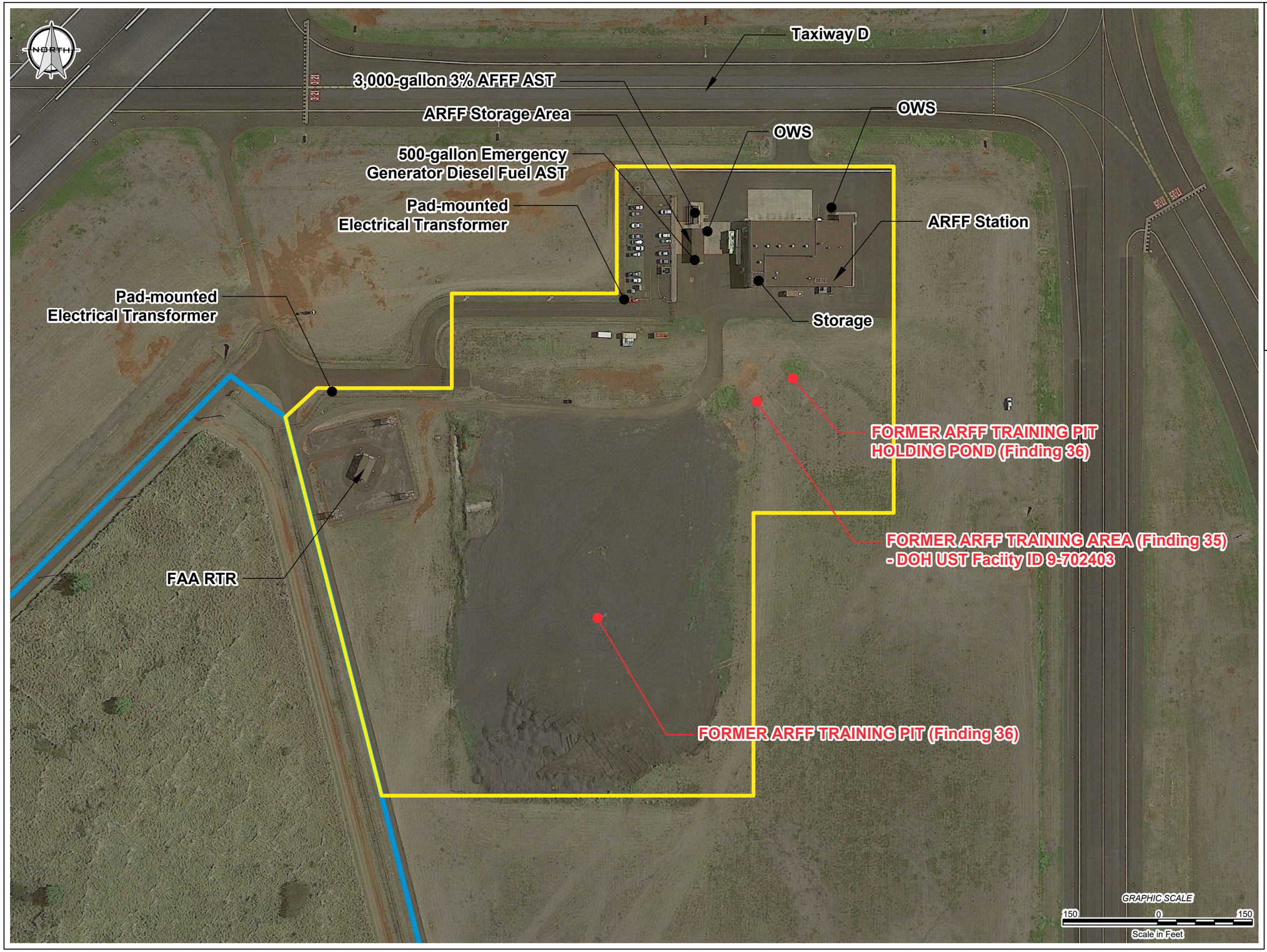

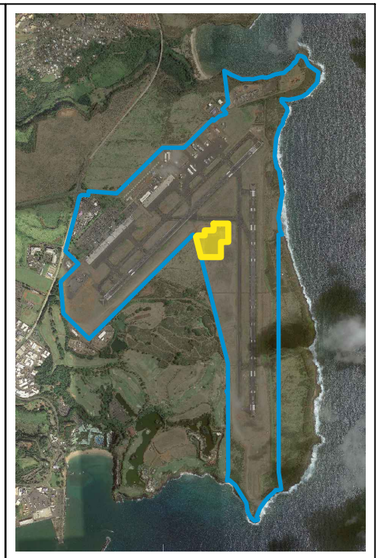

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Photo 01: Containers and out-of-use luggage carts – Runway Area.

Photo 02: Support facility for asphalt milling – Runway Area.

Photo 03: Stormwater canal discharge point – Runway Area.

Photo 04: Main Terminal.

facility file

JUL 14 2009

LINDA LINGLE
GOVERNOR OF HAWAII

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

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

In reply, please refer to:
EMD/SHWB

July 14, 2009

U0714RT

Mr. Jose Balignasay
Airports Division-Honolulu
State of Hawaii-Department of Transportation
400 Rodgers Boulevard, Suite 700
Honolulu, HI 96819-1880

Dear Mr. Balignasay:

SUBJECT: Aircraft Rescue Firefighting Training Facility – Lihue Airport
Facility ID No. 9-702403

no release

The Department of Health (DOH) has reviewed the *Underground Storage Tank Closure Report*, dated March 2007 and prepared by EnviroServices & Training Center. Please note the report has been placed with the public record.

DOH notes that soil samples obtained from beneath the underground storage tank (UST), ancillary equipment, and the pit liner following removal were analyzed and found to be "non-detectable" for petroleum contaminants. Based on the documentation submitted, DOH concludes that *no further work* is necessary regarding the UST system removed from the site.

However, please note that state law requires any detectable level of petroleum contamination discovered in the sub-surface of current or former UST facilities to be reported to this office within 24 hours, including *de minimis* contamination, contamination found at concentrations lower than DOH Tier 1 action levels, and contamination found after receiving a status of No Further Action from DOH. Generally, further work will not be required if contaminant concentrations are lower than DOH Tier 1 action levels, but notification to this office is required within 24 hours.

If you have any questions regarding this letter, please contact Mr. Richard Takaba of our Underground Storage Tank Section at (808) 586-4226.

Sincerely,

STEVEN Y.K. CHANG, P.E., CHIEF
Solid and Hazardous Waste Branch