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DEC - 3 2018

DEPARTMENT OF ENVIRONMENTAL SERVICES
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IN REPLY REFER TO:

WEC.PE 18-079

November 5, 2018

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

Dear Mr. Glenn:

SUBJECT: Final Environmental Assessment – Finding of No Significant Impact
Honolulu Area Wastewater Pump Station Facilities Improvements
(Paiko Drive Wastewater Pump Station)
Honolulu, Island of Oahu, Hawaii
Tax Map Key (1) 3-8-001: 034

With this letter, the City and County of Honolulu Department of Environmental Services (ENV) hereby transmits the Final Environmental Assessment and Finding of No Significant Impact (FEA-FONSI) for the Honolulu Area Wastewater Pump Station Facilities Improvements (Paiko Drive Wastewater Pump Station) project situated within Tax Map Key (1) 3-8-001: 034 in the Honolulu District on the Island of Oahu for publication in the next available edition of the Environmental Notice.

The ENV has included copies of the comments and responses that were received during the 30-day public comment period on the Draft Environmental Assessment and Anticipated Finding of No Significant Impact.

Enclosed is the one (1) hard copy of the Office of Environmental Quality (OEQC) Publication Form, one (1) hard copy of the FEA-FONSI, and one (1) CD containing an electronic word file of the OEQC Publication Form and a searchable pdf of the FEA-FONSI.

If there are any questions, please contact Christine Choy from our Division of Wastewater Engineering and Construction at (808) 768-8762.

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2018 NOV 14 P1:35
OFC. OF ENVIRONMENTAL QUALITY CONTROL

Sincerely,

Lori M.K. Kahikina, P.E.
Director

Enclosures

cc: Derek Mukai, Community Planning and Engineering, Inc. (via email)

19-172

AGENCY
PUBLICATION FORM

Project Name:	Honolulu Area Wastewater Pump Station Facilities Improvements (Paiko Drive Wastewater Pump Station)
Project Short Name:	
HRS §343-5 Trigger(s):	Use of County lands and funds
Island(s):	Oahu
Judicial District(s):	Honolulu
TMK(s):	(1) 3-8-001: 034
Permit(s)/Approval(s):	City Building Permit, City Yard Setback Waiver, Special Management Area Use Permit, Construction Noise Permit (as applicable), DOH Air Condition and Ventilation Permit, State Historic Preservation Division HRS Chapter 6E Approval, Honolulu Fire Department Flammable Combustible Liquid Tank Installation Permit, DOH Wastewater Branch Approval, DOH Disability and Communication Access Board Plan Review
Proposing/Determining Agency:	City and County of Honolulu, Department of Environmental Services
Contact Name, Email, Telephone, Address	Christine Choy (christine.choy@honolulu.gov; 808-768-8762) 650 South King Street, 14th Floor Honolulu, Hawaii 96813
Accepting Authority:	(for EIS submittals only)
Contact Name, Email, Telephone, Address	
Consultant:	Environet, Inc.
Contact Name, Email, Telephone, Address	Martine Bissonnette (mbissonnette@environetinc.com; 808-389-5687) 1286 Queen Emma Street Honolulu, Hawaii 96813

Status (select one)	**Submittal Requirements**
___ DEA-AFNSI	Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEA, and 4) a searchable PDF of the DEA; a 30-day comment period follows from the date of publication in the Notice.
_X___ FEA-FONSI	Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; no comment period follows from publication in the Notice.
____ FEA-EISPN	Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; a 30-day comment period follows from the date of publication in the Notice.
____ Act 172-12 EISPN ("Direct to EIS")	Submit 1) the proposing agency notice of determination letter on agency letterhead and 2) this completed OEQC publication form as a Word file; no EA is required and a 30-day comment period follows from the date of publication in the Notice.
____ DEIS	Submit 1) a transmittal letter to the OEQC and to the accepting authority, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEIS, 4) a searchable PDF of the DEIS, and 5) a searchable PDF of the distribution list; a 45-day comment period follows from the date of publication in the Notice.
____ FEIS	Submit 1) a transmittal letter to the OEQC and to the accepting authority, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEIS, 4) a searchable PDF of the FEIS, and 5) a searchable PDF of the distribution list; no comment period follows from publication in the Notice.
____ FEIS Acceptance Determination	The accepting authority simultaneously transmits to both the OEQC and the proposing agency a letter of its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS; no comment period ensues upon publication in the Notice.

FEIS Statutory Acceptance	Timely statutory acceptance of the FEIS under Section 343-5(c), HRS, is not applicable to agency actions.
____ Supplemental EIS Determination	The accepting authority simultaneously transmits its notice to both the proposing agency and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is or is not required; no EA is required and no comment period ensues upon publication in the Notice.
____ Withdrawal	Identify the specific document(s) to withdraw and explain in the project summary section.
____ Other	Contact the OEQC if your action is not one of the above items.

Project Summary

Provide a description of the proposed action and purpose and need in 200 words or less.

The proposed project includes improvements to the existing City and County of Honolulu's Paiko Wastewater Pump Station (WWPS) facility, located in east Honolulu on the Island of Oahu. These activities will be performed as part of the upcoming City and County of Honolulu project, entitled "Honolulu Area Wastewater Pump Station Facilities Improvements". This project is necessary to ensure continued, long term reliability needs are met. The major activities proposed are located within the WWPS property and include the following:

1. Construct new generator room and install new generator with aboveground double-walled diesel tank;
2. Repair of wetwell interior walls and ceiling, and restroom toilet plumbing;
3. Upgrade of SCADA system; and
4. Installation of a new magnetic flow meter, level control system, supply fan, and combustible gas detector.

Final

ENVIRONMENTAL ASSESSMENT

October 2018

Honolulu Area Wastewater Pump Station Facilities Improvements (Paikō Drive Wastewater Pump Station)

265 Paikō Drive, Honolulu, Hawai'i

Environet, Inc.

FINAL
ENVIRONMENTAL ASSESSMENT

Honolulu Area Wastewater Pump Station Facilities Improvements
(Paikō Drive Wastewater Pump Station)
265 Paikō Drive, Honolulu, Hawai‘i

Prepared by:

Environet, Inc.
1286 Queen Emma Street
Honolulu, HI 96813

Proposing/Determination Agency:

City and County of Honolulu Department of Environmental Services
1000 Uluohia Street
Kapolei, Hawai‘i 96707

October 2018

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ACRONYMS AND ABBREVIATIONS

<	less than
ATS	Automatic Transfer Switch
BEA	United States Bureau of Economic Analysis
bgs	below ground surface
BMP	Best Management Practice
CAA	Clean Air Act
CDP	Census Designated Place
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CH_4	methane
CIA	Cultural Impact Assessment
Cl	chloride
CMU	concrete masonry unit
CO	carbon monoxide
CO_2	carbon dioxide
CWA	Clean Water Act
CZM	Coastal Zone Management
DAR	Division of Aquatic Resources
dB	decibel(s)
dBA	A-weighted decibels
DEA	Draft Environmental Assessment
DFW	State of Hawai'i Division of Forestry and Wildlife
DLNR	State of Hawai'i Department of Land and Natural Resources
DNL	day-night sound level
DOE	State of Hawai'i Department of Education
DOH	State of Hawai'i Department of Health
DPP	City and County of Honolulu Department of Planning and Permitting
EA	Environmental Assessment
EO	Executive Order
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FEA	Final Environmental Assessment
FEMA	Federal Emergency Management Agency
FM	force main
FONSI	Finding of No Significant Impact
GHG	greenhouse gas
HAR	Hawai'i Administrative Rules
HDOT	State of Hawai'i Department of Transportation
HECO	Hawaiian Electric Company
HMI	human-machine interface
HRS	Hawai'i Revised Statutes
JaC	Jaucas sand, 0 to 15 percent slopes
kW	kilowatt
L	liter
LUC	Land Use Commission
LUO	Land Use Ordinance
MCC	motor control center

mg	milligram
mph	miles per hour
msl	mean sea level
N/A	Not Applicable
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO	nitric oxide
NO_2	nitric dioxide
NOx	nitric oxides
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O&M	Operation and Maintenance
O_3	ozone
OEQC	State of Hawai'i Office of Environmental Quality Control
OHA	Office of Hawaiian Affairs
OSHA	United States Occupational Safety and Health Administration
Pb	lead
PLC	programmable logic center
PM	particulate matter
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns in diameter
PM_{10}	particulate matter less than or equal to 10 microns in diameter
PUC	State of Hawai'i Public Utilities Commission
RCRA	Resource Conservation and Recovery Act
ROH	Revised Ordinances of Honolulu 1990
SCADA	Supervisory Control and Data Acquisition
SHPD	State Historic Preservation Division
SIP	State Implementation Plan
SLUD	State Land Use District
SMA	Special Management Area
SO_2	sulfur dioxide
TCP	Traffic Control Plan
TMK	Tax Map Key
U.S.	United States
U.S.C.	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VOC	volatile organic compound
WWPS	Wastewater Pump Station

1 INTRODUCTION

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1.1 INTRODUCTION

This Environmental Assessment (EA) is prepared pursuant to Chapter 343, Hawai'i Revised Statutes (HRS) and its implementing regulations, Title 11, Chapter 200, Hawai'i Administrative Rules (HAR). The environmental triggers that initiate HRS 343 for the Paikō Drive Wastewater Pump Station (WWPS) improvements include the use of City and County funds and land. The project site is also located in the Special Management Area (SMA), will require a SMA major permit, and is subject to the Revised Ordinances of Honolulu (ROH) Chapter 25: *Special Management Area*, which follows the procedural steps set forth in HRS 343. The intent of this document is to ensure that systematic consideration is given to the environmental, social, and economic consequences of the Proposed Action. The Proposed Action includes upgrades to the existing Paikō Drive WWPS facility located in east Honolulu on the island of O'ahu.

1.2 PROJECT INFORMATION

Project Name:	Honolulu Area Wastewater Pump Station Facilities Improvements (Paikō Drive Wastewater Pump Station)
Proposing/Determination Agency:	City and County of Honolulu Department of Environmental Services 1000 Uluohia Street, Suite 308 Kapolei, HI 96707
Agent:	Environet, Inc. 1286 Queen Emma Street Honolulu, HI 96813 Contact: Martine Bissonnette: Project Manager (808) 389-5687
Approving Agency:	Not Applicable (N/A)
Project Location:	265 Paikō Drive, Honolulu, HI 96821
Tax Map Key (TMK):	(1) 3-8-001:034
Land Area:	Approximately 5,000 square feet
State Land Use District (SLUD):	Urban
City & County Zoning Designation:	Residential (R-7.5)
Flood Zone Designation:	AE (areas subject to inundation by the 1% annual chance flood event)
Project Cost:	Approximately $3,000,000
Land Owner:	City and County of Honolulu
Neighborhood Board:	Kuliouou-Kalani Iki

Anticipated Permits/Approvals:	City and County Building Permit City and County Yard Setback Waiver SMA Permit Construction Noise Permit (as applicable) State of Hawai‘i Department of Health (DOH) Air Condition and Ventilation Permit State Historic Preservation Division Chapter 6E Approval Honolulu Fire Department Flammable Combustible Liquid Tank Installation Permit DOH Wastewater Branch Approval DOH Disability and Communication Access Board Plan Review

2 PROJECT DESCRIPTION

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2.1 SCOPE AND AUTHORITY

This EA is being conducted in accordance with HRS Chapter 343 and associated Title 11, Chapter 200, HAR. This EA evaluates the potential environmental, social, and economic impacts associated with the proposed upgrades to the existing Paikō WWPS facility located in east Honolulu on the island of Oʻahu. Upgrades planned at the Paikō WWPS will be performed as part of the upcoming City and County project entitled "Honolulu Area WWPS Facilities Improvements". In addition to the planned upgrades at the Paikō WWPS, upgrades to the Kuliʻouʻou, Niu Valley, and Moana Park WWPS facilities are also being planned as part of the overall project.

The facilities improvements are needed to maintain and improve the City and County of Honolulu WWPS facilities in order to provide continued wastewater treatment service to the affected general public within the affected areas. The existing WWPS systems have aged and are in need of repairs and upgrades.

The upgrades planned at the Kuliʻouʻou, Niu Valley and Moana Park WWPS include repair and maintenance of existing facilities; therefore, the intent is to file a declaration of exemption from HRS Chapter 343 pursuant to HRS 343-6(7) and HAR 11-200-8 for work at these facilities. Since the upgrades planned at the Paikō WWPS include the construction of a new structure to house the new emergency generator, an EA was prepared for the proposed upgrades in accordance with HRS 343.

2.2 PROJECT LOCATION

The project site is located on the southeast side of the island of Oʻahu, approximately 0.9 miles west of Hawaiʻi Kai and 8.6 miles east of downtown Honolulu. The project site is bound by Paikō Drive to the south and is surrounded by single family residences to the north, east and west. Paikō Lagoon Wildlife Sanctuary is located approximately 0.10 miles east of the project site and Maunalua Bay is located approximately 0.05 miles south of the project site. Access to the project site is via Paikō Drive (Figure 1).

The project site includes TMK (1) 3-8-001: Parcel 034 (Figure 1). The site includes a developed parcel of land that is surrounded by a concrete masonry unit (CMU) wall and includes the existing WWPS, a paved asphalt parking lot, and maintained vegetation typical of highly disturbed urban areas.

2.3 OVERVIEW OF ALTERNATIVES

An array of design alternatives was created and analyzed to determine the most feasible project alternative that best addresses the project purpose and need. The criteria used to evaluate the design alternatives are listed below:

Facility Reliability is the ability of the proposed improvements to consistently perform their intended function for present and future conditions with limited downtime due to malfunctions, damage, and repairs.

Operation and Maintenance (O&M) refers to the ease of which the pump station is operated and maintained.

Environmental Compliance & Health and Safety relates to how the proposed improvements affect the surrounding natural environment and human health.

Constructability relates to the ease of construction when implementing improvements, or in contrast, the construction challenges that may be encountered. Challenges may include conflict with existing facilities or structures, sewage by-pass, and space restrictions.

An evaluation of advantages and/or disadvantages of the three design alternatives based on the above stated criterion is presented in Table 2-1.

Table 2-1: Design Alternative Comparison

Criteria	Alternative 1	Alternative 2	Alternative 3
Description of Alternative:	• Replacement of sewage pumps. • Installation of a pump flow measuring device. • Rehabilitation of the wetwell interior concrete. • Upgrades to the motor control center (MCC) and Supervisory Control and Data Acquisition system (SCADA). • Construction of a generator building to house a new diesel fuel generator.	• Replacement of sewage pumps. • Installation of a pump flow measuring device. • Rehabilitation of the wetwell interior concrete. • Upgrades to the MCC and SCADA.	• Minor repairs and replacement of broken pump station equipment.
Projected Cost	$3,004,199	$1,275,000	$105,000
Facility Reliability	+Each new pump will be capable of handling design peak flows. +Redundant level control system. +Wetwell restoration increases longevity of wetwell structure. +Reliability of emergency power supply is increased with new generator.	+Each new pump will be capable of handling design peak flows. +Redundant level control system. +New protective lining applied to wetwell provides temporary protection of concrete walls and ceiling.	*-Wetwell walls susceptible to further deterioration without rehabilitation.*
Maintenance and Operation	+Ball check valves may reduce the occurrence of ragging. +"Smart" MCC contains less wiring. +New flow meter, programmable logic center (PLC) and human-machine interface (HMI) improves monitoring capabilities.	+Ball check valves may reduce the occurrence of ragging. + "Smart" MCC contains less wiring. +New flow meter, PLC and HMI improves monitoring capabilities.	+Ball check valves reduce the occurrence of ragging. *-Replacement parts of antiquated equipment are obsolete or becoming obsolete.*

Criteria	Alternative 1	Alternative 2	Alternative 3
Environmental Compliance & Health and Safety	+"Loss of flow" detectors warn against insufficient ventilation in drywell. +Restroom will be functional for pump station operators. +Upgraded equipment and components reduce the risk of sewage spills and fires.	+"Loss of flow" detectors warn against insufficient ventilation in drywell. +Restroom will be functional for pump station operators. +Limited upgraded equipment and components reduce the risk of sewage spills.	+Restroom will be functional for pump station operators.
Constructability	*-Major prep work required inside wetwell for wall and ceiling rehabilitation.* *-Construction of a new generator building required to upgrade emergency power system.* *-Installation of new pumps and wetwell restoration may require sewage bypass.*	*-Major prep work required inside wetwell for wall and ceiling rehabilitation.* *-Installation of new pumps and wetwell restoration may require sewage bypass.*	+Minimal amount of contracted work required.

Notes:
+ Alternative Advantages
- Alternative Disadvantages

2.3.1 ALTERNATIVES CARRIED FORWARD FOR FURTHER ANALYSIS

The design alternative providing the best option for long-term improvements based on alignment with the project purpose and need is Alternative 1, herein referred to as the Proposed Action. The repair activities under the Proposed Action greatly increase the longevity and reliability of the facility and provide a safer environment for operations personnel, the surrounding community, as well as the natural environment. The main benefits of the Proposed Action include the following:

- Replacement of the existing dry-pit submersible pumps will give the pump station the capability of handling design peak flows;
- Replacing swing check valves with ball check valves that may stop the occurrence of ragging and clogging, thus improving pump performance;
- Installation of a level control system consisting of dual pressure transmitters that provide redundant wetwell level monitoring and pump control;
- Installation of a magnetic flow meter that provides monitoring capability of pump flow;
- Replacement of a new sump pump and relocation of the sump piping that will ensure against flooding inside the drywell;
- Antiquated electrical and control equipment, such as the MCC and supervisory control and SCADA cabinet, will be replaced with newer models and technologies in order to provide improved O&M capabilities;

- Installation of a new generator will improve the reliability of the emergency power system. A new double-walled diesel tank will provide increased safety from fuel spills/leaks over the existing propane tank;
- Construction of a new generator room that will include acoustic treatment for noise reduction;
- Repairs to wetwell walls will increase the service life of the wetwell structure; and
- Compliance with National Fire Protection Association (NFPA) 820 would be achieved by providing adequate ventilation to the pump station building and installing "loss of flow" detectors and alarms.

The No Action Alternative was also carried forward for analysis in this EA in order to analyze the environmental, social and economic effects of the "no build" alternative.

2.3.2 NO ACTION ALTERNATIVE

Under the No Action Alternative, the proposed facilities improvements would not be completed. There would be no disturbance to the existing environment at the project site under the No Action Alternative; however, the aging WWPS system components would continue to deteriorate, creating a public hazard due to risk of failure of the WWPS.

2.3.3 ALTERNATIVE 1 - THE PROPOSED ACTION

The Proposed Action was selected as the most feasible alternative that best addresses the project purpose and need. The Proposed Action includes the following repairs and upgrades to the Paikō Drive WWPS:

Pump Operations:

- Replacement of sewage pumps;
- Replacement of check valves;
- Installation of a new magnetic flow meter;
- Installation of a new level control system; and
- Replacement of the sump pump, valves and hosing.

Electrical Work:

- Replacement of the MCC system;
- SCADA system upgrades; and
- Replacement of the emergency generator and associated fuel tank.

Structural Improvements:

- Wetwell interior walls and ceiling repair; and
- Construction of a new generator room that will include acoustic treatment.

Ventilation System:

- Installation of a supply fan.

Plumbing:

- Repair to restroom toilet plumbing.

All repairs and upgrades would comply with city and county and state regulations. The Proposed Action would be located within the existing City and County of Honolulu Paikō Drive WWPS property located on the southeast side of O'ahu. The construction timeframe is estimated to be two years in duration, and is anticipated to begin in Summer 2019. Figure 2 shows the site plan depicting the planned repair work under the Proposed Action.

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Environet, Inc.

FINAL ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PAIKO DRIVE WWPS FACILITY IMPROVEMENT

PROJECT LOCATION MAP
HONOLULU, O'AHU, HAWAI'I

FIGURE 1

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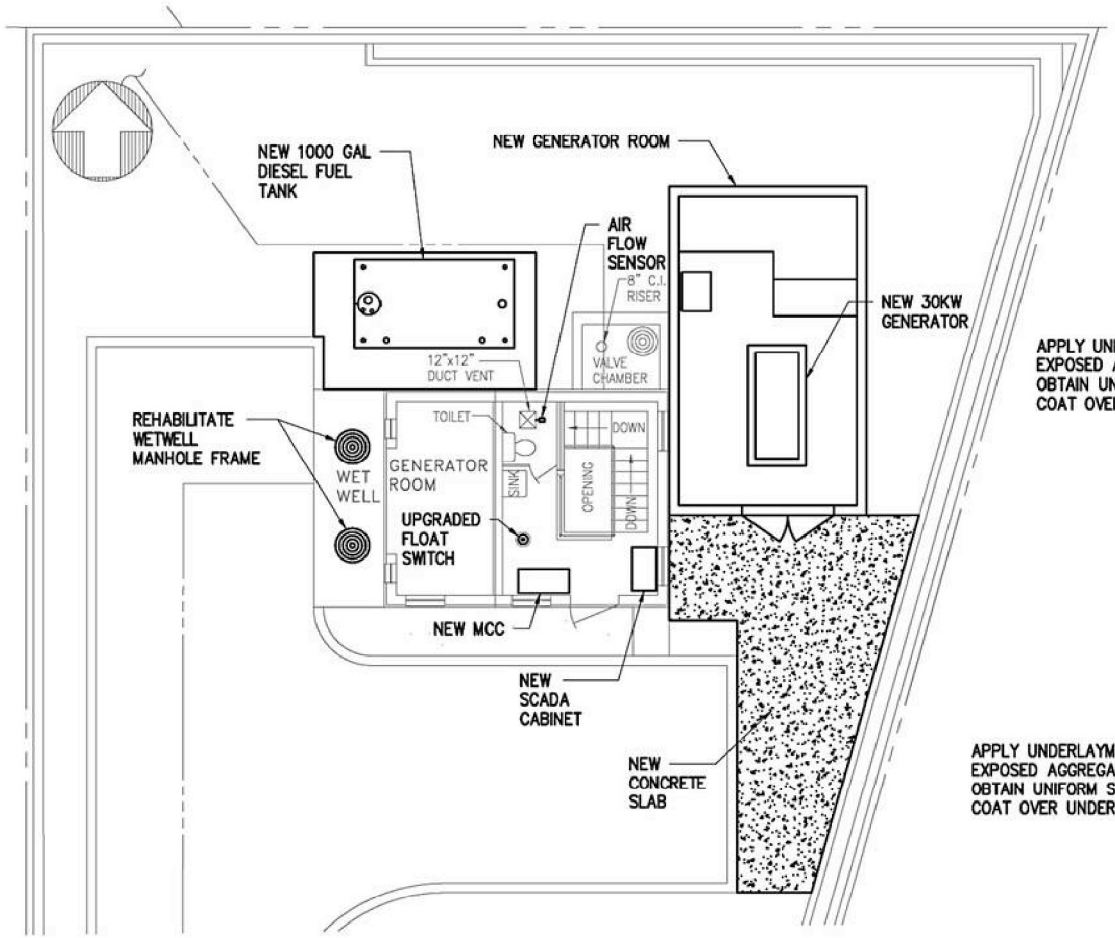


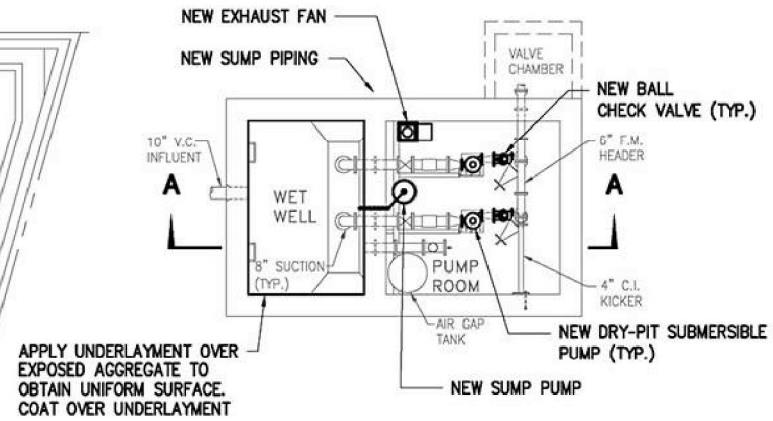
GROUND FLOOR PLAN

SCALE: 1/8" = 1'-0"

NOTE:
1. INSTALL COMBUSTIBLE GAS DETECTOR IN WETWELL.

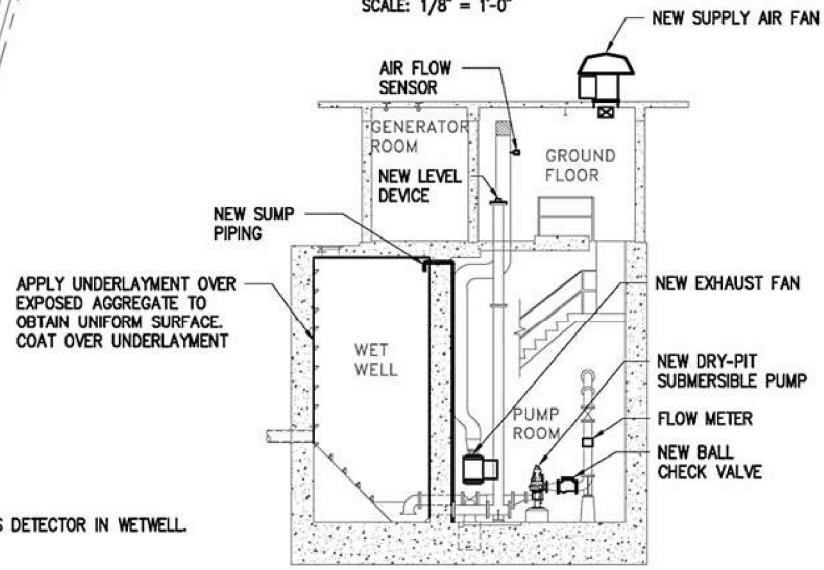
8' 0' 8' 16'

SCALE: 1/8"=1'-0"



PUMP FLOOR PLAN

SCALE: 1/8" = 1'-0"



SECTION (A)

SCALE: 1/8" = 1'-0"

Environet, Inc.	FINAL ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PAIKO DRIVE WWPS FACILITY IMPROVEMENT	FIGURE 2
	SITE PLAN HONOLULU, O'AHU, HAWAI'I	

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2.4 PURPOSE AND NEED FOR ACTION

The purpose of the Proposed Action is to maintain and improve the City and County of Honolulu Paikō Drive WWPS by implementing repairs and upgrades to the existing WWPS. The Proposed Action is needed in order to provide continued wastewater treatment service to the affected general public within the surrounding area.

2.5 REGULATORY FRAMEWORK

The EA is a requirement under HRS Chapter 343 due to the use of City and County land and funds. This EA has been prepared in accordance with HRS Chapter 343, and its implementing regulations, including Title 11, Chapter 200 of the HAR. In addressing environmental considerations, the following relevant regulations that establish standards and provide guidance on environmental and natural resource management and planning are discussed throughout subsequent sections of this EA:

- HRS Chapter 343;
- HRS Chapter 226;
- HRS Chapter 6E;
- HRS Chapter 205;
- Title 11, Chapter 200 HAR;
- City and County of Honolulu General Plan (Amended November 2002);
- Coastal Zone Management (CZM) Act;
- City and County of Honolulu Land Use Ordinance (LUO);
- The Clean Air Act (CAA);
- The Clean Water Act (CWA);
- The Endangered Species Act (ESA); and
- Executive Order (EO) 13045 (*Protection of Children from Environmental Health Risks and Safety Risks*).

2.6 PUBLIC AND AGENCY CONSULTATION

This environmental review has included public involvement and agency consultation, as required by HRS Chapter 343. Public participation has included an opportunity for public review and comment on the Draft Environmental Assessment (DEA). Availability for public review and comment on the DEA was completed via the State of Hawai'i Office of Environmental Quality Control (OEQC) *Environmental Notice*. Comments received during the pre-consultation period, as well as responses are included in Appendix A-1 of this Final Environmental Assessment (FEA). Comments received during the 30-day DEA public comment period, as well as responses are included in Appendix A-2 of this FEA.

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3 ENVIRONMENTAL SETTING AND POTENTIAL IMPACTS

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3.1 INTRODUCTION

The environmental, social, and economic setting of the existing environment and the probable impacts of the No Action Alternative and the Proposed Action are described in this section of the EA. Impacts are evaluated as to whether they constitute a "significant effect" on a particular environmental setting. Impacts are described as having No Impact, Significant Adverse Impact, or Beneficial Impact to the environment. The terms "impact" and "effect" are used synonymously in this EA. Impacts may apply to the full range of natural, aesthetic, historic, cultural, and economic resources. The following subsections define key terms used throughout Section 3.

3.1.1 REGULATORY SETTING

Impacts to the affected environment from the proposed alternatives were assessed based on procedures outlined in State regulations HRS Chapter 343 and HAR Title 11, Chapter 200.

3.1.2 SIGNIFICANCE CRITERIA

A "significant effect" is defined by HRS Chapter 343 as "the sum of effects on the quality of the environment, including actions that irrevocably commit a natural resource, curtail the range of beneficial uses of the environment, are contrary to the state's environmental policies or long-term environmental goals as established by law, or adversely affect the economic welfare, social welfare, or cultural practices of the community and state" (State of Hawai'i, 2008). HAR 11-200-12 B offers the following guidance for determining environmental impact significance:

"In determining whether an action may have a significant effect on the environment, the agency shall consider every phase of a proposed action, the expected consequences, both primary and secondary, and the cumulative as well as the short-term and long-term effects of the action. In most instances, an action shall be determined to have a significant effect on the environment if it:

1. Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;
2. Curtails the range of beneficial uses of the environment;
3. Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in HRS Chapter 343, and any revisions thereof and amendments thereto, court decisions, or EO;
4. Substantially affects the economic welfare, social welfare, and cultural practices of the community or state;
5. Substantially affects public health;
6. Involves substantial secondary impacts, such as population changes or effects on public facilities;
7. Involves a substantial degradation of environmental quality;
8. Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions;
9. Substantially affects a rare, threatened, or endangered species, or its habitat;
10. Detrimentally affects air or water quality or ambient noise levels;

11. Affects or is likely to inflict damage on the environment located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;
12. Substantially affects scenic vistas and view planes identified in county or state plans or studies; or
13. Requires substantial energy consumption (HAR §11-200-12 B).

3.1.3 DIRECT VERSUS INDIRECT IMPACTS

Definitions and examples of "direct" and "indirect" impacts as used in this document are as follows:

"Primary impact" or "primary effect" or "direct impact" or "direct effect" means effects which are caused by the action and occur at the same time and place (HAR §11-200-2). For direct impacts to occur, a resource must be present in the particular project site.

"Secondary impact" or "secondary effect" or "indirect impact" or "indirect effect" means effects which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems (HAR §11-200-2).

3.1.4 BENEFICIAL VERSUS ADVERSE IMPACTS

Impacts from the Proposed Action may also have beneficial or adverse effects to the environment. Beneficial impacts are those that would produce favorable outcomes and add value to the environment. Adverse impacts are those that would produce detrimental effects and cause harm to the environment.

Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of National Environmental Policy Act (NEPA) (40 CFR Parts 1500-1508, Section 1502.13) also include the following guidance relating to impact analysis.

Impact Analysis

Direct Impacts: are caused by the action and occur at the same time and place.

Indirect Impacts: are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect impacts may include growth inducing impacts and other impacts related to induced changes in the pattern of land use, population density or growth rate, and related effects on air, water and other natural systems, including ecosystems.

Impacts include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historical, cultural, economic, social, or health, whether direct, indirect, or cumulative. Impacts may also include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial (40 Code of Federal Regulations [CFR] 1508.8).

Significance of Environmental Impacts

According to CEQ regulations 40 CFR 1500-1508, the determination of a significant impact is a function of both context and intensity.

Context: This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the Proposed Action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

Intensity: This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action.

To determine significance, the severity of the impact must be examined in terms of the type, quality and sensitivity of the resource involved; the location of the proposed project; the duration of the effect (short-or long-term); and other consideration of context. Significance of the impact will vary with the setting of the Proposed Action and the surrounding area (including residential, industrial, commercial, and natural sites).

3.1.5 CUMULATIVE IMPACTS

Cumulative impacts are two or more individual effects which, when considered together, compound or increase the overall impact. Cumulative impacts can arise from the individual effect of a single action or from the combined effects of past, present, or future actions. Thus, cumulative impacts can result from individually minor, but collectively significant actions taken over a period of time. The cumulative impacts of implementing the Proposed Action, along with past and reasonably foreseeable future projects proposed, were assessed based upon available information.

HAR 11-200-7 states the following with regard to analyzing cumulative effects of a proposed action:

A group of actions proposed by an agency or applicant shall be treated as a single action when:

(1) The component actions are phases or increments of a larger total undertaking;

(2) An individual project is a necessary precedent for a larger project;

(3) An individual project represents a commitment to a larger project; and

(4) The actions in question are essentially identical and a single statement will adequately address the impacts of each individual action and those of the group of actions as a whole.

In accordance with HAR 11-200 and the CEQ memorandum of "Guidance on the Consideration of Past Actions in Cumulative Effects Analysis," a discussion of cumulative impacts resulting from projects which are proposed, under construction, recently completed, or anticipated to be implemented in the near future is included in this EA.

3.2 PHYSICAL ENVIRONMENT

3.2.1 GEOLOGICAL RESOURCES

Definition of Resources

Geological resources typically consist of surface and subsurface materials and their inherent properties. Principal geologic factors affecting the ability to support structural development are seismic properties (i.e., potential for subsurface shifting, faulting, or crustal disturbance), soil stability, and topography.

The term soil, in general, refers to unconsolidated materials overlying bedrock or other parent material. Soils play a critical role in both the natural and human environment. Soil structure, elasticity, strength, shrink-swell potential, and erodibility all determine the ability for the ground to support man-made structures and facilities. Soils typically are described in terms of their complex type, slope, physical characteristics, and relative compatibility or constraining properties with regard to particular construction activities and types of land use.

Topography is the change in elevation over the surface of a land area. An area's topography is influenced by many factors, including human activity, underlying geologic material, seismic activity, climatic conditions, and erosion. A discussion of topography typically encompasses a description of surface elevations, slope, and distinct physiographic features (*e.g.*, mountains), and their influence on human activities.

Natural geologic hazards include earthquakes and tsunamis. Earthquakes typically result from release of energy from the earth's crust and manifest themselves by shaking and sometimes displacing the ground, which can result in property damage. Earthquakes can also trigger landslides as well as volcanic activity. When the epicenter of a large earthquake is located offshore, the seabed may be displaced sufficiently to cause a tsunami. A tsunami is a series of water waves caused by the displacement of a large volume of a body of water. Tsunamis are characterized by high speeds (up to 560 miles per hour [mph]), long wave lengths (up to 120 miles), and long periods between successive wave crests (up to several hours). Tsunamis have the potential to inundate the coastline, causing severe property damage and/or loss of life. The tsunami evacuation zone is a guideline, developed by the City and County of Honolulu Department of Emergency Management, to provide the minimum safe evacuation distance.

Regulatory Setting

The ROH 1990 §14-14 describes proper permitting and inspection procedures necessary for grading, soil erosion, and sediment control during earthwork activities. All work shall be conducted in accordance with current construction standards and all local, state, and federal regulations.

3.2.1.1 EXISTING CONDITIONS

Geology

The Hawaiian Archipelago is a chain of seamounts and islands in the North Pacific extending 1,616 miles west by northwest from the largest island of Hawai'i. Igneous rocks are the dominant rock type and consist of basaltic flows, caldera and dike complexes, and pyroclastics. The island of O'ahu was formed through the emergence and coalescence of two large shield volcanoes: the Wai'anae and Ko'olau volcanoes. Eroded remnants of these volcanoes form two of O'ahu's four geomorphic provinces: the Wai'anae Range on the west and the younger Ko'olau Range on the east. The other two provinces are the Schofield Plateau and the Coastal Plain.

The project site is located near Kuli'ou'ou Valley on the southern coast of O'ahu. Kuli'ou'ou Valley was formed by deep erosional incision into the Ko'olau Range, approximately 1.8 to 2.6 million years ago (Stearns, 1985; Macdonald et al., 1983). Geology underlying Kuli'ou'ou Valley includes Pleistocene calcareous reef rock and marine sediment on the valley floor, and Ko'olau Basalt lava flows on the valley ridges (Sherrod et al., 2007). Maunalua Bay which is located *makai* of Kuli'ou'ou Valley and the project site extends from Diamond Head to Koko Head Crater. The coast is generally low, mainly on a former coral reef about 25 to 50 feet above mean sea level (msl).

Topography and Soils

The project site slopes downgradient gently in the *makai* (seaward) direction from north to south. The project site ranges in elevation from approximately 0 to 10 feet above msl. Soils at the project site consist of the Jaucas Series, which is characterized by very deep, excessively drained, very rapidly permeable soils on vegetated beach areas along the sea coast. Based on the United States (U.S.) Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) data (NRCS, 2017), the predominate soil type at the project site is Jaucas sand, 0 to 15 percent slopes (JaC) (Figure 3).

Earthquakes

In Hawai'i, earthquakes are generally linked to volcanic activity and occur thousands of times annually; the vast majority of which are of a very small magnitude. According to the U.S. Geological Survey (USGS) map of Hawai'i Seismic Zone Assignments, O'ahu lies in a seismic zone designated as Zone 2A; in which the zoning ranges from 0 (no chance of severe ground shaking) to 4 (10 percent chance of severe shaking in a 50-year interval) (USGS, 2001).

Tsunamis

Located in the middle of the Pacific Ocean, Hawai'i is susceptible to tsunamis from earthquakes generated throughout the Pacific. The project site is located within the tsunami evacuation zone (National Oceanic and Atmospheric Administration [NOAA], 2016).

Approach to Analysis

Determination of the significance of potential impacts to geological and soil resources is based on: 1) the importance of the resource (*i.e.*, commercial, ecological, and/or scientific); 2) the proportion of the resource that would be affected relative to its occurrence in the region; and 3) the susceptibility to deleterious effects on the resource due to the Proposed Action. Impacts to geological and soil resources are significant if the physical structure, chemical composition, or visual aesthetic character are adversely affected over a relatively large area.

3.2.1.2 POTENTIAL IMPACTS AND MITIGATION

No Action Alternative

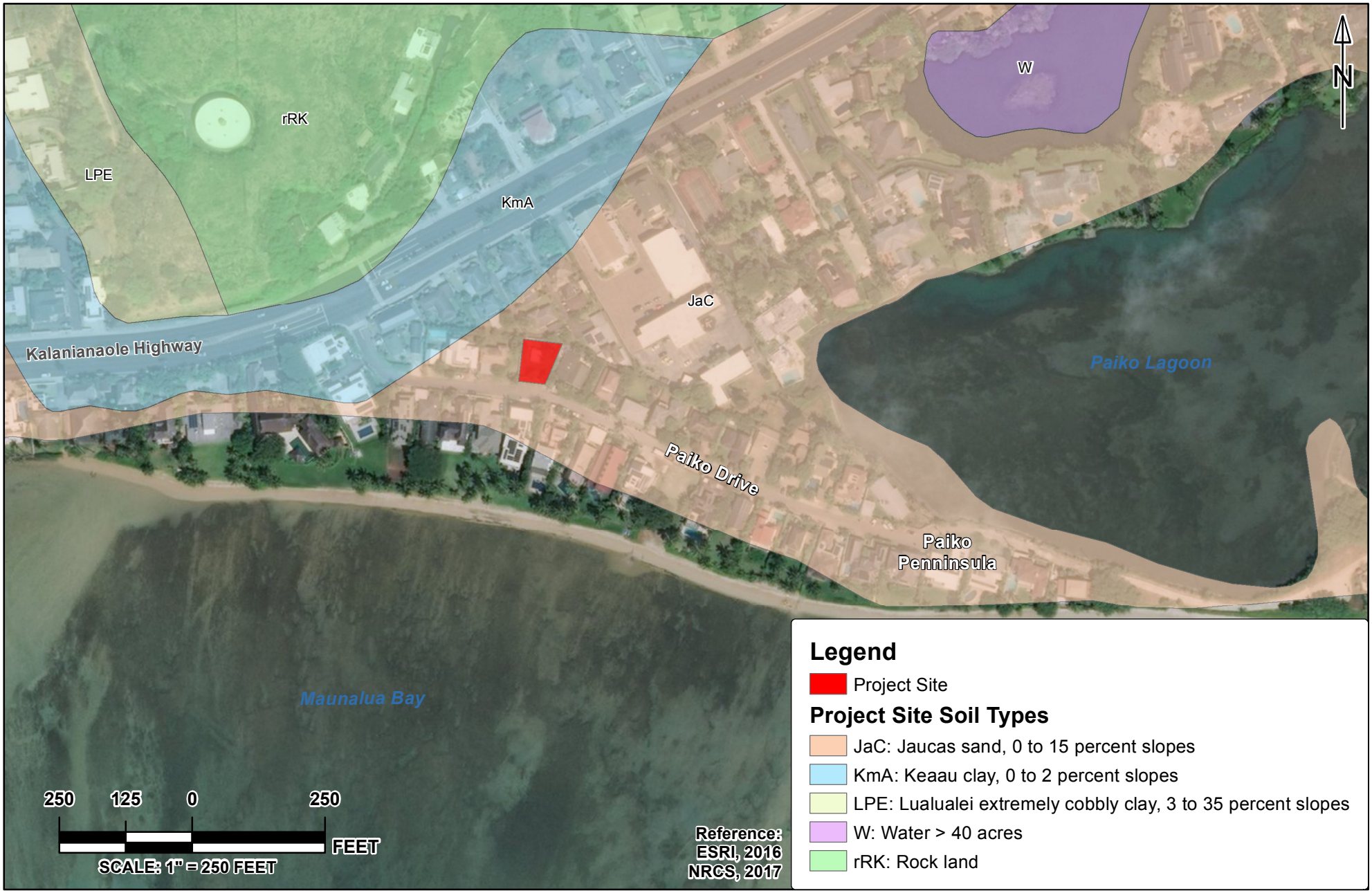
Under the No Action Alternative, no construction or change in ground surface is expected. No significant impacts to geological resources, topography, soils, or susceptibility to natural hazards are expected to result from the No Action Alternative. However, the aging facility components would continue to be at risk of failure during a storm or flood event.

Proposed Action

The Proposed Action would involve ground disturbing activities during the construction period, including minor scraping within the footprint of the planned generator room. However, it is not anticipated that the proposed improvements would significantly alter the existing topography or affect geological conditions, other than grading the area for the generator room footprint which would include an approximately 400 square foot area. Therefore, there would be no significant impacts to topography or geology under the Proposed Action.

The Proposed Action could potentially have short-term, less than significant impacts on soils during construction activities associated with surface scraping within the proposed generator room footprint. Soils would be temporarily excavated and stockpiled onsite during the construction period. Exposed soils are susceptible to erosion, especially if it rains heavily during site work periods. Wind erosion may also cause some unavoidable soil loss, but the greater concern is silt runoff.

Adverse impacts to soils would be minimized or avoided as a result of both temporary and permanent erosion and sedimentation control measures that shall be implemented during construction. Control measures may include silt fences around the work area during construction. Proposed work shall comply with state erosion control standards, as well as the Construction Best Management Practices (BMPs) addressing soil and erosion control (*e.g.*, silt fencing, tarping/covering, surface revegetation, etc.) to minimize/eliminate soil migration from the proposed construction area and onto City roadways. As a result, soil impacts are anticipated to be short-term, and with the implementation of the BMP control measures to avoid impacts to the surrounding areas, no significant impacts are anticipated.



Environet, Inc.

FINAL ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PAIKO DRIVE WWPS FACILITY IMPROVEMENT

SOILS MAP
HONOLULU, O'AHU, HAWAI'I

FIGURE 3

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3.2.2 FIRE HAZARDS

3.2.2.1 EXISTING CONDITIONS

The project site is a developed lot surrounded by a CMU wall and includes the existing WWPS, a paved asphalt parking lot, a propane tank surrounded by bollards, and maintained vegetation typical of highly disturbed urbanized areas. Due to the presence of the propane tank, there is currently a low to moderate fire risk at the project site. The first station to respond in the event of a fire at the project site would be the Hawai'i Kai Fire Station located approximately three miles east of the project site. The secondary response station would be the McCully-Moiliili Fire Station located approximately 6.4 miles west of the project site.

3.2.2.2 POTENTIAL IMPACTS AND MITIGATION

No Action Alternative

No significant impacts are expected under the No Action Alternative. Existing potential fire hazards posed by the current conditions would remain the same.

Proposed Action

No significant short-term impacts are expected under the Proposed Action. Construction activities for the Proposed Action could create a minor fire hazard during the initial ground clearing activities due to the interaction of earth moving equipment with existing site foliage. These potential impacts would be controlled through the implementation of construction practices for fire safety in accordance with state and city guidelines. Construction fire safety controls would include proper practices and fire hazard awareness for contractors at the work site. Daily equipment inspections would be conducted and all vehicles and equipment brought on site would be in proper working condition. Vehicles and equipment would be mounted with appropriately rated fire extinguishers, and additional fire extinguishers would also be available at the project site. All on-site workers would be aware of the locations and operation of fire extinguishers. On-site workers would also be aware of the flammability properties of the chemicals that they are working with and their proper storage requirements, as well as important safety information such as emergency contact numbers, proper emergency evacuation procedures, and designated smoking areas (if smoking is permitted on site). Implementation of these measures would reduce the potential impact of short-term fire hazards to less than significant at the project site.

A Honolulu Fire Department Flammable Combustible Liquid Tank Installation Permit shall be obtained from the Honolulu Fire Department's Fire Prevention Bureau for the installation of the new 1,000-gallon diesel above ground storage tank that will be used for backup power generation.

Beneficial long-term impacts to fire hazards are expected under the Proposed Action. The proposed facilities upgrades would provide replacement and upgrades of antiquated components of the pump operating system and electrical components of the existing Paikō Drive WWPS. In addition, the existing propane tank would be replaced with a new steel double-walled diesel tank that would include secondary containment. These upgrades would reduce the risk of failures that may create a fire and would be installed in accordance with all applicable city and county and state fire codes. As a result, the proposed facilities upgrades would result in beneficial long-term impacts to fire hazards at the project site.

3.2.3 BIOLOGICAL RESOURCES

Definition of Resources

Biological resources include native or naturalized plants and animals and the habitats in which they occur. Sensitive biological resources are defined as those plants and animal species listed as threatened or endangered, or proposed as such, by the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), the State of Hawai'i Department of Land and Natural Resources (DLNR) Division of Forestry and Wildlife (DFW) and Division of Aquatic Resources (DAR).

Regulatory Setting

The ESA was created in order to protect and recover imperiled species and the ecosystems upon which they depend. The ESA grants USFWS primary responsibility for terrestrial and freshwater organisms and the NMFS primary responsibility for marine wildlife.

The Migratory Bird Treaty Act, implemented in 1918, prohibited the hunting, killing, capturing, possession, sale, transportation, and exportation of birds, feathers, eggs and nests (16 United States Code [U.S.C.] 703). This treaty applies to bird species that are native to the U.S. or its territories, and is applicable in Mexico, Japan, and Russia.

3.2.3.1 EXISTING CONDITIONS

The project site is located on the southeast side of the island of O'ahu approximately 0.9 miles west of Hawai'i Kai, and approximately 10 miles east of downtown Honolulu *makai* of Kuli'ou'ou Valley. A biological survey was conducted at the project site in September 2017 in order to characterize baseline conditions and to determine if any protected species habitat exist at the project site. The survey is included as Appendix B.

Flora

Flora observed at the site included Common bermudagrass (*Cynodon dactylon*), and three trees; one Madagascar olive tree (*Noronhia emarginata*), one Fiddle-leaf fig tree (*Ficus lyrata*), and one Fiddlewood tree (*Citharexylum caudatum*). A Japanese privet (*Ligustrum japonicum*) hedge was also present at the project site.

Fauna

Response to pre-consultation letters from USFWS and DLNR-DFW indicate the following protected species may be present within the vicinity of the project site:

- Hawaiian hoary bat (*Lasiurus cinereus semotus*);
- Hawaiian petrel (*Pterodroma sandwichensis*);
- band-rumped storm-petrel (*Oceanodroma castro*);
- Newell's shearwater (P*uffinus auricularis newelli*);
- wedge-tailed shearwater (*Ardenna pacifica*);
- white tern (*Gygis alba*);
- Hawaiian duck (*Anas wyvilliana*);
- Hawaiian stilt (*Ilimantopus mexicanus knudseni*);

- Hawaiian coot (*Fulica alai*); and
- Hawaiian moorhen (*Gallinula chloropus sandvicensis*).

All consultation with the USFWS and DLNR-DFW is included in Appendix A-1 of this FEA.

A bird survey was conducted at the project site by a trained biologist on September 29, 2017 in order to determine if evidence of habitat for these protected species may be present within the project site. Visual and auditory observations were included in the survey. The project site was surveyed by walking and scoping the project site. Vegetation along the perimeter fence was also surveyed for foraging or roosting waterbirds. No evidence of federal or state-listed bird species were observed during the survey, and no suitable habitat for nesting or foraging was observed within the project site. The bird survey report is included in Appendix B of this FEA.

Wetland Biota

Wetland habitat located in the area surrounding the project site includes Paikō Lagoon Wildlife Sanctuary located approximately 500 feet east of the project site. Habitat located within Paikō Lagoon Wildlife Sanctuary includes mudflats that can be particularly important nesting and feeding habitats for migratory shorebirds such as the endemic Hawaiian stilt (*Himantopus mexicanus knudseni*), Pacific golden plover (*Pluvialis fulva*), Ruddy turnstone (*Arenaria interpres*), Wandering tattler (*Tringa incana*), and Sanderling (*Calidris alba*) (Maragos, J.E., 1975).

Approach to Analysis

Determination of the significance of potential impacts to biological resources is based on 1) the importance (*i.e.*, legal, commercial, recreational, ecological, or scientific) of the resource; 2) the proportion of the resource that would be affected relative to its occurrence in the region; 3) the sensitivity of the resource to proposed activities; and 4) the duration of ecological ramifications. Impacts to biological resources are significant if species or habitats of concern are adversely affected over relatively large areas, or if disturbances cause reductions in population size or distribution. Potential physical impacts such as habitat loss, noise, and impacts to water quality were evaluated to assess potential impacts to biological resources resulting from the Proposed Action.

3.2.3.2 POTENTIAL IMPACTS AND MITIGATION

No Action Alternative

There would be no impact to biological resources resulting from implementation of the No Action Alternative since use at the project site would remain unchanged and no flora or fauna species would be affected.

Proposed Action

The Proposed Action would require disturbance to vegetation within the project site where minor site clearing would occur. This disturbance would include an approximately 400 square foot area within the footprint of the planned new generator building. One of the three non-native species trees currently located at the Site would need to be removed in order to make room for the new generator room. The project site and surrounding area are developed with maintained vegetation typical of highly disturbed urbanized areas. No evidence of state or federally listed threatened, endangered, or candidate flora or fauna terrestrial species, nor were rare native Hawaiian flora or fauna species observed within the project site. Further, no suitable habitat for nesting or foraging was observed within the project site during the September 2017 survey (Appendix B).

The following mitigation measures were provided by USFWS and DLNR-DFW and are recommended in order to avoid and/or minimize potential impacts to the listed species cited above that may be present within the vicinity of the project site:

Hawaiian hoary bat (*Lasiurus cinereus semotus)* – Woody plants greater than 15 feet tall should not be disturbed, removed, or trimmed during the bat birthing and pup rearing season (June 1 through September 15). Barbed wire should not be used for fencing.

Hawaiian petrel (*Pterodroma sandwichensis*), Band-rumped storm-petrel (*Oceanodroma castro*), Newell's shearwater (P*uffinus auricularis newelli*) and Wedge-tailed shearwater (*Ardenna pacifica*) – All outdoor lights should be fully shielded so the bulb can only be seen from below bulb height and only used when necessary. Automatic motion sensor switches and controls should be installed on all outdoor lights or lights should be turned off when human activity is not occurring in the lighted area. Nighttime construction should be avoided during the fledging period from September 15 through December 15.

White tern (*Gygis alba*) – Inspect tree canopies prior to any trimming for the presence of the White tern, including eggs. Inspect the ground for entirely white droppings (looks like white paint splatter) or white feathers and listen for vocalizing terns. All trimming/tree disturbance should be delayed 80-90 days from the time an egg is laid or 35-45 days from when the egg hatches/chick is discovered.

Hawaiian duck (*Anas wyvilliana*), Hawaiian stilt (*Himantopus mexicanus knudseni*), Hawaiian coot (*Fulica alai*), Hawaiian moorhen (*Gallinula chloropus sandvicensis*) – Surveys for these waterbirds by a qualified biologist should be repeated prior to land disturbance and again if construction ceases for more than three days.

If there is evidence of any of these protected avian species within the project site, including nests or eggs, all work shall cease and the USFWS and DLNR-DFW shall be immediately contacted for mitigation guidance.

Storm water runoff may occur as a result of short-term construction activities and could potentially impact surrounding surface water resources (*i.e.*, Paikō Lagoon Wildlife Sanctuary and Maunalua Bay). As a result, standard construction procedures in compliance with federal and state requirements, and standard BMPs identified via a Storm Water Pollution Prevention Plan would be employed during construction (*e.g.*, silt fencing, tarping/covering exposed and stockpiled soils, surface re-vegetation). These measures are expected to minimize/eliminate storm water flow from the proposed construction site, as well as any association of degradation of water quality. Therefore, short-term impacts to biological resources related to wetland and/or marine sedimentation would be considered less than significant.

Long-term O&M of the WWPS would include the presence of vehicles/personnel at the project site. With the institution of the provided mitigation measures above, no significant long-term impacts to biological resources are anticipated to result from the Proposed Action.

3.2.4 WATER RESOURCES

Definition of Resources

Water resources analyzed encompass surface water, groundwater, floodplains, and wetlands. Surface water resources include lakes, rivers, and streams, and are important for a variety of reasons including ecological, economic, recreational, aesthetic, and human health. Groundwater comprises subsurface water resources and is an essential resource in many areas as it is used for potable water, agricultural irrigation, and industrial applications. Floodplains are belts of low, level ground present on one or both sides of a stream channel and are subject to either periodic or infrequent inundation by floodwater. Wetlands are defined as: *"Those areas that are inundated or saturated by surface or ground water*

(hydrology) at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation (hydrophytes) typically adapted for life in saturated soil conditions (hydric soils). Wetlands generally include swamps, marshes, bogs, and similar areas" (40 CFR 232.2[r]).

Regulatory Setting

Section 402 of the CWA specifically requires the U.S. Environmental Protection Agency (EPA), and authorized state governments to develop and implement the National Pollutant Discharge Elimination System (NPDES) program. HAR §11-55 (Water Pollution Control), defines the NPDES permit program for the State of Hawai'i, which is required for point source pollutant and storm water discharges on parcels larger than 1 acre. The State NPDES General Permit covers discharges composed entirely of storm water associated with construction activities that result in the disturbance of one acre or more of total land area; or construction activities that are part of a large common plan of development or sale that will ultimately disturb one acre or more of total land area. ROH Chapter 21A specifies special construction efforts that need to be taken in Flood Hazard Areas (City and County of Honolulu, 1990). HRS 342D-50(a) states that: *"No person, including any public body, shall discharge any water pollutant into state waters, or cause or allow any water pollutant to enter state waters except in compliance with this chapter, rules adopted pursuant to this chapter, or a permit or variance issued by the director."*

3.2.4.1 EXISTING CONDITIONS

Groundwater

The project site is located in the Wai'alae aquifer system of the Honolulu aquifer sector (Figure 4). The project site lies on top of an upper and lower aquifer, classified as 30105116 (23421)/30105121 (21113), with a slash between the two identification codes to denote relative vertical occurrence. The upper aquifer is classified as basal (*i.e.*, fresh water in contact with seawater), unconfined, and having a sedimentary lithology. Further, this aquifer has a potential use for development, it has neither a drinking water or ecologically important utility, high salinity (*i.e.*, 5,000 – 15,000 milligrams [mg] chloride [Cl]/liter [L]), is replaceable, and has a high vulnerability of contamination. The lower aquifer is classified as basal, confined, and has a flank lithology. This aquifer also is designated as having a potential use for development, a drinking water utility, is fresh (*i.e.*, less than [<] 250 mg Cl/L), is irreplaceable, and has a low vulnerability to contamination (Mink and Lau, 1990).

Surface Water

There are no surface water bodies located within the project site. Paikō Lagoon Wildlife Sanctuary and Maunalua Bay are located approximately 0.10 and 0.05 miles east and south of the project site, respectively (Figure 6).

Water Quality

Available water quality data from DOH was reviewed to determine water quality in nearby Paikō Lagoon and Maunalua Bay. According to the DOH, not enough data was collected from Paikō Lagoon to make a determination in accordance with HAR 11-54: Water Quality Standards. Maunalua Bay was not in attainment for the following pollutants: total nitrogen, nitrate/nitrite, ammonium, chlorophyll a. In addition, Maunalua Bay has a low priority for initiating Total Maximum Daily Load development within the current monitoring and assessment cycle (DOH, 2016).

Floodplains

According to Federal Emergency Management Agency (FEMA) records, the project site is located within Flood Zone AE, designated as "areas subject to inundation by the 1% annual chance flood event" (FEMA, 2017) (Figure 5).

Wetlands

There are no wetlands located within the project site (USFWS, 2017). The soils present within the project site are not listed on the NRCS (2014) National List of Hydric Soils. Wetlands that exist in close proximity to the project site include Paikō Lagoon Wildlife Sanctuary and Maunalua Bay which are located approximately 0.10 and 0.05 miles east and south of the project site, respectively (Figure 6).

Approach to Analysis

Determination of the significance of potential impacts to water resources is based on: 1) the importance (*i.e.*, legal, commercial, recreational, ecological, or scientific) of the resource; 2) the proportion of the resource that would be affected relative to its occurrence in the region; 3) the sensitivity of the resource to the Proposed Action; and 4) the duration of ecological ramifications. Impacts to water resources are significant if the occurrence, water quality, aquatic habitat extent, or visual aesthetic character are adversely affected over a relatively large area.

3.2.4.2 POTENTIAL IMPACTS AND MITIGATION

No Action Alternative

Under the No Action Alternative, the project site would remain unchanged. The proposed replacement of a new sump pump and relocation of the sump piping will not be completed, and the potential risk for flooding of the drywell would continue. As a result, potential indirect adverse impacts to surrounding surface water/wetland ecosystems (*i.e.*, Paikō Lagoon Wildlife Sanctuary and Maunalua Bay) could result from flooding damage to the WWPS and any resulting release into the environment.

Proposed Action

Under the Proposed Action, there would be less than significant impacts to groundwater. Excavation during construction activities will be limited to minor surface scraping less than two feet below ground surface (bgs) and groundwater is not anticipated to be encountered. In addition, the Proposed Action would not require any additional withdrawals from the City water supply and no groundwater drawdown is expected to occur.

In addition, there would be less than significant impacts to surface water quality during the construction period. The Proposed Action would include minor soil disturbance during scraping activities for the proposed generator room. There are no surface water bodies located at the project site; however, surface water bodies including Paikō Lagoon Wildlife Sanctuary, and Maunalua Bay are present within the near vicinity of the Site. Due to the size of the project site (<1 acre), a State NPDES Permit associated with construction activities would not be required. However, a storm water pollution prevention plan would be developed prior to the start of construction to identify potential sources of storm water pollution and describe the practices that would be used to prevent storm water pollution. BMPs employed during construction (*e.g.*, silt fencing, tarping/covering exposed and stockpiled soils, surface revegetation) would minimize/eliminate storm water runoff generated at the project site.

The project site is a developed lot with an existing surface water drainage system located within Flood Zone AE (one percent annual chance floodplain) and the tsunami evacuation zone. Once the construction phase commences, approved BMPs will be implemented fronting all existing drainage facilities in the immediate area on Paikō Drive. Construction will comply with ROH §16-11: Regulations Within Flood Hazard Districts and Developments Adjacent to Drainage Facilities, as well as all applicable Federal Regulations. The proposed upgrades would result in more resilient, updated equipment that would be better able to withstand flood events (i.e., new components, generator room, and double-walled fuel tank).

Therefore, the Proposed Action would have a positive impact on floodplains and surrounding wetland resources because the existing site drainage system, combined with the proposed facility improvements, would adequately manage storm water runoff in accordance with City drainage standards.

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FINAL ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PAIKO DRIVE WWPS FACILITY IMPROVEMENT

AQUIFER MAP
HONOLULU, O'AHU, HAWAI'I

FIGURE 4

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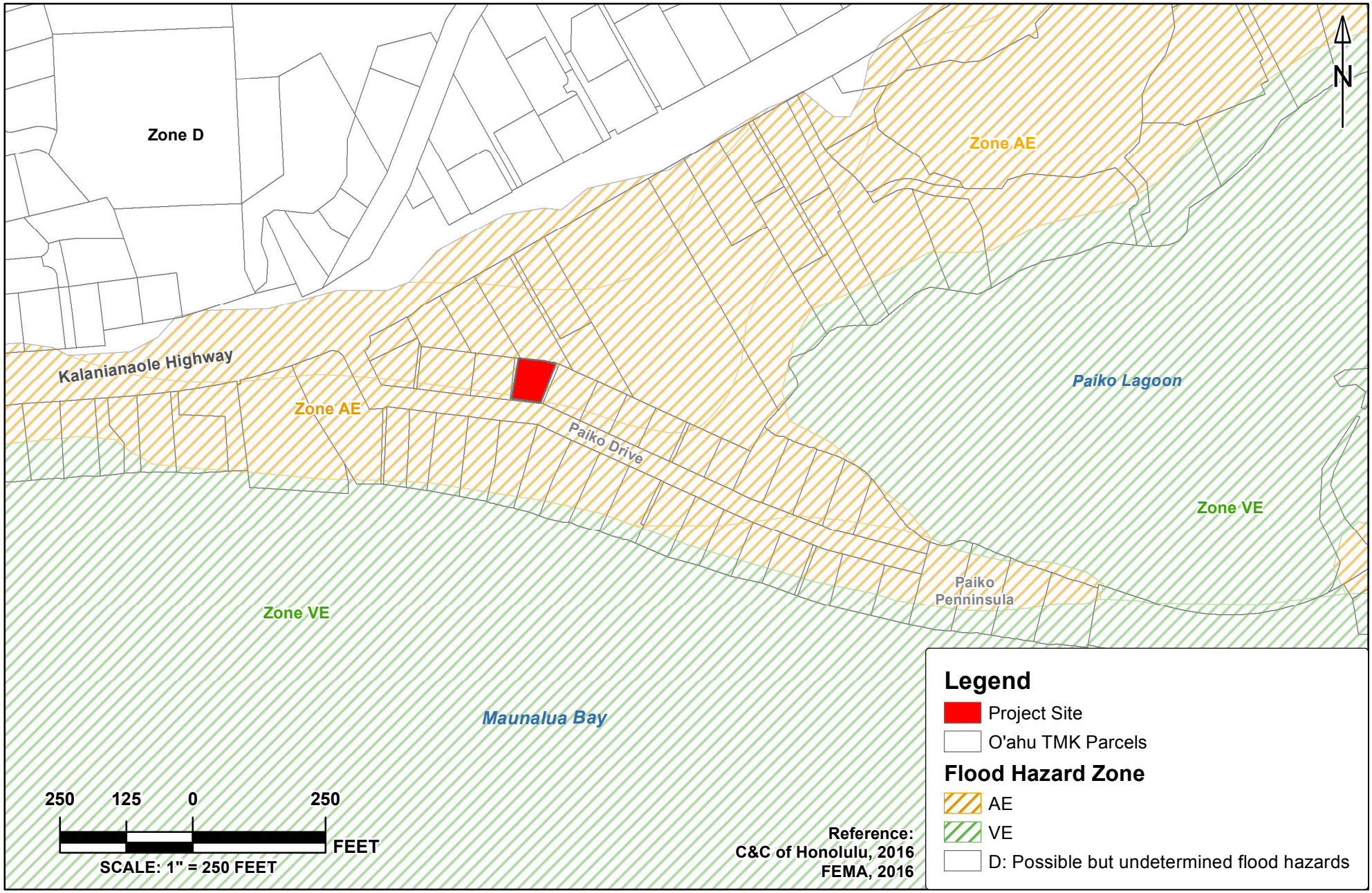

Environet, Inc.

FINAL ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PAIKO DRIVE WWPS FACILITY IMPROVEMENT

FLOOD HAZARD ZONE MAP
HONOLULU, O'AHU, HAWAI'I

FIGURE 5

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Environet, Inc.

FINAL ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PAIKO DRIVE WWPS FACILITY IMPROVEMENT

WETLANDS MAP
HONOLULU, O'AHU, HAWAI'I

FIGURE 6

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3.2.5 SOLID AND HAZARDOUS MATERIALS AND WASTES

Definition of Resources

Solid Waste

Solid waste is defined as garbage, refuse, and other discarded materials, including solid, liquid, semi-solid, or contained gaseous materials resulting from industrial, commercial, mining, and agricultural operations, sludge from waste and water supply treatment plants, and residues from air pollution control facilities and community activities. However, solid waste does not include solid or dissolved materials in domestic sewage or other substances in water sources such as silt, dissolved or suspended solids in industrial wastewater effluents, dissolved materials in irrigation return flows, or other common water pollutants, or source, special nuclear, or by-product material as defined by the Federal Atomic Energy Act of 1954, as amended (HAR 11-58.1).

Hazardous Materials and Wastes

Hazardous materials are defined as substances with strong physical properties of ignitability, corrosivity, reactivity, or toxicity, which may cause an increase in mortality, serious irreversible illness, incapacitating reversible illness, or pose a substantial threat to human health or to the environment. *Hazardous wastes* are defined as any solid, liquid, contained gaseous, or semisolid waste, or any combination of wastes that pose a substantial present or potential hazard to human health or to the environment.

Issues associated with hazardous materials and wastes typically center on underground storage tanks, aboveground storage tanks, and the storage, transport, and use of pesticides and fuel. When such resources are improperly used, they can threaten the health and well-being of wildlife species, botanical habitats, soil systems, water resources, and people.

Regulatory Setting

Solid Waste

Solid Waste management regulations are specified in HAR §11-58.1, with the intent to:

1) Prevent pollution of the drinking water supply or waters of the state;
2) Prevent air pollution;
3) Prevent the spread of disease and the creation of nuisances;
4) Protect public health and safety;
5) Conserve natural resources; and
6) Preserve and enhance the beauty and quality of the environment.

Hazardous Waste

HAR §11-262 specifies rules regulating hazardous waste management. Hazardous Waste Management regulations are specified in EPA state-specific Universal Waste Regulations and in Identification and Listing of Hazardous Waste (40 CFR §261).

In 1980, the U.S. Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in order to identify and remediate sites where hazardous substances were, or could be, released into the environment. As a result, CERCLA often addresses uncontrolled releases of hazardous substances from facilities no longer in operation. In addition, the Resource Conservation and Recovery Act (RCRA) was enacted in 1976 in order to focus on the prevention and remediation of releases from currently operating facilities. Together, the two pieces of legislation effectively form the "safety net" intended to protect the ecosystems in which organisms thrive.

3.2.5.1 EXISTING CONDITIONS

The project site includes the existing WWPS building which consists of a generator room and a control room on the ground floor. The generator room encloses an emergency generator fueled by a propane tank located outside of the building within the pump station property. The pump room and wetwell are located within the underground portion of the building. With the exception of the propane tank that currently exists on the property and the sewage that is pumped through the existing facility, there are no known hazardous materials use or hazardous waste-generating activity at the project site.

Approach to Analysis

Numerous local, federal, and state laws regulate the storage, handling, disposal, and transportation of hazardous materials and wastes; the primary purpose of these laws is to protect human health and the environment. The significance of potential impacts associated with hazardous substances is based on their toxicity, reactivity, ignitability, and corrosivity. Impacts associated with hazardous materials and wastes would be significant if the storage, use, transportation, or disposal of hazardous substances substantially increased the human health risk or environmental exposure.

3.2.5.2 POTENTIAL IMPACTS AND MITIGATION

No Action Alternative

Under implementation of the No Action Alternative, improvements to the Paikō Drive WWPS would not be implemented. The project site would remain unchanged and there would be no additional hazardous materials or solid wastes generated; however, the aging WWPS system components would continue to deteriorate, creating a public hazard due to risk of failure of the WWPS that could result in a sewage release into Maunalua Bay and Paikō lagoon.

Proposed Action

Solid Waste

During construction of the Proposed Action, solid waste in the form of construction debris will be generated. However, short-term impacts will be reduced to an insignificant level since the selected contractor would properly manage all waste in accordance with applicable state and city regulations. Once completed, the Proposed Action is not expected to result in generation of any significant solid waste. Therefore, the Proposed Action is not anticipated to have any impacts to the county solid waste disposal system or landfills on Oahu.

Hazardous Materials and Waste

During construction of the Proposed Action, there may be the potential of petroleum spillage associated with construction vehicles and equipment. To minimize this hazard, all applicable spill and prevention control BMPs would be implemented to ensure that accidental releases are minimized and contained during the construction period. For example, vehicles and equipment would be regularly inspected for leaks and adequate performance, and would be maintained accordingly.

In the long-term, replacement of the existing propane tank installed in 1970 with a new double walled diesel tank, is included as part of the Proposed Action would provide increased safety and less risk of potential leaks of propane gas. There is the potential for petroleum spillage associated with vehicles used during O&M activities of the pump station. However, the Proposed Action is not anticipated to result in increase of numbers of vehicles accessing the site, and potential spillage would be prevented by implementing BMPs as with the construction vehicles, such as using secondary containment while

refueling. As a result, implementation of the Proposed Action is expected to have positive impacts in reducing hazardous materials and waste generation.

3.2.6 CLIMATE AND AIR QUALITY

Definition of Resource

Climate

Climate is defined as long-term atmospheric patterns that characterize a region or location, and includes measures of temperature, humidity, atmospheric pressure, wind, precipitation, atmospheric particle count, and other meteorological variables. Knowing the climate of an area enables the predictability of short-term weather phenomena; however, only the weather can specify actual short-term atmospheric conditions. Some geographic regions with great topographic variations over relatively short distances (*e.g.*, slope steepness, aspect) have micro-climates that are distinct to small areas (*e.g.*, canyons, leeward vs. windward, hilltops, basins).

Air Quality

Air quality at a given location is a function of several factors including the quantity and type of pollutants emitted locally and regionally, as well as the dispersion rates of these pollutants. Primary factors affecting pollutant dispersion are wind speed and direction, atmospheric stability, temperature, the presence or absence of inversions, and topography. Air quality is affected by both stationary sources (*e.g.*, industrial development) and mobile sources (*e.g.*, motor vehicles).

Air quality at a given location is determined by the concentration of various pollutants in the atmosphere. National Ambient Air Quality Standards (NAAQS) are established by the EPA for criteria pollutants, including: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM) less than or equal to ten microns in diameter (PM_{10}) and less than or equal to 2.5 microns in diameter ($PM_{2.5}$), and lead (Pb). NAAQS represent maximum levels of background pollution that are considered safe, with an adequate margin of safety, to protect public health and welfare.

Ozone (O_3). The majority of ground-level (or terrestrial) O_3 is formed as a result of complex photochemical reactions in the atmosphere involving volatile organic compounds (VOCs), nitrogen oxides (NO_x), and oxygen. O_3 is a highly reactive gas that damages lung tissue, reduces pulmonary function, and sensitizes the lung to other irritants. Although stratospheric O_3 shields the earth from damaging ultraviolet radiation, terrestrial O_3 is a highly damaging air pollutant and is the primary source of smog.

Carbon Monoxide (CO). CO is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon in fuel. The health threat from CO is most serious for those who suffer from cardiovascular disease, particularly those with angina and peripheral vascular disease.

Nitrogen Dioxide (NO_2). NO_2 is a highly reactive gas that can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Repeated exposure to high concentrations of NO_2 may cause acute respiratory disease in children. Because NO_2 is a key precursor in the formation of O_3 or smog, control of NO_2 emissions is an important component of overall pollution reduction strategies. The two primary sources of NO_2 in the U.S. are fuel combustion and transportation.

Sulfur Dioxide (SO_2). In Hawai'i, the main source of SO_2 is vog from volcanic eruptions. SO_2 is also emitted from stationary source coal and oil combustion, steel mills, refineries, pulp and paper mills, and from nonferrous smelters. High concentrations of SO_2 may aggravate existing respiratory and cardiovascular disease; asthmatics and those with emphysema or bronchitis are the most sensitive to SO_2

exposure. SO_2 also contributes to acid rain, which can lead to the acidification of lakes and streams and damage trees.

Particulate Matter (PM_{10} and $PM_{2.5}$). PM is a mixture of tiny particles that vary greatly in shape, size, and chemical composition, and can be composed of metals, soot, soil, and dust. PM_{10} includes larger, coarse particles less than ten microns in size, whereas $PM_{2.5}$ includes smaller, fine particles less than 2.5 microns in size. Sources of coarse particles include crushing or grinding operations, and dust from paved or unpaved roads. Sources of fine particles include vog, all types of combustion activities (*e.g.*, motor vehicles, power plants, wood burning) and certain industrial processes.

Exposure to PM_{10} and $PM_{2.5}$ levels exceeding current standards can result in increased respiratory and cardiac-related respiratory illness. Short-term effects from PM may include headaches, breathing difficulties, eye irritation, and sore throat. The EPA has concluded that $PM_{2.5}$ are more likely to contribute to health problems than PM_{10}.

Airborne Lead (Pb). Airborne Pb can be inhaled directly or ingested indirectly by consuming Pb-contaminated food, water, or non-food materials such as dust or soil. Fetuses, infants, and children are most sensitive to Pb exposure. Pb has been identified as a factor in high blood pressure and heart disease. Exposure to Pb has declined dramatically in the last 10 years as a result of the reduction of Pb in gasoline and paint, and the elimination of Pb from soldered cans.

Greenhouse Gases (GHGs).

GHGs trap heat in the earth's atmosphere, affecting climate change and contributing to global warming. Both naturally occurring and anthropogenic (man-made) GHGs include: water vapor, carbon dioxide (CO_2), methane (CH_4), nitric oxide (NO), and O_3. According to guidance from the CEQ, during an analysis of direct effects it is appropriate to: (1) quantify cumulative emissions over the life of the project; (2) discuss measures to reduce GHG emissions, including consideration of reasonable alternatives; and (3) qualitatively discuss the link between such GHG emissions and climate change. However, it is not currently useful for NEPA analysis to attempt to link specific climatological changes, or the environmental impacts thereof, to the particular project or emissions, as such direct linkage is difficult to isolate and to understand. The estimated level of GHG emissions can serve as a reasonable proxy for assessing potential climate change impacts and provide decision makers and the public with useful information for a reasoned choice among alternatives. The CEQ suggests the emission indicator of 25,000 metric tons of CO_2-equivalent per year to determine if a federal agency should conduct a GHG emission study on a proposed action (CEQ, 2010). It is not anticipated that the short-term construction emissions associated with implementation of the proposed action would produce GHG emissions at or above the CEQ standard, or emissions at or above NAAQS standards. Once in operation, the proposed facilities improvements would not result in significant GHG emissions. Therefore, a GHG emission study would not be warranted.

Regulatory Setting

The CAA Amendments of 1990 place most of the responsibility to achieve compliance with NAAQS on individual states. The DOH Clean Air Branch is responsible for air pollution control in the state. The primary services of the branch include: 1) Engineering, which includes engineering analysis and permitting; 2) Monitoring, which performs monitoring and investigations; and 3) Enforcement, in which federal and state air pollution control laws and regulations are enforced.

The EPA requires each state to prepare a State Implementation Plan (SIP). A SIP is a compilation of goals, strategies, schedules, and enforcement actions that would lead the state into compliance with all NAAQS for CO, PM_{10}, $PM_{2.5}$, SO_2, NO_2, and O_3 to thus reach attainment status. Areas not in compliance with a standard can be declared non-attainment areas by EPA or the appropriate state or local agency. There can be lenience for Exceptional Events, which are defined as "unusual or naturally occurring

events that can affect air quality but are not reasonably controllable using techniques that tribal state, or local air agencies may implement in order to attain and maintain the NAAQS" (EPA, 2012). An example of an Exceptional Event is a volcanic eruption, which affects air quality by causing exceedances of NAAQS and cannot be controlled by human intervention.

3.2.6.1 EXISTING CONDITIONS

The average annual temperature on Oahu is 75 degrees Fahrenheit, with an annual average total precipitation of 34.6 inches (Climate-Data, 2014). The months of the year with the most rainfall occur from November through February (Western Region Climate Center, 2008).

The project site is located on the southern coast of the island of O'ahu *makai* of Kuli'ou'ou Valley. The annual average annual temperature is 75.0 degrees Fahrenheit and the annual average total precipitation is 30.70 inches (Western Region Climate Center, 2008).

The prevailing winds on O'ahu (known as trade winds) are from the east-northeast, with a mean wind speed of 10.6 mph (Western Region Climate Center, 2008). The trade winds prevail approximately nine months of the year. Trade winds blow vog (*i.e.*, volcanic fog) from the Big Island of Hawai'i volcanoes, as well as other air contaminants, to the southwest. During the winter months, winds tend to be less predictable, with longer periods of light and variable winds, and occurrences of strong southerly or "Kona" winds associated with weather fronts and storms. In addition, when trade winds are absent for prolonged periods, vog travels up the island chain and can affect air health by increasing levels of airborne SO_2 and $PM_{2.5}$. Although both of these pollutants are regulated by the EPA, Hawai'i's advisories for volcanic SO_2 and $PM_{2.5}$ have been customized for local conditions. Air monitoring stations in communities near Kīlauea Volcano on the Big Island of Hawai'i record regular exceedances of the NAAQS for SO_2 and occasional exceedances of the NAAQS for $PM_{2.5}$. The EPA considers activities from the volcano a natural, uncontrollable event, and therefore the state requests exclusion from these NAAQS exceedances for attainment/non-attainment determination (DOH, 2012). Shorter exposure time intervals have also been adopted due to variable wind conditions, which can cause volcanic gas concentrations to change rapidly (USGS, 2014).

The project site is located in EPA attainment zones for CO, NO_2, O_3, $PM_{2.5}$, PM_{10}, SO_2, and Pb (EPA, 2014). In 2015, Hawai'i was in attainment with NAAQS annual averages of PM_{10}, $PM_{2.5}$, O_3, CO, and SO_2, based upon three-year averages of annual mean values from 12 air quality stations (four on O'ahu, three on Maui, six on the Island of Hawai'i, and one on Kaua'i) that represent the State of Hawai'i. The air quality station positioned closest to the project site is located approximately 10 miles west from the project site in Honolulu. The annual averages from this air quality station from 2013-2015 indicated that annual averages of SO_2, CO, $PM_{2.5}$, and PM_{10} levels in ambient air were well below their respective state (HAR §11-59) and federal (40 CFR Part 50) Standards (DOH, 2015).

Levels of NO_2, Pb, and O_3 were not taken at the Honolulu air quality station, but annual average levels of NO_2 and Pb taken from 2013-2015 at the Kapolei air quality station (the station closest to the project site that captures NO_2 and Pb levels) were less than the state and federal standard. Similarly, O_3 taken from the same time period at the Sand Island air quality station (the station located closest to the project site that captures O_3 levels) were less than the state and federal standard (DOH, 2015).

Approach to Analysis

The 1990 Amendments to the CAA require that state agency activities conform to the SIP with respect to achieving and maintaining attainment of NAAQS and to addressing air quality impacts. The EPA General Conformity Rule requires that a conformity analysis be performed, which demonstrates that a proposed action does not: 1) cause or contribute to any violation of any NAAQS in the area; 2) interfere

with provisions in the SIP for maintenance or attainment of any NAAQS; 3) increase the frequency or severity of any existing violation of any NAAQS; or 4) delay timely attainment of any NAAQS, any interim emission reduction goals, or other milestones included in the SIP. Provisions in the General Conformity Rule allow for exemptions from performing a conformity determination only if total emissions of individual non-attainment area pollutants resulting from a proposed action fall below the *de minimis* threshold values.

3.2.6.2 POTENTIAL IMPACTS AND MITIGATION

No Action Alternative

Under the No Action Alternative, the proposed facility improvements would not be conducted. Less than significant emissions due to operation of the WWPS would continue to be limited to those associated with the propane tank located at the Site, as well as minimal hydrogen sulfide emissions from the wetwell during routine maintenance when manholes at the site are open. In addition, current less than significant fugitive dust and vehicular emissions would continue due to the use of maintenance vehicles at the project site. No additional impacts to air quality would occur under implementation of the No Action Alternative.

Proposed Action

The Proposed Action would result in less than significant short-term impacts to air quality arising from construction activities. The main short-term air quality impacts would be from the generation of fugitive dust during construction activities. The State of Hawai'i Air Pollution Control Regulations prohibit visible emissions of fugitive dust from construction activities at the property line. Applicable BMPs would be implemented during construction activities in order to control fugitive dust emissions. These BMPs would include watering active work areas and unpaved work roads; use of wind screens; establishment of a routine road cleaning and/or tire washing program; and monitoring dust at the project boundary if significant dust generation is anticipated.

The use of construction equipment and personal vehicles to access the project site could lead to temporary increases in vehicular airborne pollutant concentrations. To reduce vehicle and equipment emissions, carpooling and ensuring that equipment is functioning properly would be included in regular construction work practices. Further, slightly increased vehicular emissions due to disruption of traffic by construction equipment and/or commuting construction workers may occur. These increased vehicular emissions would be alleviated by moving equipment and personnel to the project site during off-peak traffic hours (i.e., 8:30AM-5:00PM). It is not anticipated that the short-term construction emissions associated with implementation of the proposed action would produce GHG emissions at or above the CEQ standard, or emissions at or above NAAQS standards. As a result, short-term impacts to air quality due to construction activities would be considered less than significant.

The Proposed Action is not expected to result in any change to vehicular traffic at the project site. The project site will continue to be used as a WWPS and maintenance activities are expected to remain unchanged. As a result, no direct long-term impacts to air quality are expected due to implementation of the Proposed Action.

As part of the Proposed Action, the existing propane fueled generator would be replaced with a new diesel fueled generator in order to improve the reliability of the emergency power system. Once in operation, the proposed improved facilities would not result in significant GHG emissions. Any increased emissions from the new backup diesel generator would be below *de minimus* threshold concentrations due to the intermittent nature of operation as an emergency backup generator. Minimal hydrogen sulfide emissions from the wetwell during routine maintenance when manholes at the Site are open may also occur. Therefore, a GHG emission study would not be warranted. Further, an Air

Pollution Control Permit would not be required under HAR Title 11, §11-60. 1-62 Definitions, Section (d). Therefore, direct and indirect long-term impacts to air quality due to the Proposed Action would be considered less than significant.

3.2.7 NOISE

Definition of Resources

Noise is generally defined as unwanted sound. Noise can be any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise annoying. Human responses to noise vary depending on the type and characteristics of the noise, distance between the noise source and receptor, receptor sensitivity, and time of day.

Determination of noise levels are based on: 1) sound pressure level generated (decibel [dB] scale); 2) distance of listener from source of noise; 3) attenuating and propagating effects of the medium between the source and the listener; and 4) period of exposure.

An A-weighted dB (dBA) sound level is one measurement of noise. The human ear can perceive sound over a range of frequencies, which varies for individuals. In using the dBA scale for measurement, only the frequencies heard by most listeners are considered. This gives a more accurate representation of the perception of noise. The noise measure in a residential area, similar to conditions within the project site, is estimated at approximately 70 dBA. Normal conversational speech at a distance of five to ten feet is approximately 70 dBA. The dB scale is logarithmic, so, for example, sound at 90 dBA would be perceived to be twice as loud as sound at 80 dBA. Passenger vehicles, motorcycles, and trucks use the roads in the vicinity of the project site. Noise levels generated by vehicles vary based on a number of factors including vehicle type, speed, and level of maintenance. Intensity of noise is attenuated with distance. Some estimates of noise levels from vehicles are listed in Table 3-1 (Cavanaugh and Tocci, 1998).

Table 3-1: Typical Noise Sources

Source	Distance (feet)	Noise Level (dBA)
Automobile, 40 mph	50	72
Automobile Horn	10	95
Light Automobile Traffic	100	50
Truck, 40 mph	50	84
Heavy Truck or Motorcycle	25	90

Source: Cavanaugh and Tocci, 1998.

Regulatory Setting

HAR Title 11, Chapter 46 Community Noise Control sets permissible noise levels in order to provide for the prevention, control, and abatement of noise pollution in the state. The regulation creates noise districts based on land use that dictate acceptable noise levels. The project site is currently zoned for residential use. Therefore, the project site is in a Class A zoning district, as defined by HAR 11-46. The maximum permissible sound level in a Class A district is 55 dBA from 7:00 am-10:00 pm and 45 dBA from 10:00 pm-7:00 am (DOH, 1969).

The EPA has identified a range of yearly day-night sound level (DNL) standards that are sufficient to protect public health and welfare from the effects of environmental noise (EPA, 1977). The EPA has established a goal to reduce exterior environmental noise to a DNL not exceeding 65 dBA and a future goal to further reduce exterior environmental noise to a DNL not exceeding 55 dBA. Additionally, the EPA states that these goals are not intended as regulations as it has no authority to regulate noise levels, but rather they are intended to be viewed as levels below which the general population would not be at risk from any of the identified effects of noise.

The U.S. Occupational Safety and Health Administration (OSHA) has established acceptable noise levels for workers. Table 3-2 shows permissible noise levels for varying exposure times.

Table 3-2: OSHA Permissible Noise Exposures

Duration per day-hours	Sound level dBA slow response
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25 or less	115

Source: OSHA, 2012

3.2.7.1 EXISTING CONDITIONS

The project site is located on the southeast side of the island of Oʻahu approximately 0.9 miles west of Hawaiʻi Kai, and approximately 10 miles east of Honolulu *makai* of Kuliʻouʻou Valley. The project site is bound by Paikō Drive to the south and is surrounded by single family residences to the north, east, and west. Paikō Lagoon Wildlife Sanctuary is located approximately 0.10 miles east of the project site and Maunalua Bay is located approximately 0.05 miles south of the project site. As a result, the noise environment within the vicinity of the project site is presently dominated by traffic noise from Kalanianaʻole Highway, wind, birds, occasional distant aircraft flyovers, and intermittent noise associated with the existing Paikō Drive WWPS located at the project site. Noise receptors within the vicinity of the project site include a residential subdivision and Paikō Drive surrounding the site, the Holy Trinity Catholic Church to the northeast, the Paikō Lagoon Wildlife Sanctuary to the east, and Maunalua Bay to the south.

Approach to Analysis

Noise impact analyses address potential changes to existing noise environments that would result from implementation of a proposed action. Potential changes in the noise environment can be beneficial (*e.g.*, if they reduce the number of sensitive receptors exposed to unacceptable noise levels), negligible (*e.g.*, if the total area exposed to unacceptable noise levels is essentially unchanged), or adverse (*e.g.*, if they result in increased exposure to unacceptable noise levels).

3.2.7.2 POTENTIAL IMPACTS AND MITIGATION

No Action Alternative

Under implementation of the No Action Alternative, the proposed facility improvements will not be conducted. No construction activity or accompanying noise associated with the use of construction equipment would occur. The proposed project site would remain unchanged and the noise environment in the project site would continue to be dominated by traffic, wind, birds, occasional distant aircraft flyovers, and intermittent noise associated with the existing Paikō Drive WWPS located at the project site.

Proposed Action

Under the Proposed Action, less than significant short-term noise impacts from construction activities would occur. Development of the project site would involve excavation, grading, and other typical construction activities. The CMU wall surrounding the project site may aid in limiting construction-related noise to sensitive receptors by acting as a barrier. Furthermore, BMPs (*e.g.*, construction scheduling; insulation/muffling; reduced power options; equipment substitution, selection, retrofit, and maintenance; utilization of staging areas; and non-permanent noise barriers) would be implemented to reduce or eliminate noise and buffer zones between construction activities and residential areas would be created; construction work would be limited to the hours between 7:30AM and 5:00PM on weekdays. The Paikō community will be informed about construction occurrences to prepare for any noise disruptions that may be associated with the project. Therefore, the Proposed Action is not expected to significantly impact any existing sensitive noise receptors within the vicinity of the project site (*i.e.,* the residential subdivision, Paikō Drive, Paikō Lagoon Wildlife Sanctuary, and Maunalua Bay).

Upon completion, the Proposed Action would have beneficial long-term impacts to noise receptors. The proposed improvements to the Paikō Drive WWPS would include the replacement of the existing propane-powered generator with a new, quieter diesel-powered generator, as well as the replacement of the existing ventilation system with new, quieter ventilation equipment. Both the existing and planned ventilation systems will run 24 hours per day. The installation of the new generator and ventilation system would need to meet DOH Community Noise Control rules. In order to comply with noise rules and prevent noise impacts to surrounding residences, the Proposed Action would incorporate design considerations to control the noise emanating from the new backup generator. These design features would include air intake and exhaust silencers, as well as the construction of an enclosed generator room that would include acoustical wall panels and mufflers where the generator and fuel pump would be permanently situated. No increases to future traffic volume are expected due to the Proposed Action.

3.3 SOCIAL ENVIRONMENT

3.3.1 LAND USE CONSIDERATIONS AND ZONING

Definition of Resources

Land use comprises natural conditions or human-modified activities occurring at a particular location. Human-modified land use categories include residential, commercial, industrial, transportation, communications and utilities, agricultural, institutional, recreational, and other developed use areas.

Management plans and zoning regulations determine the type and extent of land use allowable in specific areas and are often intended to protect specially designated or environmentally sensitive areas.

Regulatory Setting

The Hawai'i State Land Use Law (HRS §205) establishes a framework of land use management and regulation in which all lands in the State of Hawai'i are classified into four land use districts (Urban, Rural, Agricultural, and Conservation). The State Land Use Commission (LUC) was established by the state legislature in order to administer the land use law.

The CZM Act (16 U.S.C. §1451) was enacted to protect, preserve, develop, restore, and enhance the resources of the nation's coastal zone for current and future generations. This process is achieved by providing assistance to coastal states, including Hawai'i, to develop and manage Coastal Management Programs. Enforcement authority for the Federal CZM Program (Public Law 104-150, as amended in 1996) has been delegated to the State of Hawai'i (HRS §205A). The SMA permitting system is part of the CZM Program. The SMA permit regulates permissible land uses that are already allowed by land use policies including zoning designations, county general plans, and community development plans. In addition, the SMA permit is a management tool to assure that uses, activities, or operations on land within an SMA are designed and carried out in compliance with the CZM objectives and policies, and SMA guidelines.

3.3.1.1 EXISTING CONDITIONS

Land Use

The project site is an approximately 5,000 square foot parcel located at 265 Paikō Drive, Honolulu on the southeast side of the island of O'ahu. The project site is located within a residential area and currently used for the operation of the existing pump station.

Zoning

According to the State LUC district classifications, the project site is located within an Urban District (Figure 7). The site is zoned for residential use (R-7.5) under county zoning (Figure 8). The land parcel zoning information for the project site is summarized in Table 3-3.

Table 3-3: Project Site Land Parcel Information

TMK Number	Parcel Area (acres)	SLUD	County Zoning Designation	Fee Owner
(1) 3-8-001:034	0.11	Urban	Residential (R-7.5)	City and County of Honolulu

Tsunami Hazard Zones

The project site is located within the tsunami evacuation zone as determined by NOAA and the Hawai'i State Civil Defense (NOAA, 2016).

CZM Consistency

The proposed project is within the designated SMAs as established in Chapter 25, ROH; therefore, a SMA permit is required and will be submitted to the City and County of Honolulu Department of Planning and Permitting (DPP) for approval.

Approach to Analysis

Significance of potential land use impacts is based on the level of land use sensitivity in areas affected by a proposed action. In general, land use impacts would be significant if they would: 1) be inconsistent or noncompliant with applicable land use plans or policies; 2) preclude the viability of existing land use; 3) preclude continued use or occupation of an area; or 4) be incompatible with adjacent or vicinity land use to the extent that public health or safety is threatened.

3.3.1.2 POTENTIAL IMPACTS AND MITIGATION

No Action Alternative

Under the No Action Alternative, improvements to the Paikō Drive WWPS would not be implemented. No changes to current land use would occur. Therefore, there would be no impact to land use at the project site.

Proposed Action

The Proposed Action would not have any adverse impacts to the existing land uses or zoning within and around the project site. The use of the existing WWPS will be enhanced by the proposed improvements. Temporary impacts to the parking areas available on Paikō Drive are expected during construction activities; however, due to the limited duration of the construction period and relatively limited scale of the proposed improvement activities, impacts are expected to be minimal. None of the proposed work items are expected to permanently alter the current land use within the project site or affect surrounding land uses; therefore, no potential impacts are expected.

Once completed, the Proposed Action would be considered compatible, consistent, and not in conflict with any of the objectives of the CZM program and would not impact coastal recreation opportunities, impede economic uses, increase coastal hazards, or conflict with development within the coastal zone. Since the project site is within the State of Hawai'i SMA, a SMA permit is required and will be submitted to the DPP for approval.

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FINAL ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PAIKO DRIVE WWPS FACILITY IMPROVEMENT

STATE LAND USE DISTRICTS MAP
HONOLULU, O'AHU, HAWAI'I

FIGURE 7

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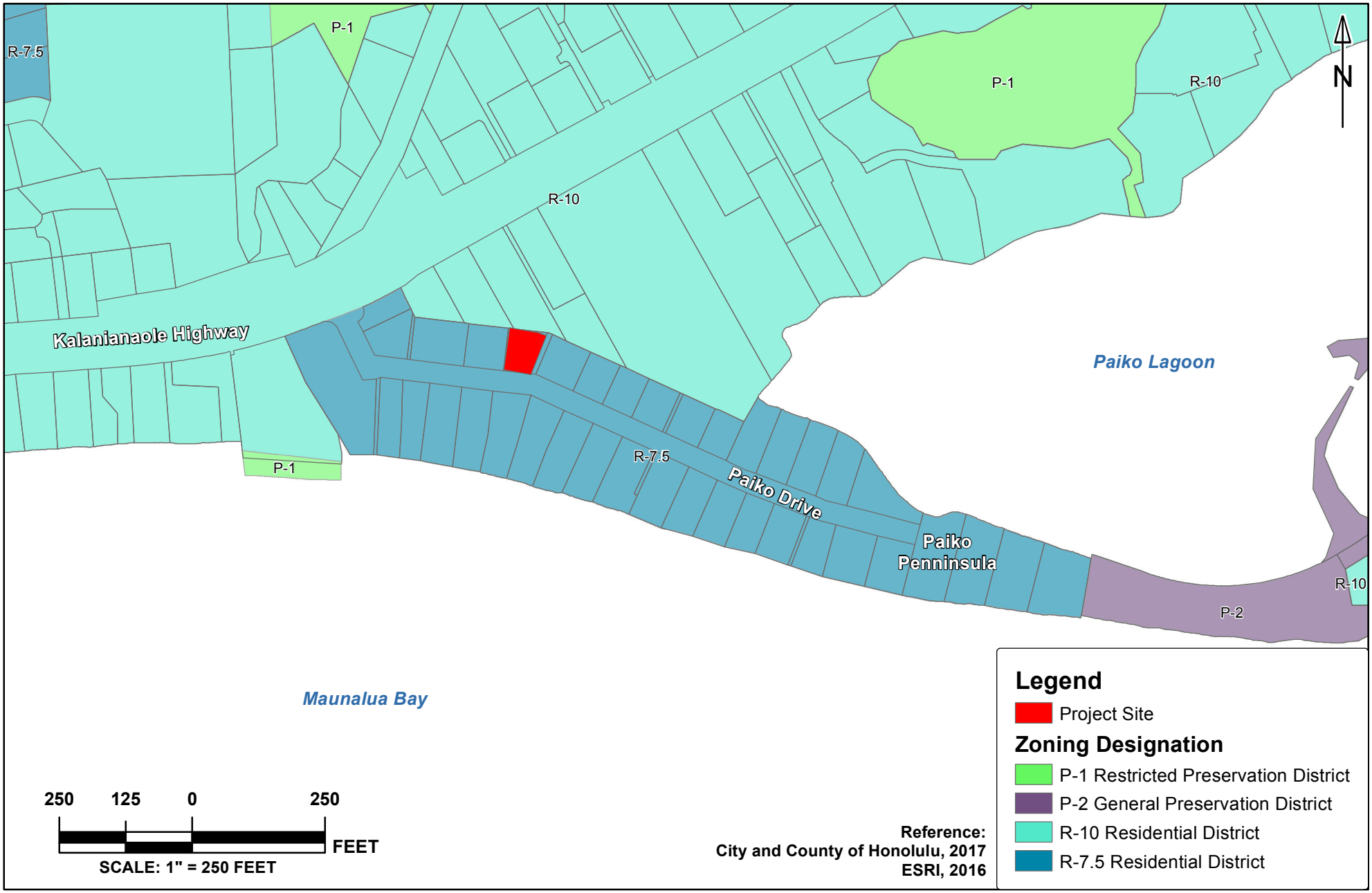

Environet, Inc.

FINAL ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PAIKO DRIVE WWPS FACILITY IMPROVEMENT

CITY AND COUNTY ZONING MAP
HONOLULU, O'AHU, HAWAI'I

FIGURE 8

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3.3.2 CULTURAL RESOURCES

Definition of Resources

Cultural resources represent and document activities, accomplishments, and traditions of previous civilizations, and link current and former inhabitants of an area. Depending on their conditions and historic uses, these resources may provide insight to living conditions in previous civilizations and may retain cultural and religious significance to modern groups. Traditional cultural resources can include archaeological resources, structures, neighborhoods, prominent topographic features, habitats, plants, animals, and minerals that native Hawaiians or other groups consider essential for the persistence of traditional culture. The term historic properties refers to cultural resources that meet specific eligibility criteria for listing on the National Register of Historic Places (NRHP), such as age (generally at least 50 years old), architectural integrity, and/or significant association with historical events, activities, or developments.

Regulatory Setting

Several federal laws and regulations have been established to manage cultural resources, including the National Historic Preservation Act (NHPA) of 1966, the Archaeological and Historic Preservation Act (1974), and the Archaeological Resource Protection Act (1979).

The DLNR State Historic Preservation Division (SHPD) works to preserve and sustain historical and cultural resources through three branches: History and Culture, Archaeology, and Architecture. The SHPD maintains the statewide inventory of Historic Properties and reviews development projects in order to lessen the effects of change on Hawai'i's historical and cultural assets. Administrative rules pertaining to historic preservation in Hawai'i can be found in HAR § 197-198, 275-284, and 300. Statutes pertaining to historic preservation in Hawai'i are found in HRS § 6E.

Traditional cultural practices acknowledged in the State of Hawai'i include rights of access and gathering. Traditional gathering rights have been codified in HRS §1-1 and §7-1, Article 12-7 of the Constitution of the State of Hawai'i.

Articles IX and XII of the State Constitution of Hawai'i (HRS Chapter 343) require government agencies to promote and preserve cultural beliefs, practices, and resources of native Hawaiian and other ethnic groups. The "Guidelines for Assessing Cultural Impacts," adopted by the Environmental Council of the State of Hawai'i (1997), identify the protocol for conducting cultural assessments. Once a cultural resource has been identified, a significance evaluation is conducted in which resources are assessed for scientific or historic research, for the general public, and for traditional cultural groups. In order for a cultural resource to be considered significant, per HAR §13-275-6, it must meet one or more of the following criteria for inclusion on the NRHP:

A. Associated with events that have made a significant contribution to the broad patterns of our history, or be considered a traditional cultural property;

B. Associated with the lives of persons significant in the past;

C. Embody distinctive characteristics of a type, period, or method of construction, or represent a significant and distinguishable entity whose components may lack individual distinction;

D. Has yielded or may be likely to yield, information important in prehistory or history; and/or

E. Have important value to Native Hawaiian people or other ethnicities in the state, due to associations with cultural practices and traditional beliefs that were, or still are, carried out.

3.3.2.1 EXISTING CONDITIONS

A cultural impact assessment (CIA) was completed for the proposed project in order to determine if the proposed project may affect existing historic or cultural resources/practices within the area. The findings of the CIA are summarized below and the CIA report is included as Appendix C. The SHPD History and Culture, Archaeological and Architecture Branches were consulted during the pre-consultation and DEA public comment periods (Appendix A).

Cultural Background

The project site is located within the Kuliʻouʻou Ahupuaʻa, which is part of the Kona District of Oʻahu Island. Traditional land use in the area consisted of agriculture, aquaculture and fishing. There is evidence of at least 11 native Hawaiian fishponds within the vicinity of the project site, including the Paikō fishpond which was located within Paikō Lagoon. Several accounts from early Western visitors suggest that quite a few settlements were present along the Kuliʻouʻou coast (PCSI, 2017).

At the time of the Māhele (1848), Kuliʻouʻou Ahupuaʻa was divided in two parts, a western half (Kuliʻouʻou 1) and an eastern half (Kuliʻouʻou 2). Kuliʻouʻou 2 was designated Crown Lands, and Kuliʻouʻou 1 was awarded to Waiaha, the daughter of Keoni Wawaenui ("John Bigfeet"). Following this, Kuliʻouʻou 1 was leased to and then owned by Manuel Pico (Paikō), a part-Portuguese immigrant and namesake of Paikō Peninsula and Pond/Lagoon. During the reign of King Kamehameha III, Kuliʻouʻou 2 was used as a summer residence (PCSI, 2017).

In the roughly five (5) decades after the Māhele, aquaculture and cattle ranching were the dominant subsistence activities in the region, which continued to be a rural and agriculturally-oriented region of Oʻahu throughout much of the historic period. But by the mid-1900s, the area had become more residential, including the partial filling in of Maunalua Fishpond to put up housing developments (PCSI, 2017).

Archaeological Background

Several archaeological resources have been discovered and documented within the vicinity of the project site. These resources include burials, midden and artifacts associated with extended habitation, a historic trash pit, a cobblestone septic tank, and a cobble alignment and trash pit. No archaeological resources have been found within the project site (PCSI, 2017).

Approach to Analysis

Analysis of potential impacts to cultural resources considers both direct and indirect impacts. Direct impacts may occur by: 1) physically altering, damaging, or destroying all or part of a resource; 2) altering the characteristics of the surrounding environment that contribute to resource significance; 3) introducing visual, audible, or atmospheric elements that are out of character with the property or alter its setting; or 4) neglecting the resource to the extent that it is deteriorated or destroyed.

Identifying the locations of the Proposed Action and determining the exact locations of cultural resources that could be affected can assess direct impacts. Indirect impacts primarily result from the effects of project-induced population increases and the resultant need to develop new housing areas, utilities services, and other support functions necessary to accommodate population growth. These activities and the subsequent use of the facilities can disturb or destroy cultural resources.

3.3.2.2 POTENTIAL IMPACTS AND MITIGATION

No Action Alternative

Under the No Action Alternative, the proposed facility improvements would not be conducted. The project site would remain unchanged from current conditions and there would be no direct or indirect impacts to any potential cultural resources or practices.

Proposed Action

No contemporary or cultural or traditional practices were found to occur at the project site since there is no public access into or through the project site, which is used as a City WWPS (PCSI, 2017). Human burial finds are located within 120 to 215 m to the west, north and northwest, and the project site soils have been identified as Jaucas Sands which often contain traditional Hawaiian burials. Therefore, a full-time, on-site archeological monitor would be required during all ground disturbing activities at the Paiko Drive WWPS. Ground disturbance construction activities would be limited to vegetation clearance/ground scraping limited to two feet bgs to clear the area planned for the new generator room. If any archaeological materials or features are encountered during monitoring the mitigation measures detailed in the Archaeological Monitoring Plan will be implemented (Appendix D). In the event that any human remains or other potentially significant archaeological/historical subsurface deposits are encountered during the course of construction activities, all work in the immediate area will cease and SHPD would be promptly notified for proper mitigation. As a result, it is not anticipated that implementation of the Proposed Action would have significant short- or long-term impacts on cultural or traditional/customary practices, archaeological resources or historic properties.

3.3.3 TRAFFIC AND CIRCULATION

Definition of Resources

Traffic and circulation refer to the movement of vehicles throughout a road or highway network. Primary roads are principal arterials, such as major interstates, designed to move traffic and not necessarily to provide access to all adjacent areas. Secondary roads are arterials such as rural routes and major surface streets, which provide access to residential and commercial areas, hospitals, and schools.

Regulatory Setting

State of Hawai'i Department of Transportation (HDOT) Highway Manual for Sustainable Landscape Maintenance, Chapter 4, Section 645: Work Zone Traffic Control describes the following procedures on:

1) Furnishing, installing, maintaining, and subsequently removing work zone traffic control devices and personnel. Work zone traffic control shall include providing flaggers and police officers;
2) Keeping roads for public traffic open and in passable condition; providing and maintaining temporary access crossings for trails, businesses, parking lots, garages, residences, farms, parks, and other driveways; taking necessary work precautions for the protection, safety, and convenience of the public; should pedestrian facilities exist, taking necessary measures for the safe and accessible passage, with route information and Americans with Disabilities Act of 1990 Accessible Guidelines (42 U.S.C §12101) compliance, for pedestrians traveling through or near work zone; and
3) Taking safety and precautionary measures, such as illuminating roadway obstructions during hours of darkness, in accordance with HRS Chapter 286; Title 19, Subtitle 5, Chapters 127, 128, and HAR 129; Manual on Uniform Traffic Control Devices.

Regulations for necessary signs, barricades, traffic delineators, cones, lane closures, advisory signs, and advertisement needed for construction activity shutdowns described in HDOT Section 645 would be adhered to if needed, and a Traffic Control Plan (TCP) would be drafted if construction work extends into the public roadways located adjacent to the project site.

3.3.3.1 EXISTING CONDITIONS

Paikō Drive WWPS is located on Paikō Drive that branches off from Kalanianaole Highway, which is the main roadway used to travel between downtown Honolulu and East Oahu. Paikō Drive is used primarily by the residents in the area to access homes. The number of residential houses are limited; therefore, traffic is usually light on Paikō Drive.

Approach to Analysis

Potential impacts to traffic and circulation patterns are assessed with respect to anticipated disruption or improvement of current transportation patterns and systems, deterioration or improvement of existing levels of service, and changes in existing levels of transportation safety. Beneficial or adverse impacts may arise from physical changes to circulation (*e.g.*, closing, rerouting, or creating roads), construction activity, introduction of construction-related traffic on local roads, or changes in daily or peak-hour traffic volumes created by installation workforce and population changes. Adverse impacts on roadway capacities would be significant if roads with no history of exceeding capacity were forced to operate at or above their full design capacity.

3.3.3.2 POTENTIAL IMPACTS AND MITIGATION

No Action Alternative

Under the No Action Alternative, improvements to the Paikō Drive WWPS would not be implemented, and no short-term construction vehicular traffic would be generated. The project site would remain unchanged, and traffic from the residents of the area would continue without additional impacts associated with the Proposed Action.

Proposed Action

Implementation of the Proposed Action would result in less than significant, short-term impacts to traffic and circulation during the construction period. Traffic in the surrounding area would be alleviated by moving equipment and personnel to the project site during off-peak traffic hours, to the extent practicable. Traffic controls will be implemented when necessary in order to maintain local traffic flow around the project site. A TCP would not be needed since construction would not extend into public roadways adjacent to the project site. If construction-related work requires the temporary closure of any traffic lane on a City street, a street usage permit from the City Department of Transportation Services will be obtained. In the event that any damages/deficiencies to Paikō Drive's right of way occur during construction, they will be corrected to City standards and accepted by the City.

Negligible direct impacts resulting from additional vehicle trips to and from the project site by construction workers and contractors via the local roadway network would occur during the construction phase. Contractors would park their vehicles in the parking stalls located within the project site property; the number of vehicles would be reduced as much as possible through the implementation of vanpooling. As a result, direct and indirect short-term impacts to traffic and circulation due to construction activities would be considered less than significant.

Once completed, the Proposed Action would not result in generation of additional traffic on the existing roadways. O&M requirements of the existing pump station would remain the same following completion of the proposed improvement activities; therefore, no long-term impacts are anticipated.

3.3.4 SOCIOECONOMICS

Definition of Resources

Socioeconomics are defined as the basic attributes and resources associated with the human environment, particularly population and economic activity. Human population is affected by regional birth and death rates as well as net in- or outmigration. Economic activity typically comprises employment, personal income, and industrial growth. Impacts on these fundamental socioeconomic indicators can also influence other components such as housing availability and public services provision.

Socioeconomic data in this section was presented at the county, state, and national levels to analyze baseline socioeconomic conditions in the context of regional, state, and national trends. Data has been collected from previously published documents issued by federal, state, and local agencies and from state and national databases (*e.g.*, U.S Bureau of Economic Analysis [BEA] Regional Economic Information System).

Regulatory Setting

In 1994, *"Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations"* (EO 12898), was issued to focus the attention on human health and environmental conditions in minority and low income communities and to ensure that disproportionately high and adverse human health or environmental effects on these communities are identified and addressed.

Because children may suffer disproportionately from environmental health risks and safety risks, *"Protection of Children from Environmental Health and Safety Risks"* (EO 13045), was introduced in 1997 to prioritize the identification and assessment of environmental health risks and safety risks that may affect children and to ensure that policies, programs, activities, and standards address environmental health risks and safety risks to children.

3.3.4.1 EXISTING CONDITIONS

Social Factors and Community Identity

According to the 2010 census, the total population of East Honolulu census designated place (CDP) is estimated at 49,914, which comprises 5.2 percent of the total population of Honolulu County, estimated at 953,207, and 3.7 percent of the total population of the State of Hawai'i, estimated at 1,360,301. The median age of East Honolulu CDP is 47.2 years old with 19.4 percent of the total population being under 18 years old and 21.0 percent over 65 years old (US Census Bureau, 2017).

Socioeconomics

The median household annual income for East Honolulu CDP was $112,548 for the years 2011 to 2015, higher compared to the median household annual income for Honolulu County ($74,460) and the State of Hawai'i ($69,515) (US Census Bureau, 2017).

According to the East Honolulu Sustainable Communities Plan, East Honolulu is targeted for very little growth of the 20-25 year projection horizon of the Plan. Policies that support this goal are focused on

maintaining the patterns of development characteristic of East Honolulu's residential neighborhoods and limit the potential of expansion of the region's housing stock, commercial centers, and economic activity (City and County of Honolulu, 1999).

Environmental Justice

In order to comply with EO 12898, ethnicity and poverty status in the vicinity of the project site were examined and compared to regional, state, and national data to determine if any minority or low-income communities could potentially be disproportionately affected by implementation of the Proposed Action.

For the years 2010-2015, the percentage of population in East Honolulu CDP below the poverty level was 3.9 percent, which is lower than the Honolulu County (9.2 percent), State of Hawai'i (10.6 percent), and national (13.5 percent) percentages (US Census Bureau, 2017).

The percentage of minority residents in East Honolulu CDP (72.7 percent in year 2010) is comparable to the percentage of minority residents for Honolulu County (79.2 percent in year 2012) and State of Hawai'i (75.3 percent) but significantly greater than for the nation (27.6 percent) (US Census Bureau, 2017).

Protection of Children

In order to comply with EO 13045, the number of children under age 18 in the vicinity of the project site was examined and compared to county, state, and national levels. Additionally, locations where populations of children may be concentrated (e.g., child care centers, schools, and parks) were determined to address potentially disproportionate health and safety risks to children that may result from implementation of the Proposed Action.

There are approximately 184,922 children under the age of 18 in East Honolulu CDP, comprising 19.4 percent of the overall population. This is comparable to 22.1 percent for Honolulu County, 22.3 percent for the State of Hawai'i, and 24 percent for the nation (US Census Bureau, 2017).

The State of Hawai'i Department of Education (DOE) has a total of eight school districts and 320 public schools statewide. There are eight elementary schools, one intermediate (Niu Valley Intermediate), and two high schools (Kalani High School and Kaiser High School) in East Honolulu. Niu Valley Middle School, the nearest school to the project site, is located approximately 1.1 miles to the northwest. The nearest elementary school to the project site is Aina Haina School, located approximately 2.1 miles to the west.

Approach to Analysis

Significance of population and expenditure impacts are assessed in terms of their direct effects on the local economy and related effects on other socioeconomic resources (*e.g.*, housing). The magnitude of potential impacts varies depending on the location of a Proposed Action; for example, an action that creates 20 employment positions may be unnoticed in an urban area, but may have significant impacts in a more rural region. If potential socioeconomic impacts would result in substantial shifts in population trends, or adversely affect regional spending and earning patterns, they would be significant.

3.3.4.2 POTENTIAL IMPACTS AND MITIGATION

No Action Alternative

Under the No Action Alternative, improvements to the Paikō Drive WWPS would not be implemented. The existing socioeconomic status at the project site and within the region would remain unchanged; therefore, there would be no impacts.

Proposed Action

Under the Proposed Action, beneficial short- and long-term impacts to socioeconomic resources are expected. Construction activities would result in the short-term creation of jobs and materials spending lasting until project completion. As a result, short-term impacts on socioeconomics on the project site are considered beneficial. Niu Valley Middle School, the nearest school to the project site, is located approximately 1.1 miles to the northwest. Short-term construction activities are not expected to increase the hazard or risk to children since the construction area would be fenced and inaccessible to the public.

There would be no displacement of or adverse impacts to residential communities since all work proposed under the Proposed Action would be conducted on a property already developed for the existing pump station. In addition, the Proposed Action is not expected to disproportionately affect any minority or low-income communities. Once completed, the Proposed Action is expected to result in long-term beneficial socioeconomic impacts by providing repairs and upgrades to the Paikō Drive WWPS, which would increase the service life and reliability of the facility and its equipment for the community it services.

3.3.5 RECREATIONAL/RESOURCE USE

Definition of Resources

Recreation is comprised of terrestrial and water-based activities associated with the local population or visitors to the island. Recreation may consist of aquatic activities such as swimming, windsurfing, surfing, fishing, jet skiing, kayaking, snorkeling, scuba diving, and water skiing. Terrestrial recreational activities may consist of shopping, indoor shooting ranges, restaurants, hiking trails, biking, jogging, and golfing.

Resource use includes any commitment of natural resources such as aggregate for concrete and petroleum products to fuel construction equipment needed to construct the Proposed Action, as well as to operate and maintain it.

3.3.5.1 EXISTING CONDITIONS

East Honolulu contains eight island-based parks maintained by the Department of Parks and Recreation, including Koko Head Regional Park, Maunalua Bay Beach Park, Sandy Beach Park, Kawaikui Beach Park, Kuli‘ou‘ou Beach Park, Wai‘alae Beach Park, Wailupe Beach Park, and Hanauma Bay Nature Park. East Honolulu also contains a total of approximately 120 acres of community-based parks; the largest of which is the 40-acre Koko Head District Park.

The closest recreational area to the project site is Paikō Beach which is a narrow strip of sand located along the shoreline of Paikō Drive. The beach almost disappears at high tide and is fronted by a shallow coral reef, making it better suited for kayaking or surfing at the reef’s outer edge. An existing beach right of way provides access to Paikō Beach from Paikō Drive. Paikō Peninsula located at the east end of the beach encloses Paikō Lagoon, designated as a wildlife sanctuary. Maunalua Bay, located further east from the project site, hosts a number of recreational activities including commercial diving/snorkeling tours, canoe paddling, boating, kayaking, fishing, and surfing.

Approach to Analysis

The significance of potential impacts on recreational activities and resources due to the Proposed Action were assessed. The significance of potential impacts is determined by considering the direct effects of

the Proposed Action on the beneficial use of recreational activities and natural resources. Substantial secondary impacts such as population changes or effects on public facilities would also be considered.

3.3.5.2 POTENTIAL IMPACTS AND MITIGATION

No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented. There would be no use of additional recreational areas or resources. Therefore, there would be no impact to recreational or resource use within the project site.

Proposed Action

Recreation

Implementation of the Proposed Action would result in slightly increased traffic along Paikō Drive and may result in less street parking available for recreational users of Paikō Beach during the construction period; however, impacts would be temporary and would not be significant since the beach is not an area that attracts high numbers of people. There would be no impacts to recreational users of Maunalua Bay since access to the bay is usually via Koko Marina or Maunalua Bay Beach Park. Once completed, no long-term impacts to recreational use within the surrounding area are expected under the Proposed Action.

Resource Use

Less than significant impacts to short-term resource use would be anticipated due to construction activities at the project site. The Proposed Action would require the commitment of natural resources such as aggregate for concrete and petroleum products to fuel construction equipment. However, the amount of resources needed to complete the proposed improvements would not represent a significant commitment of resources since the needed resources are available within the county and/or state. Therefore, short-term impacts on resource use in the project site due to construction activities would be considered less than significant.

Once completed, the Proposed Action would not result in a significant increase of resource use within the surrounding area. Therefore, the Proposed Action would not represent a significant increase to these resources in the long-term.

3.3.6 VISUAL AND AESTHETIC RESOURCES

Definition of Resources

Visual resources are defined as the natural and manufactured features that comprise the aesthetic qualities of an area. These features form the overall impressions that an observer receives of an area or its landscape character. Landforms, water surfaces, vegetation, and manufactured features are considered characteristic of an area if they are inherent to the structure and function of a landscape.

Regulatory Setting

As part of providing long-term protection of community resources, the East Honolulu Sustainable Communities Plan (City and County of Honolulu, 1999) provides a vision for preserving significant scenic views of ridges, upper valley slopes, and shorelines areas from Kalaniana‘ole Highway and scenic views from popular hiking trails that extend from Koko Head to Makapu‘u. Guidelines pertaining to preserving the visual aesthetics in the district include maintaining the existing makai view channels

along the H-1 Highway or Kalaniana'ole Highway between Wai'alae and Koko Head by avoiding obstructions such as walls or landscaping and placing a high priority on maintaining the untamed landscape quality of the Koko Head to Makapu'u viewshed by conducting modification to the shoreline area in a manner that preserves the aesthetic values of the undeveloped xerophytic landscape.

3.3.6.1 EXISTING CONDITIONS

The visual environment at the project site is predominantly residential housing along Paikō Drive with landscape vegetation scattered in between residential houses. The project site is within a relatively flat area on Paikō Peninsula with views of the upper valley slopes and ridges of the Ko'olau Range to the north or inland.

Approach to Analysis

Determination of the significance of impacts to visual resources is based on the level of visual sensitivity in the area. Visual sensitivity is defined as the degree of public interest in a visual resource and concern over adverse changes in the quality of the resource. In general, an impact to a visual resource is significant if implementation of the Proposed Action would result in substantial alterations to an existing sensitive visual setting.

3.3.6.2 POTENTIAL IMPACTS AND MITIGATION

No Action Alternative

Under the No Action Alternative, improvements to the Paikō Drive WWPS would not be implemented. There would be no change to visual and aesthetic resources at the project site. Therefore, there would be no impact to visual and aesthetic resources under this alternative.

Proposed Action

Under the Proposed Action, short-term impacts to visual and aesthetic resources during construction activities are expected to occur. These impacts would be due to the presence of construction equipment within and around the project site; however, because of the temporary nature of the proposed construction activities, long term impacts are expected to be less than significant.

The Proposed Action would not result in permanent change of visual aesthetics surrounding the project site. The proposed improvements would mainly occur within the existing pump station building with the exception of the new generator room to be constructed adjacent to the existing building and the new diesel fuel tank to be installed behind the existing building. Both of these features would be similar in height or lower than the existing building and are not anticipated to significantly alter the existing view of the pump station or scenic views surrounding the project site.

3.3.7 PUBLIC INFRASTRUCTURE AND UTILITIES

Definition of Resources

Public infrastructure and utilities comprise functional services provided to a facility by public agencies or by a facility to the community. Such services may include police and fire protection, water and solid waste service, sanitary sewer and wastewater treatment, and recreational facilities. Utilities include infrastructure services that support facility operations, including electricity, natural gas, or

telecommunications. On-site utility production, such as power generation or wastewater treatment, occurs at some facilities.

Regulatory Setting

The State of Hawai'i Public Utilities Commission (PUC) regulates all franchised or certificated public service companies operating in the state. Franchised or certified public service companies operating under PUC regulation include:

- Electric providers;
- Telecommunication providers;
- Motor and water carriers; and
- Privately owned water and sewage treatment utilities.

The PUC's primary purpose is to ensure that regulated companies efficiently and safely provide their customers with adequate and reliable services at just and reasonable rates, while providing regulated companies with a fair opportunity to earn a reasonable rate of return.

3.3.7.1 EXISTING CONDITIONS

Paikō Drive WWPS discharges to the Niu Valley WWPS located approximately 0.5 miles to the west on Kalaniana'ole Highway. An 8-inch and 10-inch gravity sewer line serving the tributary area feeds Paikō Drive WWPS. The two lines merge into a single 10-inch line at the pump station equipped with two sewage pumps. The 6-inch force main (FM) delivers wastewater into a downstream manhole located on Kalaniana'ole Highway then gravity-flows to the Niu Valley WWPS.

Power for the station is provided by the Hawaiian Electric Company (HECO) through three pole-top mounted transformers, HECO Meter No. 239382, and a main circuit breaker located on the exterior of the pump building. Emergency power is provided by a local 30-kilowatt (kW) propane standby generator and automatic transfer switch (ATS) that are enclosed within a generator room. The ATS, with its two power sources, feeds a MCC located on the ground floor of the pump station building.

Potable water is supplied to the WWPS by the Honolulu Board of Water Supply.

Approach to Analysis

Significance of public services or utilities systems impacts are assessed in terms of their direct effects on the public service or utility providers. The magnitude of potential impacts varies depending on the location of a proposed action; for example, an action that alters existing utility systems infrastructure may be unnoticed in an urban area, but may have significant impacts in a more rural region. If potential public service and utility system impacts would result in substantial shifts in the amount of services provided, or substantial changes to the utility systems infrastructure, the action would be significant.

3.3.7.2 POTENTIAL IMPACTS AND MITIGATION

No Action Alternative

Under the No Action Alternative, improvements to the Paikō Drive WWPS would not be implemented. The aging WWPS system components would continue to deteriorate, creating a public hazard due to risk of failure of the WWPS.

Proposed Action

Short-term construction activities proposed under the Proposed Action would result in a less than significant increase in the use of public utilities at the project site. In addition, during construction activities the current existing WWPS will be bypassed; the contractor will be responsible for providing continual public wastewater service. Therefore, no significant short-term impacts to the existing sewage system would occur.

The Proposed Action would provide replacement and upgrades of the antiquated components of the pump operating system and electrical components of the Paikō Drive WWPS, resulting in positive long-term impacts to the local and island-wide wastewater management system.

The Proposed Action would be in the response vicinity of the Hawai'i Kai Fire Station, which is located approximately three miles from the project site. Since the Proposed Action is in close proximity to an existing fire station and would conform to county fire protection standards, it would not represent a significant impact to existing fire protection services.

The project site is located within the jurisdiction of the Honolulu Police Department - East Honolulu - District 7 which encompasses about 40 square miles in east Honolulu, from Punahou Street to Makapu'u Point. The district's administrative offices operate out of the Alapa'i Headquarters. No impacts to the existing police services within the area would occur as a result of the Proposed Action.

3.3.8 CUMULATIVE IMPACTS ASSOCIATED WITH THE PROPOSED ACTION

Cumulative impacts on environmental resources result from incremental impacts of the Proposed Action that, when combined with other past, present, and reasonably foreseeable future projects in an affected area, may collectively cause more substantial adverse impacts. Cumulative impacts can result from minor, but collectively substantial, actions undertaken over a period of time by various agencies (federal, state, or local) or persons. In accordance with HAR 11-200, a discussion of cumulative impacts resulting from projects which are proposed, under construction, recently completed, or anticipated to be implemented in the near future is required.

The City and County of Honolulu Department of Environmental Services is planning to conduct repairs and maintenance at three other WWPS as part of the larger project that includes the Kuli'ou'ou, Moana Park and Niu Valley WWPS. Work at these sites includes repairs and maintenance to existing facilities, and are therefore exempt from the requirements of HRS Chapter 343. The exemption under HAR 11-200-8-1 includes "Operations, repairs, or maintenance of existing structures, facilities, or topographical features, involving negligible or no expansion or change of use beyond that previously existing" (HAR 11-200-1). In addition, no halt in service to the public would result from repair and maintenance activities. Since these WWPS repair activities would not result in any significant impacts, they would not contribute to any additional incremental cumulative impacts to the affected environment.

The parcels surrounding the Site include developed residential parcels, Kalaniana'ole Highway and the Holy Trinity Church. Renovation of these improvements when combined with the Proposed Action would not represent a significant cumulative impact to the existing environment since all renovation activities would need to comply with City and County of Honolulu residential and commercial permit requirements, as well as all applicable State permit requirements.

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4 RELATIONSHIP TO ENVIRONNMENTAL REGULATIONS

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The purpose of this section is to summarize the relationship of the relevant plans and policies to project actions. Additionally, the intent is to revisit these plans and policies to qualify any significant effects from actions proposed in this EA.

4.1 FEDERAL REGULATIONS

Clean Water Act (CWA)

The CWA (33 U.S.C. §1251 – 1387) establishes the basic structure for regulating discharges of pollutants into the waters of the U.S. and regulating quality standards for surface waters. Under Section 402 of the CWA, the EPA establishes the NPDES permit program to regulate point source discharges of pollutants into waters of the U.S.

Discussion:

Since the Proposed Action would not include disturbance of one acre or more of land, an NPDES permit would not be required for construction activities. No other permits or approvals under the CWA are anticipated for the Proposed Action.

Clean Air Act (CAA)

The CAA (42 U.S.C. 7401) requires the adoption of NAAQS to protect public health, safety, and welfare from known or anticipated effects of air pollution. The DOH Clean Air Branch is responsible for air pollution control in the state.

Discussion:

The Proposed Action would be in compliance with the provisions of the CAA since the construction process would result in temporary minimal emissions of dust, and since BMPs instituted during the construction process would minimize dust and construction equipment and vehicle exhaust emissions to receptors in the area. Once constructed, the upgraded facility would not result in additional air emissions compared to existing conditions.

Endangered Species Act (ESA) of 1973

The ESA of 1973 (16 U.S.C. Ch. 35, §1531 et seq.) provides a legal means by which identified ecosystems that are determined to be essential to the sustainability of an endangered or threatened species can be conserved. Under this act, the USFWS is responsible for all terrestrial and freshwater species, as well as migratory birds. Likewise, the NMFS in the Department of Commerce is responsible for the protection of marine, estuarine, and anadromous species.

Discussion:

The USFWS has jurisdiction over endangered and threatened terrestrial flora, fauna, and birds in the State of Hawai'i. Consultation with USFWS and the State DLNR-DFW has occurred throughout the environmental review process. All final correspondence is included in Appendix A. A biological survey was completed at the project site in order to determine if any known protected habitat may be impacted by the proposed project and is included as Appendix B. No known endangered or threatened flora, fauna, or bird habitat are known to be present at the project site. The USFWS and DLNR-DFW provided mitigation measures to minimize potential impacts to protected avian species that may traverse the project site. These mitigation measures are included in Section 3 of this FEA and will be implemented during the construction process.

Coastal Zone Management (CZM) Act of 1972

In 1972, the federal government enacted the CZM Act (16 U.S.C §1451) to protect, preserve, develop, restore, and enhance the resources of the nation's coastal zone for current and future generations. This process is achieved by providing assistance to coastal states, including Hawai'i, to develop and manage Coastal Management Programs. Enforcement authority for the Federal Coastal Management Program (Public Law 104-150, as amended in 1996) has been delegated to the State of Hawai'i (HRS §205A).

Discussion:

Through the CZM Program promulgated by HRS Chapter 205A, each county is required to establish SMAs and shoreline setbacks within which permits are required for development. The proposed project is within the designated SMAs as established in Chapter 25, ROH; therefore, a SMA permit is required and will be submitted to the DPP for approval.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918, as amended establishes a Federal prohibition, unless permitted by regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention [...] for the protection of migratory birds [...] or any part, nest, or egg of any such bird" (16 U.S.C. 703).

Discussion:

The project site and surrounding area is developed with maintained vegetation typical of highly disturbed urbanized areas. As a result, no known endangered or threatened birds are present at the project site.

4.2 STATE LAND USE PLANS AND POLICIES

4.2.1 STATE OF HAWAI'I

Environmental Impact Statements Chapter 343, HRS

Compliance with Chapter 343, HRS is required as previously described in Section 2.1 Scope and Authority.

§343-5 Applicability and Requirements. *(a) Except as otherwise provided, an EA shall be required for actions that:*

> *Propose the use of the state or county lands or the use of state or county funds, other than funds to be used for feasibility or planning studies for possible future programs or projects that the agency has not approved, adopted, or funded, or funds to be used for the acquisition of unimproved real property; provided that the agency shall consider environmental factors and available alternatives in its feasibility or planning studies; provided further that an EA for proposed uses under section [205-2(d)(10)] or [205-4.5(a)(13)] shall only be required pursuant to Section 205-5(b).*

HRS, Chapter 343, defines the State of Hawai'i's environmental review process by which an environmental impact statement must be conducted to identify any potential impacts that could result from a proposed action involving state or county lands or funds.

Discussion:

The City and County of Honolulu is titled to the land within the project site; therefore, an environmental review under HRS Chapter 343 is required because the project entails the construction of a new structure, and the use of county lands and funds. This document has been prepared to meet HRS Chapter 343 requirements and has been processed through the OEQC.

Environmental Impact Statement Rules Title 11, Chapter 200, HAR

HAR Title 11, Chapter 200 provides the procedures, definitions and criteria for completing EAs and environmental impact statements in compliance with HRS Chapter 343.

Discussion:

Evaluation of the potential environmental, social and economic impacts from the Proposed Action have followed the applicable procedures, definitions and criteria outlined in HAR §11-200.

Hawai'i State Plan, Chapter 226, HRS

The Hawai'i State Plan (HRS § 226) was developed as a guideline for the future growth of the State of Hawai'i. The State Plan identifies goals, objectives, policies, and priorities for the development and growth of the state. It provides a basis for prioritizing and allocating the limited resources such as public funds, services, human resources, land, energy, and water. The State Plan establishes a system for the formulation and program coordination of state and county plans, policies, programs, projects, and regulatory activities. This document also facilitates the integration of all major state and county activities. The proposed project would be in conformance with the State Plan's objectives and policies for facility systems – solid and liquid wastes. Specifically, the proposed project would fulfill the following objective of the State Plan:

- *Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes.*

The Proposed Action would not conflict with any other goals, objectives, or policies included in HRS § 226 since it would include a vital infrastructure system upgrade that would be completed in compliance with all applicable City, State and Federal regulations/guidelines to assure the design and construction of the proposed upgrades results in increased operational resiliency, efficiency and overall functionality compared to existing conditions. Mitigation measures discussed in this EA would reduce potential impacts the surrounding human and natural environment to a level of insignificance.

Historic Preservation Chapter 6E, HRS

Regulatory statutes related to historic preservation issues are provided in Chapter 6E of the HRS, which mandates that the SHPD of the DLNR must review proposed state projects, which may have an impact upon historic and cultural resources that are located within the project site. Furthermore, Chapter 6E also provides procedural guidelines in the event of an inadvertent discovery of burial sites during project development.

Discussion:

A CIA has been initiated for the proposed project in order to identify any historical/cultural resources or traditional, customary practices that may be impacted by the proposed project. Consultation with SHPD has been implemented throughout the environmental review process and all pertinent communication with SHPD and other agencies/groups is included in Appendix A. The CIA is included as Appendix C. Following consultation and a meeting with SHPD, an Archaeological Monitoring Plan (AMP) was also prepared for the Proposed Action. The AMP is included as Appendix D.

State of Hawai'i Land Use Law Chapter 205, HRS

Chapter 205, HRS promulgates the State Land Use Law. This law is intended to preserve, protect, and encourage the development of lands in the State of Hawai'i for uses that are best suited to the public health and welfare of its people. The LUC classifies all land into four districts: Urban, Conservation, Agriculture, and Rural.

Discussion:

The project site is designated within the State LUC Urban District. Land use at the project site would be unchanged as a result of the Proposed Action. The State LUC designation states that Urban Districts shall include activities or uses as provided by ordinances or regulations of the county within which the Urban District is situated. As stated below in Section 4.3.1.2, use of the project site as a WWPS would be in accordance with the county ordinance; therefore, the Proposed Action would be in accordance with the State LUC designation.

State of Hawai'i Coastal Zone Management (CZM) Chapter 205A, HRS

HRS § 205A-2 provides the State of Hawai'i CZM program objectives and policies. The following provides a summary of how the proposed project conforms or conflicts with the objectives and policies outlined in HRS 205A.

§ 205A-2 Objectives

(1) Recreational resources;

(A) Provide coastal recreational opportunities accessible to the public.

The proposed project would not impact any existing public coastal recreational opportunities since the existing site parcel does not include any public access/trails or other recreation opportunities. The proposed project would not impede access to other existing coastal or other recreation areas currently available to the public.

(2) Historic resources;

(A) Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the CZM area that are significant in Hawaiian and American history and culture.

Discussion: A CIA was initiated for the proposed project. The findings of the Draft CIA report found that no traditional customary practices or other cultural practices would be adversely affected by the proposed project. The CIA revealed that subsurface archaeological resources have been identified within the vicinity of the project site, and the project site includes sandy soil near the coast where subsurface archaeological resources are more common. Only a small amount of disturbance of the top two feet of ground surface within the planned generator room footprint is planned for the proposed project. Archaeological monitoring activities will be employed throughout all ground disturbance activities in accordance with SHPD guidance. SHPD was consulted in order to determine the proper mitigation

measures given the findings of research to date. An AMP was prepared for the Proposed Action and is included as Appendix D.

3) Scenic and open space resources;

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

The proposed project would include the construction of a new generator room adjacent to the existing WWPS. The new generator room would be approximately the same height as the existing WWPS currently located at the project site and therefore would not represent a significant change to existing view plains or scenic resources in the area.

4) Coastal ecosystems;

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

Discussion: A biological survey was conducted at the project site to determine if the proposed project would affect existing protected habitat. No evidence of protected habitat was found at the project site. However, according to research and consultation with USFWS and DLNR-DFW, several protected avian species may traverse the project site. Mitigation measures to minimize impacts to these species are included in Section 3.2.3.2 of this FEA. The planned work includes needed upgrades to existing City wastewater infrastructure. With the planned upgrades in place, there would be a reduced risk of WWPS failure/spills from the facility into the surrounding sensitive natural environment that includes Maunalua Bay and Paikō Wildlife Sanctuary.

5) Economic uses;

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

The proposed project includes an improvement to vital public wastewater infrastructure, and would result in short-term construction jobs that would benefit the local economy.

(6) Coastal hazards;

(A) Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.

Discussion: The project site is located within Flood Zone AE (one percent annual chance floodplain) and the tsunami evacuation zone. The proposed project includes an improvement to vital public wastewater infrastructure that will include flood-proofing measures to reduce the potential for impact to the existing environment and facility components during coastal flooding. This would reduce potential hazard to life and property by reducing the chance of facility failure and maintaining vital wastewater service to the public during storm/high wave events.

(7) Managing development;

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

Discussion: The proposed project has gone through the environmental review process in compliance with the State of Hawaii Environmental Policy Act. A public review/comment period was conducted during the environmental review process, which allowed for public participation/agency communication. The development process will proceed in accordance with all applicable City and State regulations/codes.

8) Public participation;

(A) Stimulate public awareness, education, and participation in coastal management.

Discussion: As stated above, the proposed project has gone through the environmental review process that included public review/comment period, which allowed for public participation/agency communication. Additional public awareness and education in matters of coastal management are N/A to the proposed project.

9) Beach protection;

(A) Protect beaches for public use and recreation.

Discussion: The proposed project would include minor disturbance of soil and construction activities that could result in the discharge of sediment and other pollutants into stormwater that could get transported to the shoreline/beaches. In order to mitigate the potential impact to beaches and the surrounding shoreline area, all construction activities will include applicable City approved BMPs to prevent the release of any soil or other materials generated during construction into the surrounding shoreline/beach area.

10) Marine resources;

(A) Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

Discussion: As stated above, the proposed project would include minor disturbance of soil and construction activities that could result in the discharge of sediment and other pollutants into stormwater that could get transported to the nearby marine environment. All construction activities will employ applicable City approved BMPs to prevent the release of any soil or other materials generated during construction into nearby Maunalua Bay and Paikō Lagoon. The proposed project would result in improved functionality at the WWPS which would increase protection to the marine environment.

§ 205A-2 Policies

(1) Recreational resources;

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

(B) Provide adequate, accessible, and diverse recreational opportunities in the CZM area.

Discussion: The proposed project would be in conformance with this policy since all construction activities would comply with State water quality regulations. In addition, the proposed project would result in improved functionality at the WWPS, which would result in increased protection of coastal resources. No other policies are applicable to the proposed project as it would not include the creation or conversion of existing recreational or shoreline areas.

(2) Historic resources;

(A) Identify and analyze significant archaeological resources;

(B) Maximize information retention through preservation of remains and artifacts or salvage operations; and

(C) Support state goals for protection, restoration, interpretation, and display of historic resources.

Discussion: A CIA was initiated for the proposed project. The CIA revealed that subsurface archaeological resources have been identified within the vicinity of the project site, and the project site includes a sandy soil type near the coast where subsurface archaeological resources are more common.

Only a small amount of disturbance of the top two feet of ground surface within the planned generator room footprint is planned for the proposed project, and archaeological monitoring will be employed at all times during construction activities. The SHPD was consulted throughout the planning process and the AMP is included as Appendix D.

(3) Scenic and open space resources;

(A) Identify valued scenic resources in the CZM area;

(B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;

(C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and

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

Discussion: The proposed project would be compatible with its visual environment since it would include internal WWPS repairs as well as a generator room that would be located adjacent to the existing structure at the Site, and would be approximately the same height as the existing structure. The WWPS is located at a low elevation within the shoreline area in order to properly receive and transfer wastewater within the City municipal wastewater system.

(4) Coastal ecosystems;

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

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

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

(D) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and

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

Discussion: The proposed project would help preserve coastal ecosystems and minimize disruption/degradation of coastal water ecosystems by improving the functionality and resilience of the existing WWPS.

(5) Economic uses;

(A) Concentrate coastal dependent development in appropriate areas;

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

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

such areas, and permit coastal dependent development outside of presently designated areas.

Discussion: The proposed project represents an appropriate coastal dependent development since it requires a low elevation within the shoreline area in order to properly receive and transfer wastewater within the City municipal wastewater system. The proposed project would be designed and constructed to minimize adverse social, visual and environmental impacts in the CZM area.

(6) Coastal hazards;

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

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

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

(D) Prevent coastal flooding from inland projects.

Discussion: The proposed project site is located within the SMA that includes the tsunami evacuation zone. The proposed project would comply with requirements of FEMA and City regulations relating to development in a flood zone.

(7) Managing development;

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

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

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

Discussion: The proposed project has gone through the environmental review process in compliance with the State of Hawaii Environmental Policy Act. A SMA permit will also be completed for the proposed project. This FEA communicates the potential impacts from the proposed development.

(8) Beach protection; and

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

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

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

Discussion: The proposed project would include renovations and upgrades at an existing City municipal wastewater facility and would not represent new or additional use at the project site.

(9) Marine resources.

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

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

(C) **Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the U.S. exclusive economic zone;**

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

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

Discussion: The proposed project would include mitigation measures previously discussed in this EA that would ensure that development does not adversely affect marine resources within the vicinity of the project site.

4.3 COUNTY LAND USE PLANS AND POLICIES

4.3.1 CITY AND COUNTY OF HONOLULU

4.3.1.1 GENERAL PLAN (AMENDED OCTOBER 2002)

Pursuant to the provisions of the Charter for the City and County of Honolulu, the General Plan is a comprehensive statement of objectives and policies which sets forth the long-range aspirations of Oahu's residents and the strategies of actions to achieve them (City and County of Honolulu, 2002). It is the focal point of a comprehensive planning process that addresses physical, social, economic and environmental concerns affecting the City and County of Honolulu.

Discussion:

Chapter 5 of the General Plan discusses the need to maintain a high level of service for all utilities. The plan states that it is county policy to maintain existing utility systems in order to avoid major breakdowns and provide improvements to utilities in existing neighborhoods to reduce substandard conditions. The Proposed Action would provide replacement and upgrades of the antiquated components of the pump operating system and electrical components of the Paikō Drive WWPS, resulting in positive impacts to the local and island-wide wastewater management system. Therefore, the Proposed Action would be in accordance with the guidance established in the county General Plan.

4.3.1.2 REVISED ORDINANCES OF HONOLULU 1990 (ROH)

The code, or set of laws, for the City and County of Honolulu is officially named the ROH. The ROH includes all ordinances of a general and permanent nature for the City. Statewide, national, and international codes are incorporated into the ROH by reference.

Chapter 21 of the ROH: LUO

The purpose of the LUO is to regulate land use in a manner that will encourage orderly development in accordance with adopted land use policies, including the Oʻahu general plans, and to promote and

protect the public health, safety and welfare (City and County of Honolulu, 1990). The project site is located in the Residential (R-7.5) zone.

Discussion:

The project site is currently zoned for residential use under county zoning regulations. Land use at the project site would be unchanged as a result of the Proposed Action. Sewage pump stations are considered "Utility installations, Type A" which are permitted uses within Residential (R-7.5) zones. Therefore, the Proposed Action would be in accordance with county zoning regulations. A zoning waiver will be obtained to allow the new generator room to encroach into the lot setback.

Chapter 25 of the ROH: SMA

It is the City and County of Honolulu's policy to preserve, protect, and where possible, to restore the natural resources of the coastal zone of Hawai'i. Special controls on development within an area along the shoreline are necessary to avoid permanent loss of valuable resources and foreclosure of management options, and to insure that adequate public access is provided to public owned or used beaches, recreation areas, and natural reserves, by dedication or other means. It is also the policy of the city and county to avoid or minimize damage to natural or historic SMA wetlands wherever prudent or feasible; to require that activities not dependent upon a wetland location be located at upland sites; and to allow wetland losses only where all practicable measures have been applied to reduce those losses that are unavoidable and in the public interest.

Discussion:

The proposed project is within the designated SMA as established in § 205A-23 and Chapter 25, ROH; therefore, a SMA permit is required and will be submitted to the DPP for approval in compliance with Chapter 25, ROH.

4.3.2 PERMITS AND APPROVALS

4.3.2.1 REQUIREMENTS FOR CONSTRUCTION ACTIVITIES

The following permits are associated with construction activities and are expected to be required for the Proposed Action:

- Building Permit from the DPP;
- SMA Permit from the DPP; and
- Community Noise Permit from the DOH (as applicable during construction).

5 FINDINGS AND DETERMINATIONS

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In accordance with the provisions set forth in HRS Chapter 343, this EA has preliminarily determined that the project would not have significant adverse impacts on the environment. As such, a Finding of No Significant Impact (FONSI) is being issued for the Proposed Action. Anticipated impacts would be temporary and would not adversely impact the environmental quality of the area. Therefore, an Environmental Impact Statement is not required.

A review of the "Significance Criteria" used as a basis for the above determination is presented below. An action is determined to have a significant impact on the environment if it meets any one of the thirteen (13) criteria, as established under HRS Chapter 343.

Involves an irrevocable commitment to loss or destruction of any natural or cultural resources;

The Proposed Action would not provide irrevocable commitment to loss or the destruction of any natural or cultural resources since the research conducted to date has not revealed any known significant cultural or natural resources that would be adversely affected by the Proposed Action. Archaeological monitoring will be performed during ground disturbance activities to assure that no historical or natural resources will be impacted.

Curtails the range of beneficial uses of the environment;

The Proposed Action would not curtail the range of beneficial uses of the environment. The project site is an already developed lot that contains the existing Paikō Drive WWPS and the Proposed Action would not result in a change of land use. Further, use of the project site as a WWPS is in compliance with city and county and state zoning regulations. As a result, the Proposed Action would not curtail beneficial uses of the environment.

Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in Chapter 343, HRS; and any revisions thereof and amendments thereto, court decisions, or EO;

The Proposed Action would be in conformance with the Chapter 343 HRS State Environmental Policy to enhance the quality of life.

Substantially affects the economic or social welfare of the community or state;

The Proposed Action would have a beneficial impact on the economic and social welfare of the community or the state. The proposed project would have short-term beneficial impacts by creating temporary construction jobs for the duration of the construction period, as well as long-term beneficial impacts by providing repairs and upgrades to the Paikō Drive WWPS, which would increase the service life and reliability of the facility and its equipment.

Substantially affects public health;

The Proposed Action is expected to have a beneficial effect on public health since it would improve wastewater management services to the affected public.

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

The Proposed Action would not result in substantial secondary impacts on population changes or effects on public facilities. Since the Proposed Action would be conducted on a property already developed for the existing Paikō Drive WWPS, it is not anticipated that there would be any displacement of or adverse impacts to residential communities. Further, the Proposed Action would not increase the population of the surrounding community. As a result, the public facilities in the area are not anticipated to be significantly impacted by the community residents.

Involves a substantial degradation of environmental quality;

The Proposed Action would not likely result in a substantial degradation of environmental quality. Construction activities will be implemented in compliance with city and county and state regulations.

Is individually limited, but cumulatively has considerable effect on the environment, or involves a commitment for larger actions;

The Proposed Action is part of a larger project that includes the Kuliʻouʻou, Moana Park, and Niu Valley WWPS upgrades. No halt in service to the public is expected to result from repair and maintenance activities. Further, the Proposed Action would adhere to all applicable City construction BMPs, would not have an adverse effect on the environment, nor would it involve a commitment for larger actions.

Substantially affects a rare, threatened, or endangered species or its habitat;

The Proposed Action is not anticipated to have substantial effects on a rare, threatened, or endangered species, or any critical habitat. The project site and surrounding area is developed with maintained vegetation typical of highly disturbed urbanized areas. Additionally, no evidence of state or federally listed threatened, endangered or candidate flora or fauna terrestrial species habitat are present at the project site. The USFWS and DLNR-DFW suggested mitigation measures to address potential impacts to protected avian species that may traverse the project site. With these mitigation measures in place, there would be no substantial impact to these protected species.

Detrimentally affects air or water quality or ambient noise levels;

No significant impacts on the long-term air or water quality or ambient noise levels within the affected environment are anticipated to result from the Proposed Action. Construction noise that exceeds DOH guidelines should be controlled to reduce the potential of noise level exceedances and a construction noise permit will be obtained from DOH if required. Water quality impacts would be reduced with the use of silt fences and other applicable BMPs during construction activities to contain runoff that may potentially reach receiving waters. Dust abatement measures will be used to reduce potential of impact to air quality during construction. With these measures in place, the project would not detrimentally affect air, water, or noise quality within the affected environment.

Affects or is likely to suffer damage by being located in an environmentally sensitive area, such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, freshwater, or coastal waters;

The project site is located within a flood plain and a tsunami evacuation zone. However, the project site is already a developed parcel and land use will not be changed due to the Proposed Action. Further, the proposed facility improvements will address identified flood risks associated with obsolete equipment at the existing WWPS. The project site is not located within a beach, erosion prone area, geologically hazardous land, estuary, freshwater, or coastal waters. As a result, no significant short-term impacts are expected due to the presence of an environmentally sensitive area within a portion of the project site; however, beneficial long-term impacts are expected.

Substantially affects scenic vistas and view planes identified in county or state plans or studies; and

The Proposed Action would not substantially affect the visual aesthetics of the area identified in the county or state plans and studies. The proposed facility improvements would adhere to city and county zoning restrictions and the East Honolulu Sustainable Communities Plan.

Requires substantial energy consumption.

The Proposed Action would not require substantial energy consumption. The proposed facility improvements will replace antiquated components of the pump operating system and electrical components at the existing Paikō Drive WWPS, resulting in more efficient energy consumption.

6 AGENCIES AND ORGANIZATIONS CONSULTED

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Table 6-1 includes a list of agencies and organizations that provided written comments on the DEA. Response letters were drafted and sent for all written comments received during the DEA comment period in compliance with HRS 343. The summary of the comments and feedback received, as well as the individual comment and response letters are included in the following Appendices within this FEA: Appendix A-1: Pre-Consultation Letters and Responses and Appendix A-2: Draft Environmental Assessment Consultation Letters and Responses.

Table 6-1: List of Agencies and Organizations Consulted

Agency/Organization Affiliation	Consulted Agency or Organization	DEA Comments Received	Responses to DEA Comments Sent
City and County of Honolulu	Department of Design and Construction		
	Department of Facility Maintenance		
	Honolulu Fire Department		
	Honolulu Police Department		
	Department of Planning and Permitting		
	Department of Parks and Recreation		
	City Council-District 4		
	Kuliouou-Kalani Iki Neighborhood Board-Subdistrict 8		
	Department of Emergency Management		
	Department of Emergency Services		
	Department of Transportation Services		
	Honolulu Board of Water Supply (semi-autonomous)		
State of Hawai'i	Department of Transportation-Highways Division		
	Department of Health-Environmental Planning Office	X	X
	Department of Health-Office of Environmental Quality Control		
	Department of Health-Wastewater Branch		
	Department of Business, Economic Development & Tourism, Office of Planning		
	Department of Accounting and General Services		

Agency/Organization Affiliation	Consulted Agency or Organization	DEA Comments Received	Responses to DEA Comments Sent
	Office of Hawaiian Affairs (OHA)		
State of Hawai'i	Department of Land and Natural Resources-State Historic Preservation Division		
	Department of Land and Natural Resources-Land Division		
	Department of Land and Natural Resources-Division of Forestry and Wildlife		
	Department of Land and Natural Resources-Engineering Division		
Federal Agencies	United States Fish and Wildlife Service-Pacific Islands Fish and Wildlife Office		
Utility Companies	Hawaiian Electric		
	Hawaiian Telcom		
	Hawaii Gas		
Citizen Groups	Mālama Maunalua		

7 REFERENCES

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40 CFR §50. National Primary and Secondary Ambient Air Quality Standards (1971).

40 CFR §232. 404 Program Definitions; Exempt Activities Not Requiring 404 Permits (2011).

40 CFR §261. Identification and Listing of Hazardous Waste (1980).

40 CFR §1500-1508. Protection of Environment. Chapter V Council on Environmental Quality (2011).

16 U.S.C. §469-469c. Archaeological and Historic Preservation Act of 1974 (1974).

16 U.S.C. §470aa-470mm. Archaeological Resource Protection Act of 1979 (1979).

16 U.S.C. §1451. Coastal Zone Protection Act (1996).

16 U.S.C. Ch. 35, §1531 et seq. Endangered Species Act. (1973).

16 U.S.C. §470 (As Amended Through 1992). National Historic Preservation Act of 1966.

16 U.S.C. §703-712. Migratory Bird Treaty Act (2004).

33 U.S.C. §1251 – 1387. Clean Water Act (1987).

42 U.S.C. Ch. 85, subch. I §7401 et seq. Clean Air Act (1990).

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Appendix A-1: Pre-Consultation Letters and Responses

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Environet, Inc.

July 7, 2017

Melvin N. Kaku
Director
City and County of Honolulu, Department of Emergency Management
3375 Koapaka Street, Suite H450
Honolulu, Hawaii 96819

Subject: Pre-consultation for the City and County of Honolulu Paiko Waste Water Pump Station Facilities Improvements 265 Paiko Drive Honolulu, Hawaii 96821 Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Kaku,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation with your agency for any comments on the proposed action based on your field of expertise.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

Environet, Inc.

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

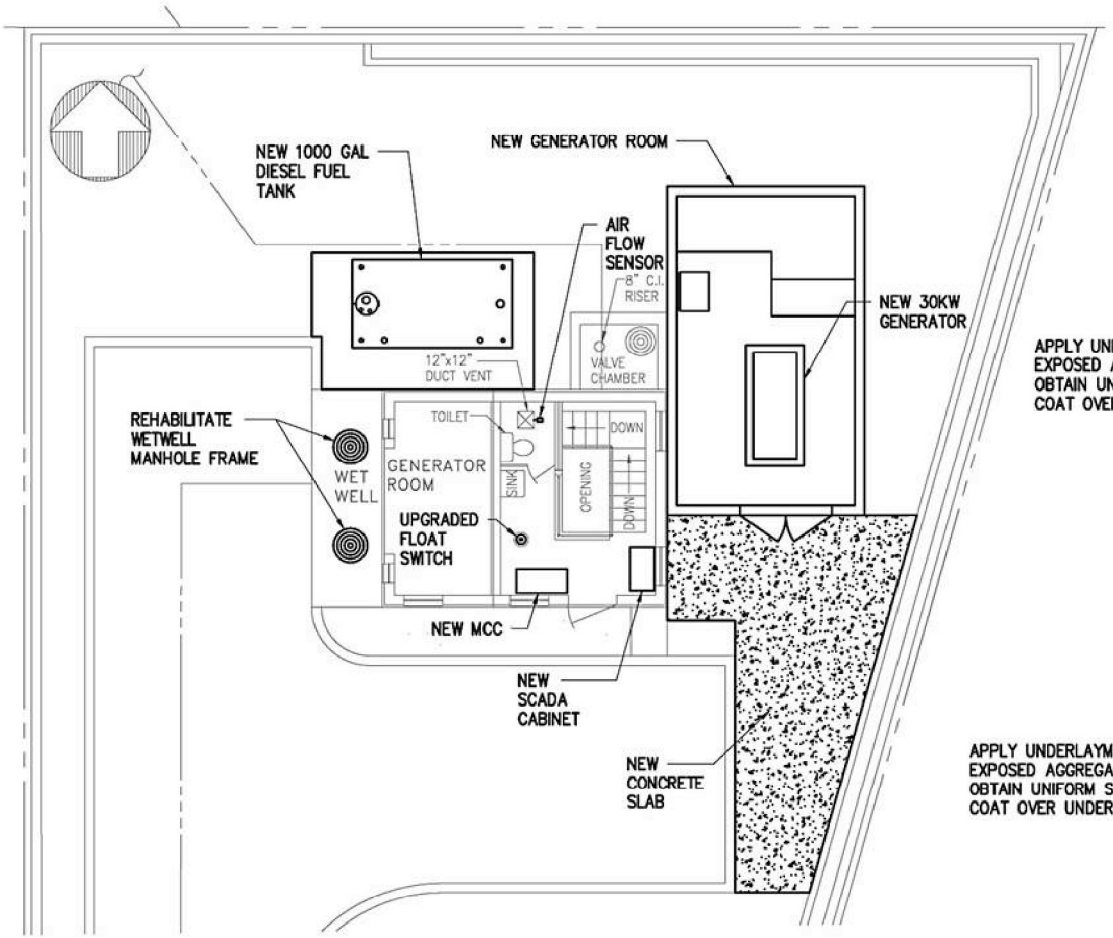
Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PAIKO DRIVE WWPS FACILITY IMPROVEMENT

PROJECT LOCATION MAP
HONOLULU, O'AHU, HAWAI'I

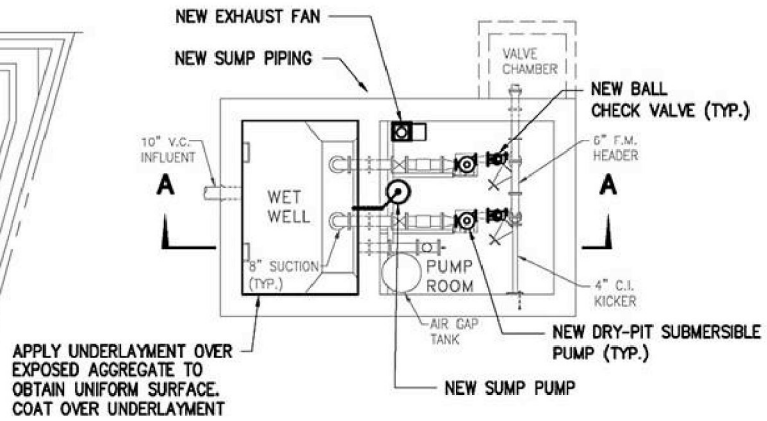
FIGURE 1



GROUND FLOOR PLAN

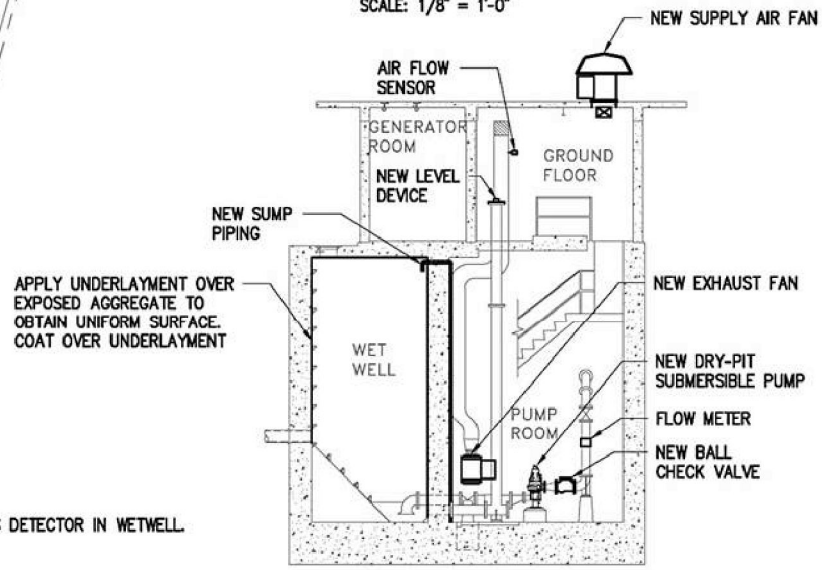
SCALE: 1/8" = 1'-0"

NOTE:
1. INSTALL COMBUSTIBLE GAS DETECTOR IN WETWELL.



PUMP FLOOR PLAN

SCALE: 1/8" = 1'-0"



SECTION (A)

SCALE: 1/8" = 1'-0"

8' 0' 8' 16'

SCALE: 1/8"=1'-0"

Environet, Inc.	DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PAIKO DRIVE WWPS FACILITY IMPROVEMENT	FIGURE 2
	SITE PLAN HONOLULU, O'AHU, HAWAI'I	

Environet, Inc.

July 7, 2017

Jim Howe
Director
City and County of Honolulu, Department of Emergency Services
3375 Koapaka Street, Suite H450
Honolulu, Hawaii 96819

Subject: Pre-consultation for the City and County of Honolulu Paiko Waste Water Pump Station Facilities Improvements 265 Paiko Drive Honolulu, Hawaii 96821 Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Howe,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation with your agency for any comments on the proposed action based on your field of expertise.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

Environet, Inc.

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

Wes Frysztacki
Director
City and County of Honolulu, Department of Transportation Services
650 South King Street, 3rd Floor
Honolulu, Hawaii 96813

Subject: Pre-consultation for the City and County of Honolulu Paiko Waste Water Pump Station Facilities Improvements 265 Paiko Drive Honolulu, Hawaii 96821 Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Frysztacki,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

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Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

KIRK CALDWELL
MAYOR

WES FRYSZTACKI
DIRECTOR

JON Y. NOUCHI
DEPUTY DIRECTOR

TP7/17-696606R

August 8, 2017

Mr. Max Solmssen
Project Manager
Environet, Inc.
1286 Queen Emma Street
Honolulu, Hawaii 96813

Dear Mr. Solmssen:

SUBJECT: Pre-Consultation Draft Environmental Assessment for Paiko Waste Water Pump Station Facilities Improvements, Honolulu, Oahu, Hawaii

In response to your letter dated July 6, 2017, we have the following comments:

1. Any new driveways should be constructed to current City standards.

2. Best Management Practice controls should be included at construction site to prevent trailing of dirt and debris on City roadways.

3. Any damage to the existing roadway and driveway areas caused by the project should be repaired to current City standards.

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

5. Construction materials and equipment should be transferred to and from the project site during off-peak traffic hours (8:30 a.m. to 3:30 p.m.) to minimize any possible disruption to traffic on the local streets.

6. A street usage permit from the City's Department of Transportation Services should be obtained for any construction-related work that may require the temporary closure of any traffic lane on a City street.

Thank you for the opportunity to review this matter. Should you have any questions, please contact Renee Yamasaki of my staff at 768-8383.

Very truly yours,

Wes Frysztacki
Director

Environet, Inc.

November 3, 2017

Wes Frysztacki
Director
City and County of Honolulu, Department of Transportation Services
650 South King Street, 3rd Floor
Honolulu, Hawaii 96813

Subject: **Pre-consultation for the City and County of Honolulu**
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-001:034

Dear Mr. Frysztacki,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV) received your letter dated August 8, 2017 in response to pre-consultation as part of the environmental review process under Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed facility improvements. Below are responses to your comments:

Summary of Comment: *Any new driveways should be constructed to current City standards.*

Response: Any alteration to the existing driveway at the site will be completed to City standards.

Summary of Comment*: Best Management Practice controls should be included at construction site to prevent trailing of dirt and debris on City roadways.*

Response: All applicable construction Best Management Practice controls to control dirt and other runoff from the construction site will be implemented in accordance with current City standards.

Summary of Comment*: Any damage to the existing roadway and driveway areas caused by the project should be repaired to current City standards.*

Response: Any damage to the existing roadway / driveway areas from the proposed project will be repaired in accordance with current City standards.

Summary of Comment*: The area Neighborhood Board, as well as the area residents, businesses, emergency personnel (fire, ambulance and police), Oahu Transit Services, Inc. (TheBus and TheHandi-Van), etc., should be kept appraised of the details of the proposed project and the impacts that the project may have on the adjoining local street network.*

Response: The Kuliouou-Kalani iki Neighborhood Board- Subdistrict 8, as well as City Police and Fire Departments have been consulted for comments on the proposed project. Any needed traffic controls will be implemented in order to reduce impacts to the local roadway traffic network.

Summary of Comment*: Construction materials and equipment should be transferred to and from the project site during off-peak traffic hours (8:30 a.m. to 3:30 p.m.) to minimize any possible disruption to traffic on the local streets.*

Response: Transport of construction materials and equipment to and from the project site will be completed during off-peak traffic hours, to the extent practicable. Traffic controls will be implemented when necessary in order to maintain local traffic flow.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

Summary of Comment *A street usage permit from City's Department of Transportation Services should be obtained for any construction-related work that may require the temporary closure of any traffic lane on a City street*.

Response: A street usage permit from the City Department of Transportation Services will be obtained for any construction-related work that may require the temporary closure of any traffic lane on a City street.

Please feel free to contact us should your agency have any additional comments.

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

Sincerely,

Max Solmssen
Project Manager

Environet, Inc.

July 7, 2017

Trevor Ozawa
City Council Member, District 4
Honolulu City Council
530 South King Street, Room 202
Honolulu, Hawaii 96813

Subject: Pre-consultation for the City and County of Honolulu Paiko Waste Water Pump Station Facilities Improvements 265 Paiko Drive Honolulu, Hawaii 96821 Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Ozawa,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation with your board for any comments on the proposed action based on your field of expertise.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

Environet, Inc.

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

Ross S. Sasamura, P.E.
Director
City and County of Honolulu, Department of Facility Maintenance
1000 Uluohia Street
Kapolei, Hawaii 96707

Subject: Pre-consultation for the City and County of Honolulu Paiko Waste Water Pump Station Facilities Improvements 265 Paiko Drive Honolulu, Hawaii 96821 Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Sasamura,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

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The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation with your agency for any comments on the proposed action based on your field of expertise.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

DEPARTMENT OF FACILITY MAINTENANCE

CITY AND COUNTY OF HONOLULU

1000 Ulu`ohia Street, Suite 215, Kapolei, Hawaii 96707
Phone: (808) 768-3343 • Fax: (808) 768-3381
Website: www.honolulu.gov

KIRK CALDWELL
MAYOR

ROSS S. SASAMURA, P.E.
DIRECTOR AND CHIEF ENGINEER

EDUARDO P. MANGLALLAN
DEPUTY DIRECTOR

IN REPLY REFER TO:
DRM 17-435

August 8, 2017

Mr. Max Solmssen
Environet, Inc.
1286 Queen Emma Street
Honolulu, Hawaii 96813

Dear Mr. Solmssen:

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-010:034

Thank you for the opportunity to review and provide comments regarding the subject project.

Our comments are as follows:

- Once construction phase commences, install approved Best Management Practices fronting all drainage facilities on Paiko Drive.
- During construction and upon completion of project, any damages/deficiencies to Paiko Drive's right-of-way shall be corrected to City standards and accepted by the City.

If you have any questions, please call Mr. Kyle Oyasato of the Division of Road Maintenance at 768-3697.

Sincerely,

Ross S. Sasamura, P.E.
for Director and Chief Engineer

Environet, Inc.

October 6, 2017

Ross S. Sasamura, P.E.
Director
City and County of Honolulu, Department of Facility Maintenance
1000 Uluohia Street
Kapolei, Hawaii 96707

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-001:034

Dear Mr. Sasamura,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV) received your letter dated August 8, 2017 in response to pre-consultation as part of the environmental review process under Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed facility improvements. Below are responses to your comments:

Summary of Comment: *Once construction phase commences, install approved Best Management Practices fronting all drainage facilities on Paiko Drive.*

Response: All construction activities will follow Department of Planning and Permitting Administrative Rules Title 20, Chapter 3: Rules Relating to Water Quality in order to implement and manage BMPs at the project site during construction.

Summary of Comment: *During construction and upon completion of project, any damage/deficiencies to Paiko Drive's right-of-way shall be corrected to City standards and accepted by the City.*

Response: Any damages/deficiencies to the Paiko Drive right-of-way resulting from the proposed project shall be corrected to City standards.

Please feel free to contact us should your agency have any additional comments.

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

Robert J. Kroning, P.E.
Director
City and County of Honolulu, Department of Design and Construction
650 South King Street
Honolulu, Hawaii 96813

Subject: Pre-consultation for the City and County of Honolulu Paiko Waste Water Pump Station Facilities Improvements 265 Paiko Drive Honolulu, Hawaii 96821 Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Kroning,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation with your agency for any comments on the proposed action based on your field of expertise.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8480 • Fax: (808) 768-4567
Web site: www.honolulu.gov

KIRK CALDWELL
MAYOR

ROBERT J. KRONING, P.E.
DIRECTOR

MARK YONAMINE, P.E.
DEPUTY DIRECTOR

July 27, 2017

Mr. Max Solmssen
Environet, Inc.
1286 Queen Street
Honolulu, Hawaii 96813

Dear Ms. Solmssen,

Subject: Pre- Consultation for the City and County of Honolulu Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821 TMK: (1)-3-8-010:034

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

If there are any further questions, please contact me at 768-8480.

Sincerely,

Robert J. Kroning, P.E.
Director

RJK:ms(695716)

Environet, Inc.

October 6, 2017

Robert J. Kroning, P.E.
Director
City and County of Honolulu, Department of Design and Construction
650 South King Street
Honolulu, Hawaii 96813

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-001:034

Dear Mr. Kroning,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV) received your letter dated July 27, 2017 in response to pre-consultation as part of the environmental review process under Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed facility improvements. It is understood that your agency has no comments at this time. Please feel free to contact us should you have comments on the proposed project.

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

Michele K. Nekota
Director
City and County of Honolulu, Department of Parks and Recreation
1000 Uluohia Street, Suite 309
Kapolei, Hawaii 96707

Subject: Pre-consultation for the City and County of Honolulu Paiko Waste Water Pump Station Facilities Improvements 265 Paiko Drive Honolulu, Hawaii 96821 Tax Map Key (TMK) (1) 3-8-010:034

Dear Ms. Nekota,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation with your agency for any comments on the proposed action based on your field of expertise.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

Environet, Inc.

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

David Smith
Administrator
Department of Land and Natural Resources, Division of Forestry and Wildlife
1151 Punchbowl Street, Room 325
Honolulu, Hawaii 96813

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Smith,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation to determine if any protected or special status species are known to be present at or within the vicinity of the Site, and if any mitigation measures would be necessary.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

Environet, Inc.

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

DAVID Y. IGE
GOVERNOR OF HAWAII

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

ROBERT K. MASUDA
FIRST DEPUTY

JEFFREY T. PEARSON, P.E.
DEPUTY DIRECTOR - WATER

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

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

Max Solmssen
Project Manager
Environet, Inc.
1286 Queen Emma St.
Honolulu, HI 96813

August 9, 2017

Dear Max Solmssen,

The Department of Forestry and Wildlife has received your inquiry regarding a pre-consultation for the proposed City and County of Honolulu waste water pump station facilities improvements located at 265 Paiko Drive, TMK (1) 3-8-010:34. The proposed actions include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above ground fuel storage tank and emergency backup generation.

The State and Federally listed Hawaiian hoary bat or ʻŌpeʻapeʻa (*Lasiurus cinereus semotus*) has the potential to occur in the vicinity of the proposed project. DOFAW recommends avoiding using barbed wire, as bat mortalities have been documented as a result of becoming ensnared by barbed wire during flight. Hawaiian hoary bats roost in both exotic and native trees. If any trees are planned for removal during the bat breeding season there is a risk of injury or mortality to juvenile bats. To minimize the potential for impacts to this species, woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed during the bat birthing and pup rearing season (June 1 through September 15). Site clearing should be timed to avoid disturbance to breeding Hawaiian hoary bats.

State and Federally listed waterbirds such as the Hawaiian duck (*Anas wyvilliana*), Hawaiian stilt (*Himantopus mexicanus knudseni*), Hawaiian coot (*Fulica alai*), and Hawaiian moorhen (*Gallinula chloropus sandvicensis*) may occur in the vicinity of the proposed project sites. To minimize the potential for take, surveys for waterbirds by a qualified biologist are recommended before any land clearing or excavation activities occur, and should be repeated if these activities are delayed more than three days. If a nest is discovered at any point, please contact DOFAW staff. If a bird is present during ongoing activities, then all activities within 100 feet (30 m) of the bird should cease, and the bird should also not be approached. Work may continue after the bird leaves the area of its own accord.

We appreciate your efforts to work with our office for the conservation of native species. If you have any questions, please contact Katherine Cullison, Conservation Initiatives Coordinator at (808)587-4148 or Katherine.cullison@hawaii.gov.

Sincerely,

James Cogswell
Wildlife Program Manager
Division of Forestry and Wildlife

Environet, Inc.

October 6, 2017

David Smith
Administrator
Department of Land and Natural Resources, Division of Forestry and Wildlife
1151 Punchbowl Street, Room 325
Honolulu, Hawaii 96813

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-001:034

Dear Mr. Smith,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV) received your letter dated August 9, 2017 in response to pre-consultation as part of the environmental review process under Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed facility improvements. Below are responses to your comments.

Summary of Comments: *Several endangered waterbird species, as well as the Hawaiian hoary bat may be affected by components of the proposed project. Mitigation measures to avoid or minimize impacts to these protected species are provided. To minimize the potential for take, surveys for waterbirds by a qualified biologist are recommended before any land clearing or excavation activities occur, and should be repeated if these activities are delayed more than 3 days.*

Response: A biological survey by a qualified biologist will be initiated at the project site prior to disturbance in order to determine if habitat for protected species may be present. The findings of the survey along with all mitigation measures provided by your agency will be included in the draft and final environmental assessment.

Please feel free to contact us should you have any additional comments on the proposed project.

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

Russell Y. Tsuji
Administrator
State of Hawaii Department of Land and Natural Resources, Land Division
1151 Punchbowl Street, Room 220
Honolulu, Hawaii 96813

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Tsuji,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

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1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

Environet, Inc.

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

July 14, 2017

RECEIVED
LAND DIVISION
2017 JUL 17 AM 9:01
DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

MEMORANDUM

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

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Pre-Consultation for the Paiko Waste Water Pump Station Facilities Improvements - **REVISED**
LOCATION: Honolulu, Island of Oahu; TMK: (1) 3-8-~~010~~001:034
APPLICANT: City and County of Honolulu, Department of Environmental Services

Transmitted for your review and comment is information on the above-referenced project. We would appreciate your comments on this project. Please submit any comments by **August 7, 2017**.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Lydia Morikawa at 587-0410. Thank you.

Attachments

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

Signed: Darlene Bryant-Takamatsu

Print Name: Darlene Bryant-Takamatsu
Date: 7/17/17

cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

'17 JUL 17 PM12:02 ENGINEERING

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

July 14, 2017

RECEIVED
LAND DIVISION
2017 AUG -7 AM 11:01
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

MEMORANDUM

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

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Pre-Consultation for the Paiko Waste Water Pump Station Facilities Improvements - **REVISED**
LOCATION: Honolulu, Island of Oahu; TMK: (1) 3-8-~~010~~001:034
APPLICANT: City and County of Honolulu, Department of Environmental Services

Transmitted for your review and comment is information on the above-referenced project. We would appreciate your comments on this project. Please submit any comments by **August 7, 2017**.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Lydia Morikawa at 587-0410. Thank you.

Attachments

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

Signed: _____

Print Name: Carty S. Chang, Chief Engineer
Date: 8/4/17

cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/Russell Tsuji
Ref: Pre-Consultation for the Paiko Waste Water Pump Station Facilities Improvements, Honolulu, Island of Oahu; TMK: (1) 3-8-001:034

COMMENTS

The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a designated Flood Hazard.

The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zone designations can be found using the Flood Insurance Rate Map (FIRM), which can be accessed through the Flood Hazard Assessment Tool (FHAT) (http://gis.hawaiinfip.org/FHAT).

Be advised that 44CFR reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may take precedence over the NFIP standards as local designations prove to be more restrictive. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

- Oahu: City and County of Honolulu, Department of Planning and Permitting (808) 768-8098.
- Hawaii Island: County of Hawaii, Department of Public Works (808) 961-8327.
- Maui/Molokai/Lanai County of Maui, Department of Planning (808) 270-7253.
- Kauai: County of Kauai, Department of Public Works (808) 241-4846.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: 8/4/17

Environet, Inc.

October 4, 2017

Carty S. Chang P.E.-Chief Engineer
State of Hawaii Department of Land and Natural Resources, Engineering Division
1151 Punchbowl Street, Room 221
Honolulu, Hawaii 96813

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-001:034

Dear Mr. Chang,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV) received your letter dated August 4, 2017 (via the DLNR Land Division) in response to pre-consultation as part of the environmental review process under Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed facility improvements. Below are responses to your comments.

Summary of Comments: *The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44 CFR), are in effect when development falls within a designated Flood Hazard. The owner of the property is responsible to research the Flood Hazard Zone designation for the project... Be advised the 44 CFR reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may take precedence over the NFIP standards as local designations prove to be more restrictive. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below...*

Response: The project will comply with the Revised Ordinances of Honolulu (ROH) 16-11: Regulations Within Flood Hazard Districts and Developments Adjacent to Drainage Facilities, as well as all applicable Federal regulations.

Please feel free to contact us should you have comments on the proposed project.

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

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

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Glenn,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

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1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

Sina Pruder, P.E.
State of Hawaii Department of Health, Wastewater Branch
919 Ala Moana Boulevard, Suite 309
Honolulu, Hawaii 96814

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-010:034

Dear Ms. Pruder,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

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Environet, Inc.

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c/o Max Solmssen
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Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

Kathy K. Sokugawa
Acting Director
City and County of Honolulu, Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, Hawaii 96813

Subject: Pre-consultation for the City and County of Honolulu Paiko Waste Water Pump Station Facilities Improvements 265 Paiko Drive Honolulu, Hawaii 96821 Tax Map Key (TMK) (1) 3-8-010:034

Dear Ms. Sokugawa,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. The Site is located within the Special Management Area (SMA) as defined by HRS Chapter 205A and Chapter 25, Revised Ordinances of Honolulu (ROH). A SMA permit (SMP) application will be completed and sent for processing and/or comment. As part of the environmental review process, we are seeking early consultation to determine if your agency has any comments on the proposed project.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

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

KIRK CALDWELL
MAYOR

KATHY K. SOKUGAWA
ACTING DIRECTOR

TIMOTHY F. T. HIU
DEPUTY DIRECTOR

August 2, 2017 2017/ELOG-1357(RLD)

Mr. Max Solmssen, Project Manager
Environet, Inc.
1286 Queen Emma Street
Honolulu, Hawaii 96813

Dear Mr. Solmssen:

SUBJECT: Pre-Assessment Consultation for Chapter 343 Hawaii Revised Statutes (HRS)
Paiko Wastewater Pump Station Facilities Improvements
265 Paiko Drive - Kuliouou
Tax Map Key 3-8-001: 034

This is in response to your letter received on July 10, 2017, in which you are requesting comments on the above-proposed improvements to the wastewater pump station (Project). The Project is located within the R-7.5 Residential District and within the Special Management Area (SMA). Based on your brief Project description and conceptual site plan, we have the following comments:

1. Please note that the correct Tax Map Key is 3-8-001: 034.

2. The Project will require a SMA Permit. A SMA Use Permit (Major) is required if the valuation exceeds $500,000.

3. The Class of Action for Chapter 343, HRS should include "use of state/county lands/funds" and "wastewater treatment."

4. Please be advised that pursuant to Land Use Ordinance Section 21-3.70-1(b), 15-foot side and rear yards are required for non-dwelling uses. A zoning waiver will be required to allow the new generator room to encroach into the required yards.

Should you have any questions, please contact Ronaldo L. Dalisay of our Land Use Approval Branch at 768-8019.

Very truly yours,

for Kathy K. Sokugawa
Acting Director

Environet, Inc.

October 6, 2017

Kathy K. Sokugawa
Acting Director
City and County of Honolulu, Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, Hawaii 96813

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-001:034

Dear Ms. Sokugawa,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV) received your letter dated August 2, 2017 in response to pre-consultation as part of the environmental review process under Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed facility improvements. Below are responses to your comments:

Summary of Comments: *The project will require an SMA permit. The Class of Action for HRS 343 should include "use of state/county lands/funds" and "wastewater treatment." Pursuant to LUO Section 21-3.70(b), 15-foot side and rear yards are required for non-dwelling uses. A zoning waiver will be required to allow the new generator room to encroach into the required yards.*

Response: An SMA permit application will be completed and submitted following the publication of the draft environmental assessment (DEA) in the State Environmental Notice. The Class of Action for HRS 343 will be included in the DEA. A zoning waiver application will be completed and submitted to allow the new generator room to encroach into the lot setback.

Please feel free to contact us should your agency have any additional comments.

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

Casey Abe
Engineering Program Manager
State of Hawaii Department of Transportation, Highways Division
727 Kakoi Street
Honolulu, Hawaii 96819

Subject: Pre-consultation for the City and County of Honolulu Paiko Waste Water Pump Station Facilities Improvements 265 Paiko Drive Honolulu, Hawaii 96821 Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Abe,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation with your agency for any comments on the proposed action based on your field of expertise.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

DAVID Y. IGE
GOVERNOR

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

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HWY-CM 2.5355

July 31, 2017

Mr. Max Solmssen
Environet, Inc.
1286 Queen Emma Street
Honolulu, Hawaii 96813

Dear Mr. Solmssen:

Subject: Paiko Waste Water Pump Station Facilities Improvements
Pre-Consultation for Environmental Assessment

Based on the information provided, the subject project does not appear to impact a State highway facility. If there is any work in the State Highways Right-of-Way, please advise and provide construction plans for review when available.

Should you have any questions, please call Mr. Robert Shin, Engineering Program Manager, Construction and Maintenance Branch, Highways Division, at (808) 587-2185 or email at Robert.Shin@hawaii.gov.

Sincerely,

MARSHALL H. ANDO
Acting Highways Administrator

Environet, Inc.

November 3, 2017

Marshall H. Ando
Acting Highways Administrator
State of Hawaii Department of Transportation, Highways Division
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-001:034

Dear Mr. Ando,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV) received your letter dated July 31, 2017 in response to pre-consultation as part of the environmental review process under Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed facility improvements. Below are responses to your comments:

Summary of Comments: *Based on the information provided, the subject project does not appear to impact a State highway facility. If there is any work planned in the State Highways Right-of-Way, please advise and provide construction plans for review when available.*

Response: Currently no work is planned within any State Highways Right-of Way. If the project scope changes to include any work in State Highways, your agency will be consulted and provided construction plans.

Please feel free to contact us should your agency have any additional comments.

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

Keith Kawaoka
Deputy Director
State of Hawaii Department of Health, Office of Environmental Planning
919 Ala Moana Boulevard, Room 312
Honolulu, Hawaii 96814

Subject: **Pre-consultation for the City and County of Honolulu**
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Kawaoka,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation with your agency for any comments on the proposed action based on your field of expertise.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

Alicia Moy
President and Chief Executive Officer
Hawaii Gas
515 Kamakee Street
Honolulu, Hawaii 96814

Subject: Pre-consultation for the City and County of Honolulu Paiko Waste Water Pump Station Facilities Improvements 265 Paiko Drive Honolulu, Hawaii 96821 Tax Map Key (TMK) (1) 3-8-010:034

Dear Ms. Moy,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation with your company for any comments on the proposed action based on your field of expertise.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

HAWAI'I GAS
THE CLEAN ENERGY COMPANY

September 5, 2017

Mr. Max Solmssen
Environet, Inc.
1286 Queen Emma Street
Honolulu, Hawaii 96813

Dear Mr. Solmssen:

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821

In response to your letter dated July 6, 2017, it has been determined that the area is currently clear of utility gas facilities.

Should there be any questions, or if additional information is desired, please feel free to call Jeremy Santiago at 594-5552.

Sincerely,

Hawaii Gas

Keith K. Yamamoto
Manager, Engineering

KKY:krs

Environet, Inc.

October 6, 2017

Keith K. Yamamoto
Manager, Engineering
Hawai‘i Gas
PO Box 3000
Honolulu, Hawaii 96802-3000

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-001:034

Dear Mr. Yamamoto,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV) received your letter dated September 5, 2017 in response to pre-consultation as part of the environmental review process under Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed facility improvements. It is understood that your company has determined that the area is currently clear of utility gas facilities. Thank you for this information and please feel free to contact us should you have comments on the proposed project.

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

Roderick Becker
Comptroller
State of Hawaii Department of Accounting and General Services
Kalanimoku Building
1151 Punchbowl Street
Honolulu, Hawaii 96813

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Becker,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation with your agency for any comments on the proposed action based on your field of expertise.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

Environet, Inc.

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

DAVID Y. IGE
GOVERNOR

RODERICK K. BECKER
Comptroller

AUDREY HIDANO
Deputy Comptroller

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

P.O. BOX 119, HONOLULU, HAWAII 96810-0119

JUL 24 2017

(P)1256.7

Mr. Max Solmssen
Environet
1286 Queen Emma Street
Honolulu, Hawaii 96813

Dear Mr. Solmssen:

Subject: Paiko Wastewater Pump Station Facilities Improvements
265 Paiko Drive, Honolulu, Hawaii 96821
TMK: (1) 3-8-010:034

Thank you for the opportunity to comment on the subject project. Based on the information provided we have no comments to offer at this time as the proposed project does not impact any of the Department of Accounting and General Services' projects or existing facilities.

If you have any questions, your staff may call Mr. Kimo Marion of the Public Works Division at 586-0491.

Sincerely,

RODERICK K. BECKER
Comptroller

Environet, Inc.

October 6, 2017

Roderick K. Becker
Comptroller
State of Hawaii Department of Accounting and General Services
Kalanimoku Building
1151 Punchbowl Street
Honolulu, Hawaii 96813

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-001:034

Dear Mr. Becker,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV) received your letter dated July 24, 2017 in response to pre-consultation as part of the environmental review process under Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed facility improvements. It is understood that your agency has no comments at this time. Please feel free to contact us should you have comments on the proposed project.

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

Leo R. Asuncion, Jr., AICP
Director
State of Hawaii Office of Planning
235 S Beretania St, Honolulu, HI 96813

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Asuncion,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation with your agency/group for any comments on the proposed action based on your field of expertise.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

Environet, Inc.

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

OFFICE OF PLANNING
STATE OF HAWAII

DAVID Y. IGE
GOVERNOR

LEO R. ASUNCION
DIRECTOR
OFFICE OF PLANNING

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

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

Ref. No. P-15706

August 21, 2017

Mr. Max Solmssen
Environet, Inc.
1286 Queen Emma Street
Honolulu, Hawaii 96813

Dear Mr. Solmssen:

Subject: Pre-Consultation for the City and County of Honolulu, Paiko Waste Water Pump Station Facilities Improvements;
265 Paiko Drive, Honolulu, Hawaii 96821
TMK: (1) 3-8-001: 034

Thank you for the opportunity to provide comments on the early consultation request for preparation of a Draft Environmental Assessment (Draft EA) on the proposed City and County of Honolulu, Department of Environmental Services (ENV) improvements to the Paiko Waste Water Pump Station. The pre-consultation review material was transmitted to our office via letter dated July 6, 2017.

It is our understanding that ENV proposes repairs to the waste water pump station located at 265 Paiko Drive, Honolulu, Hawaii. The project involves repairs and upgrades to the existing facility, replacement of existing pumps, system controls, electrical systems, structural improvements, replacement of existing above ground fuel storage tanks, and replacement of an emergency backup storage tank. A new structural housing will be created for the emergency back-up generator.

The site is located in a residential neighborhood along Maunalua Bay, in East Honolulu. It is anticipated that the project will only require limited ground disturbance and site work at the project site. Construction is expected to begin in late 2019 and would take 18 months to complete.

The Office of Planning (OP) has reviewed the transmitted material and has the following comments to offer:

1. Pursuant to Hawaii Administrative Rules (HAR) § 11-200-10(4) – general description of the action's technical, economic, social, and environmental characteristics; this project must demonstrate that it is consistent with a number of state environmental, social, economic goals, and policies. Hawaii Revised Statutes (HRS) Chapter 226, the Hawaii State Planning Act, provides goals, objectives, policies, planning coordination and implementation, and priority guidelines for growth, development, and the allocation of resources throughout the state.

The Draft EA should include a discussion on the project's ability to meet all parts of the Hawaii State Planning Act. The analysis should examine the project's consistency with these statutes or clarify where it is in conflict with them. If any of these statutes are not applicable to the project, the analysis should affirmatively state such determination, followed by discussion paragraphs.

2. The coastal zone management (CZM) area is defined as "all lands of the State and the area extending seaward from the shoreline to the limit of the State's police power and management authority, including the U.S. territorial sea" (see HRS § 205A-1).

   HRS Chapter 205A-5(b) requires all state and county agencies to enforce the CZM objectives and policies. The Draft EA should include an assessment as to how the proposed action conforms to each of the goals and objectives as listed in HRS § 205A-2. Compliance with HRS § 205A-2 is an important component for satisfying the requirements of HRS Chapter 343.

3. The proposed project appears to be located within the special management area (SMA) delineated by the City and County of Honolulu, and a SMA Permit may be required. Please consult with the Department of Planning and Permitting (DPP), City and County of Honolulu on SMA determination and permitting requirements.

   As a supporting document for the SMA permit application, the Draft EA should specifically discuss the requirements of the SMA use in accordance with the SMA guidelines pursuant to HRS § 205A-26, and City and County of Honolulu SMA ordinances.

4. Pursuant to HAR § 11-200-10(6) – identification and summary of impacts and alternatives considered; in order to ensure that surface water and marine resources along nearby Maunalua Bay remain protected, the negative effects of stormwater inundation and polluted runoff from the proposed redevelopment of the waste water pump station should be evaluated in the Draft EA.

   Issues that may be examined include, but are not limited to, project site characteristics in relation to flood and erosion prone areas, open spaces, the potential vulnerability of Paiko Lagoon, the drainage infrastructure currently in place, and soil absorption characteristics of the area. These items should be considered when developing mitigation measures for the protection for surface water resources and the coastal ecosystem, pursuant to HAR § 11-200-10(7).

   Please note that new development, redevelopment, and any incremental development,

performed on the Island of Oahu, that involves one acre or more of land, or any project that may have water quality impacts due to its location or land-use activity will be subject to the updated City and County of Honolulu Administrative Rules Relating to Water Quality, Title 20, Department of Planning and Permitting, Chapter 3.

The updated DPP rules mandate the implementation of permanent low-impact development (LID) and onsite stormwater best management practices (BMP). Please consult with DPP to determine the applicability of its new storm drainage standards, water quality rules, sediment control measures, and permanent LID requirements for this project.

OP has a number of resources available to assist with onsite stormwater management and polluted runoff mitigation. OP recommends consulting these guidance documents and stormwater evaluative tools when developing strategies to address polluted runoff. They offer useful techniques to keep land-based pollutants and sediment in place and prevent contaminating nearshore waters, while considering the BMPs best suited for the project area and the types of contaminants affecting an area. The evaluative tools that should be used during the design process include:

- Stormwater Impact Assessments can be used to identify and evaluate information on hydrology, stressors, sensitivity of aquatic and riparian resources, and management measures to control runoff, as well as consider secondary and cumulative impacts to the area http://files.hawaii.gov/dbedt/op/czm/initiative/stomwater_imapct/final_stormwater_impact_assessments_guidance.pdf

- Low Impact Development (LID), A Practitioners Guide covers a range of structural best management practices for stormwater control management, onsite infiltration techniques, water reuse methods, and building layout designs that minimize negative environmental impacts http://files.hawaii.gov/dbedt/op/czm/initiative/lid/lid_guide_2006.pdf

If you have any questions regarding this comment letter, please contact Joshua Hekekia of our office at (808) 587-2845.

Sincerely,

Leo R. Asuncion
Director

Environet, Inc.

October 6, 2017

Leo R. Asuncion, Jr., AICP
Director
State of Hawaii Office of Planning
235 South Beretania Street
Honolulu, Hawaii 96813

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-001:034

Dear Mr. Asuncion,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV) received your letter dated August 21, 2017 in response to pre-consultation as part of the environmental review process under Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed facility improvements. Below are responses to your comments:

Summary of Comments:

- *Pursuant to Hawaii Administrative Rules (HAR) 11-200-10(4) – general description of the action's technical, economical, social, and environmental characteristics; this project must demonstrate that it is consistent with a number of state environmental, social, economic goals, and policies. Hawaii Revised Statues (HRS) Chapter 226, the Hawaii State Planning Act, provides goals, objectives, policies, planning coordination and implementation, and priority guidelines for growth, development, and the allocation of resources through the state. The Draft EA should include a discussion on the project's ability to meet all parts of the Hawaii State Planning Act. The analysis should examine the project's consistency with these statutes or clarify where it is in conflict with them. If any of these statues are not applicable to the project, the analysis should affirmatively state such determination, followed by discussion paragraphs.*

Response: The Draft EA will include an analysis of the project's technical, economical, social, and environmental characteristics in compliance with HAR 11-200. The Draft EA will also analyze the project's consistency or non-consistency with HRS Chapter 226.

- *HRS Chapter 205A-5(b) requires all state and county agencies to enforce the CZM objectives and policies. The Draft EA should include an assessment as to how the proposed action conforms to each of the goals and objectives as listed in HRS 205A-2. Compliance with HRS 205A-2 is an important component for satisfying the requirements of HRS Chapter 343.*

Response: The Draft EA will include an assessment as to how the proposed action conforms to each of the goals and objectives as listed in HRS 205A-2.

- *The proposed project appears to be located within the special management area (SMA) delineated by the City and County of Honolulu, and a SMA Permit may be required. Please consult with the Department of Planning and Permitting (DPP), City and County of Honolulu on SMA determination and permitting requirements. As a supporting document for the SMA permit application, the Draft EA should specifically discuss the requirements of the SMA use in accordance with the SMA guidelines pursuant to HRS 205A-26, and City and County of Honolulu SMA ordinances.*

Response: The City is aware that the project site is located within the SMA and has initiated consultation with the City and County of Honolulu DPP. The Draft EA will specifically discuss the requirements of the SMA use in accordance with the SMA guidelines pursuant to HRS 205A-26, and City and County of Honolulu SMA ordinances.

- *Pursuant to HAR 11-200-10(6) – identification and summary of impacts and alternatives considered; in order to ensure that surface water and marine resources along nearby Maunalua Bay remain protected, the negative effects of stormwater inundation and polluted runoff from the proposed redevelopment of the waste water pump station should be evaluated in the Draft EA. Issues that may be examined include, but are not limited to, project site characteristics in relation to flood and erosion prone areas, open spaces, the potential vulnerability of Paiko Lagoon, the drainage infrastructure currently in place, and soil absorption characteristics of the area. These items should be considered when developing mitigation measures for the protection for surface water resources and the coastal ecosystem, pursuant to HAR 11-200-10(7). Please note that new development, redevelopment, and any incremental development, performed on the Island of Oahu, that involves one acre or more of land, or any project that may have water quality impacts due to its location or land-use activity will be subject to the updated City and County of Honolulu Administrative Rules Relating to Water Quality, Title 20, Department of Planning and Permitting, Chapter 3. The updated DPP Rules mandate the implementation of permanent low-impact development (LID) and onsite stormwater BMPs. Please consult with DPP to determine the applicability of its new storm drainage standards, water quality rules, sediment control measures, and permanent LID requirements for this project...*

Response: The negative effects of stormwater inundation and polluted runoff from the proposed redevelopment of the waste water pump station, and how Maunalua Bay and Paiko Lagoon may be impacted will be evaluated in the Draft EA. Reference to applicable City and State regulations relating to stormwater management will also be included in the Draft EA.

Please feel free to contact us should your agency have any additional comments.

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

Alan Oshima
Chief Executive Officer
Hawaiian Electric Company
1001 Bishop Street
Honolulu, Hawaii 96813

Subject: Pre-consultation for the City and County of Honolulu Paiko Waste Water Pump Station Facilities Improvements 265 Paiko Drive Honolulu, Hawaii 96821 Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Oshima,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation with your company for any comments on the proposed action based on your field of expertise.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

Environet, Inc.

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

Scott K. Barber
President and Chief Executive Officer
Hawaiian Telcom Headquarters
1177 Bishop Street
Honolulu, Hawaii 96813

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Barber,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation with your company for any comments on the proposed action based on your field of expertise.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

Environet, Inc.

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

Ernest Y.W. Lau, P.E.
Manager and Chief Engineer
Honolulu Board of Water Supply
630 South Beretania Street
Honolulu, Hawaii 96843

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Lau,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation with your agency for any comments on the proposed action based on your field of expertise.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

BOARD OF WATER SUPPLY

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

August 4, 2017

KIRK CALDWELL, MAYOR

BRYAN P. ANDAYA, Chair
DAVID C. HULIHEE
KAPUA SPROAT
KAY C. MATSUI

ROSS S. SASAMURA, Ex-Officio
FORD N. FUCHIGAMI, Ex-Officio

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

ELLEN E. KITAMURA, P.E.
Deputy Manager and Chief Engineer

Mr. Max Solmssen
Environet, Inc.
1286 Queen Emma Street
Honolulu, Hawaii 96813

Dear Mr. Solmssen:

Subject: Your Letter Dated July 6, 2017 Requesting Comments on the Pre-Consultation for Paiko Waste Water Pump Station Facilities Improvements - Tax Map Key: 3-8-001: 034

Thank you for the opportunity to comment on the proposed Waste Water Pump Station improvement project.

The existing water system is adequate to accommodate the proposed project. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply reserves the right to change any position or information stated herein up until the final approval of the building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

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

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

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

If you have any questions, please contact Robert Chun, Project Review Branch of our Water Resources Division at 748-5443.

Very truly yours,

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

Environet, Inc.

October 6, 2017

Ernest Y.W. Lau, P.E.
Manager and Chief Engineer
Honolulu Board of Water Supply
630 South Beretania Street
Honolulu, Hawaii 96843

Subject: **Pre-consultation for the City and County of Honolulu**
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Lau,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV) received your letter dated August 4, 2017 in response to pre-consultation as part of the environmental review process under Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed facility improvements. Below are responses to your comments:

Summary of Comment: *The existing water system is adequate to accommodate the proposed project based upon current data. ...The Board of Water Supply reserves the right to change any position or information until the final approval of the building permit application. The final decision on the availability of water will be confirmed with the building permit application is submitted for approval.*

Response: ENV will coordinate closely with the Board of Water Supply during the permit application process to ensure that any alteration of water systems are in compliance with applicable City and State codes/regulations.

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

Response: Water conservation measures will be considered during project design to the extent feasible.

Summary of Comment: *When water is made available, the applicant will be required to pay out Water System Facilities Charges for resource development, transmission, and daily storage.*

Response: Water service is currently available at the existing facility. ENV will pay all applicable Water System Facilities Charges; however, there is no change in current water service planned as part of the proposed project.

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

Response: All applicable on-site fire protection requirements will be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

Environet, Inc.

Please feel free to contact us should your agency have any additional comments.

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

Manuel P. Neves
Fire Chief
Honolulu Fire Department
636 South Street
Honolulu, Hawaii 96813

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Neves,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation with your agency for any comments on the proposed action based on your field of expertise.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

HONOLULU FIRE DEPARTMENT

CITY AND COUNTY OF HONOLULU

636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd

KIRK CALDWELL
MAYOR

MANUEL P. NEVES
FIRE CHIEF

LIONEL CAMARA JR.
DEPUTY FIRE CHIEF

July 24, 2017

Mr. Max Solmssen
Project Manager
Environet, Inc.
1286 Queen Emma Street
Honolulu, Hawaii 96813

Dear Mr. Solmssen:

Subject: Preconsultation for Environmental Assessment
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive
Honolulu, Hawaii 96821
Tax Map Key: 3-8-010: 034

In response to your letter dated June 14, 2017, regarding the above-mentioned subject, the Honolulu Fire Department (HFD) determined there will be no significant impact to fire department services.

An HFD Flammable and Combustible Liquid Tank Installation permit shall be obtained from the HFD's Fire Prevention Bureau (FPB) for the above ground storage tank replacement should there be any change in capacity.

Should you have questions, please contact Battalion Chief Wayne Masuda of our FPB at 723-7151 or wmasuda@honolulu.gov.

Sincerely,

SOCRATES D. BRATAKOS
Assistant Chief

SDB/DO:ps

Environet, Inc.

October 6, 2017

Socrates D. Bratakos
Assistant Chief
Honolulu Fire Department
636 South Street
Honolulu, Hawaii 96813

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-001:034

Dear Mr. Bratakos,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV) received your letter dated July 24, 2017 in response to pre-consultation as part of the environmental review process under Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed facility improvements. Below are responses to your comments:

Summary of Comments: ...*The Honolulu Fire Department (HFD) determined there will be no significant impact to fire department services. An HFD Flammable Combustible Liquid Tank Installation Permit shall be obtained from the HFD's Fire Prevention Bureau (FPB) for the above ground storage tank replacement should there be any change in capacity.*

Response: An HFD Flammable Combustible Liquid Tank Installation Permit shall be obtained as part of the permitting process.

Please feel free to contact us should your agency have any additional comments.

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

Cary Okimoto
Acting Chief of Police
Honolulu Police Department
801 South Beretania Street
Honolulu, Hawaii 96813

Subject: Pre-consultation for the City and County of Honolulu Paiko Waste Water Pump Station Facilities Improvements 265 Paiko Drive Honolulu, Hawaii 96821 Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Okimoto,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation with your agency for any comments on the proposed action based on your field of expertise.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET · HONOLULU, HAWAII 96813
TELEPHONE: (808) 529-3111 · INTERNET: www.honolulupd.org

KIRK CALDWELL
MAYOR

~~LOUIS M. KEALOHA~~
CHIEF

CARY OKIMOTO
~~JERRY HIGUYE~~
DEPUTY CHIEFS

OUR REFERENCE MT-DK

July 24, 2017

Mr. Max Solmssen
Project Manager
Environet, Inc.
1286 Queen Emma Street
Honolulu, Hawaii 96813

Dear Mr. Solmssen:

This is in response your letter of July 6, 2017, requesting comments on a Pre-consultation, Environmental Assessment, for the Paiko Drive Wastewater Pump Station Facility Improvement project.

The Honolulu Police Department has reviewed this project and has concerns regarding the safe flow of vehicular traffic, parking, and construction noise and debris around the project area.

Paiko Drive is a two-lane roadway with unimproved sidewalks along the street. Any lane blockage may cause severe traffic backups. Additionally, construction operations should not hinder any safe passage for pedestrians, bicyclists, and vehicles traveling through the area. Further, there is no street parking available on Paiko Drive. Therefore, the contractor will need to provide parking locations for their employees and visitors.

The contractor should also take into consideration the disturbance of construction noise and debris coming from the project site that may become overwhelming for the community. Informing the public of construction occurrences will allow the community to be better prepared for such disruptions.

If there are any questions, please call Major Gerald Kaneshiro of District 7 (East Honolulu) at 723-3369.

Thank you for the opportunity to review this project.

Sincerely,

CARY OKIMOTO
Acting Chief of Police

By Mark Tsuyemura
MARK TSUYEMURA
Management Analyst VI
Office of the Chief

Serving and Protecting With Aloha

Environet, Inc.

October 6 ,2017

Cary Okimoto
Acting Chief of Police
Honolulu Police Department
801 South Beretania Street
Honolulu, Hawaii 96813

Subject: **Pre-consultation for the City and County of Honolulu**
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-001:034

Dear Mr. Okimoto,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV) received your letter dated July 24, 2017 in response to pre-consultation as part of the environmental review process under Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed facility improvements. Below are responses to your comments.

Summary of Comments: *The Honolulu Police Department has concerns regarding the safe flow of vehicular traffic, parking, and construction noise, debris around the project area. Any lane blockage may cause severe traffic backups. Additionally, Construction should not hinder any safe passage for pedestrians, bicyclists and vehicles traveling through the area. Further there is no street parking available on Paiko Drive. Therefore, the contractor will need to provide parking locations for their employees and visitors. The contractor should also take into consideration the disturbance of construction noise and debris coming from the project site that may become overwhelming for the community. Informing the public of construction occurrences will allow the community to be better prepared for such disruptions.*

Response: Traffic controls in compliance with State Department of Transportation standards will be implemented during construction in order maintain safety for pedestrians, bicyclists and local traffic flow. Construction activities will comply with Hawaii Administrative Rules Title 11, Chapter 46: Community Noise Control. All construction debris / materials will be properly handled and disposed of and will not be stored or discarded off-site.

Please feel free to contact us should your agency have any additional comments.

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

Kamaka Parker
Kuliouou-Kalani iki Neighborhood Board- Subdistrict 8
6084 Naleialoha Place
Honolulu, Hawaii 96813

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Parker,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation with your board for any comments on the proposed action based on your field of expertise.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

CC: Kevin Mulkern
Kuliouou-Kalani iki Neighborhood Board-Subdistrict 8

Environet, Inc.

July 7, 2017

Kevin Mulkern
Kuliouou-Kalani iki Neighborhood Board- Subdistrict 8
P.O. Box 25491
Honolulu, Hawaii 96825

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Mulkern,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

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Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

CC: Kamaka Parker
Kuliouou-Kalani iki Neighborhood Board-Subdistrict 8

Environet, Inc.

July 7, 2017

Molly Mamaril
Mālama Maunalua
7192 Kalanianaole Highway, Suite A143A
Honolulu, Hawaii 96825

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-010:034

Dear Ms. Mamaril,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation with your organization for any comments on the proposed action based on your field of expertise.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

Environet, Inc.

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

mālama maunalua

July 21, 2017

Environet, Inc.
1286 Queen Emma Street
Honolulu, HI 96813
Att; Max Solmssen

Board of Directors

Mitch D'Olier
Dawn Dunbar
Amy Monk
Steve Schatz
Jennifer Taylor
Leighton Taylor
Jean Tsukamoto

Directors Emeritus

Laura Thompson
Carol Wilcox

Dear Mr. Solmssen:

Re: Paiko Waste Water Pump Station Facilities Improvements

Thank you for your request for comments on the project.

We would be particularly concerned about the risks of any leakage from the diesel fuel tank or the pumping system into the soil and/or into the waters of Maunalua Bay either during the replacement or thereafter when the pump station facilities are in operation. The concern is heightened since this area is within a designated tsunami zone.

Therefore, we request that Environet and City & County provide more detailed information on: 1) the designs of the both the current and proposed installation; 2) the controls currently in place to ensure that leakage does not occur 3) controls against leakage and spills that would be included in the new design.

Please contact our Executive Director, Doug Harper at dharper@malamamaunalua.org or (808) 285-7509 if you would like more clarification. We look forward to receiving the additional documentation requested.

Sincerely,

Jennifer Taylor
Board of Directors
Malama Maunalua

7192 Kalanianaole Hwy Suite A143A Honolulu HI 96825
Phone: 808-395-5050 www.mamamamaunalua.org

Environet, Inc.

November 3, 2017

Jennifer Taylor
Board of Directors
Mālama Maunalua
7192 Kalanianaole Highway, Suite A143A
Honolulu, Hawaii 96825

Subject: **Pre-consultation for the City and County of Honolulu**
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-001:034

Dear Ms. Taylor,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV) received your letter dated July 21, 2017 in response to pre-consultation as part of the environmental review process under Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed facility improvements. Below are responses to your comments:

Summary of Comments: *We would be particularly concerned about the risk of any leakage from the diesel fuel tank or the piping system into the soil and/or into the waters of Maunalua Bay either during the replacement or thereafter when the pump station facilities are in operation. The concern is heightened since this area is within a designated tsunami zone... Please provide more detailed information on 1) the designs of both the current and proposed installation; 2) the controls currently in place to ensure leakage does not occur; 3) controls against leakage and spills in new design.*

Response: The existing backup generator is powered by a propane gas tank. The controls to minimize the chance of a gas leak include a steel tank/piping and instrument controls. The plans for the existing pump station, as well as the design for the proposed upgrades, are included with this letter. The planned new diesel backup generator will include a fire-rated above-ground storage tank with secondary containment. The specifications of the new generator tank are also included with this letter.

Please feel free to contact us should your agency have any additional comments.

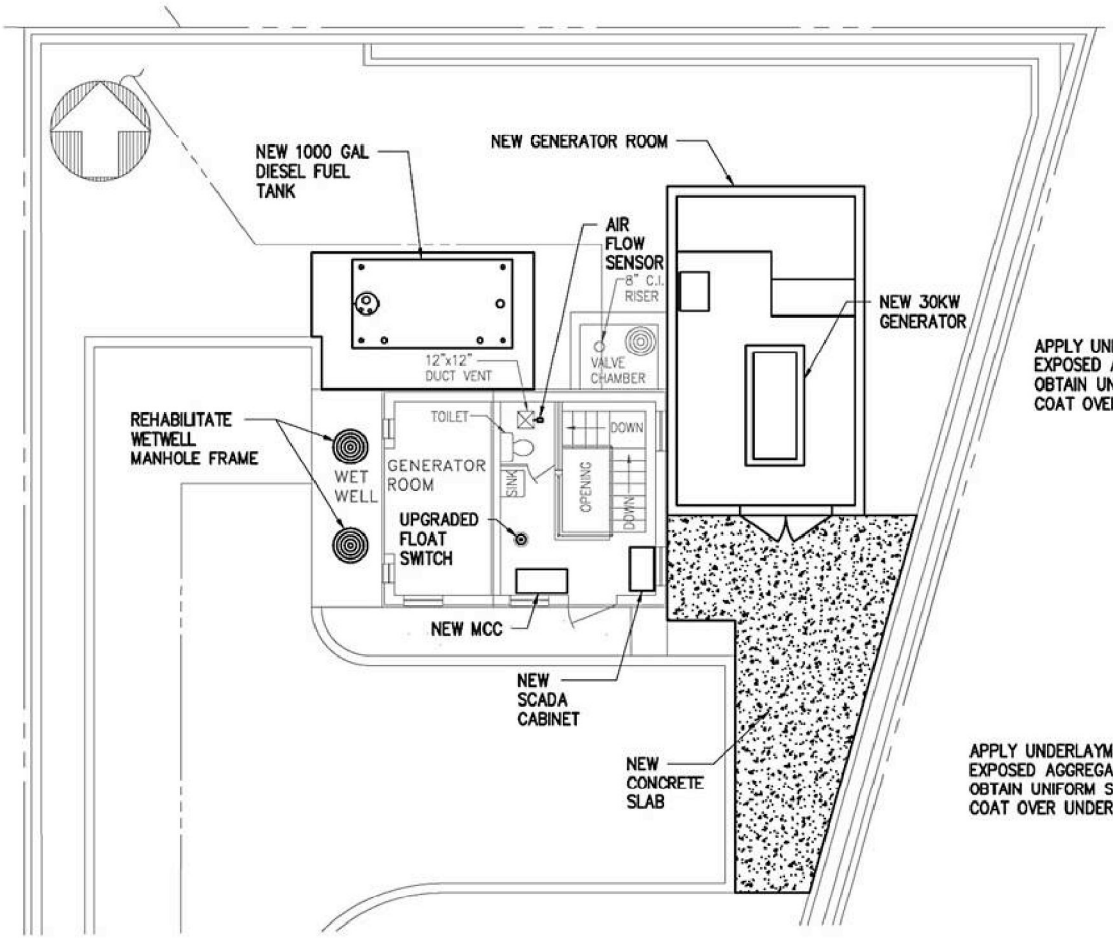
Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Attachment 1: Existing Pump Plans

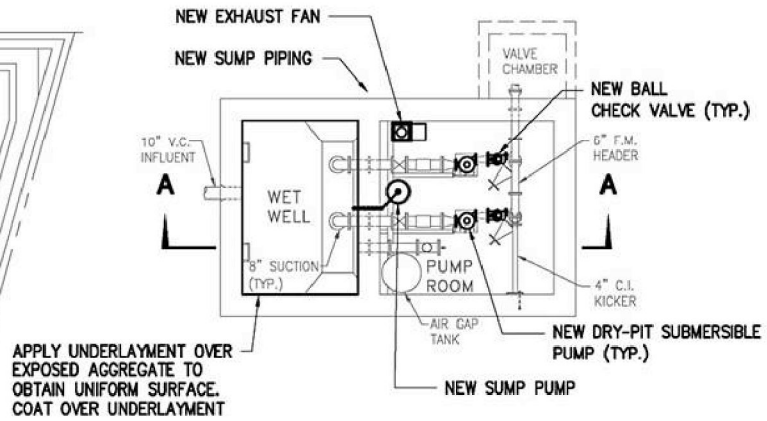
Attachment 2: Proposed Pump Plans



GROUND FLOOR PLAN

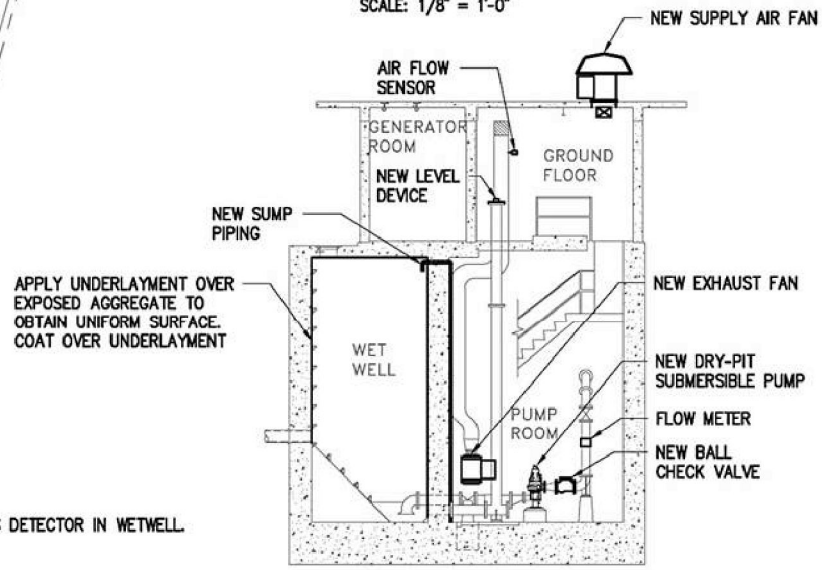
SCALE: 1/8" = 1'-0"

NOTE:
1. INSTALL COMBUSTIBLE GAS DETECTOR IN WETWELL.



PUMP FLOOR PLAN

SCALE: 1/8" = 1'-0"



SECTION (A)

SCALE: 1/8" = 1'-0"

8' 0' 8' 16'

SCALE: 1/8"=1'-0"

Environet, Inc.	DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PAIKO DRIVE WWPS FACILITY IMPROVEMENT	FIGURE 2
	SITE PLAN HONOLULU, O'AHU, HAWAI'I	

Attachment 3: Specifications of New Generator Tank

FIREGUARD®

FIRE-RATED ABOVEGROUND TANKS

U.S. Patent #5695089 & #5809650

modern®

MODERN WELDING CO., INC.
1 800 922 1932
www.modweldco.com

UL 2085 Protected AST

FIREGUARD®

The New Generation of fire-rated AST's, going far beyond those "first generations" tanks which were merely enclosed in concrete.

- Fireguard® was the first AST of its design to obtain a UL Listing for secondary containment.
- Fireguard®'s secondary containment can be tightness tested on-site with standard testing procedures!
- Fireguard®'s exterior steel wall provides superior weatherability and low-cost maintenance. Unlike concrete, cracking or spalling will never be a problem!
- Fireguard®'s unique thermal insulating material is 75% lighter than concrete... Shipping, installation and relocation costs are reduced!
- The Fireguard® technology is patented under U.S. Patent #5695089 and #5809650 for "Lightweight Double Wall Storage Tank."

Lightweight thermal insulation

- Unique feature that helped Fireguard® exceed the UL 2-hour fire test
- Sufficiently porous to facilitate quick emergency venting and/or leak detection

Is Your Aboveground Tank Everything It's Cracked Up To Be?

FIREGUARD®	VS.	Concrete Encased
• Secondary containment is testable on-site using standard, economical testing procedures. • Fireguard®'s steel outer wall provides low-cost maintenance and protects the insulation material from weathering. • An average 12,000 gallon Fireguard® weighs under 30,000 pounds - well within the legal load limit for trucking.		• The secondary containment on certain designs may require elaborate and expensive procedures to be tested on-site. • Exposed concrete outer wall is susceptible to cracking, spalling and weathering - problems that are expensive to correct and are usually not covered by warranty. • An average 12,000 gallon concrete-encased tank weighs upwards of 100,000 pounds - imagine the hassles involved in handling that tank.

FIREGUARD®: THE ONLY TANK THAT MEETS ALL OF THESE STANDARDS

- UL-2085 Listed "Protected" Aboveground Tanks for Flammable and Combustible Liquids
- Both inner and outer tanks built per UL-142 Standard for Steel Aboveground tanks for Flammable and Combustible Liquids
- Uniform Fire Code, "Protected Tank"
- UL-2080 Listed "Fire Resistant" Tanks for Flammable and Combustible Liquids
- NFPA 30 and 30A, National Fire Protection Association
- NFPA 1, Uniform Fire Code™, of the National Fire Protection Association, "Protected Aboveground Tank
- Steel Tank Institute (STI) Standard F941 for Thermally Insulated Aboveground Storage Tanks
- International Fire Code (IFC)
- ULC-S655 Underwriters Laboratories of Canada Standard for Aboveground Tanks for Flammable and Combustible Liquids
- Other Standards…
- Ballistics protection per UL-2085
- Vehicle impact protection per UL-2085
- Hose Stream tested per UL-2085
- California Air Resources Board (CARB) testing requirements for air emissions
- Many fire codes and environmental regulations will accept Fireguard® Secondary Containment Tanks as an alternate to diking requirements

If your project is required to follow NFPA 30 or 30A guidelines... Check with your area "Authority Having Jurisdiction" related to maximum allowable tank capacity for the class fuel being stored and secondary containment requirements.

FIREGUARD® SPECIFICATIONS			
CYLINDRICAL DESIGN			
SAMPLE OUTER TANK DIMENSIONS			
ALL DIAMETERS AND LENGTHS ARE NOMINAL			
GALLONS	DIAMETER	LENGTH	APPROX WEIGHT (lbs.)
186	48	54	2,119
250	48	68	2,513
300	50	72	2,821
500	54	70	2,413
560	54	78	2,606
1,000	54	134	5,338
1,000	70	78	5,005
1,500	70	114	6,537
2,000	70	150	8,309
2,500	70	186	9,644
3,000	70	222	10,979
4,000	78	233	13,523
4,000	90	175	14,072
5,000	79	290	18,998
5,000	103	169	17,149
6,000	79	347	21,961
6,000	103	199	19,206
8,000	103	259	23,319
10,000	103	331	28,256
12,000	103	391	32,370
15,000	127	313	35,821
20,000	127	415	44,506
25,000	127	517	55,891
30,000	127	619	64,575

Please note that all dimensions and weights are approximate. Individual tanks may vary from these values.

FIREGUARD® SPECIFICATIONS				
RECTANGULAR DESIGN				
SAMPLE OUTER TANK DIMENSIONS				
ALL DIAMETERS AND LENGTHS ARE NOMINAL				
GALLONS	LENGTH	WIDTH	HEIGHT	APPROX. WEIGHT (lbs.)
186	45	45	56	2,256
250	118	37	37	3,305
250	79	51	37	2,916
500	141	52	37	4,991
750	93	73	37	3,950
1,000	128	73	37	4,607
1,000	89	73	51	4,102
1,500	125	89	45	5,772
2,000	141	87	51	6,679
2,000	141	73	61	6,486
2,500	141	89	61	7,453
3,000	251	73	51	11,572
3,000	118	103	73	9,379
4,000	332	73	51	14,990
4,000	155	103	73	11,640
5,000	337	73	61	16,615
5,000	192	103	73	13,901
6,000	403	73	61	19,631
6,000	229	103	73	16,162
8,000	371	103	61	22,872
8,000	303	103	73	20,684
10,000	461	103	61	27,992
10,000	377	130	73	25,205
12,000	452	103	73	29,788
15,000	387	103	103	38,510
18,000	463	103	103	45,290
24,700	466	138	103	54,539

MODERN WELDING CO., INC.

Corporate Offices

2880 New Hartford Road • Owensboro, KY 42303
Phone: 270-685-4400 • Fax: 270-684-6972
www.modweldco.com • E-mail: modern@modweldco.com

Modern Welding Company of Ohio, Inc.
One Modern Way, Newark, Ohio 43055
Phone: (740) 344-9425 Fax: (740) 344-6018
modern5@modweldco.com

Modern Welding Company of Iowa, Inc.
2818 Mt. Pleasant Road, Burlington, Iowa 52601
Phone: (319) 754-6577 Fax: (319) 754-8428
modern8@modweldco.com

Modern Welding Company of Georgia, Inc.
300 Prep Phillips Drive, Augusta, Georgia 30901
Phone: (706) 722-3411 Fax: (706) 724-8133 (Fax)
modern14@modweldco.com

Modern Welding Co. of Owensboro, Inc.
1450 E. Parrish Ave., Owensboro, Kentucky 42303
Phone: (270) 683-5323 Fax: (270) 684-5245
modern1@modweldco.com

Modern Welding Co. of Florida, Inc.
1801 Atlanta Ave., Orlando, Florida 32806
Phone: (407) 843-1270 Fax: (407) 423-8187
modern6@modweldco.com

Modern Welding Co. of Texas, Inc.
715 Sakowitz St., Houston, Texas 77020
Phone: (713) 675-4211 Fax: (713) 673-4062
modern7@modweldco.com

Modern Welding Co. of Texas, Inc.
200 N. Main St., Rhome, Texas 76078
Phone: (817) 636-2215 Fax: (817) 636-2680
modern15@modweldco.com

Modern Welding Co. of California, Inc.
4141 N. Brawley Ave., Fresno, California 93722
Phone: (559) 275-9353 Fax: (559) 275-4381
modern10@modweldco.com

Modern Welding Company Inc.Web Posted 2/09

Environet, Inc.

July 7, 2017

Kamana'opono Crabbe, Ph.D.
Chief Executive Officer
Office of Hawaiian Affairs
560 North Nimitz Highway, Suite 200
Honolulu, Hawaii 96817

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Crabbe,

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1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

PHONE (808) 594-1888

FAX (808) 594-1938

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
560 N. NIMITZ HWY., SUITE 200
HONOLULU, HAWAI'I 96817

HRD17-8249

August 9, 2017

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Re: Pre-Assessment Consultation Letter for Draft Environmental Assessment
Paiko Waste Water Pump Station Facilities Improvement
Waimānalo Ahupua'a, Ko'olaupoko District, O'ahu Island
Tax Map Key: (1) 3-8-001:034

Aloha e Max Solmssen:

The Office of Hawaiian Affairs (OHA) is in receipt of your letter dated July 6, 2017, seeking pre-assessment consultation for the draft environmental assessment (EA) for the proposed improvements of the City and County of Honolulu, Paiko Waste Water Pump Station Facilities Improvements project located at 265 Paiko Drive, Kuli'ou'ou 'ili. Please note that the correct Tax Map Key is 3-8-001:034.

According to your letter, the City and County of Honolulu proposes upgrades to the pumps and system controls, electrical upgrades, structural improvements, and replacement of the existing above-ground fuel storage tank and emergency backup generator. A new structural housing for the emergency backup generator is also proposed. Construction is anticipated to begin in late 2019.

According to the United States Department of Agriculture Natural Resources Conservation Service's Web Soil Survey website, the entire project area is underlain by sandy soils (Jaucas sand). It is common knowledge that there is a high likelihood of encountering iwi kūpuna (human remains/burials) and traditional Hawaiian subsurface cultural remains in and around sand deposits and dunes. Given the likelihood that iwi kūpuna and traditional Hawaiian sites may be present in the project area, we expect that an archaeological inventory survey with subsurface testing will be conducted. We suggest that your improvement plans be flexible so it can accommodate preservation areas should iwi kūpuna or traditional Hawaiian sites be identified.

We look forward to reviewing the draft EA. Thank you for the opportunity to comment. Should you have any questions, please contact Kathryn Keala at (808) 594-0272 or kathyk@oha.org.

'O wau iho nō me ka 'oia 'i'o,

Kamana'opono M. Crabbe, Ph.D.
Ka Pouhana, Chief Executive Officer

KC:kk

Environet, Inc.

October 6, 2017

Kamana'opono Crabbe, Ph.D.
Chief Executive Officer
Office of Hawaiian Affairs
560 North Nimitz Highway, Suite 200
Honolulu, Hawaii 96817

Subject: **Pre-consultation for the City and County of Honolulu**
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-001:034

Dear Mr. Crabbe,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV) received your letter dated August 9, 2017 in response to pre-consultation as part of the environmental review process under Hawai'i Revised Statutes (HRS) Chapter 343 and Hawai'i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed facility improvements. Below are responses to your comments.

Summary of Comments: *According to the United States Department of Agriculture Natural Resources Conservation Services' Web Soil Survey website, the entire project area is underlain by sandy soils (Jaucas sand). It is common knowledge that there is a high likelihood of encountering iwi kūpuna (human remains/burials) and traditional Hawaiian subsurface cultural remains in and around sand deposits and dunes. Given the likelihood that iwi kūpuna and traditional Hawaiian sites may be present in the project area, we expect that an archaeological inventory survey with subsurface testing will be conducted. We suggest that your improvement plans be flexible so it can accommodate preservation areas should iwi kūpuna or traditional Hawaiian sites be identified.*

Response: Research by a qualified archaeologist, and consultation with the State Historic Preservation Division is underway for the proposed project. All applicable site surveys/research shall be conducted in accordance with State regulations.

Please feel free to contact us should your agency have any additional comments.

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

Susan Lebo
Archaeology Branch Chief, State Historic Preservation District
Department of Land and Natural Resources
601 Kamokila Boulelvard, Suite 555
Kapolei, Hawaii 96707

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-010:034

Dear Ms. Lebo,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground storage tank (AST) emergency backup generator. A new structural housing is proposed for the new AST (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation to determine if any known archaeological resources exist at or within close proximity to the subject parcel. Attached is a letter and email communication that was sent to your agency previously by the project engineer for your reference.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email addresses by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Environet, Inc.

July 7, 2017

Kaiwi Yoon
Architecture Branch Chief, State Historic Preservation District
Department of Land and Natural Resources
601 Kamokila Boulelvard, Suite 555
Kapolei, Hawaii 96707

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Yoon:

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation to determine if any special requirements or preservation/documentation will be necessary for the existing building at the Site.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Community Planning and Engineering, Inc.

MEMORANDUM

Date: **August 10, 2016**

Subject: **Historical Preservation Requirements for the Honolulu Area Wastewater Facilities Improvements Project (Contract No. SC-DDC-1400094)**

TO: **Susan Lebo, Department of Land and Natural Resources, State Historic Preservation Division**

FROM: **Hernan Co, P.E.**

As discussed at our July 29, 2016 meeting, we would like to ask for your assistance in determining the historical preservation requirements for the subject project.

Introduction

Community Planning and Engineering, Inc. was tasked by the City and County of Honolulu (CCH), Department of Design and Construction (DDC) to evaluate four wastewater pump stations (WWPS) in the Honolulu region (See Figures 1 and 2): Kuliouou WWPS, Moana Park WWPS, Niu Valley WWPS and Paiko Drive WWPS. A facility assessment was conducted to determine alternatives of corrective actions to be recommended to CCH.

Proposed Improvements

Various upgrades and modifications to the pump station buildings will be performed. The following is a summary of the proposed improvements separated by interior and exterior work:

A. Kuliouou WWPS (FIGURE 3 and 4)

Interior Improvements:

- Replace existing sewage pumps with horizontal dry-pit submersible pump
- Retrofit new sewage pump with variable frequency drives.
- Replace check valves.
- Upgrade level units with pressure transmitters and non-contact radar transmitter; Install wall pipe through wetwell wall for pressure transmitter connection.
- Replace Motor Control Center (MCC).
- Relocate telephone to provide minimum 36” clearance.

1286 Queen Emma Street I Honolulu, Hawaii 96813 I Tel: (808) 521-7491 I Fax: (808) 526-2476 I Email: mail@cpe-hawaii.com

- Relocate panel board, circuit breaker and battery charger.
- Install appropriate conduit fitting and new ground termination kit.
- Repair concrete walls and ceiling and apply protective lining.
- Install “loss of flow” detectors for ventilation.
- Replace broken controllers.

Exterior Improvements:

- Replace with 4-ply built up roof system.
- Install copper flashing, waterproofing, tapered rigid insulation and new drain.
- Upgrade to slide gate with hand crank operators.
- Replace sump pump, valves, and hosing. Raise elevation of sump piping.

B. Moana Park WWPS (FIGURE 5)

Interior Improvements:

- Replace internal components
- Replace check valves.
- Clean/Restore existing slide gates.
- Install grating at trench drains.
- Clean reinforcing steel and patch concrete in pump room floor.
- Install “loss of flow” detectors for ventilation.

Exterior Improvements:

- Install supply ventilation fan.
- Replace corroded plumbing piping: waste and ventilation piping.
- Reroute sump piping to provide higher discharge elevation.

C. Niu Valley WWPS (FIGURE 6 and 7)

Interior Improvements:

- Replace existing pumps with horizontal dry-pit submersible pump
- Retrofit new pump with variable frequency drives.
- Upgrade level units with pressure transmitters and non-contact radar transmitter; Install wall pipe through wetwell wall for pressure transmitter connection.
- Replace sump pump, valves, and hosing.
- Replace Motor Control Center (MCC).
- Replace SCADA system with Programmable Logic Controller (PLC) and Human Machine Interface (HMI).
- Repair concrete walls and ceiling and apply protective lining.
- Inject moisture activated resin to seal cracks.
- Install “loss of flow” detectors for ventilation.

Exterior Improvements:

- Install additional ply sheets at ponding locations of the pump building roof. Install flashing at edge of roof.
- Remove and reapply single ply roofing on the generator building roof. Patch small spalls with modified concrete patch material.
- Upgrade to slide gate with above-ground operators.
- Install supply ventilation fan.

D. Paiko Drive WWPS (FIGURE 8)

Interior Improvements:

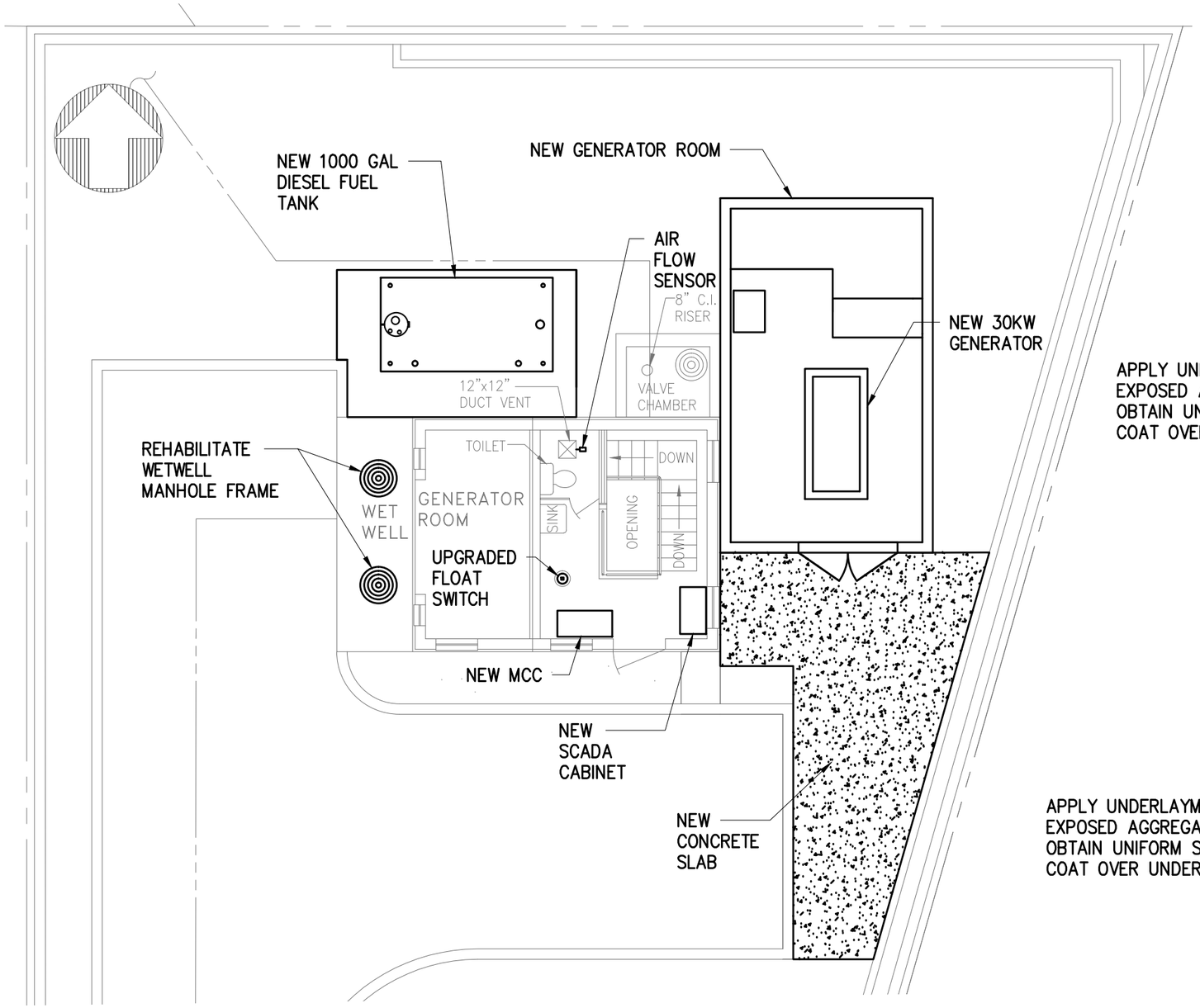
- Replace sewer pumps.
- Replace check valves.
- Install magnetic flow meter.
- Replace level units with pressure transmitter and non-contact radar level control system.
- Replace Motor Control Center (MCC).
- Replace SCADA system with Programmable Logic Controller (PLC) and Human Machine Interface (HMI).
- Repair concrete and reapply protective coating on wetwell walls.
- Repair damaged toilet plumbing.
- Install “loss of flow” detectors and alarms for ventilation.

Exterior Improvements:

- Replace existing exhaust fan and install supply ventilation fan.
- Replace sump pump piping. Core hole into wetwell for new discharge elevation.
- Remove existing generator and propane tank. Construct new generator room and install new generator with aboveground double-walled diesel tank. All piping excavations will be at approximate depths of 18 inches.

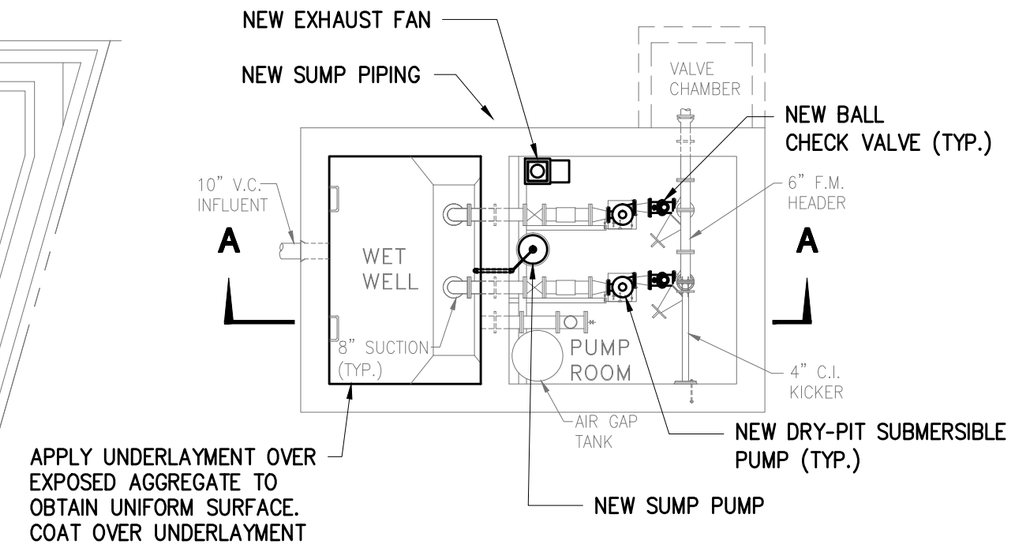
PAIKO DRIVE WWPS
PAIKO DRIVE
355 Paiko Drive
Honolulu, HI 96821
Ph. 847-6307

PAIKO DRIVE WWPS
New Generator
Room Footprint



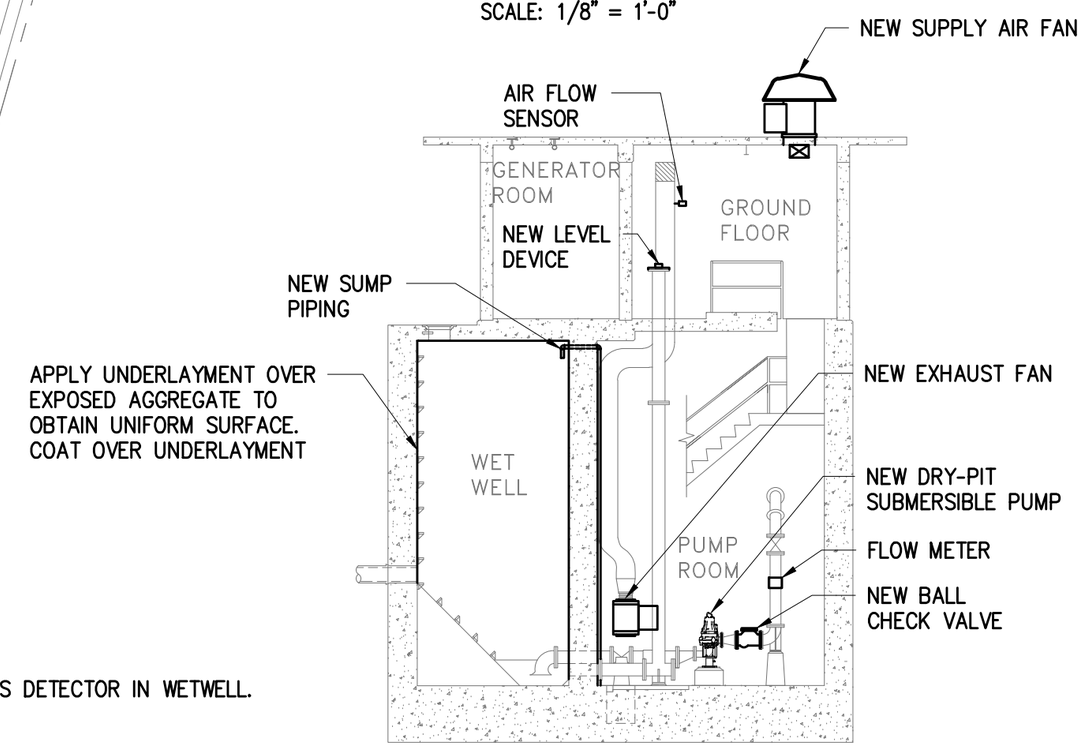
GROUND FLOOR PLAN

SCALE: 1/8" = 1'-0"



PUMP FLOOR PLAN

SCALE: 1/8" = 1'-0"



SECTION (A)

SCALE: 1/8" = 1'-0"

NOTE:

1. INSTALL COMBUSTIBLE GAS DETECTOR IN WETWELL.

8' 0' 8' 16'

SCALE: 1/8"=1'-0"

Community Planning and Engineering, Inc.

FIGURE 8

PAIKO DRIVE WASTEWATER PUMP STATION

From:	Hernan Co
To:	Max Solmssen
Subject:	FW: Honolulu Area WWPS: Historical Preservation Requirements
Date:	Thursday, May 25, 2017 2:24:44 PM
Attachments:	Honolulu Area WWPS Historical Preservation Requirements Memo.pdf

---

Max,

See email trail below and attached for the last correspondence we had with SHPD.

Hernan E. Co, P.E.
Civil Engineer
Community Planning and Engineering, Inc.
1286 Queen Emma St.
Honolulu, HI 96813
Phone: (808) 531-4252 ext. 1041
Fax: (808) 526-2476
HCo@cpe-hawaii.com

CONFIDENTIALITY: This communication, including attachments, is for the exclusive use of the addressee(s) and may contain proprietary, confidential or privileged information. If you are not the intended recipient, any use, copying, disclosure, or distribution or the taking of any action in reliance upon this information is strictly prohibited. If you are not the intended recipient, please notify the sender immediately, delete this communication and destroy all copies.

From: Hernan E. Co
Sent: Monday, September 26, 2016 1:56 PM
To: 'Lebo, Susan A' <susan.a.lebo@hawaii.gov>
Cc: 'Imada, Christine K' <cimada@honolulu.gov>; 'Derek K. Mukai' <DMukai@cpe-hawaii.com>
Subject: Honolulu Area WWPS: Historical Preservation Requirements

Hi Susan,

I just wanted to follow-up on my last email requesting your assistance in determining the historical preservation requirements. Do you have some time to meet and discuss the proposed improvements?

Thank you,

Hernan E. Co, P.E.
Civil Engineer
Community Planning and Engineering, Inc.
1286 Queen Emma St.
Honolulu, HI 96813
Phone: (808) 531-4252 ext. 1041
Fax: (808) 526-2476
HCo@cpe-hawaii.com

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From: Hernan E. Co
Sent: Tuesday, August 16, 2016 4:41 PM
To: 'Lebo, Susan A' <susan.a.lebo@hawaii.gov>
Cc: 'Imada, Christine K' <cimada@honolulu.gov>; Derek K. Mukai <DMukai@cpe-hawaii.com>; Ryan Valerio <rvalerio@cpe-hawaii.com>
Subject: Honolulu Area WWPS: Historical Preservation Requirements

Hi Susan,

As discussed in our meeting on July 29, 2016, we are requesting your assistance in determining the historical preservation requirements for various improvements to four City and County of Honolulu wastewater pump stations (WWPS): Kuliouou WWPS, Moana Park WWPS, Paiko Drive WWPS and Niu Valley WWPS. The address and TMKs for the four pump stations are:

Kuliouou WWPS – 6174 May Way, Honolulu, Hawaii (TMK 3-8-004:079)
Moana Park WWPS – 1501 Ala Moana Boulevard, Honolulu, Hawaii (TMK 2-3-037:010)
Paiko Drive WWPS – 265 Paiko Drive, Honolulu, Hawaii (TMK 3-8-001:034)
Niu Valley WWPS – 5714 Kalanianaole Highway, Honolulu, Hawaii (TMK 3-7-010:052)

Please see the attached memorandum for details of the subject project. If you have any questions, please feel free to contact us.

Thank you,

Hernan E. Co, P.E.
Civil Engineer
Community Planning and Engineering, Inc.
1286 Queen Emma St.
Honolulu, HI 96813
Phone: (808) 531-4252 ext. 1041
Fax: (808) 526-2476
HCo@cpe-hawaii.com

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Environet, Inc.

July 7, 2017

Ka‘ahi Solis
Cultural Historian, State Historic Preservation District
Department of Land and Natural Resources
601 Kamokila Boulelvard, Suite 555
Kapolei, Hawaii 96707

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-010:034

Dear Ms. Solis:

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground storage tank (AST) emergency backup generator. A new structural housing is proposed for the new AST (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated to disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation to determine if any historic or culturally significant resources exist at or within close proximity to the subject parcel. Attached is a letter and email communication that was sent to your agency previously by the project engineer for your reference.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email addresses by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

From:	Solis, Sheleigh
To:	Max Solmssen
Subject:	SHPD Kaahiki Solis Response to Letter July 6th, 2017
Date:	Thursday, July 13, 2017 2:28:22 PM
Attachments:	CIA OQC Guidelines.docx NHO List for Wailupe and Maunalua.docx Resources for Land Research (Autosaved).docx Cultural Impact Assessment Checklist.docx

---

Aloha e Max,

I am responding to your letter. I suppose the EA will trigger the need for a Cultural Impact Assessment. I will enclose information to make it easier for you to complete this document. Presently the OEQC offers guidelines for CIAs. I will include a check list for you on the guidelines. Please keep in mind this notion when drafting the Cultural Impact Assessment portion of the Environmental Assessment:

Whether cultural practices existed in the area, and is that continuing? Will the project affect that practice now and in the future? In order to best answer this question the CIA should contain evidence of the efforts to find people who participated in the practices and the results of that interview. This is the type of discussion being sought out of the CIA.

I have also included a list of Native Hawaiian Organizations located near the project area for possible consultation. Short cuts in land research and the checklist for CIAs. When I review a CIA I keep the check list in front of me.

If I may be of further assistance or you would like to meet with me to discuss this project you may contact me at:

Sheleigh.Solis@hawaii.gov

Aloha aina,

Kaahiki

S.C. Kaahiki Solis
Cultural Historian
Department of Land and Natural Resources
SHPD
Office 808-692-8030
Mobile 808-462-2214

From:	Max Solmssen
To:	Solis, Sheleigh
Subject:	RE: Request for Consultation
Date:	Thursday, October 12, 2017 1:37:00 PM
Attachments:	image001.png

Thanks so much for the guidance and resources Kaahiki!

From: Solis, Sheleigh [mailto:Sheleigh.Solis@hawaii.gov]
Sent: Thursday, October 12, 2017 1:30 PM
To: Max Solmssen <MSolmssen@environetinc.com>
Subject: RE: Request for Consultation

Aloha e Max,

I am responding to your last email about CIAs. I have enclosed a check list for CIAs per the OEQC Guidelines. Our office may offer comment on the review of Cultural Impact Assessment but there is no law or rules that state we must review, we only offer comment. The checklist---per the OEQC Guidelines is a short list of what is required for CIA's. Below is more information pertaining to the level of research for the historical portion of the document.

I also enclosed the methodology break down for the document and a repositories list is always helpful so there you have it. I also placed a small packet of information on Native Hawaiian Consultation and the Federal NHO List. If I can I will try to send you a list of people to talk with. However, I suggest you start with Hawaiian organizations like canoe clubs, Halaus, Center for Hawaiian Studies at any of the ten UH campus's. From there you will meet more people. Please check the Center for Oral History at UH Manoa and see what they have to offer by way of completed interviews and other folks you may also contact to interview for you document.

History & Culture

History and Culture Branch of the State Historic Preservation Division of the Board of Land and Natural Resources-State of Hawai'i seeks to facilitate a common understanding of environmental, cultural and historic preservation issues among government and non-government stakeholders.

1. **Consultation with Native Hawaiian Organizations**-Federal and State Statutes require Federal and State Agencies to consult with Native Hawaiian Organizations. It is important to maximize consultation opportunities. Native Hawaiian Organizations as defined is any organization which serves and represents the interests of Native Hawaiians; as a primary and state purpose the provision of services to Native Hawaiians; and has demonstrated expertise in aspects of historic preservation that are significant to Native Hawaiians. The term includes but is not limited to, the Office of Hawaiian Affairs of the State of Hawai'i and Hui Malama I Na Iwi Kupuna o Hawai'i Nei, an organization incorporated under the laws of the State of Hawai'i. 16 U.S.C. Section 470w(18).

Consultation requires more than simply notifying Native Hawaiian Organizations (NHOs) about a planned undertaking. History and Culture views consultation as a process of communication that may include; written correspondence, meetings, telephone conferences, site visits and emails. We

suggest that agencies approach consultation with flexibility and in a spirit of cooperation. Carrying out the process of consultation in good faith can lead to less adversarial relationships and better historic preservation outcomes. Native Hawaiians believe in the Kuleana (Responsibility) of all parties involved to protect historic properties.

Consultation with NHOs should begin early in the planning process in order to identify and discuss relevant preservation issues and plan how to address concerns about confidentiality of information obtained during the consultation process.

NHOs that attach religious and cultural significance to historic properties that may be affected by undertakings must be consulted. The consultation process must provide the NHO a reasonable opportunity to identify concerns about historic properties; advise on the identification and evaluation of historic properties, including those of religious and cultural significance, articulate views on the undertaking's effects on such properties and participate in resolution of adverse effects.

SHPO and Office of Hawaiian Affairs may help in the identification of NHOs with whom they have consulted with in the past. Other sources for such information may include ethnographies, local histories, experts at local universities, oral accounts, it may also be helpful to publish the in local newspapers about the initiative.

2. **Documents-In preparation of all submittals to SHPD** the History and Culture Branch would like to see the following information:

- **History and Settlement Patterns** of the land going back as far as possible including; Oral Histories, Hawaiian Language Newspaper information, Hawaiian Scholarship documenting "Pre-History" using **CURRENT** Hawaiian Knowledge scholarship and research. (HEN Collection Bishop Museum Online, Ulukau.org).
- **Hawaiian Kingdom 1840-1893**

  Privy Council Reports, Kalaniana‘ole Collection in State Archives.
  Hawaiian Kingdom Supreme Court Documents
  Journals of Chiefs-Kamehameha V, Bernice Pauahi Bishop, King David Kalakaua, Queen Regent Emma Kaleleonalani, Queen Lydia Kamaka‘eha Lili‘uokalani Dominis. (Bishop Museum Archives, Hawai‘i State Archives).
  Foreign Ship Journals and Log Books (Hawai‘i State Archives).
  Library of Congress Hawaiian Kingdom Documents (Internet Archive-The Way Back Machine).
  Correspondence Foreign and Native Letters of Chiefs. (Bishop Museum Archives).
  Missionaries and Natives traveling abroad. (Bishop Museum & Hawai‘i State Archives).
  Estate Documents of Chiefs example: Estate Document of Kamehameha IV(Hawai‘i State Archives).
  Ships Manifest (Hawai‘i State Archives).
  The Constitution and Bylaws of the Hale Naua or Temple of Science (Hawai‘i State Archives).
  Dole Collection (Hawai‘i State Archives).
  Land Court Registration and Conveyancing in Hawai‘i Published Under the Supervision of the Land Court (UH Manoa Hamilton Library 1935).
  Sugar in Hawai‘i Hawai‘i Sugar Planters Association Records (UH Manoa Hamilton Library), Hawai‘i Agricultural Research Center (http://www.harc-hspa.com/contact.html).
  USGS Maps of the Hawaiian Kingdom (DAGS Land Survey Division Maps

http://ags.hawaii.gov/survey/map-search/).http://ags.hawaii.gov/survey/map-search/

- **Mahele of 1848**
  Mahele Awards, Land Commission Awards, Native Testimony, Foreign Testimony, Boundary Commission Reports, Kuleana Awards, Land Surveys, Royal Patents. (Hawai'i State Archives).
- **Overthrow 1893**
  Hawai'is Story By Hawai'is Queen-Lili'uokalani, www.HawaiianKingdom.org for legal analysis
- **Annexation 1898**
  Dole Collection 1900-1914 (HSA), Session Laws 1896 Act 57, section 30 (HSA), James H. Blount Report-*Report on Affairs in Hawai'i* 53rd Congress First Session http://libweb.hawaii.edu/digicoll/annexation/blount.html.
- **Territorial Period 1898-1958**
  United States Military Occupation January 1, 1947. (http://www.history.army.mil/search/index.html).
- **Statehood 1959-Present**

Mahalo nui loa,

Kaahiki Solis

From: Max Solmssen [mailto:MSolmssen@environetinc.com]
Sent: Thursday, October 12, 2017 12:45 PM
To: Smith, Helen W <helen.w.smith@hawaii.gov>; Solis, Sheleigh <Sheleigh.Solis@hawaii.gov>; Hoomanawanui, Kauanoe M <kauanoe.m.hoomanawanui@hawaii.gov>
Subject: RE: Request for Consultation

Aloha Helen,

Thank you for your message. I don't know if our CIA consultant has contacted the Kaua'i Historical Society. I just sent them a message forwarding on your message about the resources available there.

Thanks so much!

Max Solmssen

SR. PROJECT MANAGER T/ 808.833.2225 EXT.1012 C/ 808.341.3546 F/ 808.833.2231 E/ MSOLMSSEN@ENVIRONETINC.COM
ENVIRONET, INC. 1286 QUEEN EMMA STREET, HONOLULU, HAWAII 96813

From: Smith, Helen W [mailto:helen.w.smith@hawaii.gov]
Sent: Thursday, October 12, 2017 11:43 AM
To: Max Solmssen <MSolmssen@environetinc.com>; Solis, Sheleigh <Sheleigh.Solis@hawaii.gov>; Hoomanawanui, Kauanoe M <kauanoe.m.hoomanawanui@hawaii.gov>
Subject: RE: Request for Consultation

Aloha Max,

Have the folks preparing the CIA contacted the Kaua'i Historical Society for resources? Research services are available to members and the collections can be searched via the archives and library. KHS doesn't normally conduct the in-depth research to comment on pre-consultation letters.

Mahalo piha, hws

Helen Wong Smith, MLIS, CA, FSAA
Librarian/Archivist
State Historic Preservation Divison
601 Kamokila Blvd, Ste 555
Kapolei, HI 96707

From: Max Solmssen [mailto:MSolmssen@environetinc.com]
Sent: Thursday, October 12, 2017 11:11 AM
To: Solis, Sheleigh <Sheleigh.Solis@hawaii.gov>; Hoomanawanui, Kauanoe M <kauanoe.m.hoomanawanui@hawaii.gov>
Cc: Smith, Helen W <helen.w.smith@hawaii.gov>
Subject: RE: Request for Consultation

Mahalo Kaahiki and Kauanoe for your quick responses and guidance. We will send you both pre-consultation letters for the planned affordable housing development EA since we would like to consult the Kauai/Niihau Burial Counsel as well. We will also send a letter to Helen for her input. A CIA and AIS are currently underway and will be included in the Draft EA that we will send to your agency for review/comment.

Thanks so much!

Max

From: Solis, Sheleigh [mailto:Sheleigh.Solis@hawaii.gov]
Sent: Thursday, October 12, 2017 11:03 AM
To: Hoomanawanui, Kauanoe M <kauanoe.m.hoomanawanui@hawaii.gov>; Max Solmssen <MSolmssen@environetinc.com>
Cc: Smith, Helen W <helen.w.smith@hawaii.gov>
Subject: RE: Request for Consultation

Aloha kakou,

Mahalo nui loa for the email. I would be happy to offer you information on CIAs. I think you should also consult with our new Librarian Helen Wong Smith she worked at Kaua'i Historical Society and I am sure she would be a great resource for you. We are very fortunate to have her on board and working with us here at SHPD. I will CC Helen on this email too. I am not sure how much time she has because she has taken on a huge task with our library digitization along with getting ma'a (used to) to a new work environment.

Mahalo nui loa,

Kaahiki Solis

From: Hoomanawanui, Kauanoe M
Sent: Thursday, October 12, 2017 10:56 AM
To: Max Solmssen <MSolmssen@environetinc.com>; Solis, Sheleigh <Sheleigh.Solis@hawaii.gov>
Subject: Re: Request for Consultation

Mahalo Max,

During the EA process our Cultural Historian for Kauai, Kaahiki Solis handles the consultation. She is CC'd on this email.

If you would like consultation with Kauai Niihau Island Burial Council or if burial matters come up, please don't hesitate in contacting me.

Mahalo Kaahiki,

Kauanoe M Hoomanawanui
Burial Sites Specialist
History & Culture Branch
Historic Preservation Division
Department of Land & Natural Resources
P.O. Box 1729
Lihue, HI 96766
cell: (808) 896-0475
email:Kauanoe.m.hoomanawanui@hawaii.gov
"I ulu no ka lala I ke kumu"

On Oct 12, 2017, at 10:27 AM, Max Solmssen <MSolmssen@environetinc.com> wrote:

> Aloha Kauanoe,
>
> We are working for the County of Kaua'i Housing Agency to complete and Environmental Assessment for a planned affordable housing project in Lihu'e. We are planning to send pre-consultation letters to your Agencies' Archaeology and History & Culture Branches. Are you the best recipient for the History & Cultural Branch? If not could you please advise who would be the best person to send the pre-consultation letter to on behalf of the County Housing Agency.
>
> Thanks so much!
>
> Max Solmssen<image001.png>
> SR. PROJECT MANAGER T/ 808.833.2225 EXT.1012 C/ 808.341.3546 F/ 808.833.2231 E/ MSOLMSSEN@ENVIRONETINC.COM

ENVIRONET, INC. 1286 QUEEN EMMA STREET, HONOLULU, HAWAII 96813

www.environetinc.com
HUBZone & SBA Certified Small Business / Native Hawaiian and Veteran-Owned
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Community Planning and Engineering, Inc.

MEMORANDUM

Date: **August 10, 2016**

Subject: **Historical Preservation Requirements for the Honolulu Area Wastewater Facilities Improvements Project (Contract No. SC-DDC-1400094)**

TO: **Susan Lebo, Department of Land and Natural Resources, State Historic Preservation Division**

FROM: **Hernan Co, P.E.**

As discussed at our July 29, 2016 meeting, we would like to ask for your assistance in determining the historical preservation requirements for the subject project.

Introduction

Community Planning and Engineering, Inc. was tasked by the City and County of Honolulu (CCH), Department of Design and Construction (DDC) to evaluate four wastewater pump stations (WWPS) in the Honolulu region (See Figures 1 and 2): Kuliouou WWPS, Moana Park WWPS, Niu Valley WWPS and Paiko Drive WWPS. A facility assessment was conducted to determine alternatives of corrective actions to be recommended to CCH.

Proposed Improvements

Various upgrades and modifications to the pump station buildings will be performed. The following is a summary of the proposed improvements separated by interior and exterior work:

A. Kuliouou WWPS (FIGURE 3 and 4)

Interior Improvements:

- Replace existing sewage pumps with horizontal dry-pit submersible pump
- Retrofit new sewage pump with variable frequency drives.
- Replace check valves.
- Upgrade level units with pressure transmitters and non-contact radar transmitter; Install wall pipe through wetwell wall for pressure transmitter connection.
- Replace Motor Control Center (MCC).
- Relocate telephone to provide minimum 36” clearance.

1286 Queen Emma Street I Honolulu, Hawaii 96813 I Tel: (808) 521-7491 I Fax: (808) 526-2476 I Email: mail@cpe-hawaii.com

- Relocate panel board, circuit breaker and battery charger.
- Install appropriate conduit fitting and new ground termination kit.
- Repair concrete walls and ceiling and apply protective lining.
- Install “loss of flow” detectors for ventilation.
- Replace broken controllers.

Exterior Improvements:

- Replace with 4-ply built up roof system.
- Install copper flashing, waterproofing, tapered rigid insulation and new drain.
- Upgrade to slide gate with hand crank operators.
- Replace sump pump, valves, and hosing. Raise elevation of sump piping.

B. Moana Park WWPS (FIGURE 5)

Interior Improvements:

- Replace internal components
- Replace check valves.
- Clean/Restore existing slide gates.
- Install grating at trench drains.
- Clean reinforcing steel and patch concrete in pump room floor.
- Install “loss of flow” detectors for ventilation.

Exterior Improvements:

- Install supply ventilation fan.
- Replace corroded plumbing piping: waste and ventilation piping.
- Reroute sump piping to provide higher discharge elevation.

C. Niu Valley WWPS (FIGURE 6 and 7)

Interior Improvements:

- Replace existing pumps with horizontal dry-pit submersible pump
- Retrofit new pump with variable frequency drives.
- Upgrade level units with pressure transmitters and non-contact radar transmitter; Install wall pipe through wetwell wall for pressure transmitter connection.
- Replace sump pump, valves, and hosing.
- Replace Motor Control Center (MCC).
- Replace SCADA system with Programmable Logic Controller (PLC) and Human Machine Interface (HMI).
- Repair concrete walls and ceiling and apply protective lining.
- Inject moisture activated resin to seal cracks.
- Install “loss of flow” detectors for ventilation.

Exterior Improvements:

- Install additional ply sheets at ponding locations of the pump building roof. Install flashing at edge of roof.
- Remove and reapply single ply roofing on the generator building roof. Patch small spalls with modified concrete patch material.
- Upgrade to slide gate with above-ground operators.
- Install supply ventilation fan.

D. Paiko Drive WWPS (FIGURE 8)

Interior Improvements:

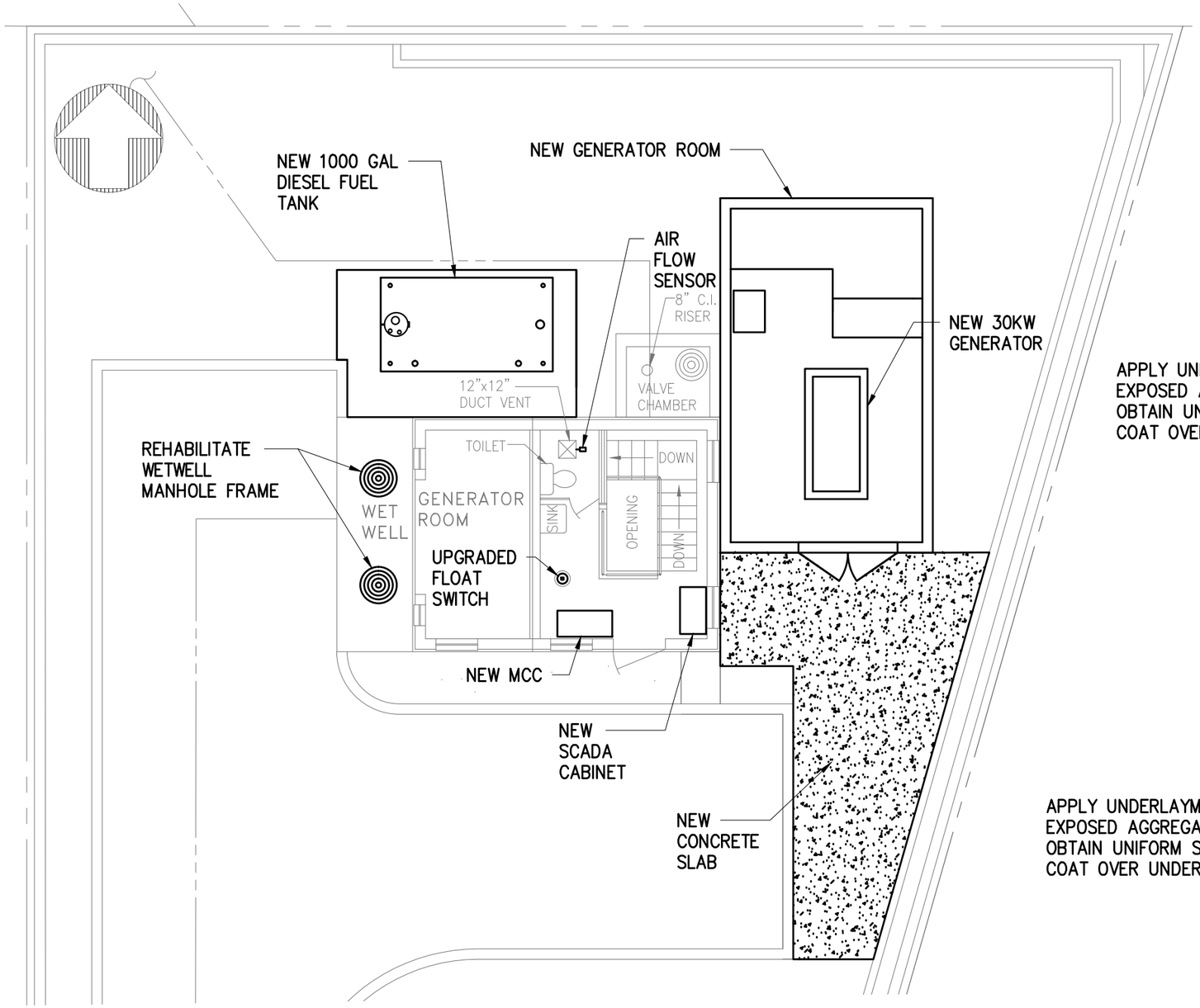
- Replace sewer pumps.
- Replace check valves.
- Install magnetic flow meter.
- Replace level units with pressure transmitter and non-contact radar level control system.
- Replace Motor Control Center (MCC).
- Replace SCADA system with Programmable Logic Controller (PLC) and Human Machine Interface (HMI).
- Repair concrete and reapply protective coating on wetwell walls.
- Repair damaged toilet plumbing.
- Install “loss of flow” detectors and alarms for ventilation.

Exterior Improvements:

- Replace existing exhaust fan and install supply ventilation fan.
- Replace sump pump piping. Core hole into wetwell for new discharge elevation.
- Remove existing generator and propane tank. Construct new generator room and install new generator with aboveground double-walled diesel tank. All piping excavations will be at approximate depths of 18 inches.

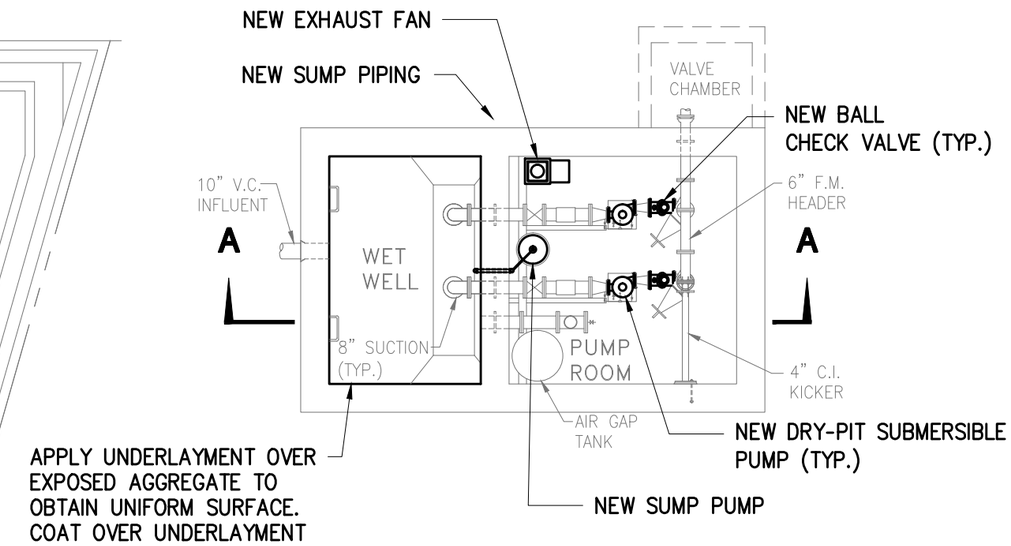
PAIKO DRIVE WWPS
PAIKO DRIVE
355 Paiko Drive
Honolulu, HI 96821
Ph. 847-6307

PAIKO DRIVE WWPS
New Generator
Room Footprint



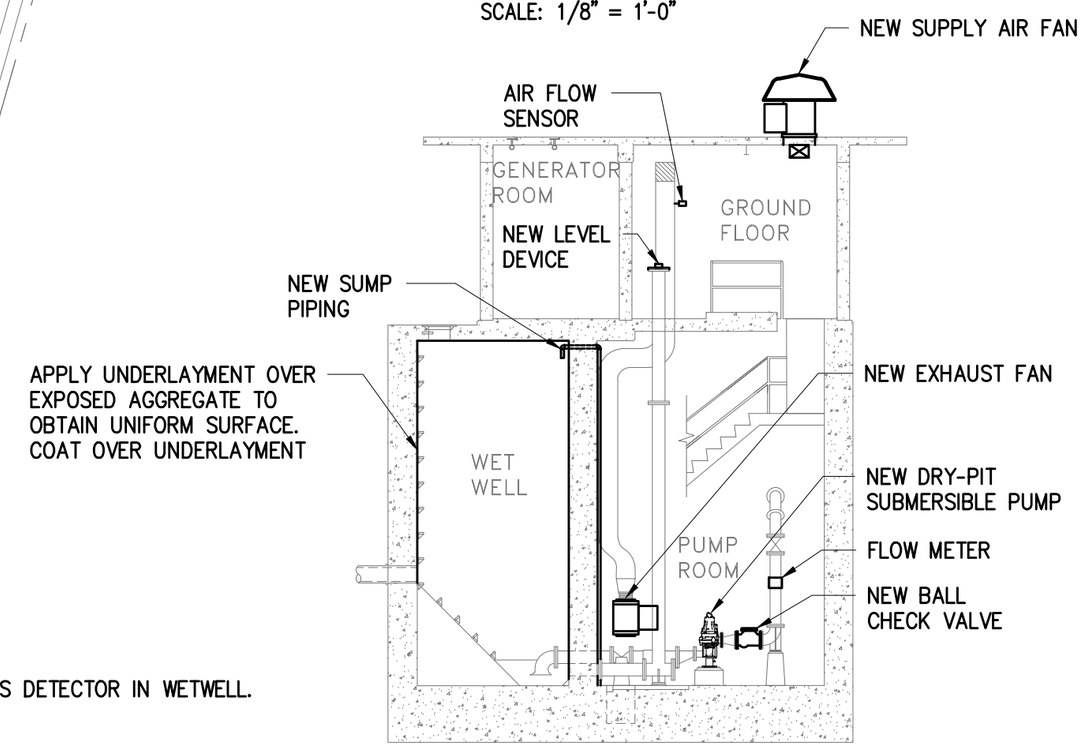
GROUND FLOOR PLAN

SCALE: 1/8" = 1'-0"



PUMP FLOOR PLAN

SCALE: 1/8" = 1'-0"



SECTION (A)

SCALE: 1/8" = 1'-0"

NOTE:

1. INSTALL COMBUSTIBLE GAS DETECTOR IN WETWELL.

8' 0' 8' 16'

SCALE: 1/8"=1'-0"

Community Planning and Engineering, Inc.

FIGURE 8

PAIKO DRIVE WASTEWATER PUMP STATION

From:	Hernan Co
To:	Max Solmssen
Subject:	FW: Honolulu Area WWPS: Historical Preservation Requirements
Date:	Thursday, May 25, 2017 2:24:44 PM
Attachments:	Honolulu Area WWPS Historical Preservation Requirements Memo.pdf

---

Max,

See email trail below and attached for the last correspondence we had with SHPD.

Hernan E. Co, P.E.
Civil Engineer
Community Planning and Engineering, Inc.
1286 Queen Emma St.
Honolulu, HI 96813
Phone: (808) 531-4252 ext. 1041
Fax: (808) 526-2476
HCo@cpe-hawaii.com

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From: Hernan E. Co
Sent: Monday, September 26, 2016 1:56 PM
To: 'Lebo, Susan A' <susan.a.lebo@hawaii.gov>
Cc: 'Imada, Christine K' <cimada@honolulu.gov>; 'Derek K. Mukai' <DMukai@cpe-hawaii.com>
Subject: Honolulu Area WWPS: Historical Preservation Requirements

Hi Susan,

I just wanted to follow-up on my last email requesting your assistance in determining the historical preservation requirements. Do you have some time to meet and discuss the proposed improvements?

Thank you,

Hernan E. Co, P.E.
Civil Engineer
Community Planning and Engineering, Inc.
1286 Queen Emma St.
Honolulu, HI 96813
Phone: (808) 531-4252 ext. 1041
Fax: (808) 526-2476
HCo@cpe-hawaii.com

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From: Hernan E. Co
Sent: Tuesday, August 16, 2016 4:41 PM
To: 'Lebo, Susan A' <susan.a.lebo@hawaii.gov>
Cc: 'Imada, Christine K' <cimada@honolulu.gov>; Derek K. Mukai <DMukai@cpe-hawaii.com>; Ryan Valerio <rvalerio@cpe-hawaii.com>
Subject: Honolulu Area WWPS: Historical Preservation Requirements

Hi Susan,

As discussed in our meeting on July 29, 2016, we are requesting your assistance in determining the historical preservation requirements for various improvements to four City and County of Honolulu wastewater pump stations (WWPS): Kuliouou WWPS, Moana Park WWPS, Paiko Drive WWPS and Niu Valley WWPS. The address and TMKs for the four pump stations are:

Kuliouou WWPS – 6174 May Way, Honolulu, Hawaii (TMK 3-8-004:079)
Moana Park WWPS – 1501 Ala Moana Boulevard, Honolulu, Hawaii (TMK 2-3-037:010)
Paiko Drive WWPS – 265 Paiko Drive, Honolulu, Hawaii (TMK 3-8-001:034)
Niu Valley WWPS – 5714 Kalanianaole Highway, Honolulu, Hawaii (TMK 3-7-010:052)

Please see the attached memorandum for details of the subject project. If you have any questions, please feel free to contact us.

Thank you,

Hernan E. Co, P.E.
Civil Engineer
Community Planning and Engineering, Inc.
1286 Queen Emma St.
Honolulu, HI 96813
Phone: (808) 531-4252 ext. 1041
Fax: (808) 526-2476
HCo@cpe-hawaii.com

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Environet, Inc.

July 7, 2017

Aaron Nadig
United States Department of the Interior
Fish and Wildlife Service-Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawaii 96850

Subject: Pre-consultation for the City and County of Honolulu Paiko Waste Water Pump Station Facilities Improvements 265 Paiko Drive Honolulu, Hawaii 96821 Tax Map Key (TMK) (1) 3-8-010:034

Dear Mr. Nadig:

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV), is in the process of preparing an Environmental Assessment (EA) in accordance with Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS) located at 265 Paiko Drive, Honolulu, Hawaii (the Site) (please see the enclosed Location Map). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control (OEQC) Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. Proposed upgrades include replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank (AST), and emergency backup generator. A new structural housing is proposed for the new emergency backup generator (see enclosed Site Plan for more details). Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The Site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The Site is bordered by developed residential parcels to the north, east and west and is bordered by Paiko Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the Site. As part of the environmental review process, we are seeking early consultation with your agency to determine if any protected or special status species are known to be present at or within the vicinity of the project area, and if any mitigation measures would be necessary.

1286 Queen Emma Street, Honolulu, HI 96813
Phone (808) 833-2225 / Fax (808) 833-2231

Environet, Inc.

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. Please send your written comments to the following physical or email address by August 9, 2017:

Environet
c/o Max Solmssen
1286 Queen Emma Street
Honolulu, HI 96813

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

We appreciate your timely review and response to this request.

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawai'i 96850

In Reply Refer To:
01EPIF00-2017-TA-0340

AUG 07 2017

Mr. Max Solmssen
Environet
1286 Queen Emma Street
Honolulu, Hawai'i 96813

Subject: Technical Assistance for the Proposed Paikō Waste Water Pump Station Facilities Improvements Project, O'ahu

Dear Mr. Solmssen:

The U.S. Fish and Wildlife Service received your letter on July 10, 2017, requesting our comments on the City and County of Honolulu Department of Environmental Services' (ENV) proposed Paikō waste water pump station facilities improvements project, located at 265 Paikō Drive, Honolulu, on the island of O'ahu. We understand the ENV is in the process of preparing an Environmental Assessment (EA) for the proposed repairs to the City and County of Honolulu waste water pump station (WWPS). The EA is being prepared in order to evaluate the potential environmental, social, and economic consequences associated with the proposed project. The draft and final EA documents will be available for public review in the State Office of Environmental Quality Control Environmental Notice.

The proposed project includes repairs and upgrades to the existing facility. These upgrades includes replacement of the existing operation pumps and associated system controls, electrical upgrades, structural improvements and replacement of the existing above-ground fuel storage tank, and emergency backup generator. A new structural housing is proposed for the new emergency backup generator. Construction is anticipated to begin in late 2019 and take approximately 18 months to complete.

The project site includes an approximately 5,000 square foot parcel of land together with the existing improvements that include the WWPS. The site is bordered by developed residential parcels to the north, east and west and is bordered by Paikō Drive to the south. Limited site work is anticipated that would disturb the top two feet of ground surface at the site.

Our response is in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (ESA) and the Migratory Bird Treaty Act [16 U.S.C. 703 *et seq.*], as amended (MBTA). We have reviewed the information you provided and pertinent information in our files, including data compiled by the Hawai'i Biodiversity and Mapping Program as it

pertains to listed species and designated critical habitat. Our data indicate that the endangered Hawaiian petrel (*Pterodroma sandwichensis*); endangered band-rumped storm-petrel (*Oceanodroma castro*); threatened Newell's shearwater (*Puffinus auricularis newelli*); two species protected under the MBTA: the wedge-tailed shearwater (*Ardenna pacifica*) and the white tern (*Gygis alba*); and endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*); may be affected by components of your proposed project. We offer you the following comments to assist with development of the EA for your proposed project.

Hawaiian petrel, band-rumped storm-petrel, Newell's shearwater, and wedge-tailed shearwater
The Hawaiian petrel, band-rumped storm-petrel, Newell's shearwater, and wedge-tailed shearwater may traverse the project area at night during the breeding season (March 1 to December 15). Outdoor lighting could result in disorientation, fallout, and injury or mortality to the species listed above. The Hawaiian petrel, band-rumped storm-petrel, Newell's shearwater, and wedge-tailed shearwater are attracted to lights and after circling the lights they may become exhausted and collide with nearby wires, buildings, or other structures or they may land on the ground. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators. Young birds (fledglings) traversing the project area between September 15 and December 15, in their first flights from their nests, are particularly vulnerable.

To minimize potential project impacts to the Hawaiian petrel, band-rumped storm-petrel, Newell's shearwater, and wedge-tailed shearwater:

- All outdoor lights should be fully shielded so the bulb can only be seen from below bulb height and only used when necessary.
- Automatic motion sensor switches and controls should be installed on all outdoor lights or lights should be turned off when human activity is not occurring in the lighted area.
- Nighttime construction should be avoided during the fledging period, September 15 through December 15.

White tern
White terns often nest in urban parks and residential areas from Hawai'i Kai to Hickam Air Force Base on the island of O'ahu. White terns breed during all months of the year, but the busiest breeding season is January through June, with a major peak in March. White terns do not build nests, instead they lay a single egg directly on a ledge, tree branch, or other suitable location. The egg will hatch after approximately 35 days, after which it takes 45 days for the chick to be mature enough to leave the nest on its own. Signs that white fairy terns are present include accumulation of white feathers or white droppings underneath the tree. If tree trimming is a part of your project, branches that host a nest may be lost. A chick that falls from its nest to the ground will likely die because either the parents won't be able to care for it or it may be attacked by a predator.

To minimize potential project impacts to the white tern:

- If tree trimming is part of your project, inspect the canopy prior to any trimming for manu-o-Kū, inspect the ground for entirely white droppings (looks like white paint splatter) or white feathers and listen for vocalizing terns.

- Should you see a bird, egg, or chick in the tree or signs that they may nest in that tree, trimming should be delayed.
- Wait 80-90 days from the time an egg is laid or discovered or 35-45 days from the time an egg hatched/chick is discovered before rechecking the tree.

Hawaiian hoary bat

The Hawaiian hoary bat roosts in both exotic and native woody vegetation across all islands and will leave young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller are cleared during the pupping season, there is a risk that young bats could inadvertently be harmed or killed. Additionally, Hawaiian hoary bats forage for insects from as low as three feet to higher than 500 feet above the ground and can become entangled in barbed wire used for fencing.

To minimize impacts to the endangered Hawaiian hoary bat:

- Woody plants greater than 15 feet tall should not be disturbed, removed, or trimmed during the bat birthing and pup rearing season (June 1 through September 15).
- Barbed wire should not be used for fencing.

If it is determined that the proposed project may affect federally listed species, we recommend you contact our office early in the planning process so that we may assist you with ESA compliance. We appreciate your efforts to conserve Hawai'i's endangered species. If you have questions regarding these comments, please contact Jiny Kim, Fish and Wildlife Biologist (phone: 808-792-9400, email: Jiny_Kim@fws.gov). Please reference 01EPIF00-2017- TA-0340 when responding to this letter.

Sincerely,

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

Environet, Inc.

October 6, 2017

Aaron Nadig
United States Department of the Interior
Fish and Wildlife Service-Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawaii 96850

Subject: Pre-consultation for the City and County of Honolulu
Paiko Waste Water Pump Station Facilities Improvements
265 Paiko Drive Honolulu, Hawaii 96821
Tax Map Key (TMK) (1) 3-8-001:034

Dear Mr. Nadig:

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services (ENV) received your letter dated August 7, 2017 in response to pre-consultation as part of the environmental review process under Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 for the proposed facility improvements. Below are responses to your comments.

Summary of Comments: *Several endangered waterbird species, as well as the Hawaiian hoary bat may be affected by components of the proposed project. Mitigation measures to avoid or minimize impacts to these protected species are provided.*

Response: A biological survey by a qualified biologist will be initiated at the project site prior to disturbance in order to determine if habitat for protected species may be present. The findings of the biological survey, as well as all mitigation measures provided by your agency will be included in the draft and final environmental assessment.

Please feel free to contact us should you have any additional comments on the proposed project.

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

Sincerely,

Max Solmssen
Project Manager
Environet, Inc.

Appendix A-2: Draft Environmental Assessment Consultation Letters and Responses

This page is intentionally left blank.

DAVID Y. IGE
GOVERNOR OF HAWAII

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

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

In reply, please refer to:
File:

EPO 18-110

April 17, 2018

Mr. Max Solmssen
Environet, Inc.
1286 Queen Emma Street
Honolulu, Hawaii 96813
Email: msolmssen@environetinc.com

Dear Mr. Solmssen:

SUBJECT: Draft Environmental Assessment (DEA) for Honolulu Area Wastewater Pump Station Facilities Improvements, (Paiko Drive Wastewater Pump Station), Oahu
TMK: (1) 3-8-001: 034

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your DEA to our office via the OEQC link:
http://oeqc2.doh.hawaii.gov/EA_EIS_Library/2018-04-08-OA-DEA-Paiko-Drive-Wastewater-Pump-Station.pdf

We understand from the OEQC publication form project summary that *"The proposed project includes upgrades to the existing City and County of Honolulu's Paiko Wastewater Pump Station (WWPS) facility, located in east Honolulu on the Island of Oahu. The major upgrades proposed are located within the WWPS property and include the following: replacement of existing pumps and associated system controls, electrical system upgrades, rehabilitation of the wetwell, replacement of the emergency generator and associated fuel tank, and construction of a new generator room."*

Hawaii's environmental review laws require Environmental Assessments (EAs) and Environmental Impact Statements (EISs) to consider health in the discussion and the mitigation measures to reduce negative impacts. In its definition of 'impacts,' §11-200-2, Hawaii Administrative Rules (HAR) includes health effects, whether primary (direct), secondary (indirect), or cumulative. Further, §11-200-12(b)(5), HAR, lists public health as one of the criteria for determining whether an action may have a significant impact on the environment.

We advocate that you consider health from a broad perspective; one that accounts for the social, economic, and environmental determinants of health and wellbeing. Community well-being can be impacted by access to physical activity, health care, feelings of social connectedness and safety. Design solutions that take these factors into consideration positively contribute to the social determinants of health in a community, improving the well-being of those who live there by influencing health promoting behaviors. Social determinants contribute to preventable chronic diseases such as asthma, diabetes, obesity, and cardiovascular disease.

In the development and implementation of all projects, EPO strongly recommends regular review of State and Federal environmental health land use guidance. State standard comments to support sustainable healthy design are provided at: http://health.hawaii.gov/epo/landuse. Projects are required to adhere to all applicable standard comments.

EPO also encourages you to examine and utilize the Hawaii Environmental Health Portal at: https://eha-cloud.doh.hawaii.gov. This site provides links to our e-Permitting Portal, Environmental Health Warehouse,

Groundwater Contamination Viewer, Hawaii Emergency Response Exchange, Hawaii State and Local Emission Inventory System, Water Pollution Control Viewer, Water Quality Data, Warnings, Advisories and Postings.

Please note that all wastewater plans must conform to applicable provisions (HAR, Chapter 11-62, "Wastewater Systems"). We reserve the right to review the detailed wastewater plans for conformance to applicable rules. Should you have any questions, please review online guidance at: http://health.hawaii.gov/wastewater and contact the Planning and Design Section of the Wastewater Branch (WWB) at (808) 586-4294.

Any waste generated by the project (that is not a hazardous waste as defined in state hazardous waste laws and regulations), needs to be disposed of at a solid waste management facility that complies with the applicable provisions (HAR, Chapter 11-58.1 "Solid Waste Management Control"). The open burning of any of these wastes, on or off site, is strictly prohibited. You may wish you review the Minimizing Construction & Demolition Waste Management Guide at: http://health.hawaii.gov/shwb/files/2016/05/constdem16.pdf Additional information is accessible at: http://health.hawaii.gov/shwb. For specific questions call (808) 586-4226.

If noise created during the construction phase of the project may exceed the maximum allowable levels (HAR, Chapter 11-46, "Community Noise Control") then a noise permit may be required and needs to be obtained before the commencement of work. Relevant information is online at: http://health.hawaii.gov/irhb/noise EPO recommends you contact the Indoor and Radiological Health Branch (IRHB) at (808) 586-4700 with any specific questions.

To better protect public health and the environment, the U.S. Environmental Protection Agency (EPA) has developed an environmental justice (EJ) mapping and screening tool called EJSCREEN. It is based on nationally consistent data and combines environmental and demographic indicators in maps and reports. EPO encourages you to explore, launch and utilize this powerful tool in planning your project. The EPA EJSCREEN tool is available at: http://www.epa.gov/ejscreen.

We hope this information is helpful. If you have any questions please contact us at DOH.epo@doh.hawaii.gov or call us at (808) 586-4337. Thank you for the opportunity to comment.

Mahalo nui loa,

Laura Leialoha Phillips McIntyre, AICP
Environmental Planning Office

LM:nn

c: Christine Imada, C&C, Dept. of Environmental Services (via email: cimada@honolulu.gov)
DOH: WWB, IRHB {via email only}

Attachment: U.S. EPA EJSCREEN Report for Project Area

Attachment: U.S. EPA EJSCREEN Report for Project Area

EJSCREEN Report (Version 2017)

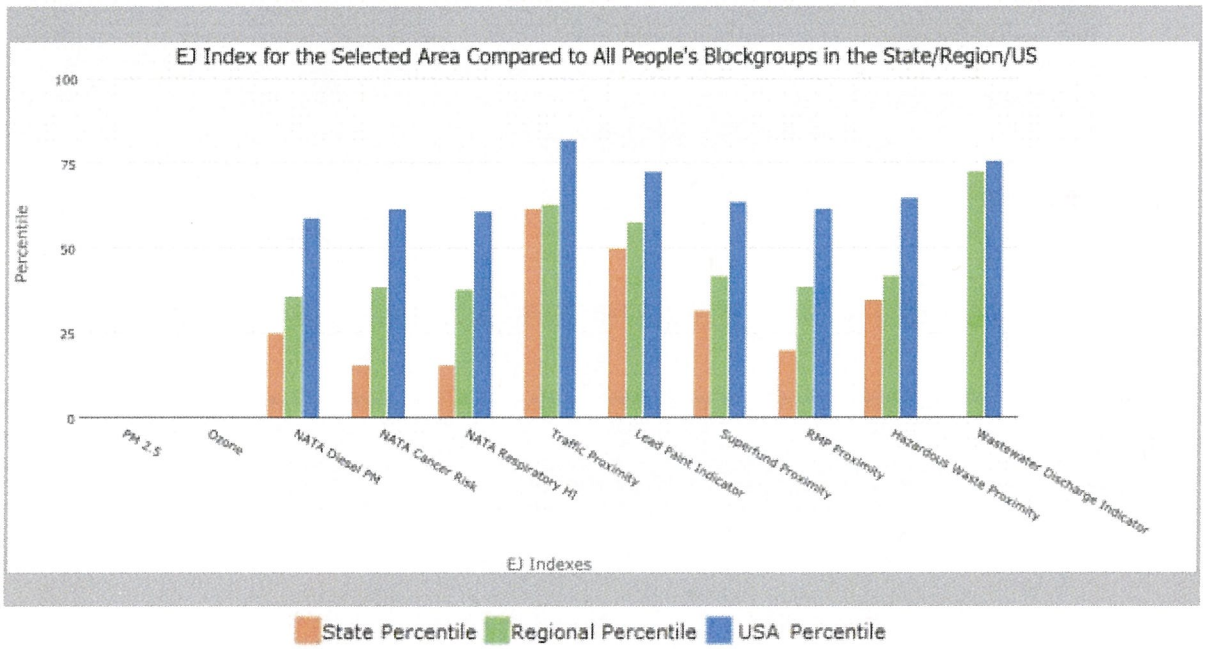
1 mile Ring Centered at 21.282353,-157.729646, HAWAII, EPA Region 9

Approximate Population: 4,309

Input Area (sq. miles): 3.14

(The study area contains 1 blockgroup(s) with zero population.)

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	N/A	N/A	N/A
EJ Index for Ozone	N/A	N/A	N/A
EJ Index for NATA* Diesel PM	25	36	59
EJ Index for NATA* Air Toxics Cancer Risk	16	39	62
EJ Index for NATA* Respiratory Hazard Index	16	38	61
EJ Index for Traffic Proximity and Volume	62	63	82
EJ Index for Lead Paint Indicator	50	58	73
EJ Index for Superfund Proximity	32	42	64
EJ Index for RMP Proximity	20	39	62
EJ Index for Hazardous Waste Proximity	35	42	65
EJ Index for Wastewater Discharge Indicator	N/A	73	76



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

EJSCREEN Report (Version 2017)

1 mile Ring Centered at 21.282353,-157.729646, HAWAII, EPA Region 9

Approximate Population: 4,309

Input Area (sq. miles): 3.14

(The study area contains 1 blockgroup(s) with zero population.)

April 17, 2018

Digitized Point

1:1,128

0 0.0075 0.015 0.03 mi

0 0.015 0.03 0.06 km

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Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

EJSCREEN Report (Version 2017)

1 mile Ring Centered at 21.282353,-157.729646, HAWAII, EPA Region 9

Approximate Population: 4,309

Input Area (sq. miles): 3.14

(The study area contains 1 blockgroup(s) with zero population.)

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in µg/m³)	N/A	N/A	N/A	9.9	N/A	9.14	N/A
Ozone (ppb)	N/A	N/A	N/A	41.8	N/A	38.4	N/A
NATA* Diesel PM (µg/m³)	0.072	0.149	43	0.978	<50th	0.938	<50th
NATA* Cancer Risk (lifetime risk per million)	30	34	39	43	<50th	40	<50th
NATA* Respiratory Hazard Index	0.77	1	39	2	<50th	1.8	<50th
Traffic Proximity and Volume (daily traffic count/distance to road)	1400	1000	82	1100	78	590	90
Lead Paint Indicator (% Pre-1960 Housing)	0.34	0.16	82	0.24	67	0.29	64
Superfund Proximity (site count/km distance)	0.035	0.1	32	0.15	24	0.13	31
RMP Proximity (facility count/km distance)	0.18	0.39	46	0.98	24	0.73	33
Hazardous Waste Proximity (facility count/km distance)	0.043	0.1	37	0.12	35	0.093	43
Wastewater Discharge Indicator (toxicity-weighted concentration/m distance)	0	0.04	N/A	13	59	30	40
Demographic Indicators							
Demographic Index	41%	51%	19	47%	43	36%	65
Minority Population	73%	77%	33	59%	62	38%	80
Low Income Population	10%	26%	15	36%	11	34%	11
Linguistically Isolated Population	1%	6%	27	9%	21	5%	48
Population With Less Than High School Education	3%	9%	22	17%	15	13%	17
Population Under 5 years of age	5%	6%	43	7%	41	6%	44
Population over 64 years of age	22%	16%	80	13%	87	14%	85

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: https://www.epa.gov/national-air-toxics-assessment.

For additional information, see: www.epa.gov/environmentaljustice

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

May 9, 2018

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

Subject: **Draft Environmental Assessment (DEA) for the Honolulu Area Wastewater Pump Station Facilities Improvements, (Paiko Drive Wastewater Pump Station), Oahu, Hawaii, TMK: (1) 3-8-001: 034**

Dear Ms. McIntyre,

Environet, Inc. (Environet), on behalf of the City and County of Honolulu Department of Environmental Services, received your comment letter dated April 17, 2018 on the Draft Environmental Assessment (DEA) for the subject project as part of the environmental review process under Hawaii Revised Statutes (HRS) Chapter 343 and Hawaii Administrative Rules (HAR) Title 11, Chapter 200. Below are responses to your comments:

Summary of Comments:

- *Hawaii environmental review laws require Environmental Assessments (EAs) and Environmental Impact Statements (EISs) to consider health in the discussion and the mitigation measures to reduce negative impacts [...]*

- **Response:** Section 3.3.4.2 of the DEA discusses the socioeconomic impacts of the proposed project. A more detailed discussion relating to community health will be added to the final environmental decision document. The proposed City and County wastewater facility pump station repairs and improvements would have a positive effect on community health since it would result in a more reliable and resilient wastewater conveyance system that would reduce the potential for wastewater discharges that could directly adversely affect human and environmental health through the release of pathogens and other pollutants associated with untreated wastewater.

- *We advocate that you consider health from a broad perspective; one that accounts for the social, economic, and environmental determinants of health and wellbeing [...]*

- **Response:** Section 3.3.4.2 of the DEA discusses the socioeconomic impacts of the proposed project. A more detailed discussion relating to community health will be added to the final environmental decision document.

- *In the development and implementation of all projects, EPO strongly recommends regular review of State and Federal environmental health land use guidance. State standard comments to support sustainable health design are provided at: http://health.hawaii.gov/epo/landuse. Projects are required to adhere to all applicable standard comments.*

- **Response**: The State and Federal environmental health land use guidance has been reviewed and incorporated into the environmental review process, as applicable to the proposed project.

- *EPO also encourages you to examine and utilize the Hawaii Environmental Health Portal at:* https://eha-cloud.doh.hawaii.gov.

- **Response:** Thank you for the resource, the Hawaii Environmental Health Portal has been reviewed and has been incorporated into the environmental review process.

- *Please note that all wastewater plans must conform to applicable provisions (HAR, Chapter 11-62, "Wastewater Systems").*

- **Response:** The planned wastewater upgrades will conform to HAR Chapter 11-62, as well as all applicable City, State and Federal wastewater regulations. This information will be added to the final decision document.

- *Any waste generated by the project […] needs to be disposed of at a solid waste management facility that complies with the applicable provisions (HAR, Chapter 11-58.1 "Solid Waste Management Control").*

- **Response:** The selected contractor will create a Solid Waste Management Plan developed in accordance with City and County regulations. All solid waste generated during construction would be managed and disposed of at a solid waste management facility in compliance with HAR Chapter 11-58.1. The proposed project is not expected to have a long-term impact on the City and County solid waste collection system since it would not result in the generation of additional solid waste compared to existing conditions.

- *If noise is created during the construction phase of the project that may exceed the maximum allowable levels (HAR, Chapter 11-46 "Community Noise Control"), then a noise permit may be required and needs to be obtained before the commencement of work. Relevant information is online at:* http://health/hawaii.gov/irhb/noise. *[...].*

- **Response:** BMPs (e.g., construction scheduling; insulation/muffling; reduced power options; equipment substitution, selection, retrofit, and maintenance; utilization of staging areas; and non-permanent noise barriers) would be implemented to reduce or eliminate noise and buffer zones between construction activities and residential areas; and construction work would be limited to the hours between 7:30 am and 5:30 pm on weekdays. If noise levels exceed those specified in HAR Chapter 11-46, a noise permit will be obtained from DOH. Please refer to Section 3.2.7.2 of the DEA for more information.

- *To better protect health and the environment, the U.S. Environmental Protection Agency (EPA) has developed an environmental justice (EJ) mapping and screening tool called EJSCREEN [...] EPO encourages you to explore, launch, and utilize this powerful tool in planning your project. The EPA EJSCREEN is available at:* http://www.epa.gov/ejscreen.

- **Response:** Thank you for the resource. The EPA EJSCREEN around the project area has been reviewed and incorporated into the DEA. There are no Superfund National Priority List sites nor any hazardous waste treatment, storage, and disposal facilities (TSDF) located within a 1-mile radius of the project site. Environmental and demographic indicators around the site have also been considered.

Environet, Inc.

Please feel free to contact us should your agency have any additional comments.

Phone: (808) 833-2225, ext. 1012
E-mail: msolmssen@environetinc.com

Sincerely,

Max Solmssen
Project Manager

Appendix B: Biological Survey

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TETRA TECH

MEMO

To:	Environet, Inc.
From:	Tetra Tech, Inc.
Date:	Tuesday, October 10, 2017
Subject:	Paikō Waste Water Pump Station Improvement Project - Pre-construction Bird Survey

Pursuant to Environet, Inc. (Environet) request, Tetra Tech, Inc. (Tetra Tech) conducted a bird survey for the proposed Paikō Drive Waste Water Pump Station (WWPS) Improvements Project (Project) located at 265 Paikō Drive on the Island of Oʻahu (Figure 1). The purpose of the bird survey was to address concerns expressed by the U.S. Fish and Wildlife Service (USFWS) and Hawaiʻi Department of Forestry and Wildlife (DOFAW) regarding the potential presence of federal or state listed waterbirds in the vicinity of the Project. This includes potential impacts to the Hawaiian coot (*Fulica alai*), Hawaiian moorhen or ʻalae ʻula (*Gallinula galeata sandvicensis*), Hawaiian stilt (*Himantopus mexicanus knudseni*), and Hawaiian duck (*Anas wyvilliana*) (these four species are collectively referred to as the endangered waterbirds), as well as the state listed white fairy tern or manu-o-Kū (*Gygis alba*).

Methods

A bird survey was conducted at the Project Site from 8:15 AM to 8:45 AM on September 29, 2017. Visual and auditory observations were included in the survey. The entire area of approximately 400 square meters was surveyed by walking and scoping the Project Site, which included one small building structure and three small trees ranging in height from 5- 7meters (Figure 2 and 3). Vegetation along the perimeter fence was also surveyed for foraging or roosting waterbirds.

Results, Discussion, & Recommendations

No federal or state-listed endangered waterbirds or the state listed white fairy tern (*Gygis alba*) were observed during the survey, and suitable habitat for nesting and foraging was not observed within the Project Site. As such, Project construction and facility improvements would not impact foraging and nesting endangered waterbirds or the white fairy tern (*Gygis alba*).

Tetra Tech, Inc.
737 Bishop St., Suite 2340, Mauka Tower, Honolulu, HI 96813
Tel 808.441.6655 Fax 808.836.1689

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Figure 1. Project Site.

Figure 2. View of Project Site from the SW corner.

Figure 3. View of Project Site from the NE corner.

Appendix C: Cultural Impact Assessment

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DRAFT REPORT

Cultural Impact Assessment in Support of the Paiko Drive Waste Water Pump Station Improvements Project, Kuli`ou`ou Ahupua‘a, Honolulu (Kona) District, Island of O`ahu, State of Hawai‘i

TMK: (1) 3-8-001:034

Prepared for:

Environet, Inc.
1286 Queen Emma Street
Honolulu, HI 96813

November 2017

PACIFIC CONSULTING SERVICES, INC.

720 Iwilei Road, Suite 424, Honolulu Hawaii 96817

DRAFT REPORT

Cultural Impact Assessment in Support of the Paiko Drive Waste Water Pump Station Improvements Project, Kuli‘ou‘ou Ahupua‘a, Kona District, Island of O’ahu, State of Hawai‘i

TMKs: (1) 3-8-001:034

By
Melanie A. Mintmier, Ph.D.
and
Stephan D. Clark

Sara Collins, Ph.D.,
Principal Investigator

Prepared By:
Pacific Consulting Services, Inc.
720 Iwilei Road, Suite 424
Honolulu, HI 96817

Prepared for:
Environet, Inc.
1286 Queen Emma Street
Honolulu, HI 96813

November 2017

ABSTRACT

At the request of Environet, Inc., Pacific Consulting Services, Inc., has prepared this Cultural Impact Assessment (CIA) in support of proposed improvements to the Paiko Drive Waste Water Pump Station (WWPS) in Kuliʻouʻou, Kuliʻouʻou Ahupuaʻa, Kona District, Island of Oʻahu, State of Hawai'i. The proposed project includes various repair, upgrade, replacement, and installation activities; but, ground-disturbing activities will be confined to the construction of a new emergency generator room.

Consultation packets were sent to 11 organizations, including the Office of Hawaiian Affairs (OHA), the Oʻahu Island Burial Council (OIBC), Mālama Maunalua, Imua Maunalua, Maunalua Fishpond Heritage Center, Livable Hawaii Kai Hui, Maunalua Communities Foundation, Kuliʻouʻou/Kalnai Iki Neighborhood Board No. 2, Niu Valley Community Association, the Maunalua Hawaiian Civic Club, and Ka Papa Loʻi o Kānewai. Comments were received from the Niu Valley Community Association and the Livable Hawaii Kai Hui. Concerns were expressed about making sure the Kuliʻouʻou Neighborhood Board No. 2 was notified and about making sure that fresh water springs, situated less than 1,000 feet from the project site, are not disturbed.

Based on the results of research and consultation, it is recommended that the effect determination for this project is "no historic properties affected." Although no significant historic sites are currently known to be present within the APE, it is possible that subsurface historic sites such as burials may be present and therefore affected by ground disturbance during the project. In order to mitigate any adverse effect on subsurface historic sites, it is therefore recommended that archaeological monitoring be conducted during any and all ground-disturbing activities in the Paiko Drive WWPS project area. It is also recommended that the proposed upgrades to the structural housing for the Above Ground Storage Tank (AST) should be designed to withstand the anticipated impacts of climate change related events.

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INTRODUCTION

At the request of Environet, Inc., Pacific Consulting Services, Inc., has prepared this Cultural Impact Assessment (CIA) in support of proposed improvements to the Paiko Drive Waste Water Pump Station (WWPS) in Kuliʻouʻou Ahupuaʻa, Kona District, Island of O'ahu, State of Hawai'i (Figure 1). The project site is a wastewater pump station upgrade at Paiko Peninsula near Hawaii Kai (see Figure 1). Owned by the City and County of Honolulu (CCH), it is located at 265 Paiko Drive, Honolulu, HI at TMK (1) 3-8-001:034; the existing pump station has been there for several decades.

This CIA has been prepared in compliance with Hawaii Revised Statutes Chapter 343, Act 50 (HRS). The project assessment and recommendations for appropriate treatment of historic sites were made in compliance with Chapter 6E-8, HRS and Title 13 of the Hawaii Administrative Rules (HAR), Subtitle 13 (State Historic Preservation Division Rules):

- Chapter 275: Rules Governing Procedures for Historic Preservation Review for Governmental Projects Covered Under Sections 6E-8, HRS.
- Chapter 279, Rules Governing Standards for Archaeological Monitoring Studies and Reports

The proposed project includes the following activities:

- Repair of wetwell interior walls and ceiling, and restroom toilet plumbing;
- Upgrade of SCADA system;
- Replacement of sewage pumps, check valves, sump pump (valves and hosing), motor control system, and emergency generator and a room in which to house it;
- Installation of a new magnetic flow meter, level control system, supply fan, and combustible gas detector.

Specific to potential impacts on cultural resources, ground-disturbing activities include the construction of a new emergency generator room (Figure 2).

PROJECT AREA

The Paiko Drive WWPS project area, measuring 1.2 acres, is inclusive of lot TMK (1) 3-8-001:034. The project area lies within Kuliʻouʻou Ahupuaʻa, Kona District (see Figure 1). Ahupuaʻa boundaries in this area changed in the mid-1800s. Kuliʻouʻou Ahupuaʻa was originally an *ʻili* of Waikīkī Ahupuaʻa in Kona District (as was neighboring Niu Ahupuaʻa), and neighboring Maunalua Valley (now Maunalua Ahupuaʻa) was an *ʻili* of Waimanalo Ahupuaʻa (in Koʻolaupoko District) until 1859, when it was officially separated into its own *ahupuaʻa* and shifted into Kona District (Takemoto et al. 1975).

METHODS AND PERSONNEL

Prior to contacting and consulting with interested parties, PCSI staff conducted a historical and archaeological literature review of the Paiko Drive WWPS project area in order to assess any potential effect on historic properties or other cultural resources. Research was completed using various documentary and archival resources, including the State Historic Preservation Division's (SHPD) database of archaeological reports, the SHPD report library, a Land Commission Awards (LCA) review via the Bureau of Conveyances, and a review of historic maps. In the event that adverse impacts are possible because of this project, mitigation recommendations have been included.

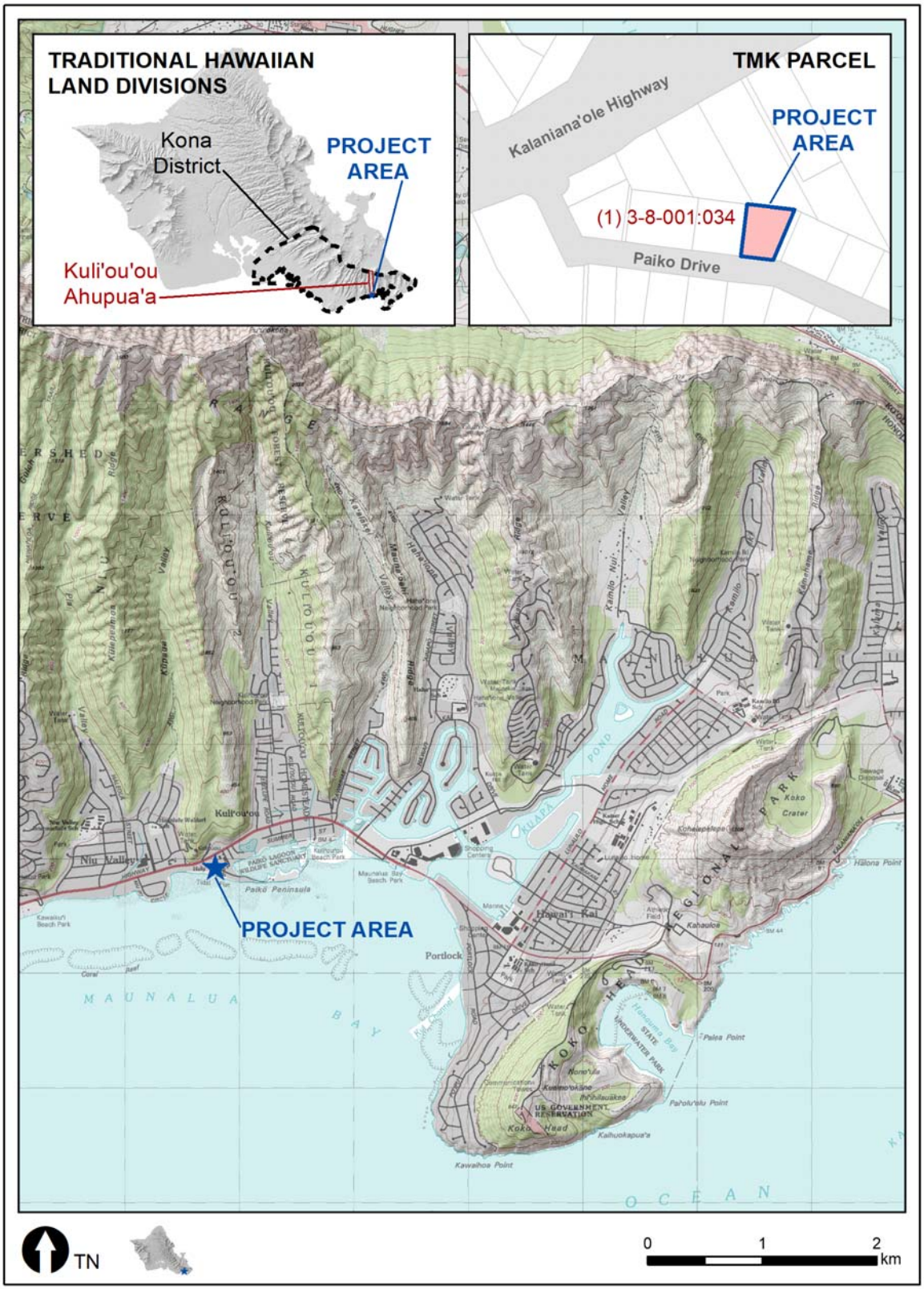

Figure 1. Location of the Paiko Drive WWPS Project Area on Enlarged 1:24,000 U.S.G.S. Quadrangle Map, Koko Head (2012).

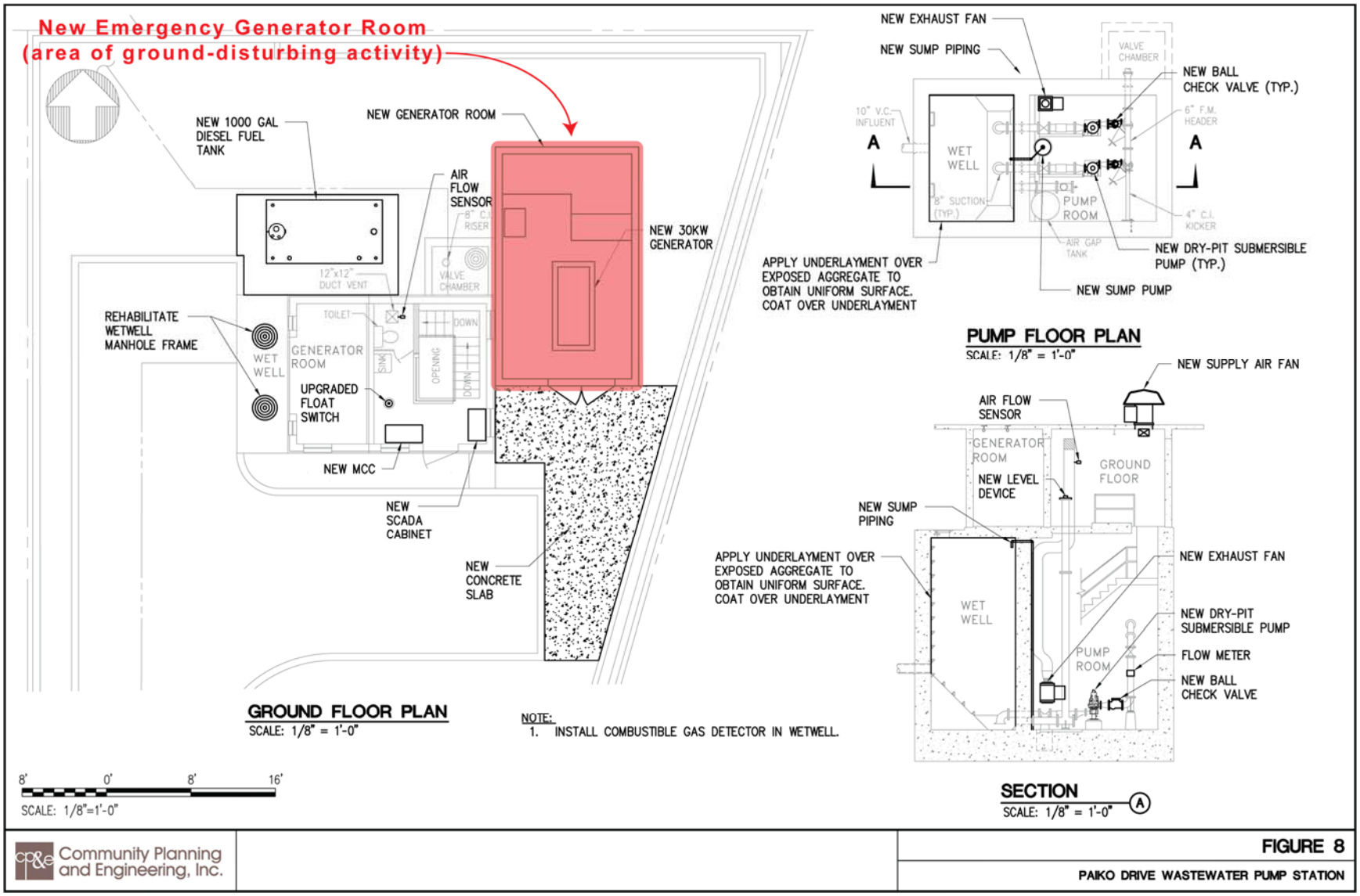

Figure 2. Paiko Drive WWPS Project Work Plans with Location of New Emergency Generator Room Highlighted.

For consistency of soil description, soil types for the project area vicinity were identified using the United States Department of Agriculture (USDA) Natural Resources Conservation Services' (NRCS) Web Soil Survey website at ***websoilsurvey.nrcs.usda.gov***. The types of underlying soils can be an indicator as to the probably presence or absence of subsurface historic sites (e.g., Jaucas Sands have been known to contain subsurface cultural layers with archaeological materials and subsurface features, including native Hawaiian burials).

Sara Collins, Ph.D., served as Principal Investigator. Her familiarity with many of the archaeological studies on Oʻahu from 1995 to 2005 facilitated the research effort. Melanie A. Mintmier, Ph.D., conducted the literature review and prepared this report.

Finally, letters of consultation for this CIA were sent to the following organizations:

- Office of Hawaiian Affairs (OHA)
- Oahu Island Burial Council (OIBC)
- Mālama Maunalua
- Imua Maunalua
- Maunalua Fishpond Heritage Center
- Livable Hawaii Kai Hui
- Maunalua.net, Pacific American Foundation
- Maunalua Communities Foundation
- Kuliʻouʻou/Kalani Iki Neighborhood Board No. 2
- Niu Valley Community Association
- Maunalua Hawaiian Civic Club
- Ka Papa Loʻi o Kanewai

Formal letters were sent to these organizations/agencies on the 2nd and 3rd of October, 2017. Correspondence included requesting information concerning their views on the project, The letter included a project description, a summary of relevant background research, and previous archaeological finds, as well as a request to for their views concerning any effects the project might have on historic or cultural sites they might be aware of in the immediate vicinity of the Paiko WWPS project area. They were also invited to share any information about legends, traditional cultural properties (TCP), or traditional cultural practices that may be associated with the project area.

ENVIRONMENTAL SETTING

The topography in the Paiko Drive WWPS project area is essential flat due to its location close to the shoreline. Elevation within the project area is 2.5 ft (0.75 meters [m]) above mean sea level (amsl).

Only one (1) NRCS soil type is present within the project area (NRCS 2017): Jaucas sand (JaC) (Table 1; Figure 3). Six (6) other soil types are present (NRCS 2017) within 500m of the project area but do not intersect it, including fill land (FL), Kawaihapai clay loam (KlA), Kawaihapai stony clay loam (KlaA), Keaau clay (KmA), Lualualei extremely cobbly clay (LPE), and Mokuleia clay loam (Mt) (see Table 1; see Figure 3).

Table 1. List of Soil Types within 500m of the Paiko Drive WWPS Project Area.

Soil Code	Soil Name	Relative Location
FL	Fill land, mixed	Within 500 meters, but does not intersect project area
JaC	Jaucas sand, 0 to 15 percent slopes	Intersects project area
KlA	Kawaihapai clay loam, 0 to 2 percent slopes	Within 500 meters, but does not intersect project area
KlaA	Kawaihapai stony clay loam, 0 to 2 percent slopes	Within 500 meters, but does not intersect project area
KmA	Keaau clay, 0 to 2 percent slopes	Within 500 meters, but does not intersect project area
LPE	Lualualei extremely cobbly clay, 3 to 35 percent slopes	Within 500 meters, but does not intersect project area
Mt	Mokuleia clay loam	Within 500 meters, but does not intersect project area
rRK	Rock land	Within 500 meters, but does not intersect project area

Rainfall in the project area averages 30 inches per year (Giambelluca et al. 2013). Because the project area is in a developed residential neighborhood, vegetation consists of introduced species within a maintained ornamental landscape setting (see Putzi and Carlson 1997:3).

TRADITIONAL AND HISTORIC BACKGROUND

The Paiko Drive WWPS project area is located within Kuliʻouʻou Ahupuaʻa, which is located in the Kona District (see Figure 1). According to Pukui et al. (1974:117, 223), "Kona" translates as "leeward" in Hawaiian, and "Kuliʻouʻou" means "sounding knee," referring to a knee drum (*pūniu*). The bay, along which Paiko Drive runs, is shown on a 1902 map (Alexander 1902) as "Maunalua or Waialae Bay" (Figure 4), with "Maunalua" meaning "two mountains" and "Waialae" meaning "mudhen water," likely named after a spring in the area (Pukui et al. 1974:149, 124). Two valleys are located to the north of the project area: Kuliʻouʻou and Kūpaua (meaning "upright clam") (Pukui et al. 1974:125). Finally, "Paiko" is the name of the peninsula adjacent to the project area (and the name of the present-day Drive), and was named after a part-Portuguese man, Pico, who first leased and then owned land in this area (see Hammatt and Shideler 2002:6; Pukui et al. 1974:175).

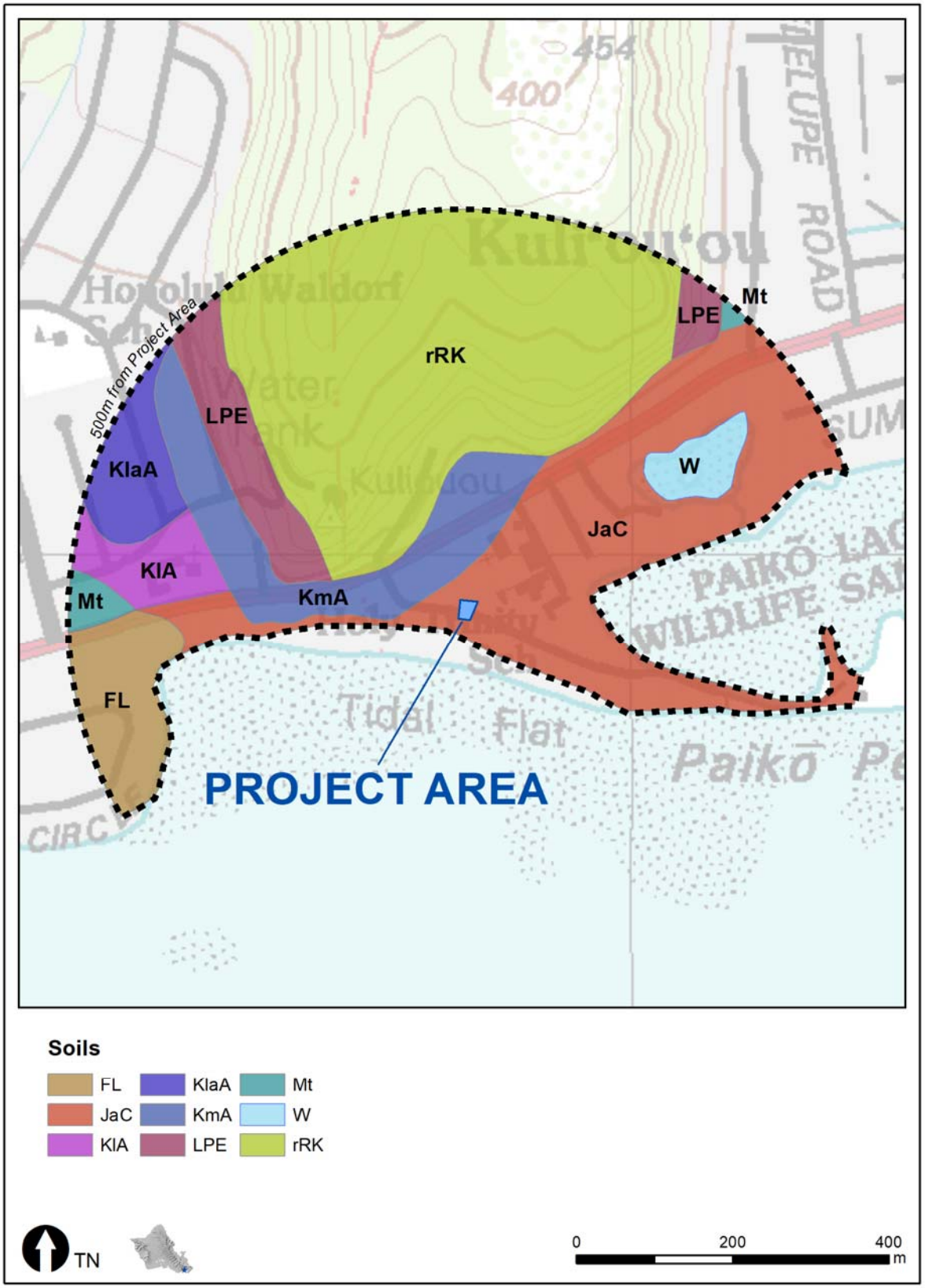

Figure 3. Map of Soil Types within 500m of the Paiko Drive WWPS Project Area.

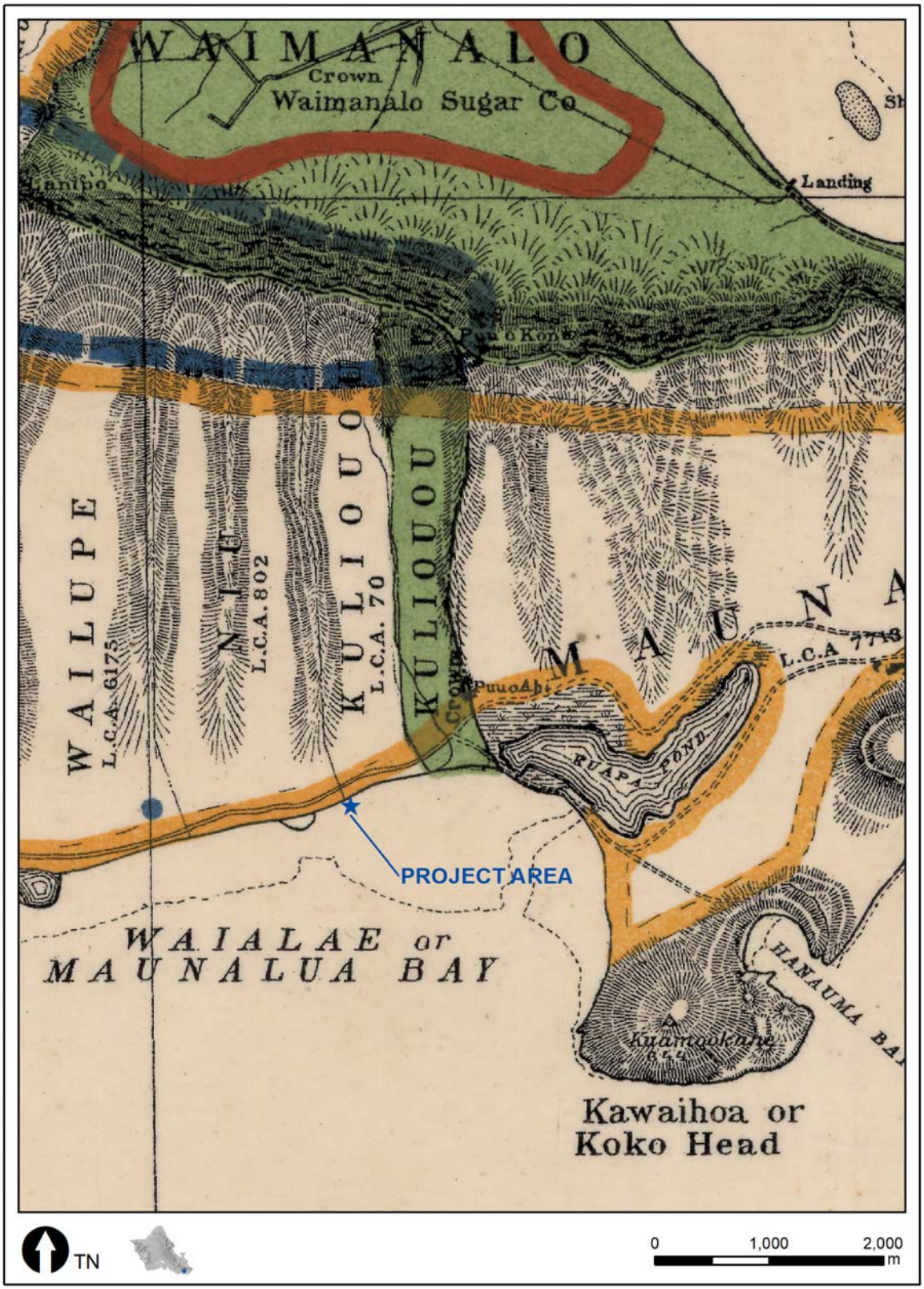

Figure 4. Location of the Paiko Drive WWPS Project Area on Enlarged 1902 Historic Map by Alexander.

MYTHS AND LEGENDS

According to legend, recounted by Emerson (1915:186-187), the Kuliʻouʻou area was where the goddess Hiʻiaka (Pele's younger sister) killed several women who were fishing along the shore. Hiʻiaka and Wahine Omao were heading to Hawaiʻi Island when they passed through Kuliʻouʻou. In the shallow coastal waters they saw some women catching fish and crabs, and asked the fishing women to share their catch. The women refused, and they did so in an insulting manner. Unable to let the insult pass, Hiʻiaka called out an incantation and "the unfortunate fishing women fainted and died."

Hammatt and Shideler (2002:5) provide an admittedly speculative, but interesting, interpretation of this story. They suggest that a traditional story about a mass death scene may not be coincidence, considering the relative density of known burials all along this shore (see below). They also interpret this story, with less of a sense of the macabre, as indicating that fish and shellfish gathering were long-standing activities along this coast.

TRADITIONAL LAND USE

As Kirch (1985:115-116, 251) notes in his classic synthesis of Hawaiian prehistory and archaeology, the Kuliʻouʻou area is home to a large, early-period rockshelter that was used for permanent habitation first starting around AD 900-1,000 (Site 50-80-15-4000, "Kuliʻouʻou Bluff shelter"). Handy and Handy (1972:483) report that Kuliʻouʻou Ahupuaʻa generally didn't contain soils that were amenable to wetland taro cultivation, so the main staple crop was almost certainly the sweet potato. However, Hammatt and Shideler (2002:6) opine that they "paint an overly bleak picture of Kuliʻouʻou agriculture" because of the extensive marshlands, which would have been quite suitable for cultivation. And, after visiting the area in 1786, Western sailor Nathaniel Portlock states that Maunalua Bay

> …all round has a very beautiful appearance, the low land and vallies [*sic*] being in a high state of cultivation, and crowded with plantations of taro, sweet potatoes, sugar-cane, etc. interspersed with a great number of cocoa-nut tree…(Portlock 1968 [1789]:74).

In addition to agriculture, offshore fishing and aquaculture were important subsistence activities in this general region (Erkelens and Athens 1994:31). Erkelens and Athens (1994:31) report that there were at least 11 fishponds, six (6) of which were walled (*loko kuapa*) and named, including Kamoana, Kupapa, Mauanlua (at which Kamehameha I himself famously worked, see Kamakau 1992:192), Paiko, Punakou, and Wailupe Fishponds. Finally, the usual suite of domestic animals was also raised here, including dogs, chickens, and pigs (Putzi et al. 1998:25; see also Portlock 1789:74).

Several accounts from additional early Western visitors suggest that quite a few settlements were present along the Kuliʻouʻou coast (Chamberlain 1826; Mathison 1825; Portlock 1968 [1789]:71). Specifically, while walking around the area Mathison (1825:387) observed a fishing village with approximately 100 huts, along with "several fine groves of cocoa-nut trees." Fish and shellfish are abundant, so – along with the staple sweet potato – numerous people no doubt could have lived well in this area.

Early accounts by Western sailors (Dixon 1968 [1789]; Portlock 1968 [1789]) indicate that this area was under the control of Kahekili (King of Maui, Molokaʻi, and Lānaʻi), one of Kamehameha I's main rivals in his bid to conquer the islands. Kahekili came to rule Oʻahu after years of violent strife, ending in the torture and execution of all of Oʻahu's chiefs (Kamakau 1992:138). All of this occurred only months before Dixon and Portlock arrived on Oʻahu in 1786.

HISTORIC LAND USE

After Kamehameha I conquered the islands and Western visitors became increasingly frequent, introduced crops were added to the agriculture of the Kuliʻouʻou area. Sterling and Summers (1978:271) report that alfalfa was grown in Kuliʻouʻou, and Takemoto et al. (1975:19) note that potatoes were grown in neighboring Maunalua Ahupuaʻa. And, Takemoto et al. (1975:19) report, sandalwood was harvested in the upland forests.

According to Hammatt and Shideler (2002:5-6), early "ownership" of land in this area is nebulous. They suggest that Kamehameha I gave Maunalua (including Kuliʻouʻou) to Keʻeaumoku, who passed it along to his daughter Kaʻahumanu upon his death in 1804. She, in turn, passed it along to her co-wife Kalola in 1819, who then appointed her nephew, Abner Pākī, as caretaker (*konohiki*). Prior to her death in 1832, Kaʻahumanu regained control of this area, so it was passed along to Keoni Wawaenui (aka "John Bigfeet"), who received it out of gratitude for his service as retainer of Kamehameha household.

Then, in 1845, the Board of Commissioners to Quiet Land Titles (BC), also called the Land Commission, was established "for the investigation and final ascertainment or rejection of all claims of private individuals, whether natives or foreigners, to any landed property" (Chinen 1958:8). This led to the *Māhele*, which introduced the concept of private property into Hawaiian society. During the *Māhele* (or *Māhele ʻAina*, lit. "Land Division"), in 1848, lands were placed in one of three categories: (1) Crown Lands, (2) Government Lands, or (3) *Konohiki* Lands (Chinen 1958:vii).

At the time of the *Māhele*, Kuliʻouʻou Ahupuaʻa was divided in two, a western half (Kuliʻouʻou 1) and an eastern half (Kuliʻouʻou 2). Kuliʻouʻou 2 was designated Crown Lands, and Kuliʻouʻou 1 (LCA 70-B [RP 5598]) was awarded to Waiaha, the daughter of Keoni Wawaenui ("John Bigfeet") (see historic map by Alexander 1902). Following this, Kuliʻouʻou 1 was leased to and then owned by Manuel Pico (Paiko), a part-Portuguese immigrant and namesake of Paiko Peninsula and Pond/Lagoon (see Hammatt and Shideler 2002:6; Pukui et al. 1974). During the reign of King Kamehameha III (Kau-i-ke-aouli), Kuliʻouʻou 2 was used as a summer residence (Wright 1925).

In the roughly five (5) decades after the *Māhele*, Takemoto et al. (1975:25) report that aquaculture and cattle ranching were the dominant subsistence activities in the region, which continued to be a rural and agriculturally-oriented region of Oʻahu throughout much of the historic period. But, by the mid-1900s, the area had become more residential, including the partial filling in of Maunalua Fishpond to put up housing developments.

ARCHAEOLOGICAL BACKGROUND

No previous archaeological studies were found within the Paiko Drive WWPS project area, and three (3) previous studies were located within 500m (Dye 1977; Emory and Sinoto 1961; Putzi et al. 1998; Figure 5). However, McAllister's classic 1930 (1933) selective, island-wide survey is also worth mentioning as well. Finally, this area is relatively dense with burials, so more detailed descriptions of burial sites will be given, along with one non-burial site within 500m of the project area (Table 2).

Conducted in 1930 and published three years later, McAllister's survey did not record any archaeological sites within the project area, but there were sites recorded not far away. He recorded Keahupua-o-Maunalua (Kuapa) Fishpond (McAllister's Site 49); a large house site or *heiau* (Site 50); Kupapa Fishpond (Site 51, filled in prior to his 1930 survey); Kūlepeamoa Heiau (Site 52); and Niu Cave(s) (Site 53) (McAllister 1933:69-70).

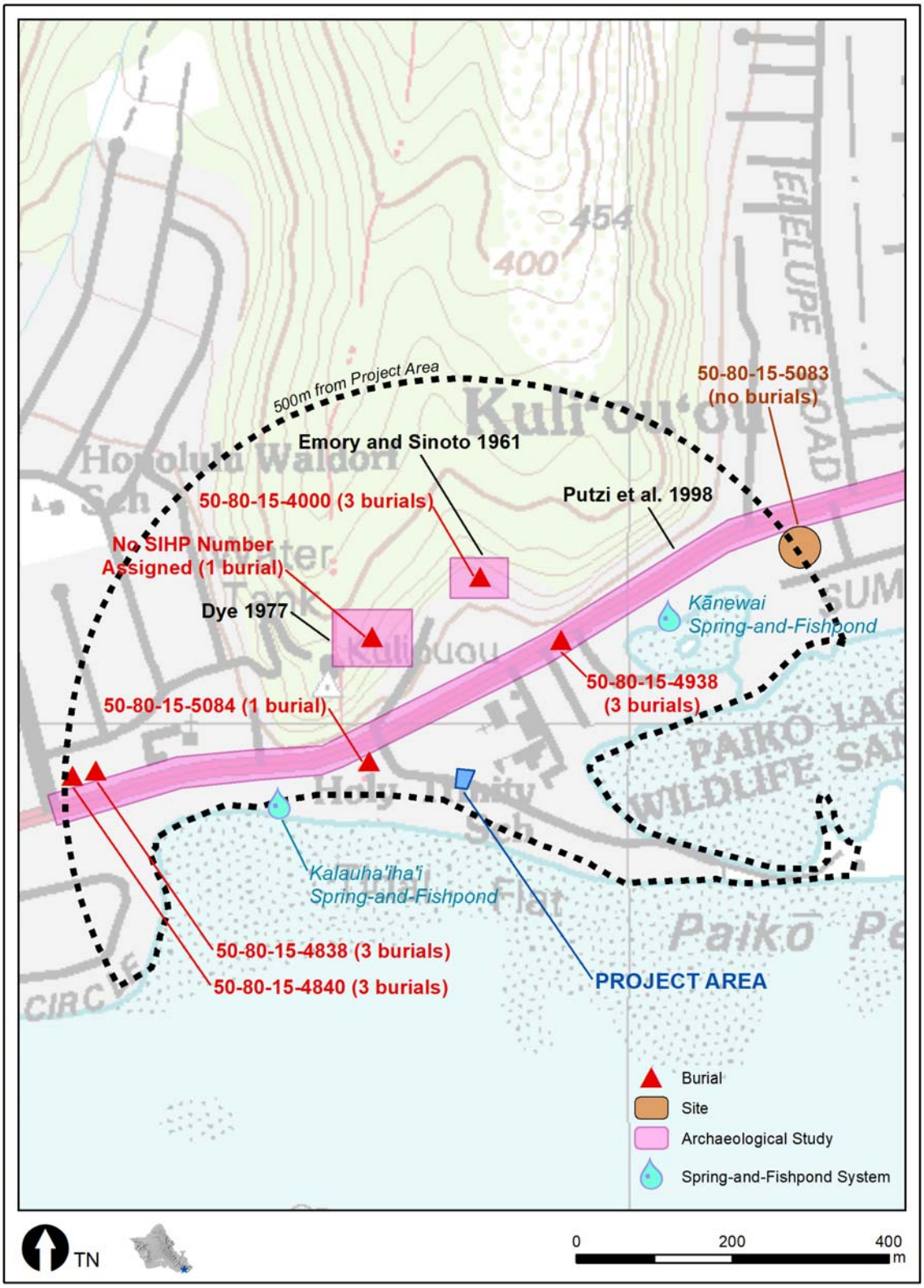

Figure 5. Archaeological Studies, Sites, and Burials within 500m of the Paiko Drive WWPS Project Area.

Table 2. List of Burial and Non-Burial Sites within 500m of the Paiko Drive WWPS Project Area.

SIHP No. (50-80-15-xxx)	Description	Reference
None assigned	One (1) burial (likely disturbed by vandals)	Dye 1977
4000	Site 4000 consists of three (3) burials, plus a wealth of midden and artifacts associated with extended habitation.	Emory and Sinoto 1961
4838	Site 4838 consists of three (3) burials.	Putzi et al. 1998
4840	Site 4840 consists of three (3) burials.	Putzi et al. 1998
4938	Site 4938 consists of three (3) burials.	Putzi et al. 1998
5083	Site 5083 consists of three features: a historic trash pit, a cobblestone septic tank, and a cobble alignment and trash pit	Putzi et al. 1998
5084	Site 5084 consists of one (1) burial.	Putzi et al. 1998

In 1938, an anthropology student at the University of Hawaiʻi first discovered and excavated Site 50-80-15-4000 (Kuliʻouʻou Bluff shelter), which ended up being one of the most information-rich sites in Hawai'i. Unfortunately, excavations were halted and after WWII, the lava tube cave site was used as a bomb shelter (Emory and Sinoto 1961:3). Twelve years after its initial discovery, Emory – along with students from the University of Hawaiʻi – resumed the excavation.

A wealth of midden and artifacts were recovered. The midden consisted of marine shell; bone from humans, non-humans, fish, birds, and sea turtles; and plant remains. Artifacts included fire sticks; cooking stones; a gourd fire blower; bone needles and picks; bone and marine shell awls; a stingray tail awl; bamboo and basalt knives; a shark-tooth knife; scrapers made from marine shell, stone, and coconut shell; gourd and coconut containers; fishhooks and fishhook blanks; a *poi* pounder (found in 1935); filed bones; basalt, coral and pencil urchin files; coral and stone octopus lure sinkers; stone net sinkers; portions of *olonā* fiber fishing net; netting needles; net mesh gauges; adzes and chisels; grinding and rubbing stones; stone hand picks; *ʻulu maika* stones; a slingstone; a javelin head; a possible arrow head; dye cups; bored dog teeth for pendants and/or anklets; bone and turtle shell bracelet plaques; a fragment of a foreign slate mirror; assorted cordage fragments; a leg piece from a wooden stick image; bamboo *kapa* cloth stamps; and wood splinters from a *kapa* cloth beater (Emory and Sinoto 1961:36-76). Finally, Site 50-80-15-4000 yielded the first charcoal radiocarbon dating samples in the islands. In 1950, two charcoal samples resulted in calendar dates of AD 1004+/- 180 (Chicago C550) and AD 1739+/-150 with a maximum age of 1589 (Michigan M564) (Emory and Sinoto 1961:15).

In 1977, archaeologists at the B.P. Bishop Museum documented an incomplete burial located in a lava tube at the southern end of the Kuliʻouʻou 2 Ridge. They reported that vandals may have disturbed the burial. Following inspection, the remains were left in the lava tube (Dye 1977:2).

In 1998, archaeologists from Garcia and Associates (Putzi et al. 1998) conducted archaeological monitoring during Phase II widening of Kalaniana'ole Highway, from East Halema'uma'u Street to Keahole Street (various TMKs). Ten sites dating to both pre-Contact

and historic-period times were documented, seven (7) of which included human skeletal remains. Three (3) sites did not include human burials: Site -4694 consisted of 63 features that represent an occupation from pre-Contact through the 1800s and possibly the 1900s. Site-4733 was associated with early- to late-historic period occupation and artifact manufacture, and included three trash pits, one posthole, and a pig (*Sus scrofa*) interment. Site-5083 consisted of one trash pit, one stone septic tank, and one cobble stone alignment with a trash pit, all of which are associated with late historic habitation (Putzi et al. 1998:i, 41-116; see Figure 5).

The other seven (7) sites (-4837, -4838, -4840, -4841, -4938, -4939, -and 5084) included human skeletal remains (most with multiple burials) that span much of the pre-Contact and historic periods. Of particular note is Site-4841, which contained burials that were part of a cemetery or burial ground that likely dates from pre-Contact through the 1800s (Putzi et al. 1998:i, 41-116; see Figure 5).

PROJECT IMPACT ASSESSMENT

Based on the historical and archaeological literature review discussed above, the potential for encountering historic properties or other cultural resources within the Paiko Drive WWPS project area is moderate to high, primarily because the project area is situated entirely within Jaucas sand (JaC) soil deposits, which are well known to be frequently associated with traditional Hawaiian burials and because of the relatively high number of known burial sites in the area (see Table 2 and Figure 5).

Consultation Responses

Consultation for this CIA report included preparing written letters that included a summary the Paiko WWPS construction project as well as a summary of the archaeological background research, including archaeological finds within and near the project area. Consultation letters, including a project area location figure and a design plan for the Paiko WWPS project, were sent on the 2nd and 3rd of October, 2017 to the organizations and agencies listed in Table 3 below.

Correspondence included requesting information concerning their views on the project, in addition to any effects the project might have on historic or cultural sites they might be aware of in the area. Also, they were invited to share any information about legends, cultural properties, or traditional and customary practices associated with the project area. The organizations and people contacted were given 30 days to respond to the letter. The responses from those organizations/agencies consulted by letter are summarized as below.

Mr. Peter Kay, Vice President of the Niu Valley Community Association, was emailed the consultation package on October 2, 2017, and responded later that morning via email. He suggested that the Kuliʻouʻou-Kalani Iki Neighbor Board No. 2 be contacted so that the project can be formally recognized and allowed to be discussed in an appropriate public forum. He also suggested that PCSI should consider extending the 30 day review period because the Kuliʻouʻou-Kalani Iki Neighbor Board No. 2 was going to meet on October 5th, two days after the consultation letters were mailed out.

Ms. Jeannine Johnson, Secretary of the Niu Valley Community Association, was emailed the consultation package on October 2, and responded on October 9th. She expressed a number of concerns about the fuel tank in the project area-- that the project area was too close to the shoreline, and was in a flooding and tsunami inundation zone. She stated that the project area will be underwater in a few decades due to the expected rise in the sea level. She indicated that less than 1,000 feet in either direction along Kalaniana'ole Highway are two freshwater springs, Kalauhaʻihaʻi and Kānewai. She stated that “these resources

Table 3. Organizations Contacted for Consultation.	
Name of Organization	**Response Received?**
Office of Hawaiian Affairs (OHA)	No
Oʻahu Island Burial Council (OIBC)	No
Mālama Maunalua	No
Imua Maunalua	Letter returned undeliverable, sent via email on October 12.
Maunalua Fishpond Heritage Center	No
Livable Hawaii Kai Hui	No
Maunalua Communities Foundation	No
Kuliʻouʻou/Kalani Iki Neighborhood Board No. 2	No
Niu Valley Community Association	Yes
Maunalua Hawaiian Civic Club	No
Ka Papa Loʻi o Kānewai	No

are vital to our community and must not be infiltrated with fuel in the case of a flood, hurricane, tsunami, earthquake, or other natural disaster. Any damage to these springs would affect the entire Maunalua Bay region. She indicated that a cultural monitor be required to be on-site for all ground disturbing activities.

Regarding the two spring-and-fishpond systems, Kalauhaʻihaʻi and Kānewai, these are located within 500 m of the project area (see Figure 5), and are both currently under the stewardship of the Maunalua Fishpond Heritage Center. Kalauhaʻihaʻi Spring is located along the boundary of parcels (1) 3-7-002:018 and 077, and it feeds a fishpond of the same name that straddles these two parcels (DLNR 2013, see especially Exhibit C). Traditionally, this spring-and-fishpond system was mainly used for *awa* and *ʻamaʻama* fish aquaculture and was originally "owned" by King Kamehameha I and Queen Kaʻahumanu, who used Paikō Beach as a summer residence. The name "Kalauhaʻihaʻi" is associated with Queen Kaʻahumanu's conversion to Christianity (Protestant) and the subsequent breaking of the traditional *kapu* system, which is thought to have taken place at this site (NOAA 2010:1.4). Kānewai Spring-and-fishpond system is located at parcel (1) 3-8-002:026 (see Figure 5), and like Kalauhaʻihaʻi, it was one of several royally-"owned" fishponds along this shoreline (Kennedy 2011:10).

RECOMMENDATIONS

Based on the results of research and consultation, it is recommended that the effect determination for this project is “no historic properties affected.” Although no significant historic sites are currently known to be present within the APE, it is possible that subsurface historic sites such as burials may be present and therefore affected by ground disturbance during the project. In order to mitigate any adverse effect on subsurface historic sites, it is therefore recommended that archaeological monitoring be conducted during any and all ground-disturbing activities in the Paiko Drive WWPS project area.

This recommendation is being made for two related reasons: First, the entire project area (parcel TMK (1) 3-8-001:034) is within Jaucas sand (JaC) soil deposits, which are known to be frequently associated with traditional Hawaiian burials. Second, the project area is situated along a shoreline with numerous known burial sites, at least six (6) of which are present within 500m (and four of these six sites contain multiple individual burials) (see Table 2 and Figure 5). An acceptable archaeological monitoring plan will be prepared for review and approval by SHPD prior to beginning ground disturbing activities within the project area. The approved monitoring plan should include provisions for on-site monitoring and documentation of any historic sites or cultural resources that are found during construction.

Those who responded to our request for consultation, noted that the Kalauhaʻihaʻi and Kānewai spring-and-fishpond systems are two of only six left on Oʻahu (NOAA 2010:1.4) and represent relatively rare, important traditional cultural resources. As such, they believe that it is critical to mitigate any potential adverse impacts, most notably those that may arise because of the consequences of climate change related events. They point out, for instance, that as sea levels rise along this shoreline and as the severity of storms increases, it is reasonable to anticipate floodwaters entering these spring-and-fishpond systems. Thus they believe that it is imperative that these floodwaters remain free of polluting contaminants like gasoline or diesel fuel. It is recommended, therefore, that this project’s proposed upgrades to the structural housing for the Above Ground Storage Tank (AST) should, therefore, be designed to withstand the anticipated impacts of climate change related events.

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Appendix D: Archaeological Monitoring Plan

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DRAFT REPORT

Archaeological Monitoring Plan in Support of Waste Water Pump Station Improvements at Paikō Drive, Moana Park, Niu Valley and Kuliʻouʻou , in the Ahupuaʻa of Makiki, Niu, Kuliʻouʻou, and Kuliʻouʻou Iki, Honolulu District, Island of Oʻahu, State of Hawaiʻi

TMKs: (1) 2-3-037:010; (1) 3-7-010:052; (1) 3-8-001:034; & (1) 3-8-004:079

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July 2018

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DRAFT REPORT

Archaeological Monitoring Plan in Support of Waste Water Pump Station Improvements at Paikō Drive, Moana Park, Niu Valley, and Kuli‘ou‘ou, in the Ahupua’a of Makiki, Niu, Kuli’ou‘ou, and Kuli‘ou‘ou Iki, Honolulu (Kona) District, Island of O‘ahu, State of Hawai’i

TMKs: (1) 2-3-037:010; (1) 3-7-010:052; (1) 3-8-001:034; & (1) 3-8-004:079

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ABSTRACT

At the request of Environet, Inc. (Environet), Pacific Consulting Services, Inc. (PCSI), has prepared this Archaeological Monitoring Plan (AMP) in support of proposed waste water pump station (WWPS) facility improvements at four locations, including Paikō Drive, Moana Park, Niu Valley, and Kuli'ou'ou, located in the Ahupuaʻa of Kuli'ouʻou, Makiki, Niu, and Kuliʻouʻou Iki , respectively, Honolulu District, Island of Oʻahu, Hawai'i. This AMP has been prepared for the City and County of Honolulu (CCH), Department of Environmental Services (ENV).

In a December 6, 2017 meeting attended by representatives from the State Historic Preservation Division (SHPD), Environet, City and County of Honolulu (CCH), and PCSI, the SHPD requested that an AMP be prepared for all four WWPS facilities (Environet 2017-see Appendix A). Full-time, on-site archaeological monitoring is required during ground-disturbing activities (excavations, etc.) at the Paikō Drive WWPS because (1) human burial finds are located within from 120 to 215 m to the west, north and northwest and (2) soils in this project area have been identified as Jaucas Sands, which often contain traditional Hawaiian burials.

Limited ground-disturbing activities will be involved at the Niu Valley and Kuli'ou'ou facilities and full-time, on-site archaeological monitoring is required for electrical trenching at these two facilities. No ground-disturbing activities will be involved at the Moana Park facility, and therefore no archaeological monitoring is required at this WWPS facility. Should changes in design or site conditions require ground disturbance at the Moana Park WWPS facility, the SHPD should be notified. Depending on the location and extent of ground disturbance, an archaeological monitor may be required.

If any archaeological materials or features are encountered during archaeological monitoring at the Paikō Drive, Niu Valley, and Kuli'ouʻou WWPS project areas, the mitigation measures detailed in this Archaeological Monitoring Plan will be implemented.

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INTRODUCTION

At the request of Environet, Inc. (Environet), Pacific Consulting Services, Inc. (PCSI), has prepared this Archaeological Monitoring Plan (AMP) in support of proposed Waste Water Pump Station (WWPS) improvements at four locations, including Paikō Drive, Moana Park, Niu Valley, and Kuli'ou'ou, all of which are on the Island of O'ahu, State of Hawai'I. Figure 1 shows the locations of all four WWPS locales. This AMP is being prepared for the City and County of Honolulu, the Department of Environmental Services (ENV-the project proponent). The CCH ENV, Collection System Maintenance Division (CSM) owns and operates O'ahu's WWPS facilities.

In a December 6, 2017 meeting held at the offices of the State Historic Preservation Division (SHPD), and attended by representatives from the SHPD, Environet, CCH ENV, Community Planning and Engineering, Inc. (CPE), and PCSI, the SHPD requested that an AMP be prepared for all four WWTP facilities (Environet 2017-see Appendix A).

This AMP has been prepared in compliance with Hawaii Revised Statutes Chapter 6E-8 HRS and Title 13 of the Hawaii Administrative Rules (HAR), Subtitle 13 (State Historic Preservation Division Rules):

- Chapter 275: Rules Governing Procedures for Historic Preservation Review for Governmental Projects Covered Under Sections 6E-8, HRS.
- Chapter 279, Rules Governing Standards for Archaeological Monitoring Studies and Reports

PROJECT AREA LOCATIONS

The four WWPS that are the subject of this AMP are located on Paikō Drive, at Moana Park, Niu Valley, and Kuli'ou'ou (Figure 1). These four project areas are located in the Ahupua'a of Kuli'ou'ou, Makiki, Niu, and Kuli'ou'ou Iki, respectively (an *ahupua'a* is a traditional Hawaiian land division). All are located in Honolulu District, Island of O'ahu, State of Hawai'i.

METHODS AND PERSONNEL

PCSI staff conducted a literature review of the WWPS improvement project areas in order to assess any potential effect on historic properties or other cultural resources. Research was completed using various documentary and archival resources, including the State Historic Preservation Division's (SHPD) database of archaeological reports, the SHPD report library, a Land Commission Awards (LCA) review via the Bureau of Conveyances, and a review of historic maps. In the event that adverse impacts are possible because of this project, mitigation recommendations have been included.

For consistency of soil description, soil types for the project area vicinity were identified using the United States Department of Agriculture (USDA) Natural Resources Conservation Services' (NRCS) Web Soil Survey website at websoilsurvey.nrcs.usda.gov. The types of underlying soils can be an indicator as to the probably presence or absence of subsurface historic sites (e.g., Jaucas Sands have been known to contain subsurface cultural layers with archaeological materials and subsurface features, including native Hawaiian burials).

Dr. Sara Collins, Ph.D., served as Principal Investigator. Her familiarity with many of the archaeological studies on O'ahu from 1995 to 2005 informed the research effort. Melanie A. Mintmier, Ph.D., conducted the literature review, and was the primary author of this report; Stephan D. Clark co-authored the report.

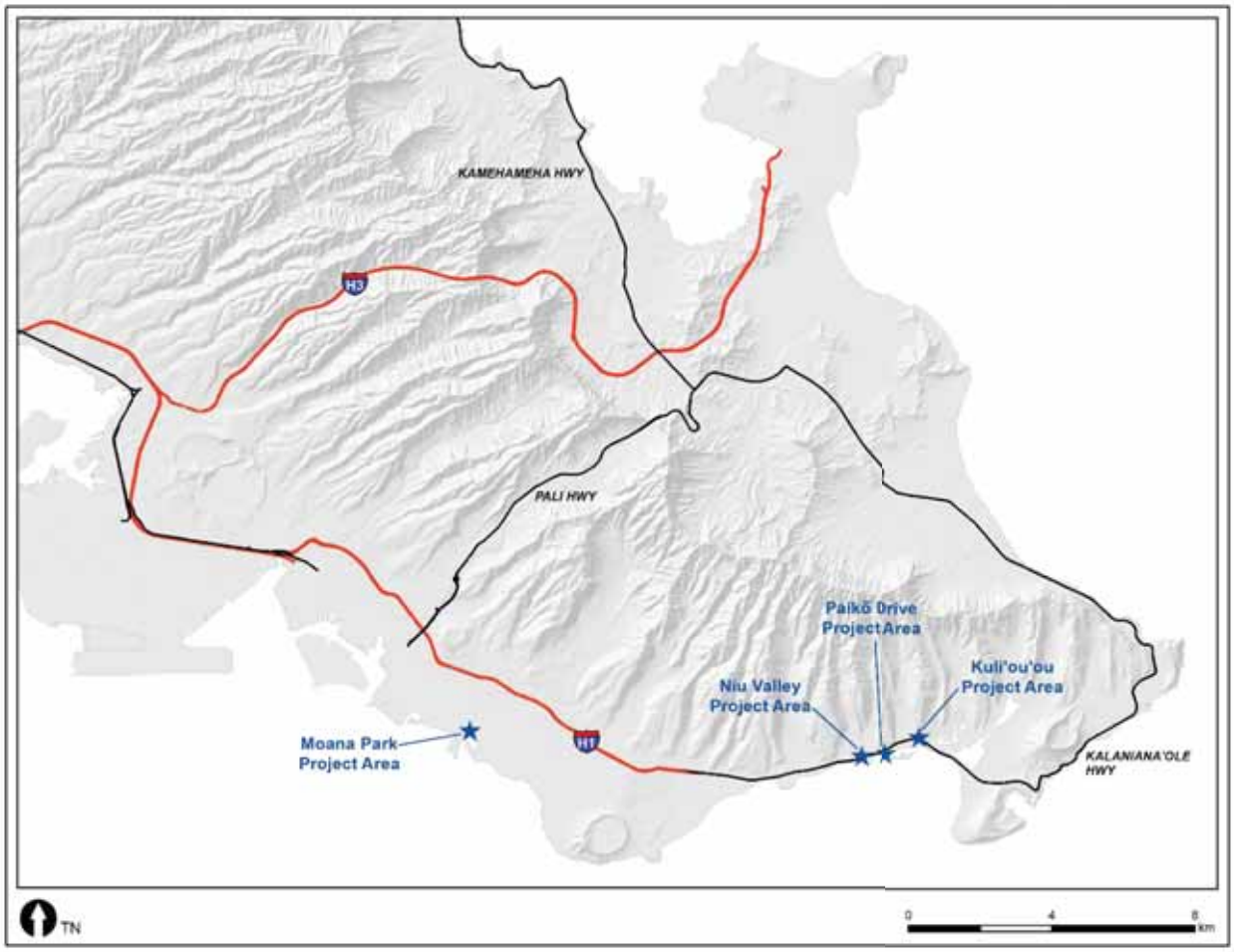

Figure 1. Locations of Four Waste Water Pump Station Project Areas on O‘ahu Island.

PAIKŌ DRIVE WWPS PROJECT AREA

PAIKŌ DRIVE WWPS PROJECT AREA LOCATION AND PROJECT DESCRIPTION

The Paikō Drive WWPS project area measures 0.11 acres and is situated south of Kalaniana‘ole Highway on Paikō Drive. Figure 2 shows the location of the Paiko Drive WWPS on a United States Geological Survey (USGS) map. The project area parcel, identified as TMK: (1) 3-8-001:034 (Tax Maps Bureau 1996), is owned by the City and County of Honolulu, Department of Environmental Services (ENV), Figure 3 shows the Paikō Drive WWPS project area location on a tax map.

The proposed Paikō Drive WWPS project includes the following activities:

1. Construct new generator room and install new generator with aboveground double-walled diesel tank.
2. Demolish existing underground irrigation lines
3. Remove two trees to create room for the new generator room and new diesel tank pad
4. Construct concrete access area for new generator room
5. Repair of wetwell interior walls and ceiling, and restroom toilet plumbing;
6. Upgrade of SCADA system;
7. Installation of a new magnetic flow meter, level control system, supply fan, and combustible gas detector.

Only the first four project activities will require ground-disturbing activities.

PAIKŌ DRIVE WWPS - ENVIRONMENTAL SETTING

The topography in the Paikō Drive WWPS project area is essential flat due to its location close to the shoreline. Elevation within the project area is 2.5 feet (ft) (0.75 meters [m]) above mean sea level (amsl). Only one (1) NRCS soil type, Jaucas Sands (JaC) (Table 1; Figure 4), is present within the project area (NRCS 2018). Six (6) other soil types are present (NRCS 2018) within 500 m of the project area but do not intersect it, including fill land (FL), Kawaihapai clay loam (KlA), Kawaihapai stony clay loam (KlaA), Keaau clay (KmA), Lualualei extremely cobbly clay (LPE), and Mokuleia clay loam (Mt) (see Table 1; see Figure 4).

Rainfall in the project area averages 30 inches per year (Giambelluca et al. 2013). Because the project area is in a developed residential neighborhood, vegetation consists of introduced species within a maintained ornamental landscape setting (see Putzi and Carlson 1997:3).

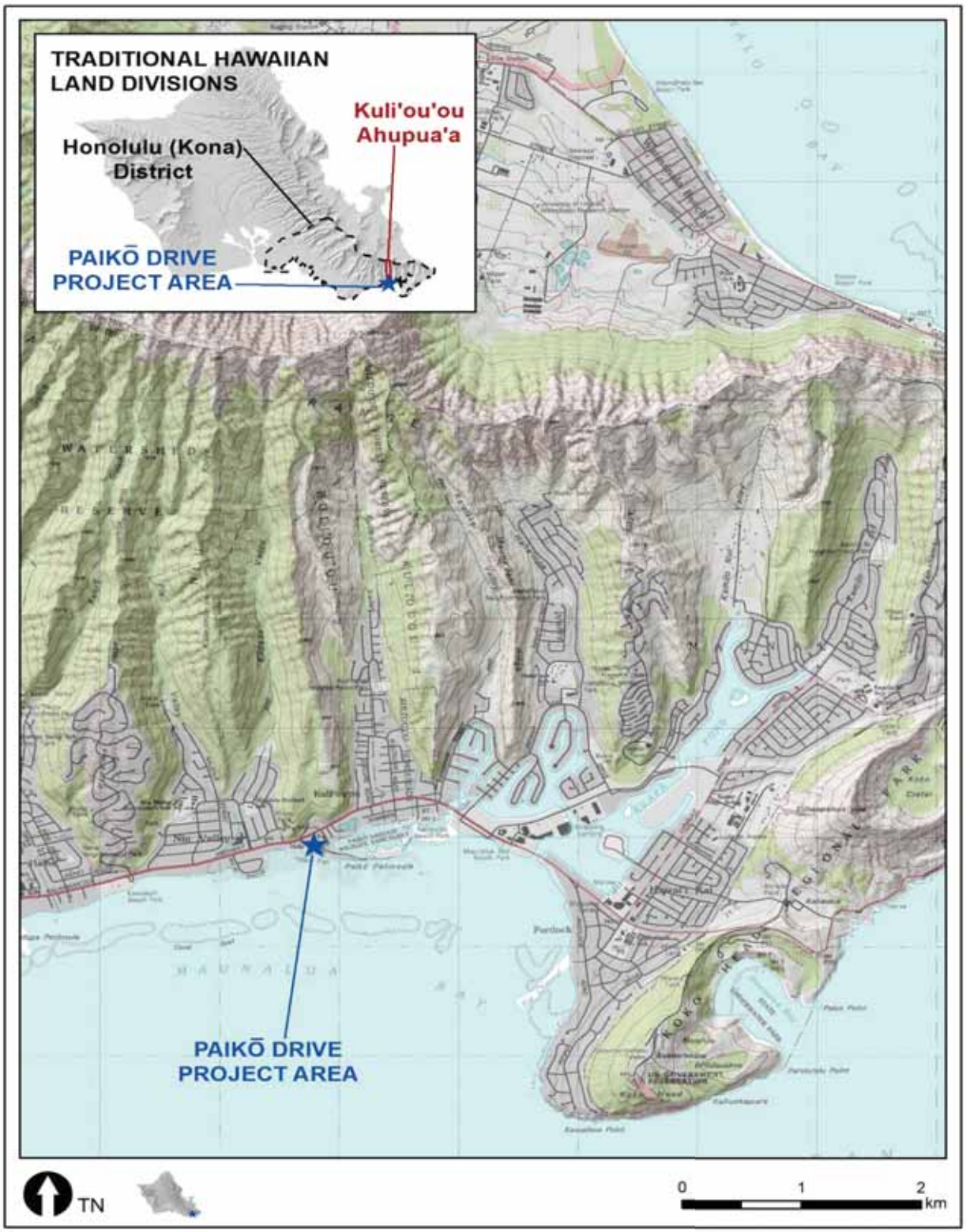

Figure 2. Location of the Paikō Drive WWPS Project Area on an Enlarged 1:24,000 U.S.G.S. Koko Head Quadrangle Map.

Figure 3. Location of Paikō Drive WWPS Project Area on Plat Map 3-8-01.

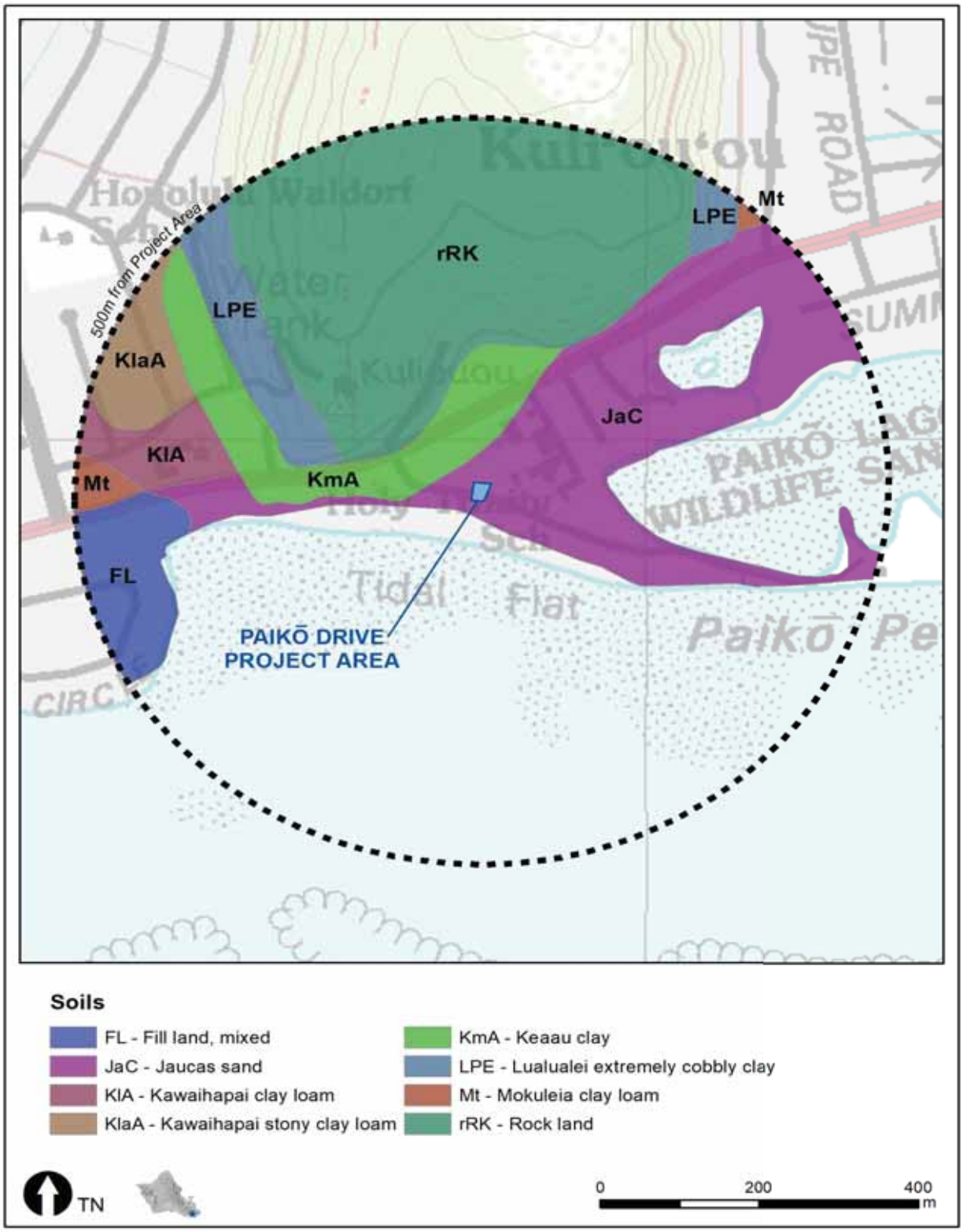

Figure 4. Map of Soil Types within 500 Meters of the Paikō Drive WWPS Project Area.

Table 1. List of Soil Types within 500 Meters of the Paikō Drive WWPS Project Area.		
Soil Code	**Soil Name**	**Relative Location**
FL	Fill land, mixed	Within 500 m of project area
JaC	Jaucas Sands, 0 to 15 percent slopes	Intersects project area
KlA	Kawaihapai clay loam, 0 to 2 percent slopes	Within 500 m of project area
KlaA	Kawaihapai stony clay loam, 0 to 2 percent slopes	Within 500 m of project area
KmA	Keaau clay, 0 to 2 percent slopes	Within 500 m of project area
LPE	Lualualei extremely cobbly clay, 3 to 35 percent slopes	Within 500 m of project area
Mt	Mokuleia clay loam	Within 500 m of project area
rRK	Rock land	Within 500 m of project area

PAIKŌ DRIVE WWPS -TRADITIONAL AND HISTORIC BACKGROUND

The Paikō Drive project area is located within Kuliʻouʻou Ahupuaʻa, which is located in the Honolulu (Kona) District (see Figure 2). According to Pukui et al. (1974:49-50, 117), "Honolulu" translates as "protected bay" in Hawaiian and "Kona" means "leeward." "Kuliʻouʻou" means "sounding knee," referring to a knee drum (*pūniu*) (Pukui et al. 1974:124).

The bay, along which Paikō Drive runs, is shown on a 1902 map (Alexander 1902) as "Maunalua or Waialae Bay" (Figure 5), with "Maunalua" meaning "two mountains" and "Waialae" meaning "mudhen water," likely named after a spring in the area (Pukui et al. 1974:149, 220).

Two valleys are located to the north of the project area: Kuliʻouʻou and Kūpaua (meaning "upright clam") (Pukui et al. 1974:125). Finally, "Paikō" is the name of the peninsula adjacent to the project area (and the name of the present-day Drive), and was named after a part-Portuguese man, Pico, who first leased and then owned land in this area (see Hammatt and Shideler 2002:6; Pukui et al. 1974:175).

Paikō Drive WWPS - Myths and Legends

According to legend, recounted by Emerson (1915:186-187), the Kuliʻouʻou area was where the goddess Hiʻiaka (Pele's younger sister) killed several women who were fishing along the shore. Hiʻiaka and Wahine Omao were heading to Hawaiʻi Island when they passed through Kuliʻouʻou. In the shallow coastal waters they saw some women catching fish and crabs, and asked the fishing women to share their catch. The women refused, and they did so in an

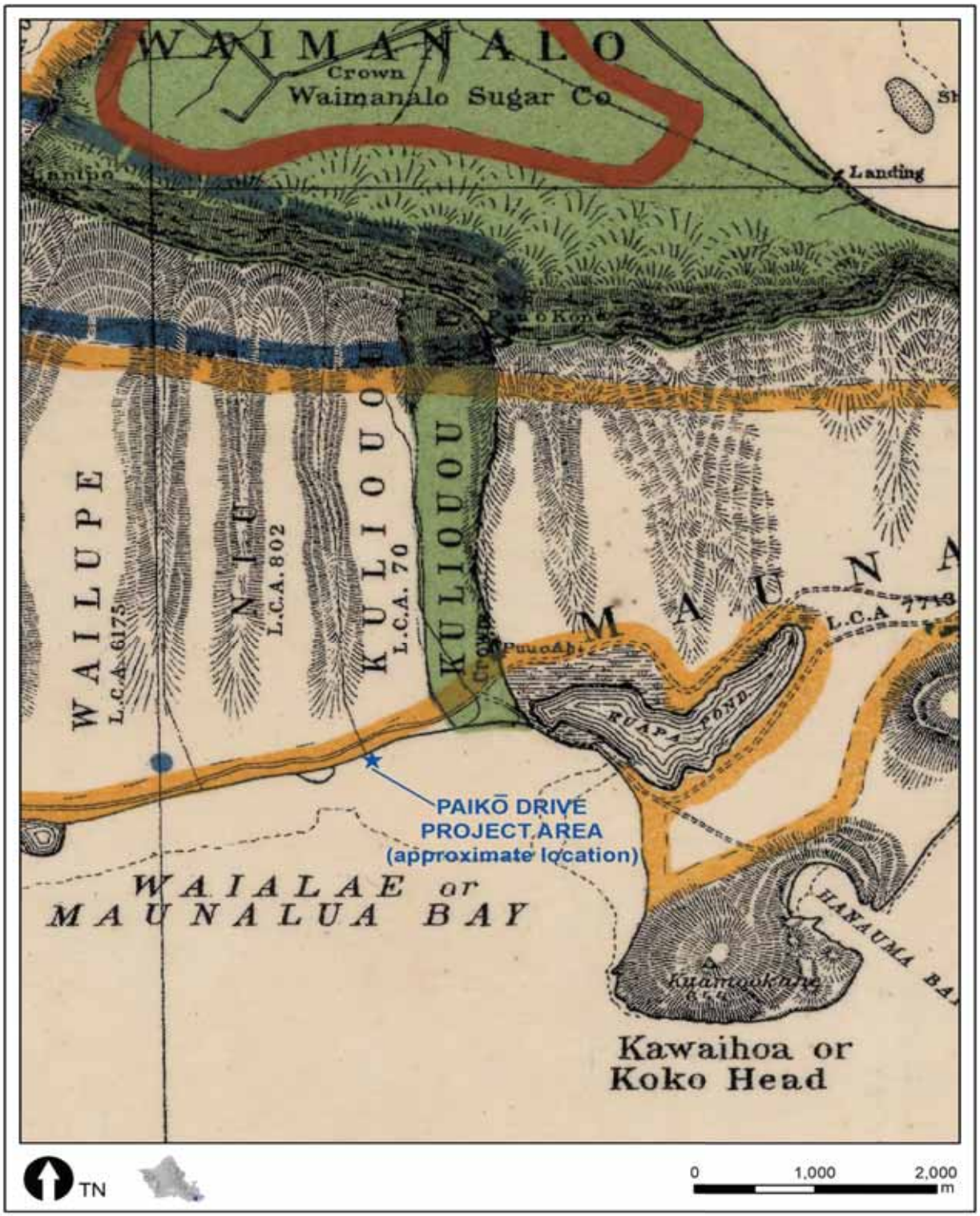

Figure 5. Location of the Paikō Drive Project Area on an Enlarged 1902 Historic Map by Alexander.

insulting manner. Unable to let the insult pass, Hiʻiaka called out an incantation and "the unfortunate fishing women fainted and died."

Hammatt and Shideler (2002:5) provide an admittedly speculative, but interesting, interpretation of this story. They suggest that a traditional story about a mass death scene may not be coincidence, considering the relative density of known burials all along this shore (see below). They also interpret this story, with less of a sense of the macabre, as indicating that fish and shellfish gathering were long-standing activities along this coast.

Paikō Drive WWPS - Traditional Land Use

As Kirch (1985:115-116, 251) notes in his classic synthesis of Hawaiian prehistory and archaeology, the Kuliʻouʻou area is home to a large, early-period rockshelter that was used for permanent habitation first starting around AD 900-1,000 (Site 50-80-15-4000, "Kuliʻouʻou Bluff shelter"). Handy and Handy (1972:483) report that Kuliʻouʻou Ahupuaʻa generally didn't contain soils that were amenable to wetland taro cultivation, so the main staple crop was almost certainly the sweet potato. However, Hammatt and Shideler (2002:6) opine that they "paint an overly bleak picture of Kuliʻouʻou agriculture" because of the extensive marshlands, which would have been quite suitable for cultivation. And, after visiting the area in 1786, Western sailor Nathaniel Portlock states that Maunalua Bay:

> …all round has a very beautiful appearance, the low land and vallies [*sic*] being in a high state of cultivation, and crowded with plantations of taro, sweet potatoes, sugar-cane, etc. interspersed with a great number of cocoa-nut tree…(Portlock 1968 [1789]:74).

In addition to agriculture, offshore fishing and aquaculture were important subsistence activities in this general region (Erkelens and Athens 1994:31). Erkelens and Athens (1994:31) report that there were at least 11 fishponds, six (6) of which were walled (*loko kuapa*) and named, including Kamoana, Kupapa, Mauanlua (at which Kamehameha I himself famously worked, see Kamakau 1992:192), Paikō, Punakou, and Wailupe Fishponds. Finally, the usual suite of domestic animals was also raised here, including dogs, chickens, and pigs (Putzi et al. 1998:25; see also Portlock 1968 [1789]:74).

Several accounts from additional early Western visitors suggest that quite a few settlements were present along the Kuliʻouʻou coast (Chamberlain 1826; Mathison 1825; Portlock 1968 [1789]:71). Specifically, while walking around the area Mathison (1825:387) observed a fishing village with approximately 100 huts, along with "several fine groves of cocoa-nut trees." Fish and shellfish are abundant, so – along with the staple sweet potato – numerous people no doubt could have lived well in this area.

Early accounts by Western sailors (Dixon 1968 [1789]; Portlock 1968 [1789]) indicate that this area was under the control of Kahekili (King of Maui, Molokaʻi, and Lānaʻi), one of Kamehameha I's main rivals in his bid to conquer the islands. Kahekili came to rule Oʻahu after years of violent strife, ending in the torture and execution of all of Oʻahu's chiefs (Kamakau 1992:138). All of this occurred only months before Dixon and Portlock arrived on Oʻahu in 1786.

Paikō Drive WWPS - Historic Land Use

After Kamehameha I conquered the islands and Western visitors became increasingly frequent, introduced crops were added to the agriculture of the Kuliʻouʻou area. Sterling and Summers (1978:271) report that alfalfa was grown in Kuliʻouʻou, and Takemoto et al. (1975:19) note that potatoes were grown in neighboring Maunalua Ahupuaʻa. And, Takemoto et al. (1975:19) report, sandalwood was harvested in the upland forests.

According to Hammatt and Shideler (2002:5-6), early "ownership" of land in this area is nebulous. They suggest that Kamehameha I gave Maunalua (including Kuliʻouʻou) to Keʻeaumoku, who passed it along to his daughter Kaʻahumanu upon his death in 1804. She, in turn, passed it along to her co-wife Kalola in 1819, who then appointed her nephew, Abner Pākī, as caretaker (*konohiki*). Prior to her death in 1832, Kaʻahumanu regained control of this area, so it was passed along to Keoni Wawaenui (aka "John Bigfeet"), who received it out of gratitude for his service as retainer of Kamehameha household.

Then, in 1845, the Board of Commissioners to Quiet Land Titles (BC), also called the Land Commission, was established "for the investigation and final ascertainment or rejection of all claims of private individuals, whether natives or foreigners, to any landed property" (Chinen 1958:8). This led to the *Māhele*, which introduced the concept of private property into Hawaiian society. During the *Māhele* (or *Māhele ʻAina*, lit. "Land Division"), in 1848, lands were placed in one of three categories: (1) Crown Lands, (2) Government Lands, or (3) *Konohiki* Lands (Chinen 1958:vii).

At the time of the *Māhele*, Kuliʻouʻou Ahupuaʻa was divided in two, a western half (Kuliʻouʻou 1) and an eastern half (Kuliʻouʻou 2, Kuliʻouʻou Iki). Kuliʻouʻou 2 (Kuliʻouʻou Iki) was designated Crown Lands, and Kuliʻouʻou 1 (LCA 70-B [RP 5598]) was awarded to Waiaha, the daughter of Keoni Wawaenui ("John Bigfeet") (see historic map by Alexander 1902). Following this, Kuliʻouʻou 1 was leased to and then owned by Manuel Pico (Paikō), a part-Portuguese immigrant and namesake of Paikō Peninsula and Pond/Lagoon (see Hammatt and Shideler 2002:6; Pukui et al. 1974). During the reign of King Kamehameha III (Kau-i-ke-aouli), Kuliʻouʻou 2 (Kuliʻouʻou Iki) was used as a summer residence (Wright 1925).

In the roughly five (5) decades after the *Māhele*, Takemoto et al. (1975:25) report that aquaculture and cattle ranching were the dominant subsistence activities in the region, which continued to be a rural and agriculturally-oriented region of Oʻahu throughout much of the historic period. But, by the mid-1900s, the area had become more residential, including the partial filling in of Maunalua Fishpond to put up housing developments.

PAIKŌ DRIVE WWPS - ARCHAEOLOGICAL BACKGROUND

No previous archaeological studies were found within the Paikō Drive project area, and three (3) previous studies were located within 500m (Dye 1977; Emory and Sinoto 1961; Putzi et al. 1998; Figure 6). However, McAllister's (1933) classic, early 1930s, selective, island-wide survey is also worth mentioning as well. Finally, this area is relatively dense with burials, so more detailed descriptions of burial sites will be given, along with one non-burial site within 500 m of the project area (Table 2).

Conducted in 1930 and published three years later, McAllister's survey did not record any archaeological sites within the project area, but there were sites recorded not far away. He recorded Keahupua-o-Maunalua (Kuapa) Fishpond (McAllister's Site 49); a large house site or *heiau* (Site 50) (a *heiau* is a traditional Hawaiian ritual structure); Kupapa Fishpond (Site 51, filled in prior to his 1930 survey); Kūlepeamoa Heiau (Site 52); and Niu Cave(s) (Site 53) (McAllister 1933:69-70).

In 1938, an anthropology student at the University of Hawaiʻi first discovered and excavated Site 50-80-15-4000 (Kuliʻouʻou Bluff shelter), which ended up being one of the most information-rich sites in Hawai'i. Unfortunately, excavations were halted and after WWII, the lava tube cave site was used as a bomb shelter (Emory and Sinoto 1961:3). Twelve years after its initial discovery, Emory – along with students from the University of Hawaiʻi – resumed the excavation.

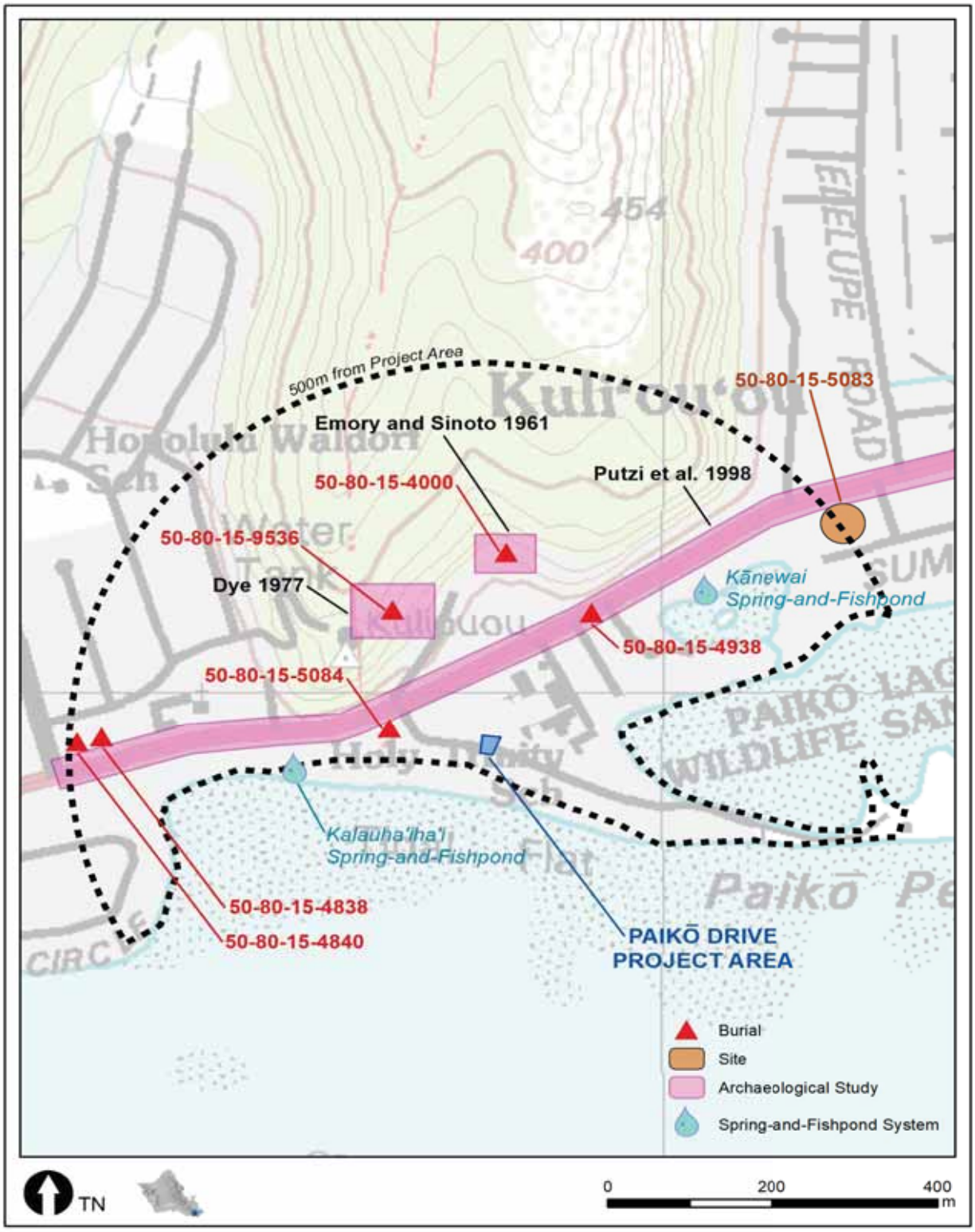

Figure 6. Archaeological Studies, Sites, and Burials within 500 Meters of the Paikō Drive Project Area.

Table 2. List of Burial and Non-Burial Sites within 500 Meters of the Paikō Drive Project Area.		
SIHP (50-80-15-xxx)	**Description**	**Reference**
9536	One (1) burial (likely disturbed by vandals)	Dye 1977
4000	Site 4000 consists of three (3) burials, plus a wealth of midden and artifacts associated with extended habitation.	Emory and Sinoto 1961
4838	Site 4838 consists of three (3) burials.	Putzi et al. 1998
4840	Site 4840 consists of three (3) burials.	Putzi et al. 1998
4938	Site 4938 consists of three (3) burials.	Putzi et al. 1998
5083	Site 5083 consists of three features: a historic trash pit, a cobblestone septic tank, and a cobble alignment and trash pit	Putzi et al. 1998
5084	Site 5084 consists of one (1) burial.	Putzi et al. 1998

A wealth of midden and artifacts were recovered from Site 4000. The midden consisted of marine shell; bone from humans, non-humans, fish, birds, and sea turtles; and plant remains. Artifacts included fire sticks; cooking stones; a gourd fire blower; bone needles and picks; bone and marine shell awls; a stingray tail awl; bamboo and basalt knives; a shark-tooth knife; scrapers made from marine shell, stone, and coconut shell; gourd and coconut containers; fishhooks and fishhook blanks; a *poi* pounder (found in 1935); filed bones; basalt, coral and pencil urchin files; coral and stone octopus lure sinkers; stone net sinkers; portions of *olonā* (native shrub used for making fiber) fiber fishing net; netting needles; net mesh gauges; adzes and chisels; grinding and rubbing stones; stone hand picks; *ʻulu maika* stones (traditional Hawaiian game) stones; a slingstone; a javelin head; a possible arrow head; dye cups; bored dog teeth for pendants and/or anklets; bone and turtle shell bracelet plaques; a fragment of a foreign slate mirror; assorted cordage fragments; a leg piece from a wooden stick image; bamboo *kapa* (tapa) cloth stamps; and wood splinters from a *kapa* cloth beater (Emory and Sinoto 1961:36-76). Finally, Site 50-80-15-4000 yielded the first charcoal radiocarbon dating samples in the islands. In 1950, two charcoal samples resulted in calendar dates of AD 1004+/-180 (Chicago C550) and AD 1739+/-150 with a maximum age of 1589 (Michigan M564) (Emory and Sinoto 1961:15).

Kahn et al. (2014) re-dated the Kuliʻouʻou Rockshelter site using newer AMS radiocarbon dating methodology. They submitted for analysis six new wood charcoal samples from short- to medium-lived species. From this and a re-evaluation of the two original radiocarbon dates, they derived a revised chronology of this site. They concluded that an early occupation date of approximately AD 1000 is no longer tenable, but that this rockshelter was probably first occupied around AD 1400-1450. This site, therefore, "…can no longer be

considered relevant to the early period of Polynesian colonization in Hawaiʻi" (Kahn et al. 2014:87).

In 1977, archaeologists at the B.P. Bishop Museum documented an incomplete burial located in a lava tube at the southern end of the Kuliʻouʻou 2 Ridge. They report that vandals may have disturbed the burial. Following inspection, the remains were left in the lava tube (Dye 1977:2).

In 1998, archaeologists from Garcia and Associates (Putzi et al. 1998) conducted archaeological monitoring during Phase II widening of Kalanianaʻole Highway, from East Halemaʻumaʻu Street to Keahole Street (various TMKs). Ten sites dating to both pre-Contact and historic-period times were documented, seven (7) of which included human skeletal remains. Three (3) sites did not include human burials: Site -4694 consisted of 63 features that represent an occupation from pre-Contact through the 1800s and possibly the 1900s. Site-4733 was associated with early- to late-historic period occupation and artifact manufacture, and included three trash pits, one posthole, and a pig (*Sus scrofa*) interment. Site-5083 consisted of one trash pit, one stone septic tank, and one cobble stone alignment with a trash pit, all of which are associated with late historic habitation (Putzi et al. 1998:i, 41-116; see Figure 6).

The other seven (7) sites (-4837, -4838, -4840, -4841, -4938, -4939, -and 5084) included human skeletal remains (most with multiple burials) that span much of the pre-Contact and historic periods. Of particular note is Site-4841, which contained burials that were part of a cemetery or burial ground that likely dates from pre-Contact through the 1800s (Putzi et al. 1998:i, 41-116; see Figure 6). Site 5084 is situated approximately 174 m west of the Paikō Drive WWPS facility.

PAIKŌ DRIVE WWPS - ANTICIPATED FINDS

The possibility of finding burials and/or human skeletal remains in this area is moderate to high because the Paikō Drive WWPS project area is situated entirely within Jaucas Sand (JaC) soil deposits, which are well known to be frequently associated with traditional Hawaiian burials. In addition, quite a few burials have already been documented within 500 m (see Figure 6 and Table 2).

MOANA PARK WWPS PROJECT AREA

MOANA PARK WWPS PROJECT AREA LOCATION AND DESCRIPTION

The Moana Park WWPS project area measures 0.09 acres and is situated in the eastern portion of Ala Moana Park. Figure 7 shows the location of the Moana Park WWPS project area on a USGS quadrangle map. The project area parcel, identified as TMK: (1) 2-3-037:101 (Tax Map Bureau 2014), is owned by the CCH, ENV. Figure 8 shows the Moana Park WWPS project area on a tax map.

The proposed Moana Park WWPS project includes the following activities:

- Replace swing check valves with flapper check valves
- Replace restroom waste/vent piping
- Replace sump pump and piping
- Install and replace supply and exhaust fans and ducts; Install “loss of flow” detectors and alarms
- Install new trench grating

None of the above activities will require ground-disturbing activities.

MOANA PARK WWPS- ENVIRONMENTAL SETTING

The topography in the Moana Park WWPS project area is essentially flat due to its location along the coast and in a highly developed area that has been filled for development purposes. Elevation within the project area is 2.6 ft (0.8 meters [m]) above mean sea level (amsl).

One (1) NRCS soil type is present within the project area (NRCS 2018): Fill land, mixed (FL) (Table 3; Figure 9). Four (4) other soil types are present (NRCS 2018) within 500m of the project area but do not intersect it, including Beaches (BS), Ewa silty clay loam (EmA), Kawaihapai clay loam (KlA), and Pearl Harbor clay (Ph) (see Table 3; see Figure 9).

Table 3. List of Soil Types within 500 Meters of the Moana Park WWPS Project Area.

Soil Code	Soil Name	Relative Location
BS	Beaches	Within 500 m, but does not intersect project area
EmA	Ewa silty clay loam, moderately shallow, 0 to 2 percent slopes	Within 500 m, but does not intersect project area
FL	Fill land, mixed	Intersects project area
KlA	Kawaihapai clay loam, 0 to 2 percent slopes	Within 500 m, but does not intersect project area
Ph	Pearl Harbor clay	Within 500 m, but does not intersect project area

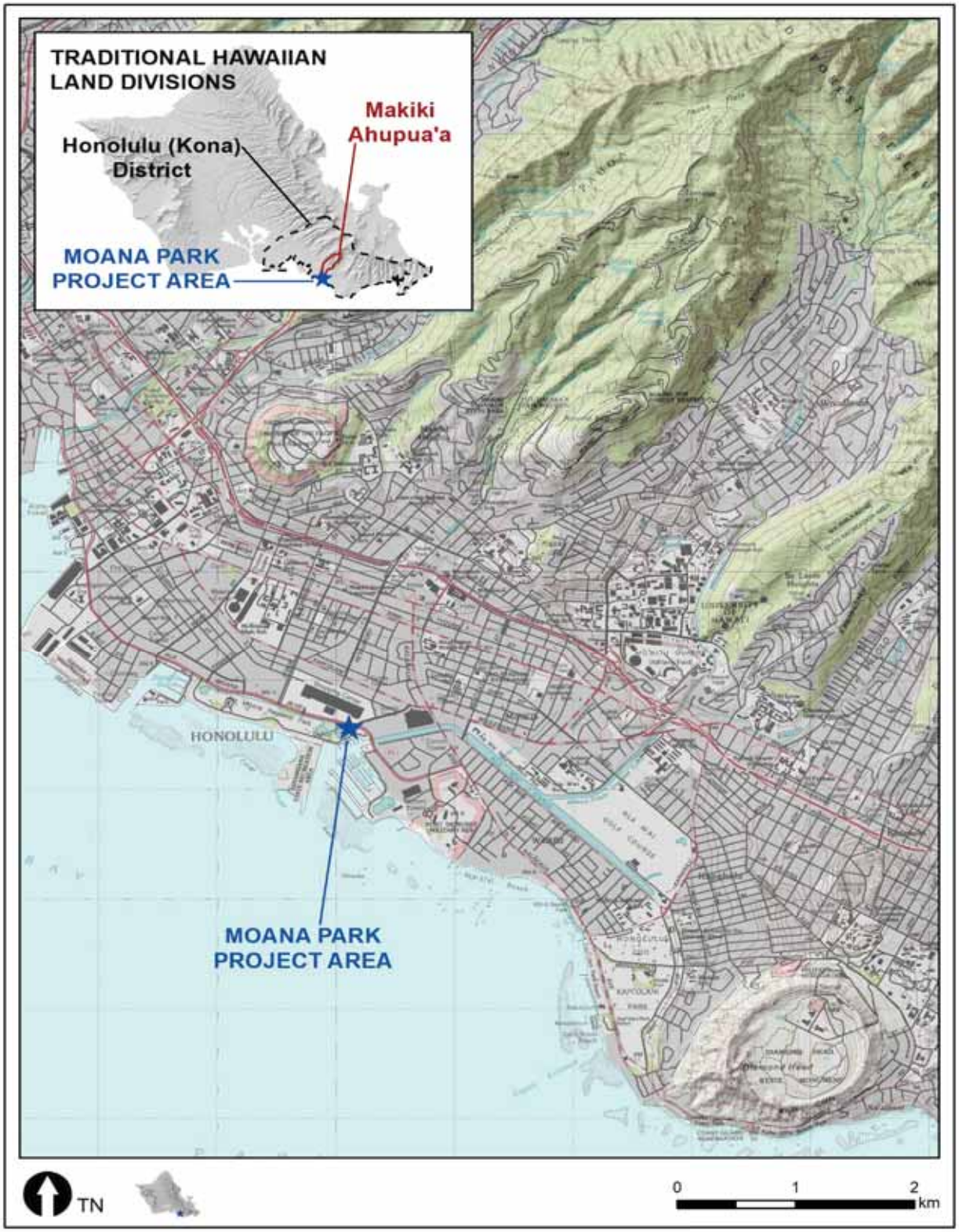

Figure 7. Location of the Moana Park WWPS Project Area on Enlarged 1:24,000 U.S.G.S. Honolulu Quadrangle Map.

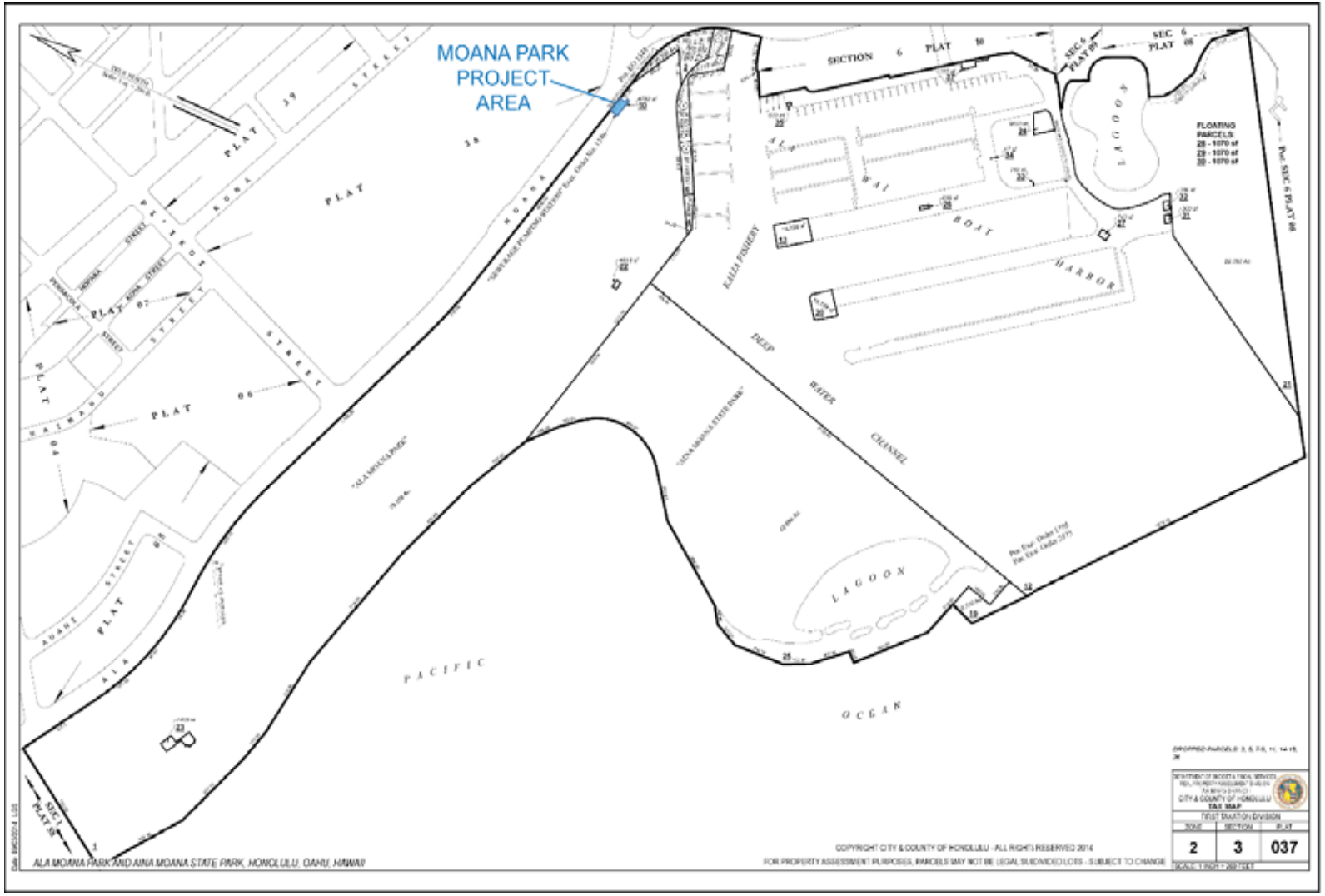

Figure 8. Location of Moana Park WWPS Project Area on Plat Map 2-3-37.

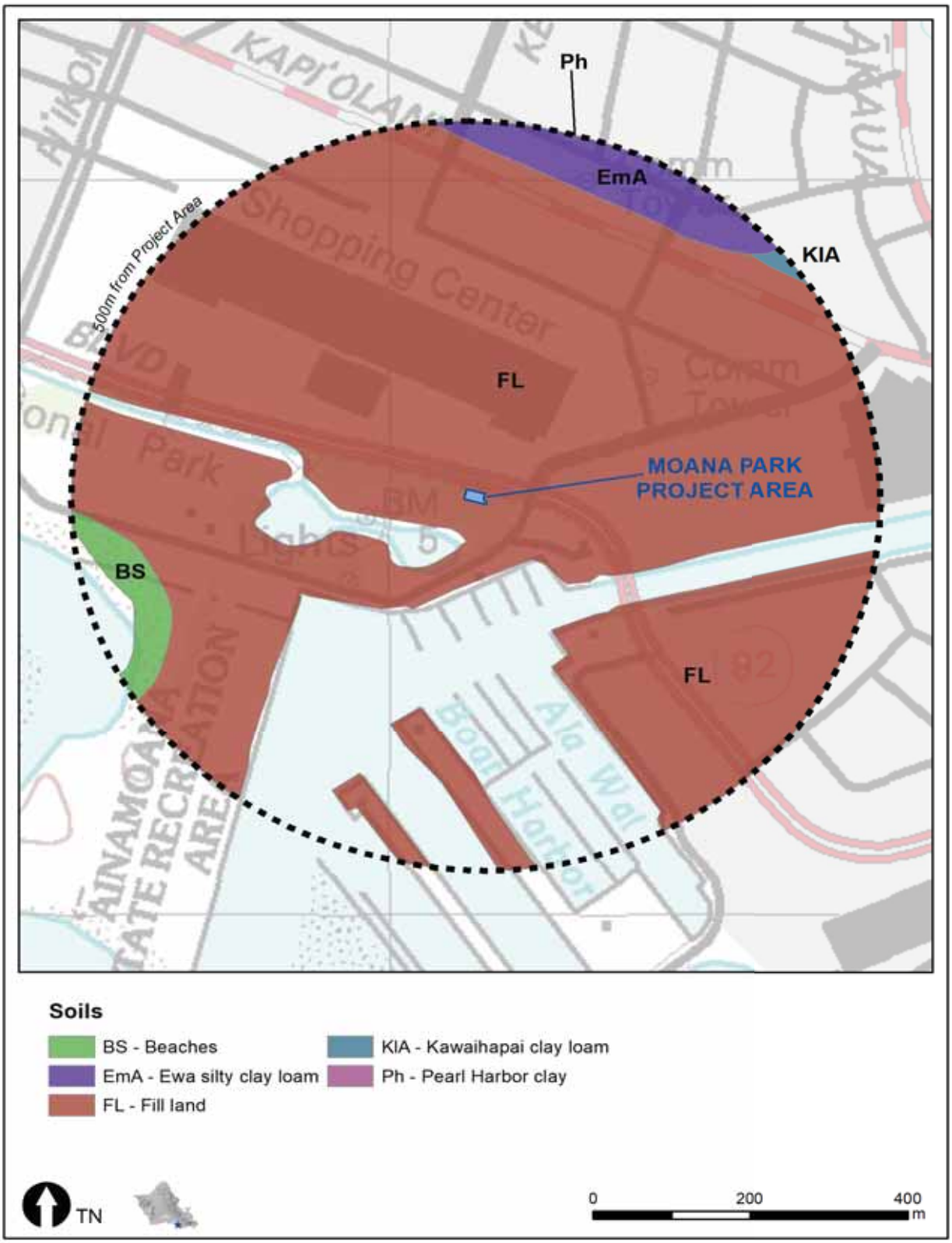

Figure 9. Map of Soil Types within 500 Meters of the Moana Park WWPS Project Area.

Annual rainfall at the project area averages 26 inches per year (Giambelluca et al. 2013). Vegetation in the project area and surrounds consists of a maintained park landscape.

MOANA PARK WWPS - TRADITIONAL AND HISTORIC BACKGROUND

The Moana Park WWPS project area is located within Makiki Ahupuaʻa, which is located in the District of Honolulu (see Figure 7). According to Pukui et al. (1974:49-50, 117), "Honolulu" translates as "protected bay" in Hawaiian and "Kona" means "leeward." "Makiki" probably refers to a type of stone weight used with octopus lures (Pukui et al. 1974:142).

The general region includes several key place names. Kewalo describes a broad area to the north, and it translates as "the calling (as an echo)" (Pukui et al. 1974:109). Waikīkī lies to the south-southeast and literally means "sprouting water," which no doubt refers to the swampland it was prior to development (specifically of the Ala Wail canal) (Pukui et al. 1974:223). Kālia is the small area just to the east and translates as "waited for" (Pukui et al. 1974:77). Finally, Kukuluāeʻo is an older name describing a smaller area just north of the project area and is the name for the Hawaiian stilt (a currently endangered shore bird) (Pukui et al. 1974:123).

Moana Park WWPS - Myths and Legends

One interesting legend tells of an infamous spring located in the region, as recounted by Sterling and Summers (1978:292):

> It contains a spring rather famous in the times previous to the conversion to Christianity, as the place where victims designed for the Heiau of Kanelaau on Punchbowl slopes, was [sic] first drowned. The priest when holding the victim's head under water would say to her or him on any signs of struggleing [sic], "moe malie I ke kai o ko haku." "Lie still in the waters of your superior." From this it was called Kawailumalumai, "Drowning Waters."

This story suggests that Kewalo had close ties with the broader region's socio-religious system.

Kewalo is also the setting of a story about a man named Kapoʻi and epic battle between the king of O'ahu and the king of the owls (Poepoe 1998:200-202; Westervelt 1963:135-137).

One day a man named Kapoʻi went to Kewalo to gather *pili* grass for his house and found seven owl eggs, which he collected for his dinner. As he walked home, he saw a *pueo* (owl) perched on his fence. It cried out, "O Kapoʻi, give me my eggs!" Kapoʻi was hesitant at first, but after several passionate pleas, he returned the eggs. For this, the owl became his *ʻaumakua* (deified ancestor) and instructed him to build a *heiau*. He built the *heiau*, made his banana offering on the alter, and set the *kapu* (tabu) days for its dedication.

Unfortunately for Kapoʻi, O'ahu's king, Kākuhihewa, was building his own *heiau* and he made it illegal for anyone else to build and set the *kapu* days on their own *heiau*. So Kapoʻi was seized and taken to Kūpalaha Heiau in Waikīkī. But, his new *ʻaumakua* was watching out for him. The owl flew to Puʻu Pueo in Mānoa and asked the king of the owls to help him. The owl king gathered all the owls throughout the islands and waged battle with the king of Oʻahu. It was fierce. Kamakau (1991:23) recounts: "The owls scratched at the eyes and noses of the men and befouled them with excrement." Because of this episode, Hawaiian consider the owl a powerful *akua* (god).

Kālia, just to the east of the project area, is mentioned in a story about a husband from Maui whose wife has left him and went to live on O'ahu (see Hunkin et al. 2013:17). The husband is sad and missing his wife, so he went to see a *kahuna* (priest, sorcerer; expert in any profession) skilled in *hana aloha* sorcery. The *kahuna* instructed the man to fetch a container with a lid and then speak his love for his wife into it. The *kahuna* then spoke an incantation into the container, closed the lid, and threw it into the ocean. One morning, the wife was fishing at

Kālia and she saw the container. Opening it, she was overcome with a great longing to return to her husband, so she walked until she found a canoe that would take her back to Maui.

Moana Park WWPS - Traditional Land Use

The project area is situated in the region known as Kewalo, which was predominantly wetland prior to Contact. It had a close relationship with its more populated neighboring regions, such as Waikīkī, which was the "ruling seat of the chiefs of O'ahu" since the end of the A.D.1300s (Beckwith 1970). Additionally, Kamehameha I chose to reside in Waikīkī after conquering ("unifying") the Islands at the end of the 1700s, and early explorer accounts suggest that, along with fishponds, the broader Honolulu/Waikīkī region was home to an impressive irrigated taro field complex (see summaries in Perzinski, et al. 2006) (Figure 10 and Figure 11).

The Kewalo wetland itself was identified and designated as Site 6636 first by O'Hare, et al. (2003) in an area east of the current project area. This site consists of a subsurface wetland deposit (located between approximately 0.90 and 2.20 m below the surface) and associated features, such as pond sediments, berms, possible retaining walls, and possible wooden posts (Hammatt 2013:384-425). Additionally, the Kewalo wetland in general was used as an impromptu burial ground – of Native Hawaiians predominantly – during the Smallpox Epidemic of 1853, resulting in a scattershot pattern of undocumented (or under-documented) burials throughout this region (see Clark and Gosser 2005:12-16). Radiocarbon dating of pond sediments from Site 6636 yielded calibrated date ranges of AD 1530 – 1630, AD 1630 – 1690, AD 1730 – 1810, and AD 1920 – 1950, tentatively indicating that this pond's sediments started to accumulate around AD 1530 – 1560 (Clark and Gosser 2005:34).

Hunkin et al. (2013:16) note also that Kewalo was often a place where people collected various resources, such as *pili* grass for house thatching, which grew in the marshlands. Also, salt making was a traditional activity practiced in this region, and it was used not only to flavor and preserve food, but also for medicines and for ritual purposes (see Malo 1951 [1898]:123). Finally, because of its position between the populated areas of Honolulu and Waikīkī, traditional trails ran through this region.

Moana Park WWPS - Historic Land Use

In 1845, the Board of Commissioners to Quiet Land Titles (BC), also called the Land Commission, was established "for the investigation and final ascertainment or rejection of all claims of private individuals, whether natives or foreigners, to any landed property" (Chinen 1958:8). This led to the Māhele, which introduced the concept of private property into Hawaiian society. During the Māhele (or Māhele 'Aina, lit. "Land Division"), in 1848, lands were placed in one of three categories: (1) Crown Lands, (2) Government Lands, or (3) *Konohiki* Lands (Chinen 1958:vii).

At the time of the Māhele, the Moana Park WWPS project area was still underwater (see Figure 12 and Figure 13), so no specific LCAs were associated with this land. Adjacent land seems to have been granted to Kapapa under Royal Patent 3782 (see Figure 13 - Lyons 1876). In 1884, filling began in this area and continued until 1928 (Allen 1997:9). This is perhaps the most significant land modification event in the Moana Park WWPS project area. Figure 14 is a historic map by Bishop (1884) showing the project area.

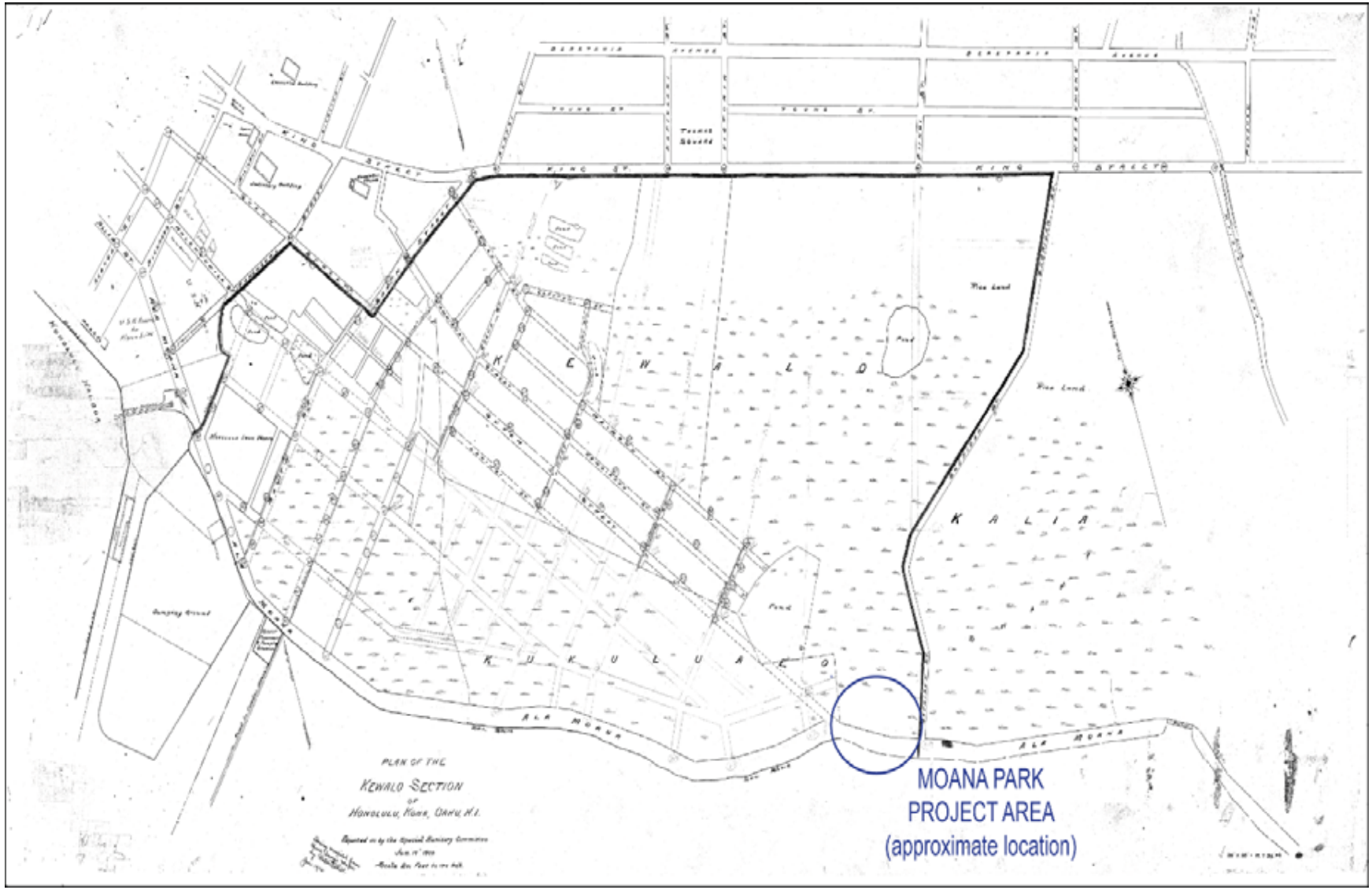

Figure 10. Location of the Moana Park WWPS Project Area on a 1900 Map of Honolulu, Kewalo Section, Showing Areas of Rice Cultivation, previously Irrigated Taro Field Complexes (Special Sanitary Committee 1900).

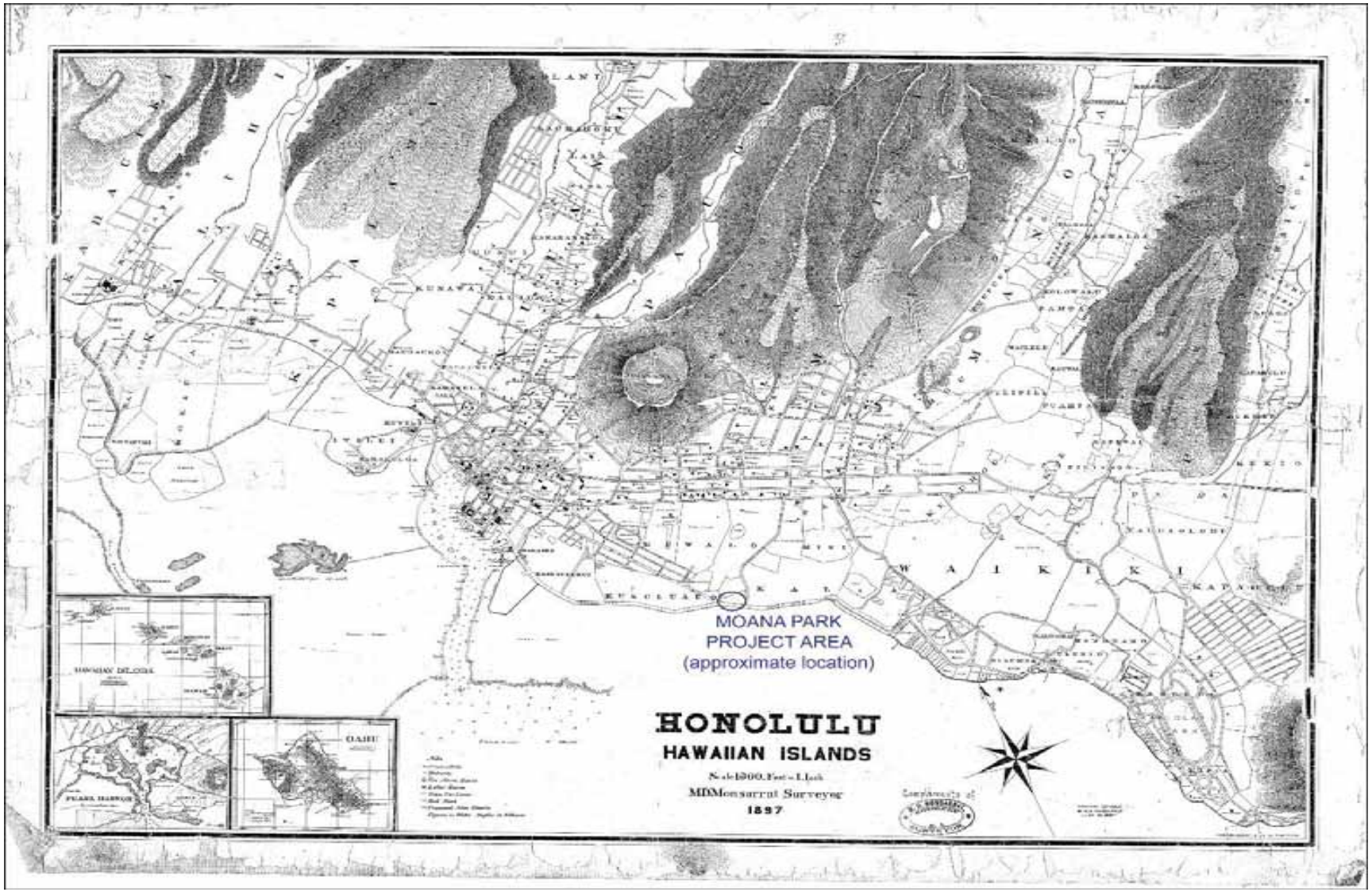

Figure 11. Location of the Moana Park WWPS project area on a 1897 Map of Honolulu by M.D. Monsarrat Showing Numerous Ponds in Kakaʻako and Waikīkī.

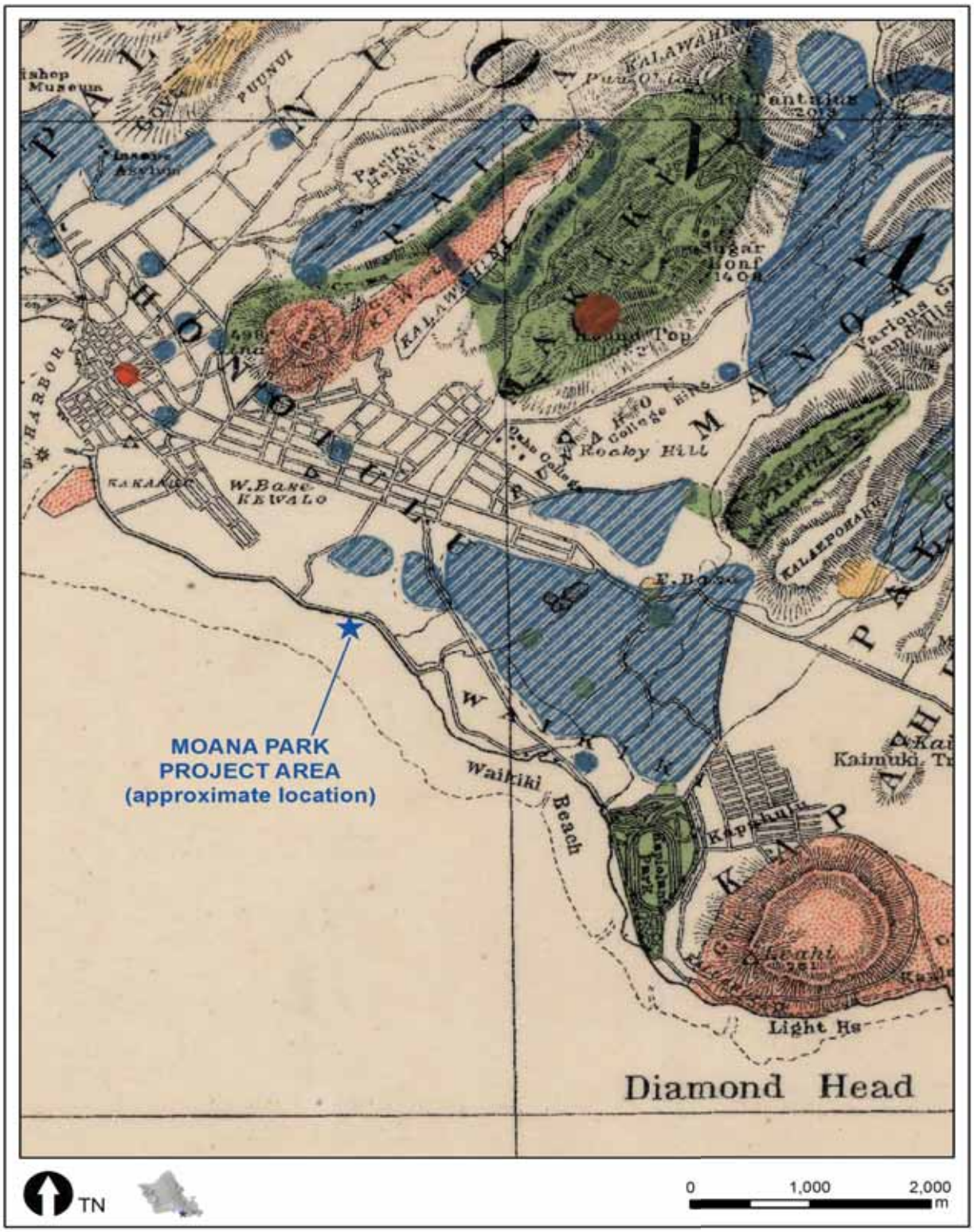

Figure 12. Location of the Moana Park Project Area on an Enlarged 1902 Historic Map by Alexander.

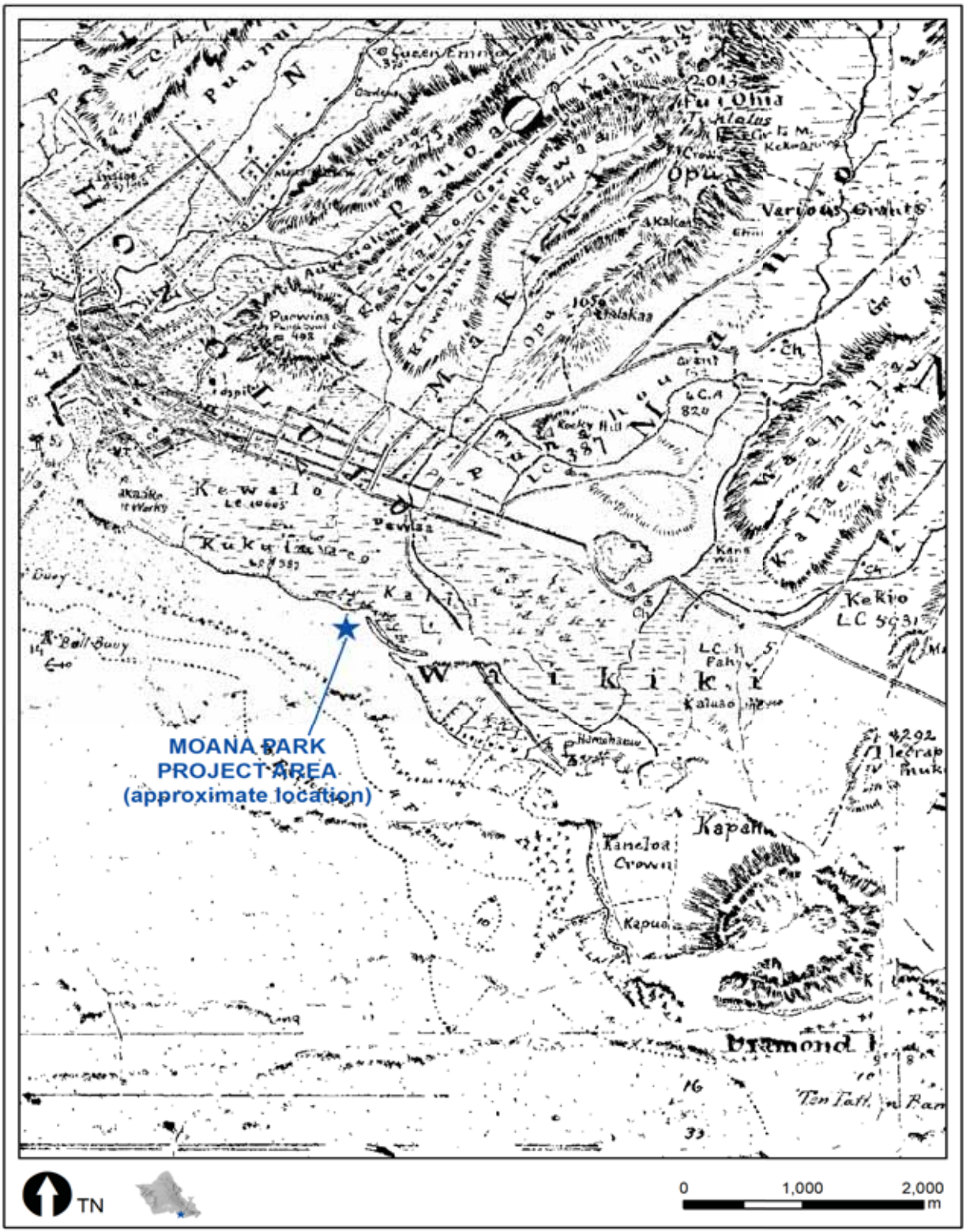

Figure 13. Location of the Moana Park Project Area on an 1876 Historic Map by Lyons.

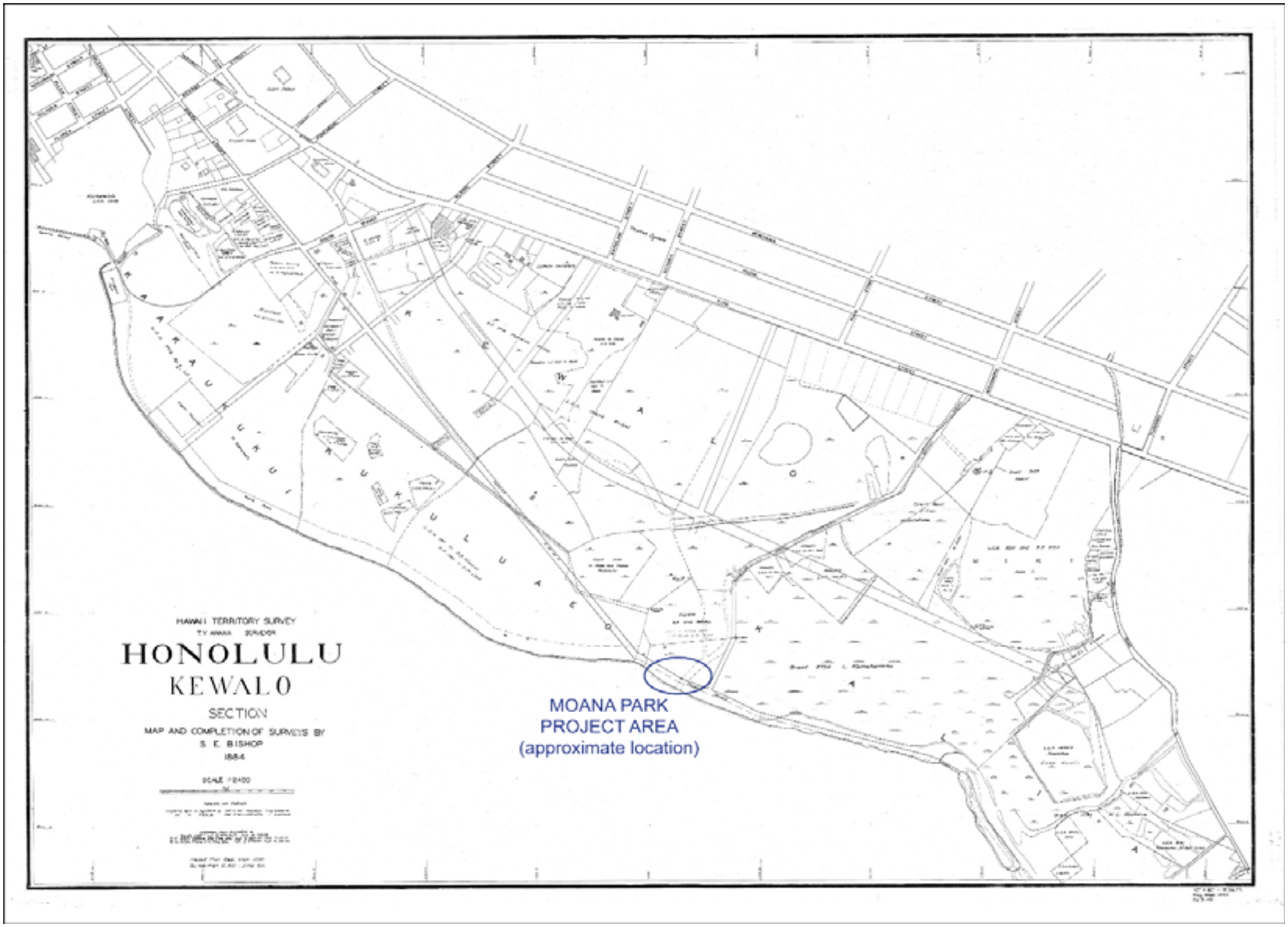

Figure 14. Location of the Moana Park Project Area on an 1884 Historic Map by Bishop.

From LCA records in the general Kewalo/Kukuluāe'o/Kālia area, we know that the traditional activities (taro agriculture, fishpond aquaculture, and salt production) all continued into the mid-1800s. However, in the latter half of the 1800s, the expansion of Honolulu ended these activities in a flurry of urban development (Hunkin et al. 2013:30). Further afield in the greater Kewalo region, rice replaced taro cultivation and much of the existing marshland remained intact, until eventually it, too, succumbed to urban expansion (see Hunkin et al. 2013:48-51).

Additionally, the Kewalo wetland was used as an impromptu burial ground during the Smallpox Epidemic of 1853, resulting in a scattershot pattern of undocumented (or under-documented) burials, predominantly Native Hawaiian, throughout this region (see Clark and Gosser 2005:12-16).

MOANA PARK WWPS - ARCHAEOLOGICAL BACKGROUND

Two (2) previous archaeological studies were conducted within the Moana Park WWPS project area (Petrey et al. 2008; Tome and Spear 2011), and eighteen (18) previous studies were located within 500m (Altizer et al. 2011; Burke and Hammatt 2014; Fong et al. 2009; Freeman et al. 2005; Hammatt 2006, 2013; Hammatt and Shideler 1995, 1996; Hazlett et al. 2008; Hunkin et al. 2013; LaChance and Hammatt 2014; LeSuer and Cleghorn 2004; Morriss et al. 2013; O'Hare et al. 2016; O'Leary and Hammatt 2004; Pammer and McDermott 2014; Tulchin and Hammatt 2004, 2009). Figure 15 shows archaeological studies within 500 m of the Moana Park WWPS project area.

No burial or non-burial sites were reported within the Moana Park WWPS project area, but three (3) burials and eight (8) non-burial sites are present within 500 m (Table 4; Figure 16). Additionally, the project area falls within the Ala Moana Beach Park Historic District (50-80-14-1138), which is a part of the Art Deco Parks Historic District (50-80-14-1388) (a discontiguous district - see Figure 16).

Archaeological investigations were conducted at the site of the Hawai'i Convention Center prior to its construction, including systematic inventory survey, subsurface trench testing, and a data recovery program (Hammatt and Shideler 1995 and 1996). Ten (10) trenches and seven (7) core samples were taken as part of the subsurface testing program. After subsurface testing and completion of various analyses (including stratigraphic, faunal remains identification, palynological, radiocarbon dating, and diatom analysis), the authors concluded that there were no human burials or habitation locales within the project area. In fact, the data recovery program was able to refine, if not refute, the hypothesis that the Kūwili fishpond had been present at this location. Hammatt and Shideler (1996) concluded that there was no clear evidence that this was the case.

In 2004, archaeological monitoring was conducted during emergency sewer line repairs along Kapi'olani Boulevard (O'Leary and Hammatt 2004). Soil deposits within the project area consisted of imported construction fill associated with the original sewer pipe installation. No human skeletal remains, historic properties, pre-Contact or historic cultural artifacts, or other significant cultural material were observed.

In 2004, a reconnaissance field inspection was conducted in the HECO East O'ahu Transmission project area (Tulchin and Hammatt 2004). No human skeletal remains, historic properties, pre-Contact or historic cultural artifacts, or other significant cultural material were encountered during this field inspection.

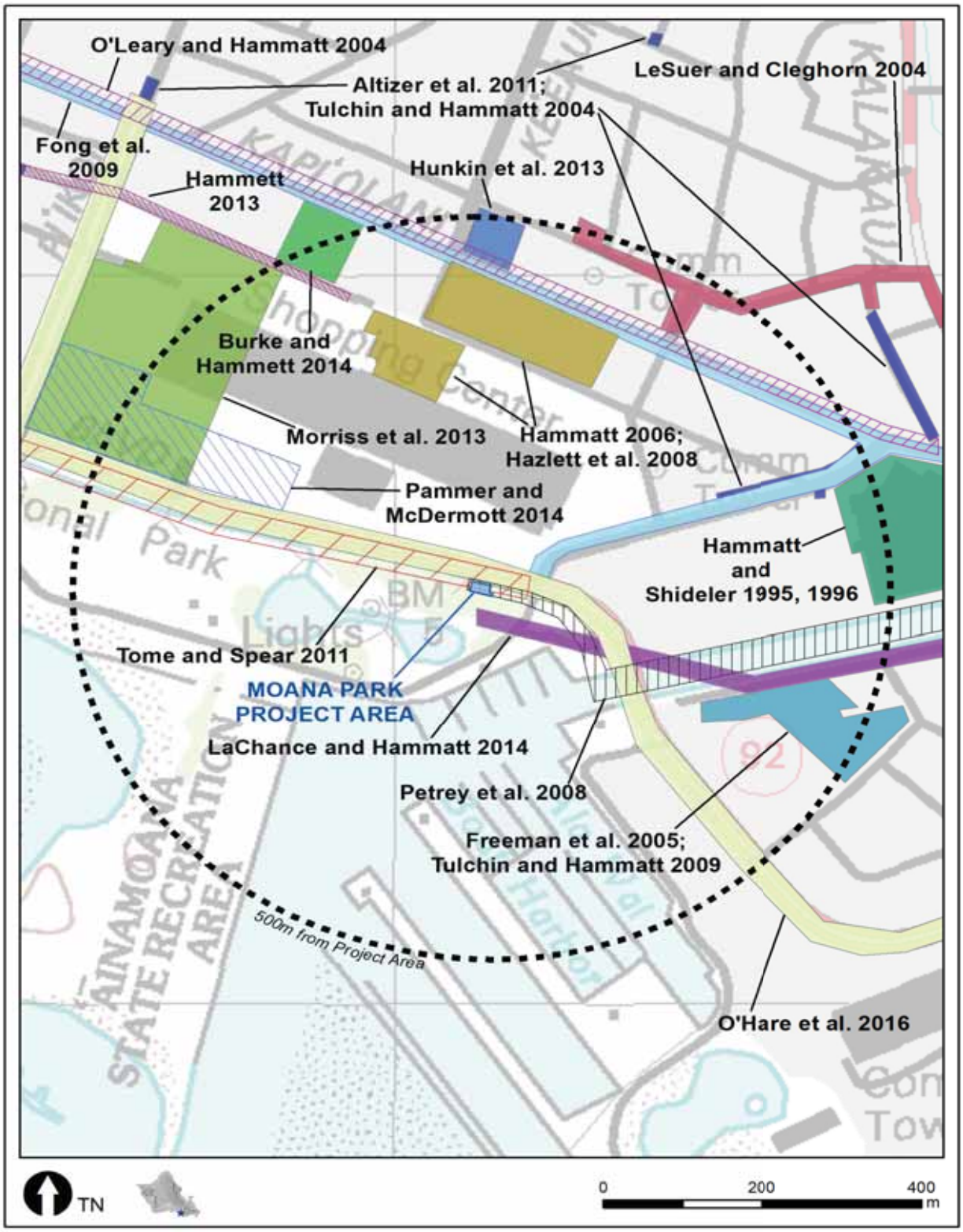

Figure 15. Archaeological Studies within 500 Meters of the Moana Park WWPS Project Area.

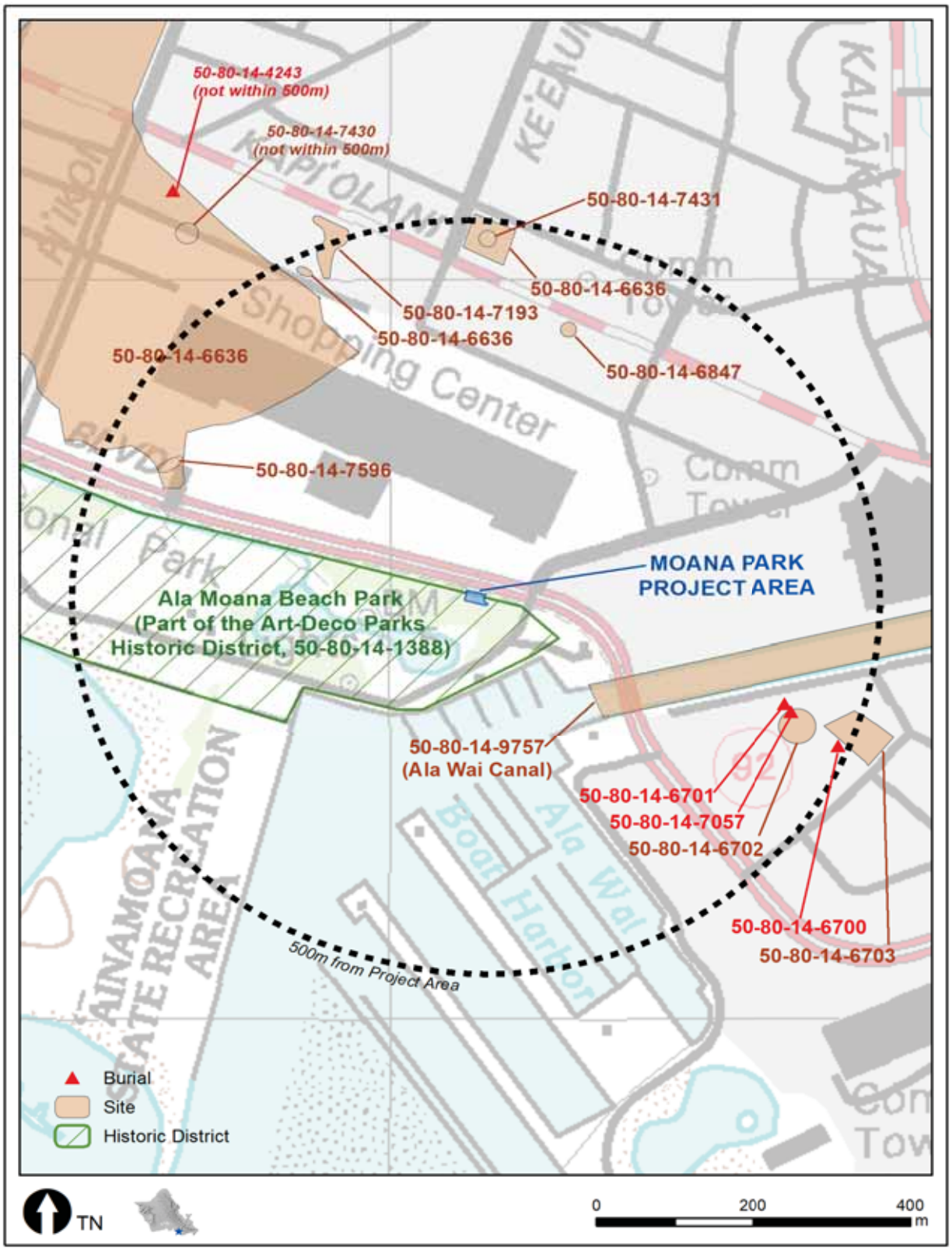

Figure 16. Burial and Non-Burial Sites within 500 Meters of the Moana Park WWPS Project Area.

Table 4. List of Burial and Non-Burial Sites within 500 Meters of the Moana Park WWPS Project Area.		
SIHP No. (50-80-14-xxx)	**Description**	**Reference**
1138	Site 1138 consists of the various contributing properties of the Ala Moana Beach Park Historic District. It is also part of the Art Deco Parks Historic District (Site 1388)	~
6636	Site 6636 (Kewalo Wetland) is a discontiguous site consisting of wetland soil deposits throughout the Kewalo Basin region.	Various, but in the vicinity of the Moana Park WWPS project area see Burke and Hammatt 2012; Hunkin et al. 2013; Morriss et al. 2013
6700	Site 6700 consists of one (1) burial (disturbed).	Freeman et al. 2005
6701	Site 6701 consists of one (1) burial (intact in coffin).	Freeman et al. 2005
6702	Site 6702 consists of a subsurface cultural A horizon.	Freeman et al. 2005
6703	Site 6703 consists of fishpond sediments.	Freeman et al. 2005
6847	Site 6847 consists of a historic-period artifact cache contained in a wooden box.	Hammatt 2006
7057	Site 7057 consists of one (1) burial (disturbed).	Tulchin and Hammatt 2009
7193	Site 7193 consists of a historic-period (1930s-1950s) trash layer.	Burke and Hammatt 2014
7431	Site 7431 consists of historic-period structural remains associated with past industrial/commercial activity (likely in the 1950s).	Hunkin et al. 2013
7596	Site 7596 consists of a historic-period trash deposit.	Pammer and McDermott 2014
9757	Site 9757 is the Ala Wai Canal, constructed in the 1920s.	~

In 2004, archaeological investigations were conducted within the Ala Wai Gateway project area in the western end of Waikīkī, including systematic inventory survey and subsurface testing (Freeman et al. 2005). Two human burials were documented: One disturbed skeleton (50-80-14-6700) and one coffin burial (50-80-14-6701). Two non-burial sites were also

recorded: A buried A Horizon enriched with cultural materials (50-80-14-6702) and fishpond sediments (50-80-14-6703). No additional human skeletal remains, additional historic properties, pre-Contact or historic cultural artifacts, or other significant cultural material were encountered.

In 2004, a reconnaissance field inspection was conducted in the HECO East Oʻahu Transmission project area (LeSuer and Cleghorn 2004). No human skeletal remains, historic properties, pre-Contact or historic cultural artifacts, or other significant cultural material were encountered during this field inspection.

Between December 2005 and March 2006, archaeological investigations were conducted at two areas at and adjacent to the Ala Moana Center parking structure, including systematic inventory survey and subsurface trench testing (Hammatt 2006). Thirty (30) trenches in total were excavated in the project area, revealing mainly fill deposits, plus a natural tan/grayish brown sandy clay loam layer just above the water table. One historic-period artifact cache (50-80-14-6847) was documented in the project area. It consisted of a diverse array of historic artifacts housed in a wooden box, most likely dating to the late-1800s or early 1900s. Otherwise, no human skeletal remains, additional historic properties, pre-Contact or additional historic cultural artifacts, or other significant cultural material were encountered.

Between March 2006 and March 2007, archaeological monitoring was conducted during construction of additional retail space and parking facilities at the Ala Moana Center (Hazlett et al. 2008). Soil deposits within the project area generally consisted of imported construction fill. Beneath this, an in situ buried A Horizon (sandy loam) was observed, along with various naturally deposited layers underlying this A Horizon, including loams and clays that reflect the marshy/wetland environment that was present here prior to development. No human skeletal remains, historic properties, pre-Contact or historic cultural artifacts, or other significant cultural material were observed.

Between June 2006 and March 2007, archaeological monitoring was conducted during construction of an emergency sewer bypass running from the Kaiʻolu Street Beach Walk Pump Station to the Ala Moana Pump Station (Petrey et al. 2008). Soil deposits within the project area generally consisted of imported construction fill. Underneath, the natural historic shoreline surface was observed in the vicinity of Ala Moana Park Drive. No human skeletal remains, historic properties, pre-Contact or historic cultural artifacts, or other significant cultural material were observed.

Between April 2007 and May 2008, archaeological monitoring was conducted during street rehabilitation work (including reconstruction of existing drainage, water, and sewer systems, and relocation of traffic signals and street lighting) along various streets in the Honolulu area (Fong et al. 2009). Several undisturbed soil layers were observed during monitoring, including Jaucas Sands. However, soil deposits within the project area were primarily disturbed, and they reflect the various land use activities and changes that have occurred in this area through time. In addition, several isolated historic artifacts were encountered during monitoring, all seeming to post-date 1890, approximately when agriculture started to give way to residential suburban development. No human skeletal remains, historic properties, pre-Contact or additional historic cultural artifacts, or other significant cultural material were observed.

Between October 2008 and October 2009, archaeological monitoring was conducted during sewer line rehabilitation throughout the Kakaʻako/Kewalo/Kālia area of Honolulu (Altizer et al. 2011). A portion of the Kewalo Wetland site (50-80-14-6636) was documented in one of the sewer line rehabilitation sections. Otherwise, no human skeletal remains, historic properties,

pre-Contact or historic cultural artifacts, or other significant cultural material were observed during monitoring in the rest of the project area.

In 2009, archaeological monitoring was conducted during the Ala Wai Watermark project (Tulchin and Hammatt 2009). Four previously identified sites (see Freeman et al. 2005) were observed: One disturbed skeleton (50-80-14-6700); one coffin burial (50-80-14-6701); a buried A Horizon enriched with cultural materials (50-80-14-6702); and fishpond sediments (50-80-14-6703). No additional human skeletal remains, additional historic properties, pre-Contact or historic cultural artifacts, or other significant cultural material were encountered.

Between January 2010 and May 2011, archaeological monitoring was conducted during the installation of a sewer force main running from Ala Wai Park to Ala Moana Park along Ala Wai Boulevard (LaChance and Hammatt 2014). Soil deposits within the project area generally consisted of imported construction fill. No human skeletal remains, historic properties, pre-Contact or historic cultural artifacts, or other significant cultural material were observed.

In 2011, archaeological investigations were conducted at 1391 Kapiʻolani Boulevard (for a private residential development project), including systematic inventory survey, subsurface trench testing, and Ground Penetrating Radar (GPR) survey (Burke and Hammatt 2014). Twenty-two (22) test trenches were placed within this project area. One historic-period trash deposit layer (50-80-14-7193) was documented in the northern and eastern portions of the project area, including numerous historic glass bottles and fragments, a metal table spoon, and several ceramic items, as well as numerous non-diagnostic artifacts (not collected for further analysis). No human skeletal remains, additional historic properties, additional pre-Contact or historic cultural artifacts, or other significant cultural material were encountered.

In 2011, archaeological monitoring was conducted during the Ala Moana Sewer Reconstruction project (Tome and Spear 2011). Soil deposits within the project area consisted of multiple fill deposits overlying natural sand and silty sand sediments. No human skeletal remains, historic properties, pre-Contact or historic cultural artifacts, or other significant cultural material were observed.

In 2012, archaeological investigations were conducted during the expansion of the Ala Moana Center, including systematic inventory survey and subsurface trench testing (Morriss et al. 2013). Twenty-six (26) test trenches were placed within the project area, revealing a portion of the Kewalo Wetland site (50-80-14-6636). Other than site 50-80-14-6636, no human skeletal remains, additional historic properties, pre-Contact or historic cultural artifacts, or other significant cultural material were encountered.

In 2013, archaeological investigations were conducted in the East Kakaʻako and Kālia zones of the Honolulu High Capacity Transit Corridor project area, including systematic inventory survey and subsurface trench testing (Hammatt 2013). A portion of the Kewalo Wetland site (50-80-14-6636) was documented. No human skeletal remains, other historic properties, pre-Contact or historic cultural artifacts, or other significant cultural material were encountered during this field inspection.

In 2013, archaeological investigations were conducted during the demolition of existing structures at a parcel located at the eastern corner of Kapiʻolani Boulevard and Keʻeaumoku Street, including systematic inventory survey, subsurface trench testing, and monitoring of geophysical survey bore holes (Hunkin et al. 2013). Fifteen (15) test trench excavations were completed and five (5) geophysical survey bore holes were monitored. Two historic properties were identified: A portion of the Kewalo Wetland site (50-80-14-6636) and a set of historic-period (1950s) building remnants (50-80-14-7431), consisting mainly of concrete rubble, likely associate with and old Standard Oil Company of California gas and soil facility known to have

been present here from 1946 to 1972. Other than these two sites, no human skeletal remains, additional historic properties, pre-Contact or historic cultural artifacts, or other significant cultural material were encountered.

In 2014, archaeological investigations were conducted in the Park Lane Ala Moana project area, including systematic inventory survey and subsurface trench testing (Pammer and McDermott 2014). Eight (8) test trenches were placed within this project area, revealing two historic properties: A portion of the Kewalo Wetland site (50-80-14-6636) and a historic-period trash deposit (50-80-14-7596). No human skeletal remains, other historic properties, pre-Contact or historic cultural artifacts, or other significant cultural material were encountered during this field inspection.

In 2015, a reconnaissance field inspection was conducted in the Honolulu Water System Improvements project area at various locations throughout the Honolulu region (O'Hare et al. 2016). With the exception of a small area of open green space, this project area consists of asphalt, high-traffic roads. As such, an inventory level survey and subsurface testing program were impractical, so a sensitivity map was created based on background research.

MOANA PARK WWPS - ANTICIPATED FINDS

Because the Moana Park WWPS project area sits on lands that were filled in the late-1800s to early-1900s, *in situ* traditional archaeological features will not be present. However, secondarily-deposited traditional feature remnants and/or artifacts could be present within the matrix of the import fill.

Historic features and/or artifacts, on the other hand, have been found in the area (where fill deposits are present, see Figure 9). Based on nearby sites, possible anticipated finds include historic-period trash deposits/layers, occupation layers with historic-period cultural materials, and historic artifact caches (see Figure 16 and Table 4).

Finally, the project area is situated within the boundaries of the Ala Moana Beach Park Historic District (50-80-14-1138), which is a part of the Art Deco Parks Historic District (Site 3318). Because the proposed work will take place at the existing WWPS (which is not a contributing property), impacts to this historic district are unlikely. However, in the event that new or modified work activities could have a negative impact on this historic district, SHPD should be consulted immediately and prior to undertaking said activities.

NIU VALLEY WWPS PROJECT AREA

NIU VALLEY WWPS PROJECT AREA LOCATION AND DESCRIPTION

The Niu Valley WWPS project area measures 0.3 acres, and is situated just off the north side of Kalanianaole Highway and to the west of Halemaumau Street. Figure 17 shows the project area location on a USGS quadrangle map. It is located within an existing WWPS site. The project area parcel, identified as TMK: (1) 3-7-010:052 (Tax Map Bureau 1960), is owned by the by the CCH, ENV. Figure 18 shows the project area location on a tax map.

The proposed Niu Valley WWPS project includes the following activities:

- New horizontal dry-pit submersible pumps w/ pressure gauges
- Replace swing check valves with flapper check valves
- Install new MCC
- Upgrade level controls
- Modify wetwell for FRP stop logs
- Replace sump pump & piping
- Apply underlayment over exposed aggregate and coat with lining at wetwell
- Replace ventilation controllers
- Repair roof
- Repair cracks in pump room
- Install electric lines between the water meter and the pump station.

The last activity above (install electric lines) will involve excavation of a trench approximately 8.0 feet (2.4 m) long, 1.0 foot (30 cm) wide, and 2.0 feet (60 cm) deep. The remainder of the activities will not require ground-disturbing activities.

NIU VALLEY WWPS - ENVIRONMENTAL SETTING

The topography in the Niu Valley WWPS project area is essentially flat due to its location in a highly developed area that has been filled for development purposes. Pia Stream (perennial) runs approximately 30 m to the northwest of the project area. Elevation within the project area is 2.6 ft (0.8 meters [m]) above mean sea level (amsl).

Three (3) NRCS soil types are present within the project area (NRCS 2018): Fill land, mixed (FL), Mokuleia clay loam (Mt), and Waialua silty clay (WkA) (Table 5; Figure 19). Six (6) other soil types are present (NRCS 2018) within 500 m of the project area but do not intersect it, including Jaucas Sands (JaC), Kawaihapai clay loam (KlA), Kawaihapai stony clay loam (KlaA), Keaau clay (KmA), Lualualei extremely cobbly clay (LPE), and Rock land (rRK) (see Table 5; see Figure 19).

Annual rainfall at the project area averages from 32 inches per year (Giambelluca et al. 2013). Because the project area is in a developed residential neighborhood, vegetation consists of introduced species within a maintained ornamental landscape setting (see Putzi and Carlson 1997:3).

NIU VALLEY WWPS - TRADITIONAL AND HISTORIC BACKGROUND

The Niu Valley project area is located within Niu Ahupuaʻa, which is located in Honolulu (Kona) District (see Figure 17). According to Pukui et al. (1974:49-50, 117), “Honolulu” translates as “protected bay” in Hawaiian and “Kona” means “leeward.” “Niu” is the Hawaiian word for “coconut” (Pukui et al. 1974:166). A stream runs just to the northwest, called Pia, which translates as “arrowroot, starch” (Pukui et al. 1974:183).

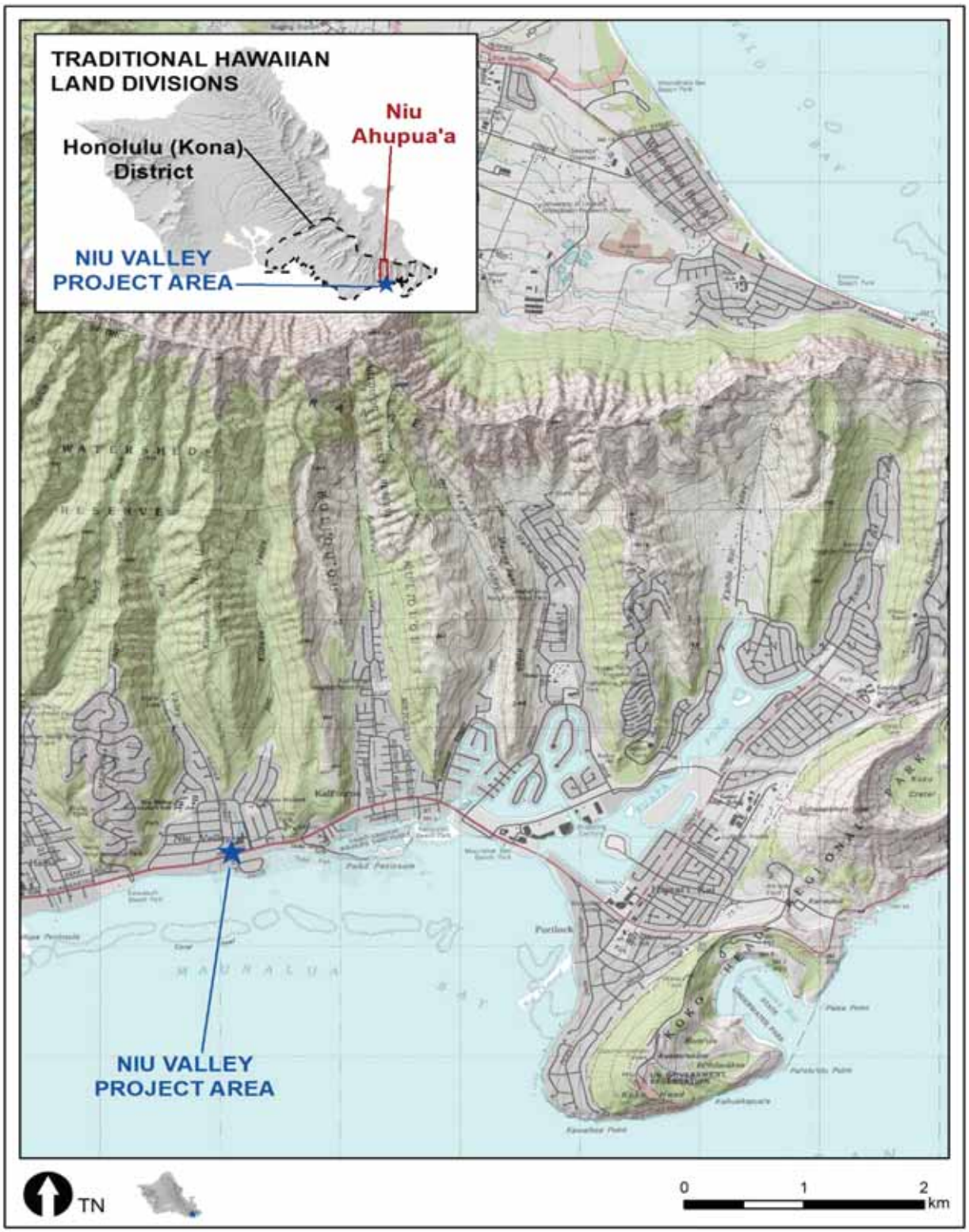

Figure 17. Location of the Niu Valley WWPS Project Area on Enlarged 1:24,000 U.S.G.S. Koko Head Quadrangle Map.

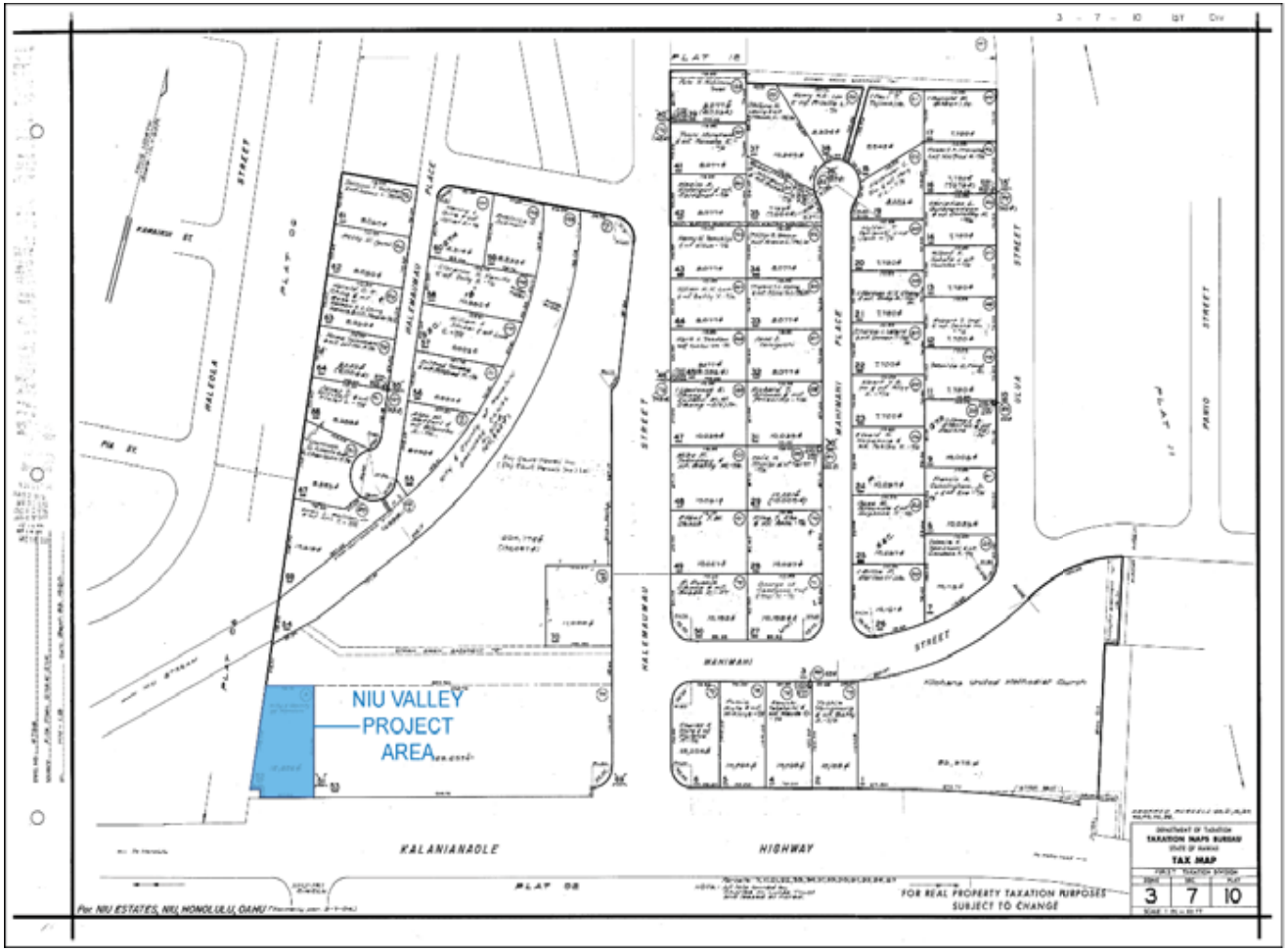

Figure 18. Location of Niu Valley WWPS Project Area on Plat Map 3-7-10.

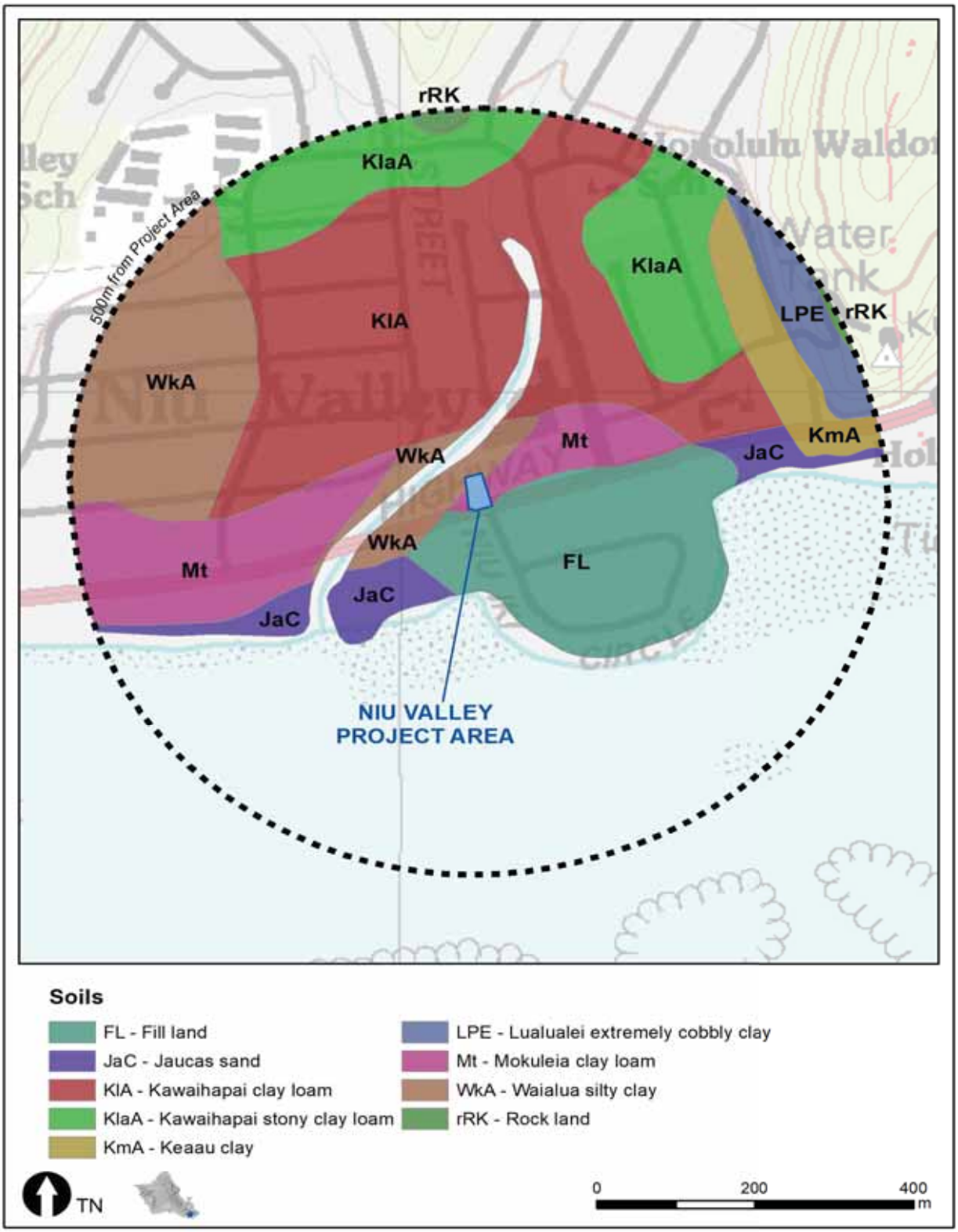

Figure 19. Map of Soil Types within 500 Meters of the Niu Valley WWPS Project Area.

Table 5. List of Soil Types within 500 Meters of the Niu Valley WWPS Project Area.		
Soil Code	Soil Name	Relative Location
FL	Fill land, mixed	Intersects project area
JaC	Jaucas Sand, 0 to 15 percent slopes	Within 500 m, but does not intersect project area
KlA	Kawaihapai clay loam, 0 to 2 percent slopes	Within 500 m, but does not intersect project area
KlaA	Kawaihapai stony clay loam, 0 to 2 percent slopes	Within 500 m, but does not intersect project area
KmA	Keaau clay, 0 to 2 percent slopes	Within 500 m, but does not intersect project area
LPE	Lualualei extremely cobbly clay, 3 to 35 percent slopes	Within 500 m, but does not intersect project area
Mt	Mokuleia clay loam	Intersects project area
rRK	Rock land	Within 500 m, but does not intersect project area
WkA	Waialua silty clay, 0 to 3 percent slopes	Intersects project area

Two valleys are located to the north of the project area: Kuliʻouʻou and Kūpaua (meaning "upright clam") (Pukui et al. 1974:125). The bay just to the south of the project area is shown on a 1902 map (Alexander 1902) as "Maunalua or Waialae Bay" (Figure 20), with "Maunalua" meaning "two mountains" and "Waialae" meaning "mudhen water," likely named after a spring in the area (Pukui et al. 1974:149, 220).

Niu Valley WWPS - Myths and Legends

According to legend, recounted by Emerson (1915:186-187), Niu (along with Waialae and Wai-lupe) was one of three places that the goddess Hiʻiaka (Pele's younger sister) passed through on her way to Kuliʻouʻou, where she ended up killing several women who were fishing along the shore. Hiʻiaka and Wahine Omao were heading to Hawaiʻi Island when they passed through Kuliʻouʻou, just east of Niu. In the shallow coastal waters they saw some women catching fish and crabs, and asked the fishing women to share their catch. The women refused, and they did so in an insulting manner. Unable to let the insult pass, Hiʻiaka called out an incantation and "the unfortunate fishing women fainted and died."

Hammatt and Shideler (2002:5) provide an admittedly speculative, but interesting, interpretation of this story. They suggest that a traditional story about a mass death scene may not be coincidence, considering the relative density of known burials all along this shore (see

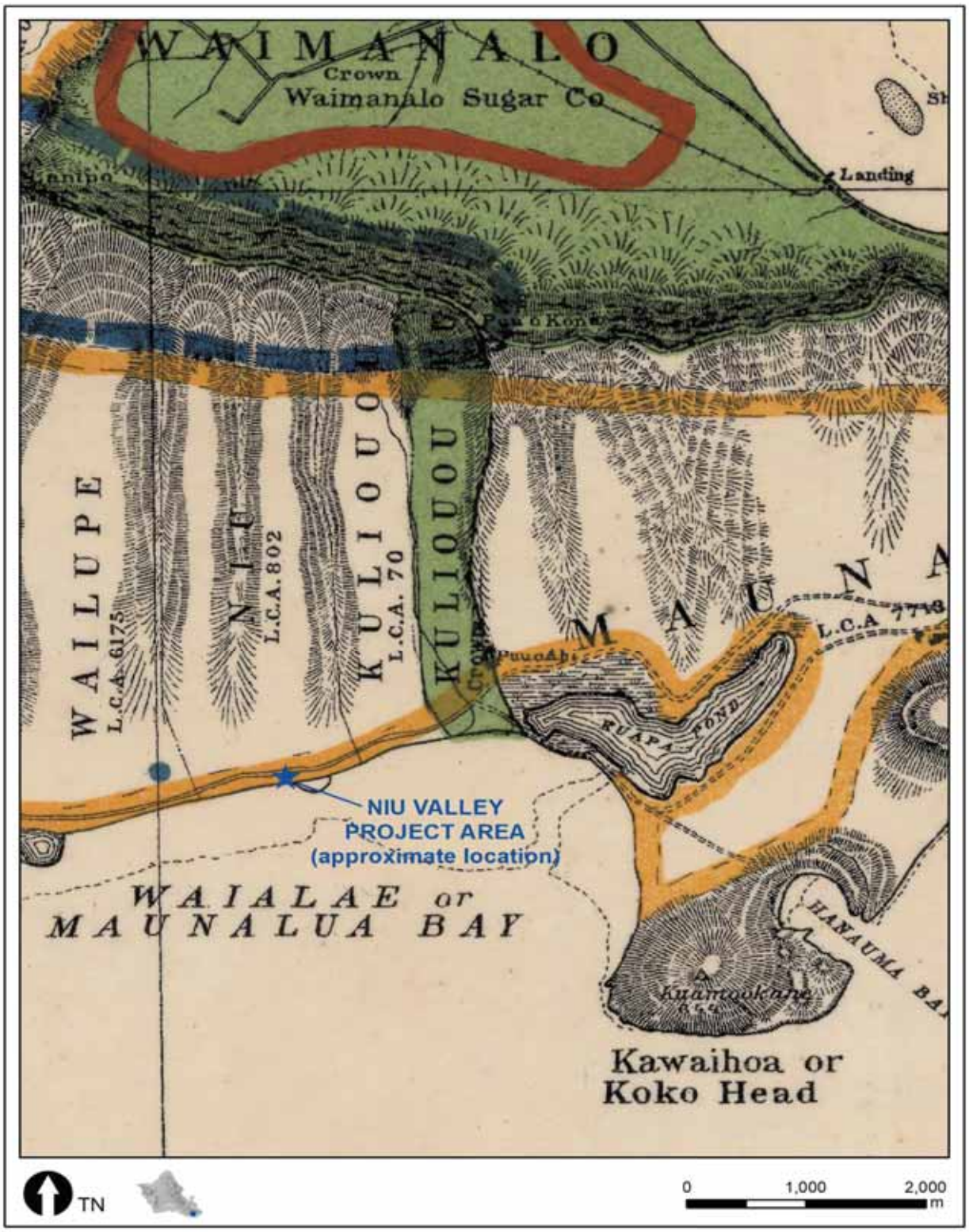

Figure 20. Location of the Niu Valley WWPS Project Area on Enlarged 1902 Historic Map by Alexander.

below). They also interpret this story, with less of a sense of the macabre, as indicating that fish and shellfish gathering were long-standing activities along this coast.

Niu Valley WWPS - Traditional Land Use

After visiting the area in 1786, Western sailor Nathaniel Portlock reported that Maunalua Bay

> …all round has a very beautiful appearance, the low land and vallies [*sic*] being in a high state of cultivation, and crowded with plantations of taro, sweet potatoes, sugar-cane, etc. interspersed with a great number of cocoa-nut tree…(Portlock 1968 [1789]:74).

In addition to agriculture, offshore fishing and aquaculture were important subsistence activities in this general region (Erkelens and Athens 1994:31). Erkelens and Athens (1994:31) report that there were at least 11 fishponds, six (6) of which were walled (*loko kuapa*) and named, including Kamoana, Kupapa, Mauanlua (at which Kamehameha I himself famously worked, see Kamakau 1992:192), Paikō, Punakou, and Wailupe Fishponds. Finally, the usual suite of domestic animals was also raised here, including dogs, chickens, and pigs (Putzi et al. 1998:25; see also Portlock 1968 [1789]:74).

Several accounts from additional early Western visitors suggest that quite a few settlements were present along this coast (Chamberlain 1826; Mathison 1825; Portlock 1968 [1789]:71). Specifically, while walking around the area Mathison (1825:387) observed a fishing village with approximately 100 huts, along with "several fine groves of cocoa-nut trees." Fish and shellfish are abundant, so – along with the staple sweet potato – numerous people no doubt could have lived well in this area.

Early accounts by Western sailors (Dixon 1968 [1789]; Portlock 1968 [1789]) indicate that this area was under the control of Kahekili (King of Maui, Molokaʻi, and Lānaʻi), one of Kamehameha I's main rivals in his bid to conquer the islands. Kahekili came to rule Oʻahu after years of violent strife, ending in the torture and execution of all of Oʻahu's chiefs (Kamakau 1992:138). All of this occurred only months before Dixon and Portlock arrived on Oʻahu in 1786.

Handy (1940:74) reports that Niu Ahupua'a included two large gulches that were dry in the uplands and marshy on the flatlands near the coast. This likely indicates the presence of springs or groundwater, which in turn suggests the high likelihood of terraced agricultural activity.

Two traditional trails went through Niu: one that hugged the coastline and one that ran from the coast through the Koʻolau uplands and down into Waimanalo (a m*auka-makai* trail; *mauka* is toward the mountains and *makai* is toward the sea). The former would eventually transform into first the old Government Road (or Waiʻalae Road) and then into present-day Kalaniana'ole Highway (see Hazlett and Hammatt 2008: 9). The *mauka-makai* trail, according to an article from 1922 (translated in Sterling and Summers 1978:274), was narrow and used to connect the large populations of Niu and Waimanalo.

Early missionary accounts suggest that several fishing settlements were dotted along this coast, which most likely included Niu Ahupua 'a (see Chamberlain 1956 [1856]; Mathison 1825: 387). By the mid-1800s, Niu was home to a small school: "A school of 9 children was with some difficulty collected together" (Chamberlain 1956 [1856]:28-29).

Niu Valley WWPS - Historic Land Use

In 1845, the Board of Commissioners to Quiet Land Titles (BC), also called the Land Commission, was established "for the investigation and final ascertainment or rejection of all claims of private individuals, whether natives or foreigners, to any landed property" (Chinen

1958:8). This led to the Māhele, which introduced the concept of private property into Hawaiian society. During the Māhele (or Māhele ‘Aina, lit. “Land Division”), in 1848, lands were placed in one of three categories: (1) Crown Lands, (2) Government Lands, or (3) *Konohiki* Lands (Chinen 1958:vii).

In 1848, Niu Ahupua‘a, in its entirety, was granted to Alexander Adams (1780-1870) under LCA 802 (Royal Patent 52) (see Figure 20). Adams had a homestead here and put in one of the early coffee plantations here (Goto 1982:113).

Eventually, after the decline in the whaling industry, which reduced the demand for various crops needed for whaling expeditions, much land in this general area began to be used for grazing. Scott (1968:687) reports that the descendants of Alexander Adams used the dryer, inland areas of Niu for cattle grazing. In 1880, Bowser (1880:79) visited the area collecting information on commercial activities in the islands, and he reports that the Adams brothers had a “…small but very fine stock ranch at Niu…” (see Figure 20).

The land passed down through the Adams line via Alexander’s daughter, Victoria Bannister, and on to her daughter, Mary. Mary married Charles Lucas. Some Niu lands were eventually owned by the Hind, Cassiday, Pfleuger, and Lucas families. By the 1920s, the remaining Adams/Lucas lands were still owned by the family under the Charles W. Lucas Trust, Hawaiian Trust Col. Ltd. Et al. Trustees (Scott 1968:689).

In the 1920s, numerous dairies were present in Niu (and neighboring Kuli‘ou‘ou), as were small pig, chicken, and vegetable farms (Henry 1959). But it wasn’t until the 1940s that significant land use change took place with the filling in of Niu (Kūpapa, or possibly Kūapa) Fishpond (McAllister 1933:70, Site 51) (along with other major fishponds in the region) (Honolulu Advertiser 1953:III(1)).

NIU VALLEY WWPS - ARCHAEOLOGICAL BACKGROUND

One (1) previous archaeological study was conducted within the Niu Valley WWPS project area (Hazlett and Hammatt 2008), and two (2) previous studies were located within 500 m (Putzi et al. 1998; Spear 2015; Figure 21). Several burials have been discovered within 500 m of the project area, and brief summaries of these burial sites are provided in Table 6. No non-burial sites have been reported within 500 m of the project area.

Table 6. List of Burial Sites within 500 Meters of the Niu Valley WWPS Project Area.

SIHP No. (50-80-15-xxx)	Description	Reference
4497	Site 4497 (Adams/Cassidy/Pfleuger Cemetery) consists of ten (10) burials.	Erkelens and Athens 1994
4838	Site 4838 consists of three (3) burials.	Putzi et al. 1998
4840	Site 4840 consists of three (3) burials.	Putzi et al. 1998

Finally, although not in the vicinity of the Niu Valley WWPS project area, it is worth mentioning the Niu burial caves (McAllister 1933:70, Site 53). McAllister (1933:70) reports that this cave system is 100 feet long and that it has “… long been famous.” He quotes Westervelt

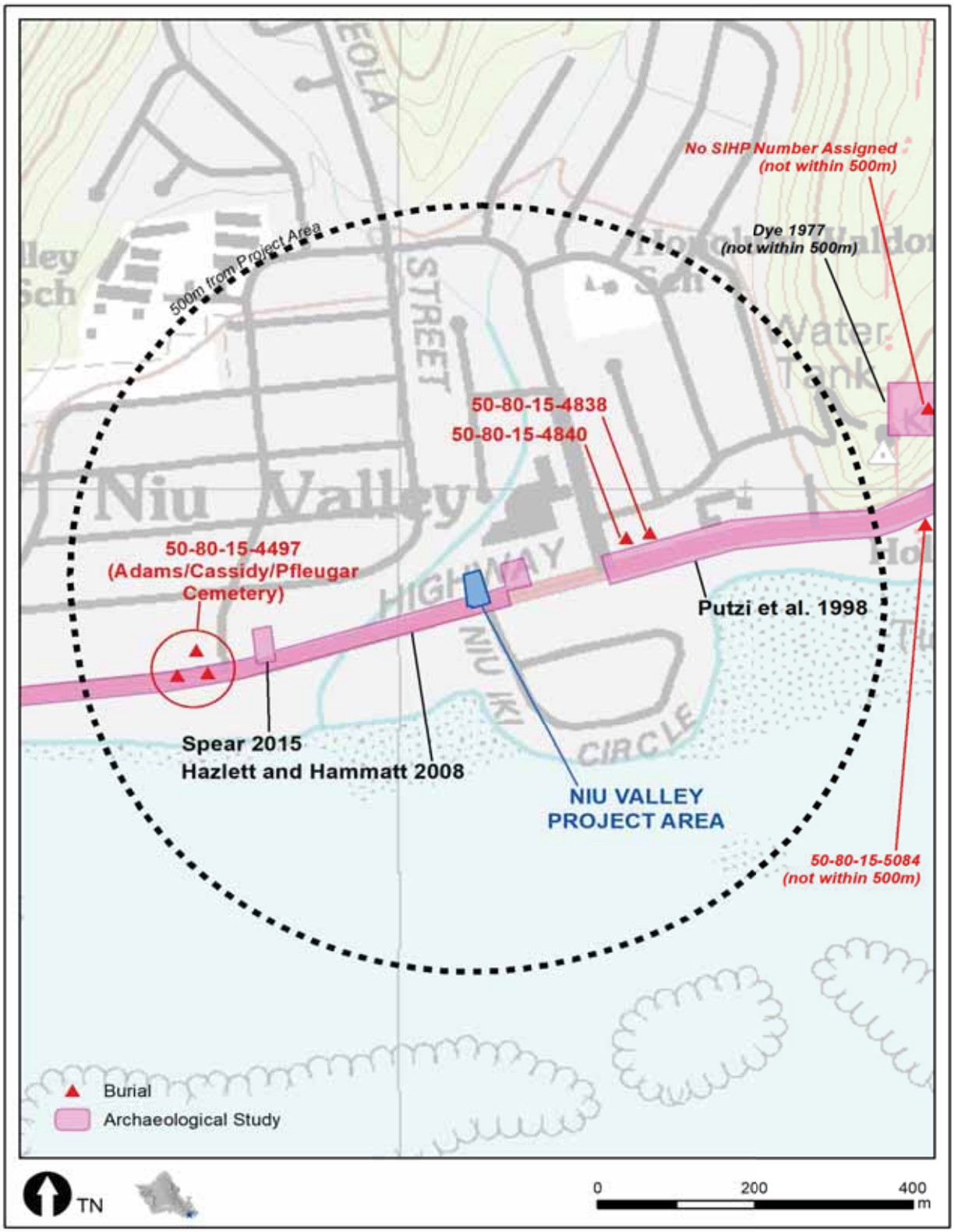

Figure 21. Archaeological Studies and Burials within 500 Meters of the Niu Valley WWPS Area.

saying that chiefs were buried here, their bodies placed into small canoes (or fragments of a canoe), and hidden in these caves. Numerous burials and human skeletal remains, along with various associated artifacts like tapa cloth and *lauhala* mats (woven *Pandanus* spp.), have been found. Unfortunately, by the time McAllister (1933) visited this site in the early 1930s, he reports that "[a]ll of the burials have been disturbed and plundered."

Over two days, one in 2005 and one in 2007, archaeological monitoring was conducted during the installation of a new force main between Pu‘u‘ikena Drive and Niuiki Circle (Hazlett and Hammatt 2008). Except for a natural limestone coral soil layer, the stratigraphy in the project area consisted of various fill layers associated with road construction. No human skeletal remains, historic properties, pre-Contact or historic cultural artifacts, or other significant cultural material were observed during monitoring.

In 1998, archaeologists from Garcia and Associates (Putzi et al. 1998) conducted archaeological monitoring during Phase II widening of Kalaniana‘ole Highway, from East Halema‘uma‘u Street to Keahole Street (various TMKs). Ten sites dating to both pre-Contact and historic-period times were documented, seven (7) of which included human skeletal remains. Three (3) sites did not include human burials: Site -4694 consisted of 63 features that represent an occupation from pre-Contact through the 1800s and possibly the 1900s. Site-4733 was associated with early- to late-historic period occupation and artifact manufacture, and included three trash pits, one posthole, and a pig (*Sus scrofa*) interment. Site-5083 consisted of one trash pit, one stone septic tank, and one cobble stone alignment with a trash pit, all of which are associated with late historic habitation (Putzi et al. 1998:i, 41-116; see Figure 21).

In 2015, archaeological investigations were conducted at the Niu Valley Middle School, including reconnaissance inventory survey and limited subsurface testing (Spear 2015). Four shovel test units were placed within this project area and revealed only fill deposits associated with construction of the school. Only modern debris was observed. No human skeletal remains, historic properties, pre-Contact or historic cultural artifacts, or other significant cultural material were encountered.

NIU VALLEY WWPS - ANTICIPATED FINDS

Several human burials have already been documented within 500 m, including the Adams/Cassidy/Pfleuger family cemetery (50-80-15-4497) (see Figure 21 and Table 6). Human burials are one subsurface site type that is anticipated to be present.

KULIʻOUʻOU WWPS PROJECT AREA

KULIʻOUʻOU WWPS PROJECT AREA LOCATION AND DESCRIPTION

The Kuliʻouʻou WWPS project area measures 0.24 acres, and is situated just off the north side of Kalanianaʻole Highway on May Way. Figure 22 shows the project area location on a USGS quadrangle map. It is located within an existing WWPS site. The project area parcel, identified as TMK: (1) 2-3-037:101 (Tax Map Bureau 1975), is owned by the CCH, ENV. Figure 23 shows the project area location on a tax map.

The proposed Kuliʻouʻou WWPS project includes the following activities:

- New horizontal dry-pit submersible pumps w/ pressure gauges
- Replace swing check valves with flapper check valves
- Install new MCC
- Upgrade level controls
- Modify wetwell for FRP stop logs
- Replace sump pump & piping
- Apply underlayment over exposed aggregate and coat with lining at wetwell
- Replace ventilation controllers
- Repair roof
- Install electric lines between the water meter and the pump station.

The last activity above (install electric lines) will involve excavation of a trench approximately 45 feet (13.7 m) long, 1.0 foot (30 cm) wide, and 2.0 feet (60 cm) deep. The remainder of the activities will not require ground-disturbing activities.

KULIʻOUʻOU WWPS - ENVIRONMENTAL SETTING

The topography in the Kuliʻouʻou WWPS project area is essentially flat due to its location in a highly developed area that has been filled for development purposes. Kuliʻouʻou Stream (perennial) runs approximately 130m to the west of the project area. Elevation within the project area is 2.6 ft (0.8 meters [m]) above mean sea level (amsl).

Two (2) NRCS soil types are present within the project area (NRCS 2018): Fill land (FL) and Jaucas Sands (JaC) (Table 7; Figure 24). Four (4) other soil types are present (NRCS 2018) within 500 m of the project area but do not intersect it, including Kawaihapai stony clay

Table 7. List of Soil Types within 500 Meters of the Kuliʻouʻou WWPS Project Area.

Soil Code	Soil Name	Relative Location
FL	Fill land, mixed	Intersects project area
JaC	Jaucas Sands, 0 to 15 percent slopes	Intersects project area
KlaB	Kawaihapai stony clay loam, 2 to 6 percent slopes	Within 500 meters, but does not intersect project area
LPE	Lualualei extremely cobbly clay, 3 to 35 percent slopes	Within 500 meters, but does not intersect project area
Mt	Mokuleia clay loam	Within 500 meters, but does not intersect project area

Figure 22. Location of the Kuli‘ou‘ou WWPS Project Area on Enlarged 1:24,000 U.S.G.S. Koko Head Quadrangle Map

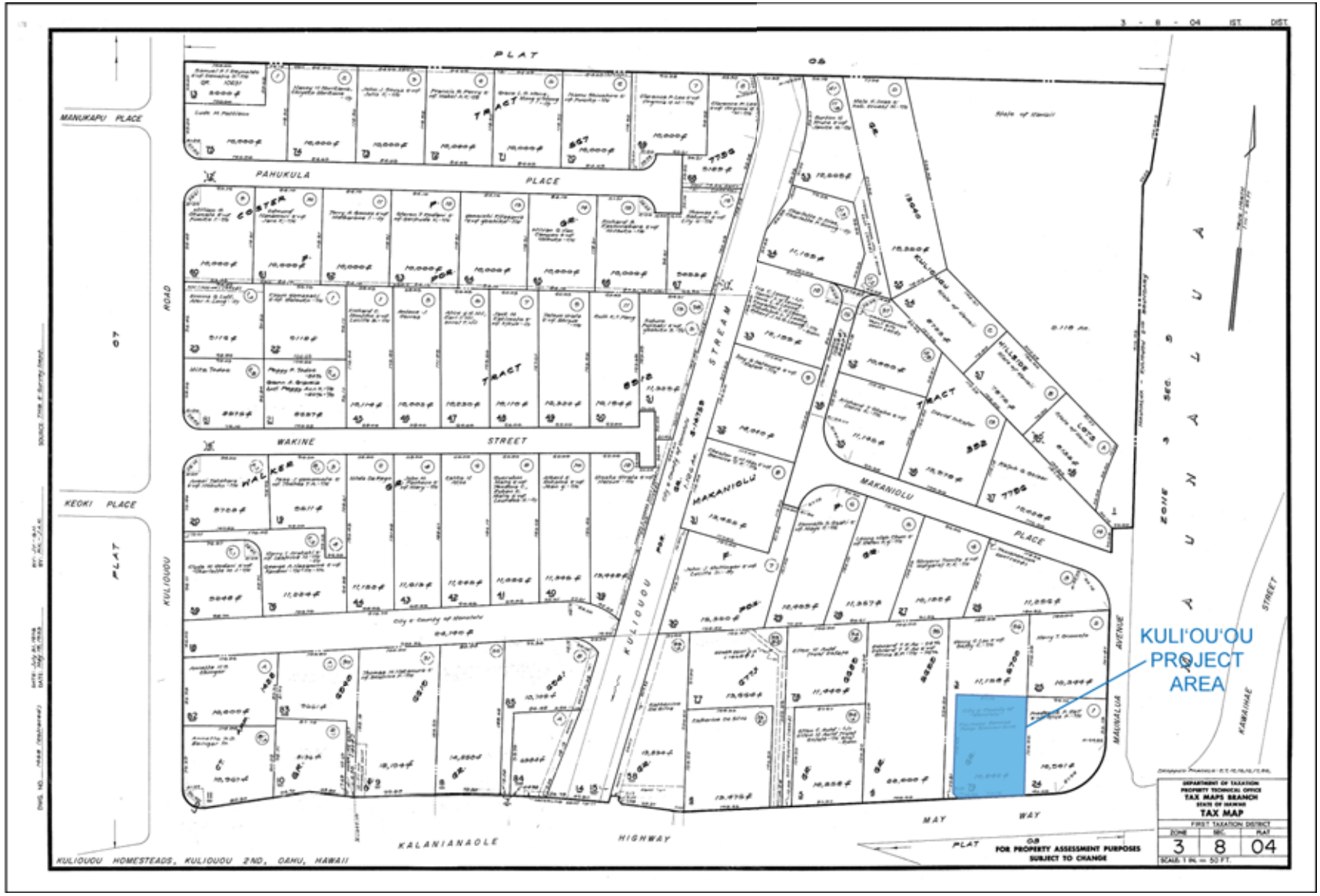

Figure 23. Location of Kuli‘ou‘ou WWPS Project Area on Plat Map 3-8-04.

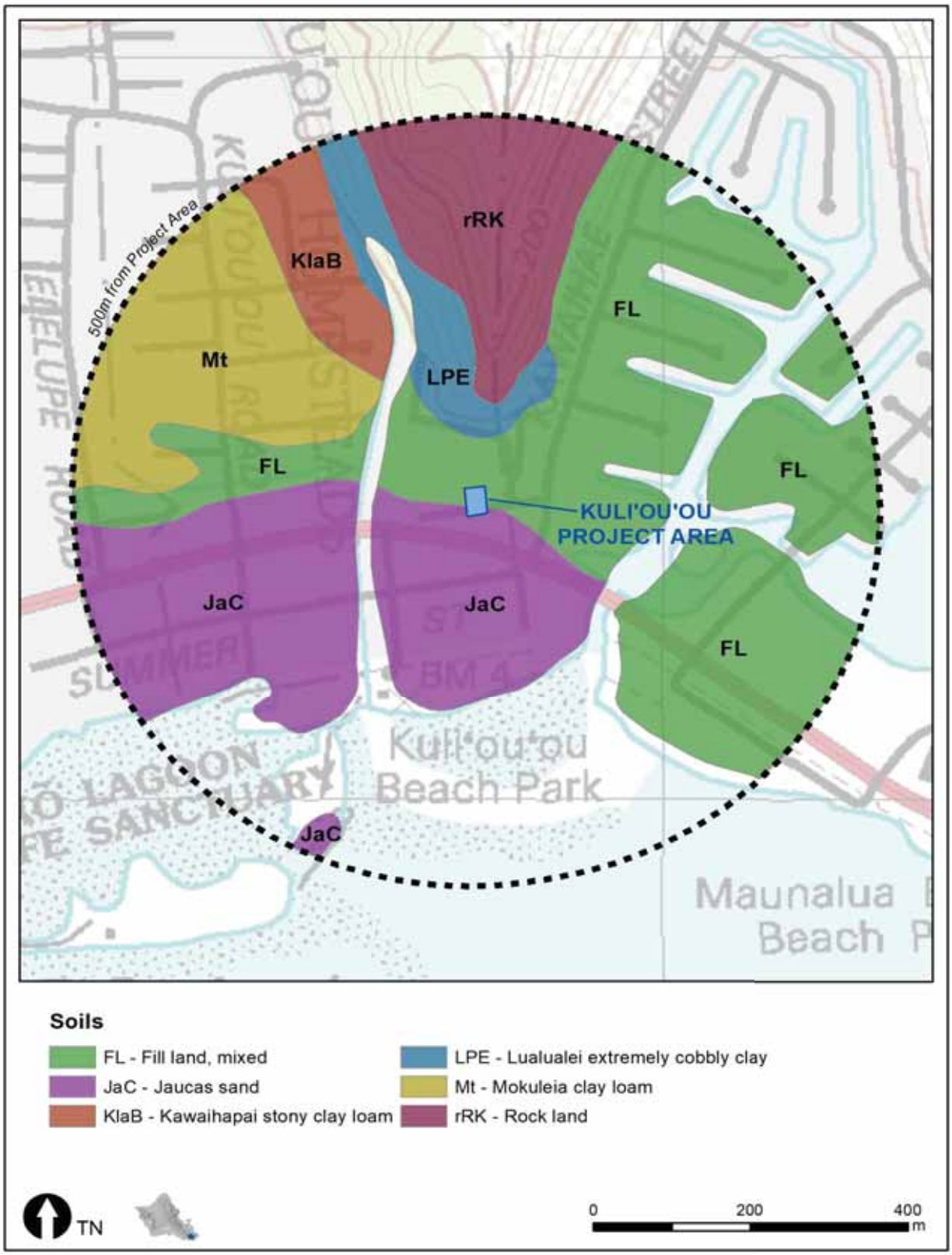

Figure 24. Map of Soil Types within 500 Meters of the Kuli‘ou‘ou WWPS Project Area.

loam (KlaB), Lualualei extremely cobbly clay (LPE), Mokuleia clay loam (Mt), and Rock land (rRK).

Annual rainfall at the project area averages 34 inches per year (Giambelluca et al. 2013). Because the project area is in a developed residential neighborhood, vegetation consists of introduced species within a maintained ornamental landscape setting (see Putzi and Carlson 1997:3).

KULIʻOUʻOU WWPS - TRADITIONAL AND HISTORIC BACKGROUND

The Kuliʻouʻou WWPS project area is located within Kuliʻouʻou Iki Ahupuaʻa, which is located in Honolulu (Kona) District (see Figure 22). According to Pukui et al. (1974:49-50, 117), "Honolulu" translates as "protected bay" in Hawaiian and "Kona" means "leeward." Also the name of a nearby stream, "Kuliʻouʻou" means "sounding knee," referring to a knee drum (*pūniu*) (Pukui et al. 1974:124), and "Iki" is a suffix meaning "small." (A larger *ahupuaʻa* [Kuliʻouʻou] was divided in two, a western half [Kuliʻouʻou 1] and an eastern half [Kuliʻouʻou 2 or Kuliʻouʻou Iki]).

Two valleys are located to the north of the project area: Kuliʻouʻou and Kūpaua (meaning "upright clam") (Pukui et al. 1974:125). The bay just to the south of the project area is shown on a 1902 map (Alexander 1902) as "Maunalua or Waialae Bay" (Figure 25), with "Maunalua" meaning "two mountains" and "Waialae" meaning "mudhen water," likely named after a spring in the area (Pukui et al. 1974:149, 220).

Finally, to the east is a large traditional fishpond called Kuapā, which means literally means "fishpond wall" (Pukui et al. 1974:119) (Figure 26).

Kuliʻouʻou WWPS - Myths and Legends

According to legend, recounted by Emerson (1915:186-187), the Kuliʻouʻou area was where the goddess Hiʻiaka (Pele's younger sister) killed several women who were fishing along the shore. Hiʻiaka and Wahine Omao were heading to Hawaiʻi Island when they passed through Kuliʻouʻou. In the shallow coastal waters they saw some women catching fish and crabs, and asked the fishing women to share their catch. The women refused, and they did so in an insulting manner. Unable to let the insult pass, Hiʻiaka called out an incantation and "the unfortunate fishing women fainted and died."

Hammatt and Shideler (2002:5) provide an admittedly speculative, but interesting, interpretation of this story. They suggest that a traditional story about a mass death scene may not be coincidence, considering the relative density of known burials all along this shore (see below). They also interpret this story, with less of a sense of the macabre, as indicating that fish and shellfish gathering were long-standing activities along this coast.

Kuliʻouʻou WWPS - Traditional Land Use

As Kirch (1985:115-116, 251) notes in his classic synthesis of Hawaiian prehistory and archaeology, the Kuliʻouʻou area is home to a large, early-period rockshelter that was used for permanent habitation first starting around AD 900-1,000 (Site 50-80-15-4000, "Kuliʻouʻou Bluff shelter"). Handy and Handy (1972:483) report that Kuliʻouʻou Ahupuaʻa generally didn't contain soils that were amenable to wetland taro cultivation, so the main staple crop was almost certainly the sweet potato. However, Hammatt and Shideler (2002:6) opine that they "paint an overly bleak picture of Kuliʻouʻou agriculture" because of the extensive marshlands, which would have been quite suitable for cultivation. And, after visiting the area in 1786, Western sailor Nathaniel Portlock states that Maunalua Bay:

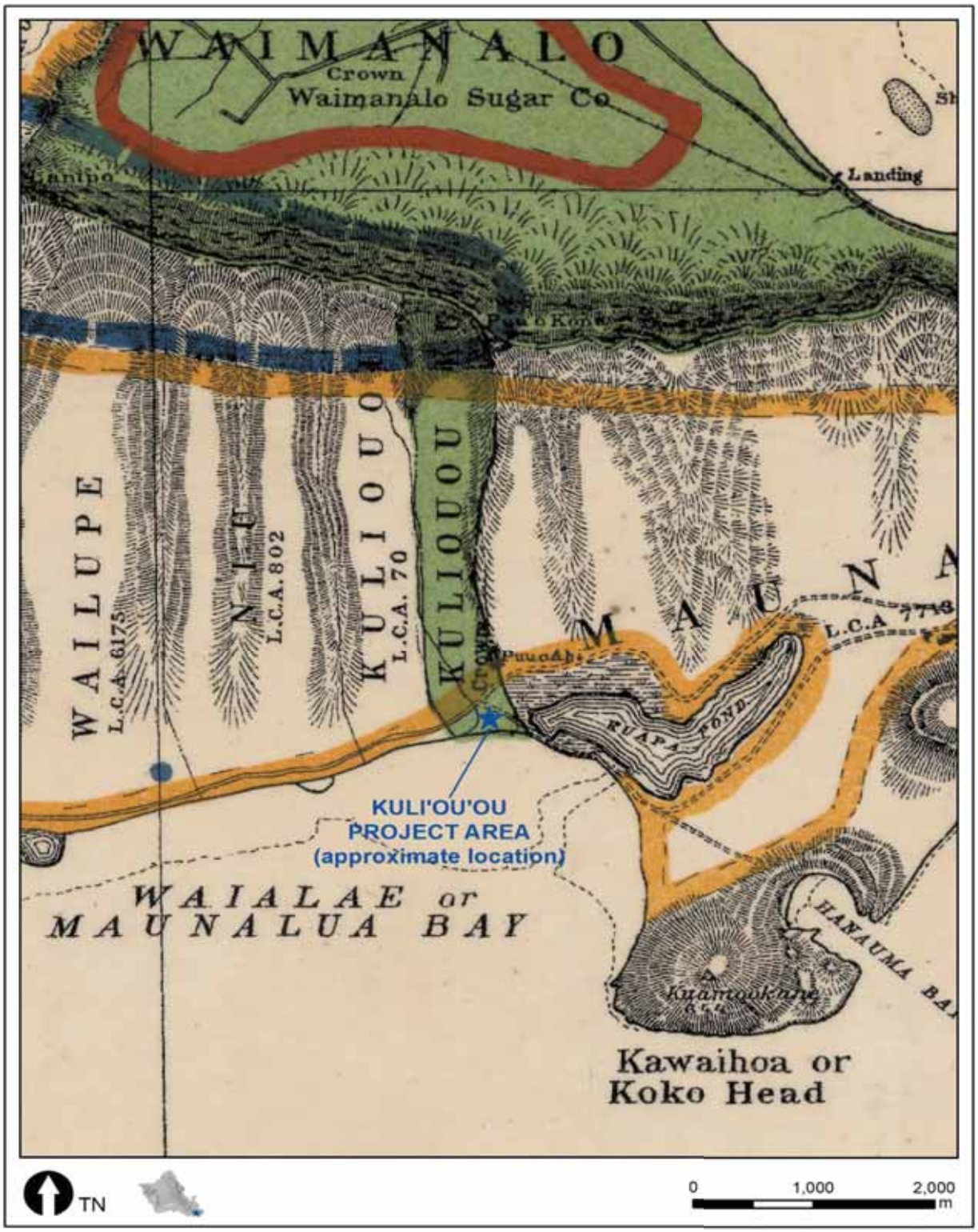

Figure 25. Location of the Kuli‘ou‘ou WWPS Project Area on an Enlarged 1902 Historic Map by Alexander.

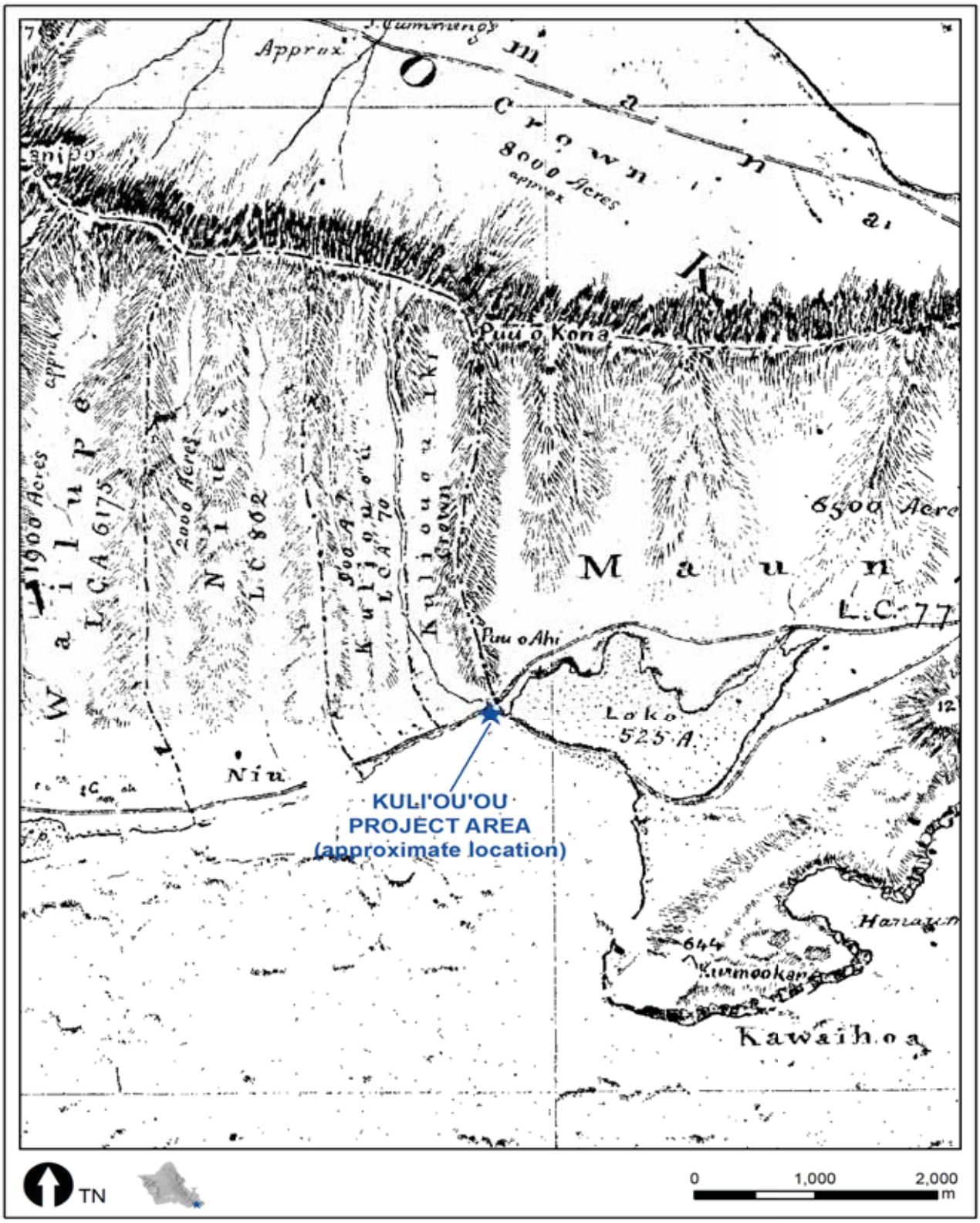

Figure 26. Location of the Kuli‘ou‘ou WWPS Project Area on Enlarged 1876 Historic Map by Lyons.

> …all round has a very beautiful appearance, the low land and vallies [*sic*] being in a high state of cultivation, and crowded with plantations of taro, sweet potatoes, sugar-cane, etc. interspersed with a great number of cocoa-nut tree…(Portlock 1968 [1789]:74).

In addition to agriculture, offshore fishing and aquaculture were important subsistence activities in this general region (Erkelens and Athens 1994:31). Erkelens and Athens (1994:31) report that there were at least 11 fishponds, six (6) of which were walled (*loko kuapā*) and named, including Kamoana, Kupapa or Kuapā (see Figure 26), Mauanlua (at which Kamehameha I himself famously worked, see Kamakau 1992:192), Paikō, Punakou, and Wailupe Fishponds. Finally, domestic animals was also raised here, including dogs, chickens, and pigs (Putzi et al. 1998:25; see also Portlock 1968 [1789]:74).

Several accounts from additional early Western visitors suggest that quite a few settlements were present along the Kuliʻouʻou coast (Chamberlain 1826; Mathison 1825; Portlock 1968 [1789]:71). Specifically, while walking around the area Mathison (1825:387) observed a fishing village with approximately 100 huts, along with "several fine groves of cocoa-nut trees." Fish and shellfish are abundant, so – along with the staple sweet potato – numerous people no doubt could have lived well in this area.

Early accounts by Western sailors (Dixon 1968 [1789]; Portlock 1968 [1789]) indicate that this area was under the control of Kahekili (King of Maui, Molokaʻi, and Lānaʻi), one of Kamehameha I's main rivals in his bid to conquer the islands. Kahekili came to rule Oʻahu after years of violent strife, ending in the torture and execution of all of Oʻahu's chiefs (Kamakau 1992:138). All of this occurred only months before Dixon and Portlock arrived on Oʻahu in 1786.

Kuliʻouʻou WWPS - Historic Land Use

After Kamehameha I conquered the islands and Western visitors became increasingly frequent, introduced crops were added to the agriculture of the Kuliʻouʻou area. Sterling and Summers (1978:271) report that alfalfa was grown in Kuliʻouʻou, and Takemoto et al. (1975:19) note that potatoes were grown in neighboring Maunalua Ahupuaʻa. And, Takemoto et al. (1975:19) report, sandalwood was harvested in the upland forests.

According to Hammatt and Shideler (2002:5-6), early "ownership" of land in this area is nebulous. They suggest that Kamehameha I gave Maunalua (including Kuliʻouʻou) to Keʻeaumoku, who passed it along to his daughter Kaʻahumanu upon his death in 1804. She, in turn, passed it along to her co-wife Kalola in 1819, who then appointed her nephew, Abner Pākī, as caretaker (*konohiki*). Prior to her death in 1832, Kaʻahumanu regained control of this area, so it was passed along to Keoni Wawaenui (aka "John Bigfeet"), who received it out of gratitude for his service as retainer of Kamehameha household.

Then, in 1845, the Board of Commissioners to Quiet Land Titles (BC), also called the Land Commission, was established "for the investigation and final ascertainment or rejection of all claims of private individuals, whether natives or foreigners, to any landed property" (Chinen 1958:8). This led to the *Māhele*, which introduced the concept of private property into Hawaiian society. During the *Māhele* (or *Māhele ʻAina*, lit. "Land Division"), in 1848, lands were placed in one of three categories: (1) Crown Lands, (2) Government Lands, or (3) *Konohiki* Lands (Chinen 1958:vii).

At the time of the *Māhele*, Kuliʻouʻou Ahupuaʻa was divided in two, a western half (Kuliʻouʻou 1) and an eastern half (Kuliʻouʻou 2). Kuliʻouʻou 2, also known as Kuliʻouʻou Iki, was designated Crown Lands, and Kuliʻouʻou 1 (LCA 70-B [RP 5598]) was awarded to Waiaha, the daughter of Keoni Wawaenui ("John Bigfeet") (see Figure 25). Following this, Kuliʻouʻou 1 was leased to and then owned by Manuel Pico (Paikō), a part-Portuguese immigrant and namesake of Paikō Peninsula and Pond/Lagoon (see Hammatt and Shideler 2002:6; Pukui et al. 1974).

During the reign of King Kamehameha III (Kau-i-ke-aouli), Kuliʻouʻou 2 (Kuliʻouʻou Iki) was used as a summer residence (Wright 1925).

In the roughly five (5) decades after the *Māhele*, Takemoto et al. (1975:25) report that aquaculture and cattle ranching were the dominant subsistence activities in the region, which continued to be a rural and agriculturally-oriented region of Oʻahu throughout much of the historic period. But, by the mid-1900s, the area had become more residential, including the partial filling in of Maunalua Fishpond to put up housing developments.

KULIʻOUʻOU WWPS - ARCHAEOLOGICAL BACKGROUND

No previous archaeological studies were found within the Kuliʻouʻou WWPS project area, and one (1) previous study was located within 500 m (Putzi et al. 1998; Figure 27). However, McAllister's classic 1930 (1933) selective, island-wide survey is also worth mentioning as well. Additionally, it is worth giving a brief overview of the nearby (but farther than 500 m away) Kuliʻouʻou Rockshelter site, which is an important site in Hawaiian archaeology. Finally, this area is dense with burials, so descriptions of six (6) nearby burial sites are given, along with two (2) non-burial sites within 500 m of the project area (Table 8).

Conducted in 1930 and published three years later, McAllister's survey did not record any archaeological sites within the project area, but there were sites recorded not far away. He recorded Keahupua-o-Maunalua (Kuapa) Fishpond (McAllister's Site 49); a large house site or *heiau* (Site 50); Kupapa Fishpond (Site 51, filled in prior to his 1930 survey); Kūlepeamoa Heiau (Site 52); and Niu Cave(s) (Site 53) (McAllister 1933:69-70).

In 1938, an anthropology student at the University of Hawaiʻi first discovered and excavated Site 50-80-15-4000 (Kuliʻouʻou Bluff shelter), which ended up being one of the most information-rich sites in Hawai'i. Unfortunately, excavations were halted and after WWII, the lava tube cave site was used as a bomb shelter (Emory and Sinoto 1961:3). Twelve years after its initial discovery, Emory – along with students from the University of Hawaiʻi – resumed the excavation.

A wealth of midden and artifacts were recovered. The midden consisted of marine shell; bone from humans, non-humans, fish, birds, and sea turtles; and plant remains. Artifacts included fire sticks; cooking stones; a gourd fire blower; bone needles and picks; bone and marine shell awls; a stingray tail awl; bamboo and basalt knives; a shark-tooth knife; scrapers made from marine shell, stone, and coconut shell; gourd and coconut containers; fishhooks and fishhook blanks; a *poi* pounder (found in 1935); filed bones; basalt, coral and pencil urchin files; coral and stone octopus lure sinkers; stone net sinkers; portions of *olona* fiber fishing net; netting needles; net mesh gauges; adzes and chisels; grinding and rubbing stones; stone hand picks; *ʻulu maika* stones; a slingstone; a javelin head; a possible arrow head; dye cups; bored dog teeth for pendants and/or anklets; bone and turtle shell bracelet plaques; a fragment of a foreign slate mirror; assorted cordage fragments; a leg piece from a wooden stick image; bamboo *kapa* cloth stamps; and wood splinters from a *kapa* cloth beater (Emory and Sinoto 1961:36-76). Finally, Site 50-80-15-4000 yielded the first charcoal radiocarbon dating samples in the islands. In 1950, two charcoal samples resulted in calendar dates of AD 1004+/- 180 (Chicago C550) and AD 1739+/-150 with a maximum age of 1589 (Michigan M564) (Emory and Sinoto 1961:15).

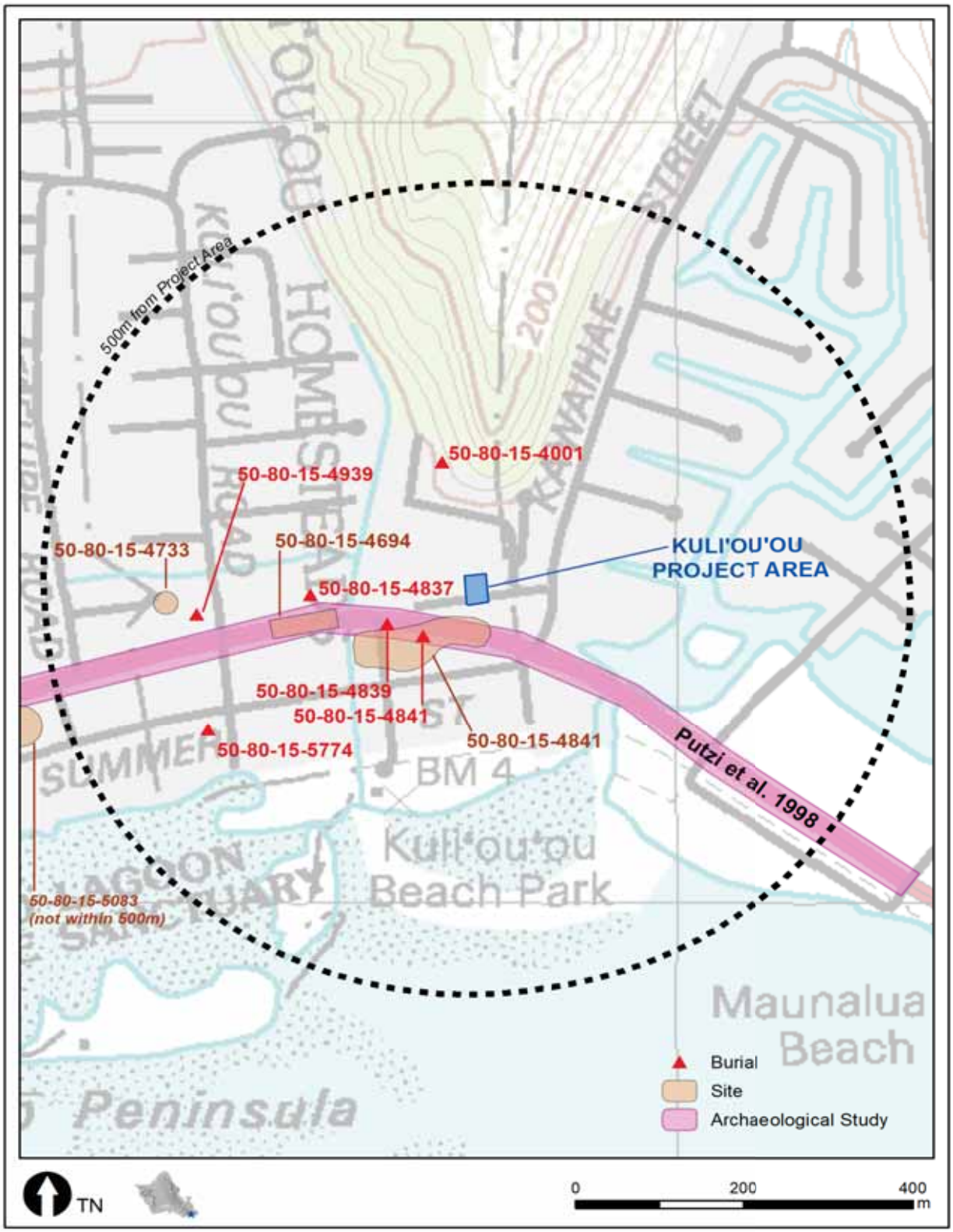

Figure 27. Archaeological Studies, Sites, and Burials within 500 Meters of the Kuli‘ou‘ou WWPS Project Area.

Table 8. List of Burial and Non-Burial Sites within 500 Meters of the Kuli‘ou‘ou WWPS Project Area.		
SIHP No. (50-80-15-xxx)	**Description**	**Reference**
4001	Site 4001 consists of one (1) burial.	see Hammatt and Shideler 2002
4694	Site 4694 is a habitation complex consisting of 61 features.	see Hammatt and Shideler 2002
4733	Site 4733 is a storage cache.	see Hammatt and Shideler 2002
4837	Site 4837 consists of one (1) burial.	Biosystems Analysis, Inc. 1994a
4839	Site 4839 consists of one (1) burial.	Biosystems Analysis, Inc. 1994b
4841	Site 4841 is an extensive area consisting of thirty (30) burials.	Putzi and Carlson 1997; Putzi et al. 1998
4939	Site 4938 consists of three (3) burials.	Putzi et al. 1998
5774	Site 5774 consists of one (1) burial (disturbed).	Collins 1999; Elmore and Kennedy 1999

Kahn et al. (2014) re-dated the Kuli‘ou‘ou Rockshelter site using newer AMS radiocarbon dating methodology. They submitted for analysis six new wood charcoal samples from short- to medium-lived species. From this and a re-evaluation of the two original radiocarbon dates, they derived a revised chronology of this site. They concluded that an early occupation date of approximately AD 1000 is no longer tenable, but that this rockshelter was probably first occupied around AD 1400-1450. This site, therefore, “…can no longer be considered relevant to the early period of Polynesian colonization in Hawai‘i" (Kahn et al. 2014:87).

In 1998, archaeologists from Garcia and Associates (Putzi et al. 1998) conducted archaeological monitoring during Phase II widening of Kalaniana'ole Highway, from East Halema'uma'u Street to Keahole Street (various TMKs). Ten sites dating to both pre-Contact and historic-period times were documented, seven (7) of which included human skeletal remains. Three (3) sites did not include human burials: Site -4694 consisted of 63 features that represent an occupation from pre-Contact through the 1800s and possibly the 1900s. Site-4733 was associated with early- to late-historic period occupation and artifact manufacture, and included three trash pits, one posthole, and a pig (*Sus scrofa*) interment. Site-5083 consisted of one trash pit, one stone septic tank, and one cobble stone alignment with a trash pit, all of which are associated with late historic habitation (Putzi et al. 1998:i, 41-116).

The other seven (7) sites (-4837, -4838, -4840, -4841, -4938, -4939, -and 5084) included human skeletal remains (most with multiple burials) that span much of the pre-Contact and historic periods. Of particular note is Site-4841, which contained burials that were part of a

cemetery or burial ground that likely dates from pre-Contact through the 1800s (Putzi et al. 1998:i, 41-116).

KULI‘OU‘OU WWPS - ANTICIPATED FINDS

The possibility of finding burials and/or human skeletal remains in this area is moderate to high because the Kuli‘ou‘ou WWPS project area is partially situated within Jaucas Sands (JaC) soil deposits, which are well known to be frequently associated with traditional Hawaiian burials. In addition, numerous burials have already been documented within 500 m, most notably at site 50-80-15-4841, which included 30 burials (see Figure 27 and Table 8).

EXTENT OF ARCHAEOLOGICAL MONITORING

Table 9 below presents ground-disturbing activities and monitoring requirements for the Paikō Drive, Niu Valley, and Kuliʻouʻou WWPS facilities. For the Paikō Drive WWPS, ground disturbance activities will be limited to 2.0 feet below ground surface within an approximately 400 square foot area where the new generator room is located. Figures 28 and 29 present construction drawings for the Paikō Drive WWPS. All archaeological monitoring at the Paikō Drive project area will be closely coordinated with construction crews. Per the SHPD, on-site archaeological monitoring will be conducted for excavations that will, or have potential to, disturb previously undisturbed coral sand deposits present in this project area.

Table 9. Proposed Ground Disturbing Activities and Monitoring Requirements for the Paikō Drive, Niu Valley, and Kuliʻouʻou Waste Water Pump Stations.

Activity	Depth in Feet / Centimeters	Monitoring Requirement
Paikō Drive WWPS		
Construct new generator room and install new generator with aboveground double-walled diesel tank.	2.0 / 61	On-site
Demolish existing underground irrigation lines	2.0 / 61	On-site
Remove two trees to create room for the new generator room and new diesel tank pad	2.0 / 61	On-site
Construct concrete access area for new generator room	2.0 / 61	On-site
Niu Valley WWPS		
Excavate electrical line trench	2.0 / 61	On-site
Kuliʻouʻou WWPS		
Excavate electric line trench	2.0 / 61	On-site

Ground-disturbing activities scheduled for the Niu Valley and Kuliʻouʻou WWPS facilities will involve excavations for electrical lines that connect a water meter to the pump house. Figures 30 and 31 present construction drawings for the Niu Valley and Kuliʻouʻou WWPS facilities. No ground disturbing activities are scheduled for the Moana Park WWPS. Figure 32 presents the construction drawing for the Moana Park WWPS. Should changes in design or site conditions require ground disturbance in the Moana Park WWPS, the SHPD should be notified. Depending on the extent of ground disturbance, an archaeological monitor may be required.

MITIGATION MEASURES

If any archaeological materials or features are encountered during archaeological monitoring in the Paiko Drive WWPS project area, the mitigation measures detailed in this section will be implemented.

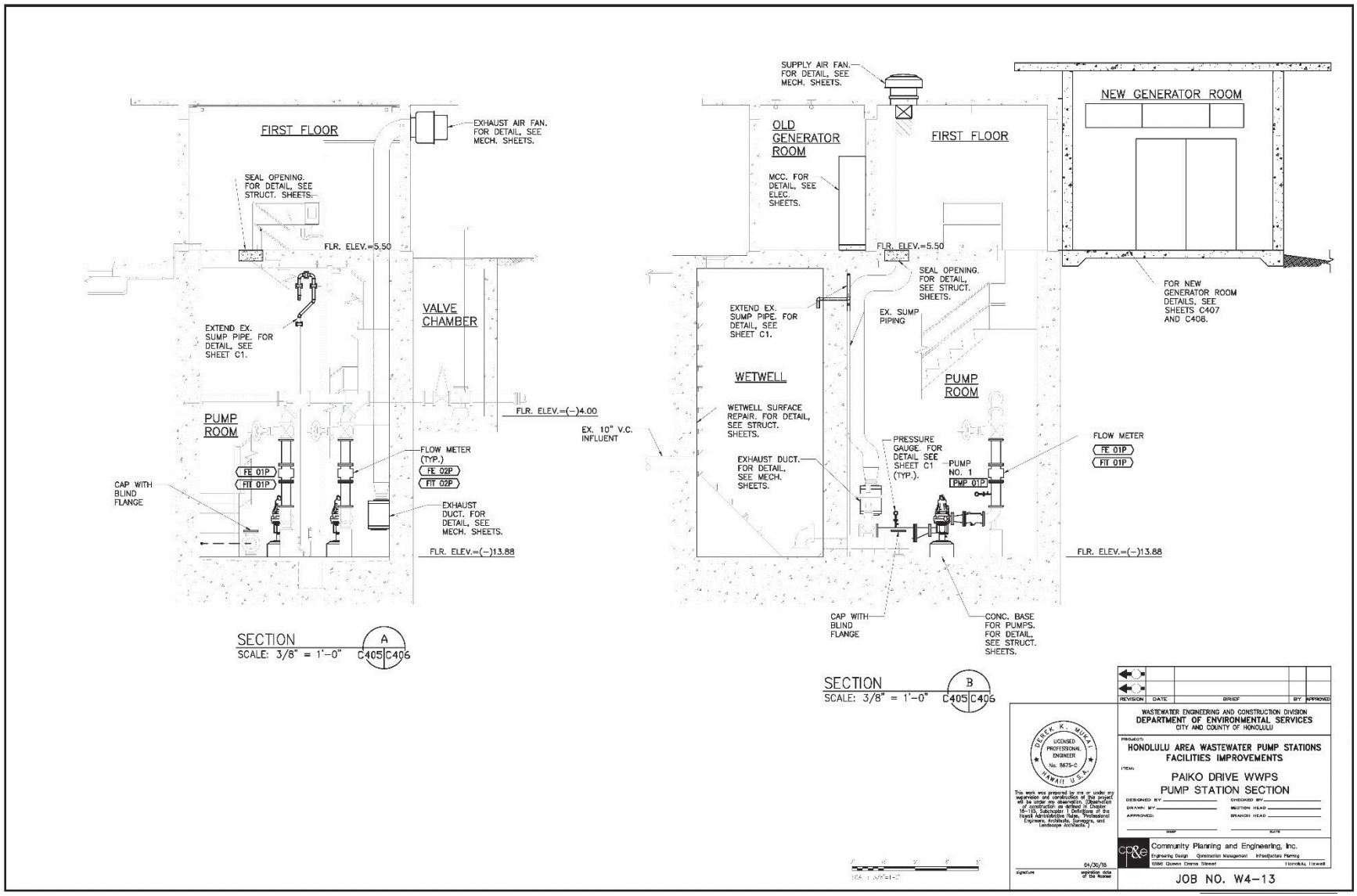

Figure 28. Construction Plan for the Paikō Drive Waste Water Pump Station.

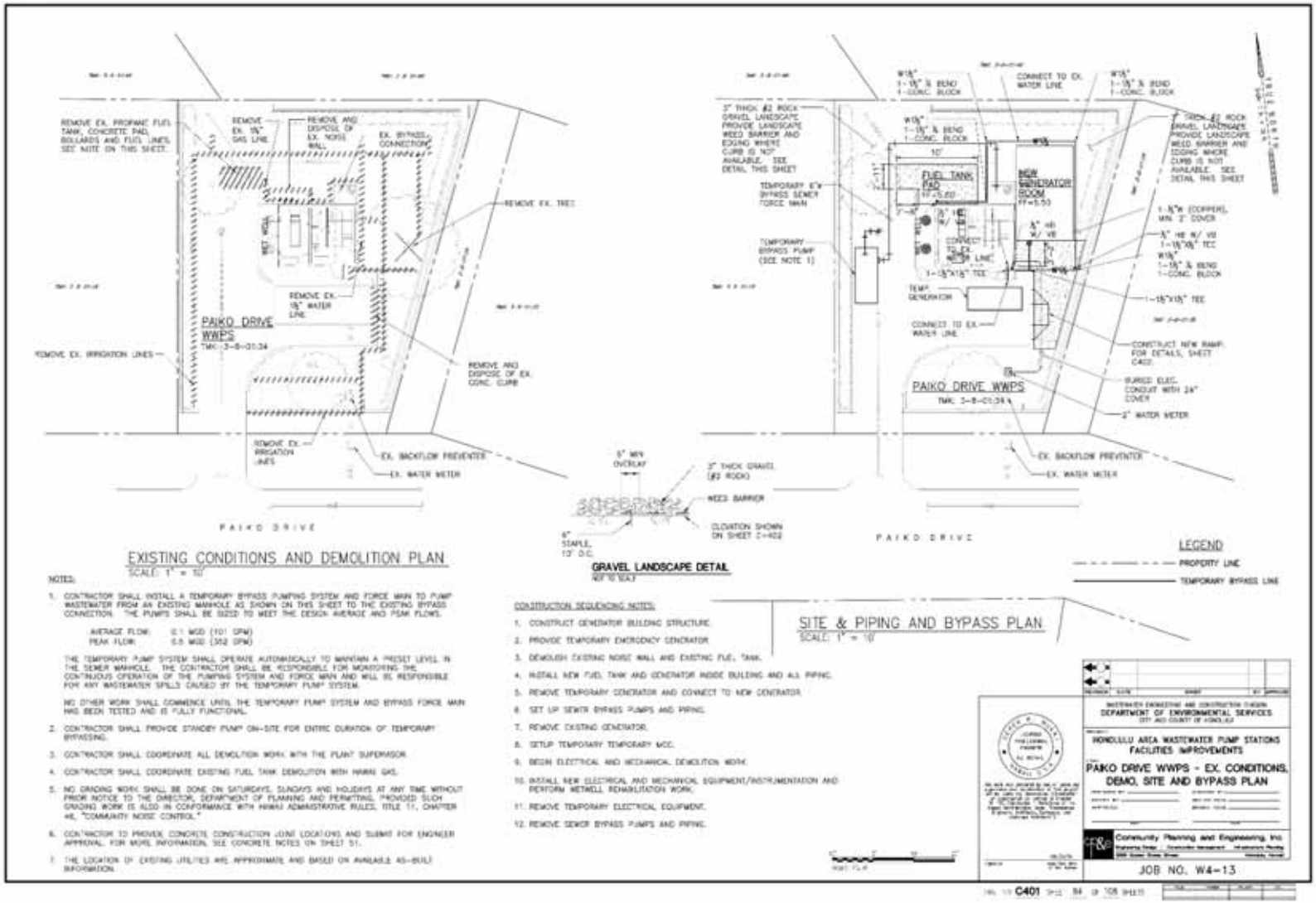

Figure 29. Site Demolition Plan for the Paikō Drive Waste Water Pump Station.

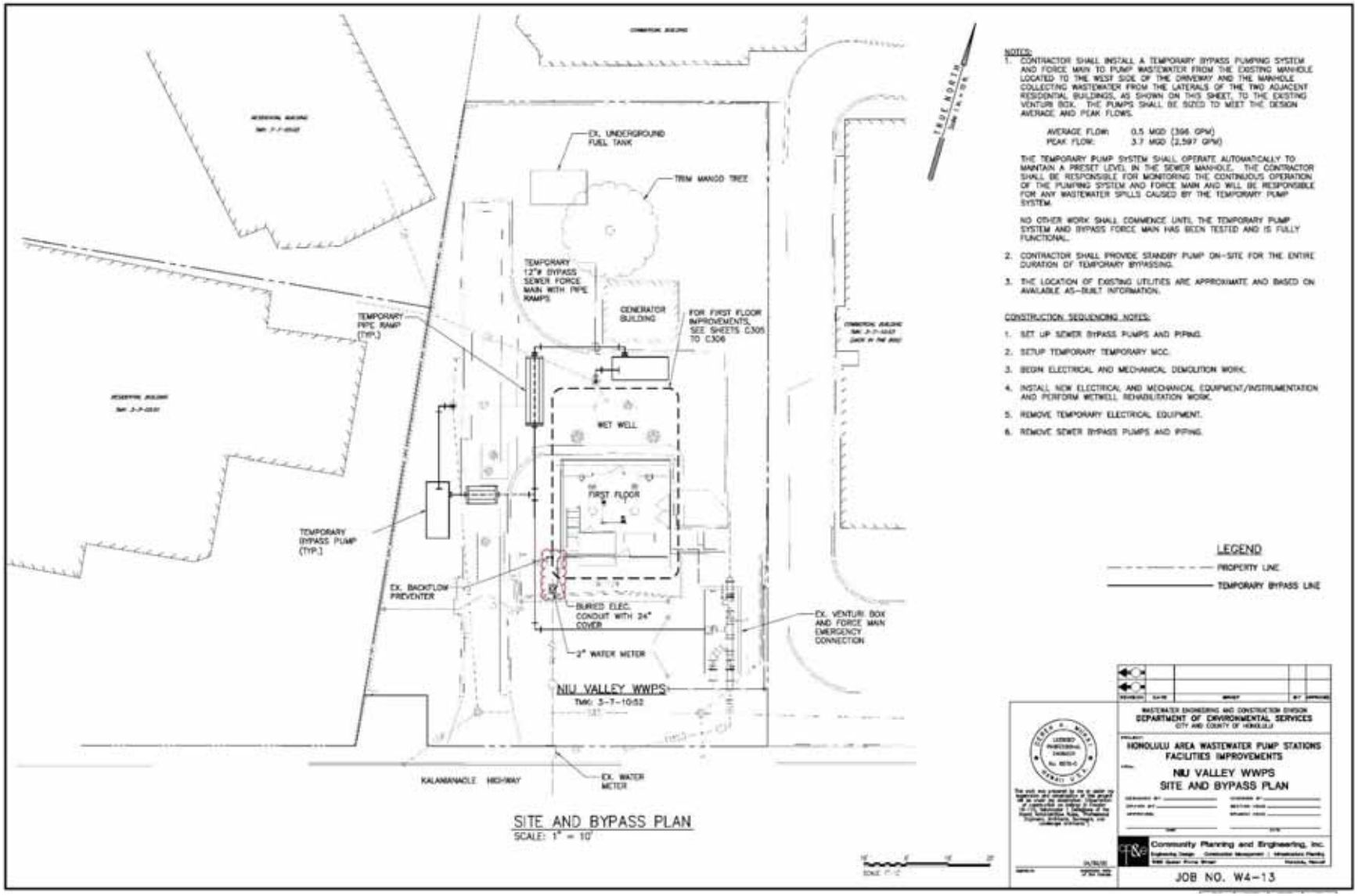

Figure 30. Construction Plan for the Niu Valley Waste Water Pump Station Showing Location of Electrical Line Trench.

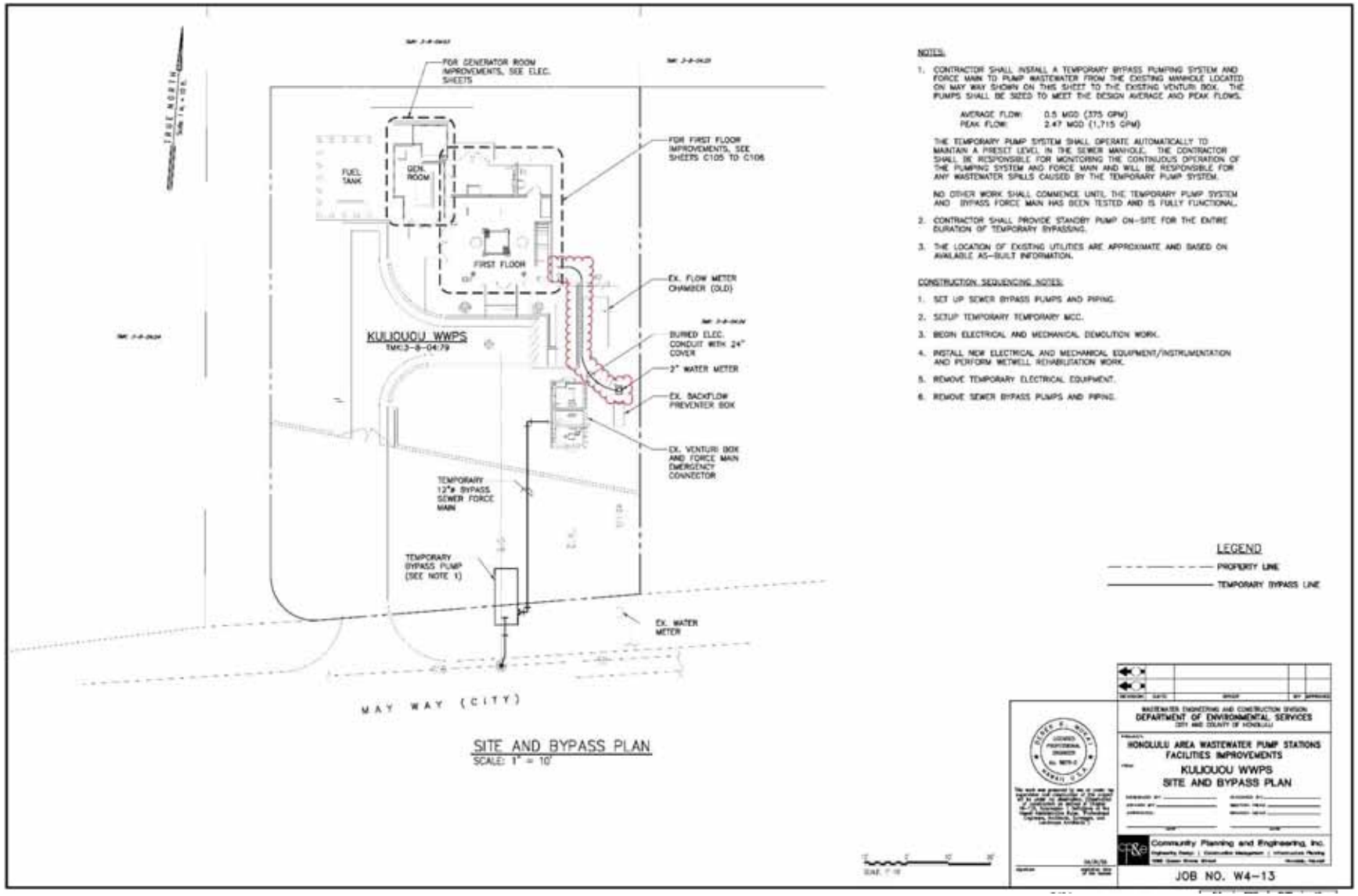

Figure 31. Construction Plan for the Kuli‘ou‘ou Waste Water Pump Station Improvements Showing Location of Electrical Line Trench.

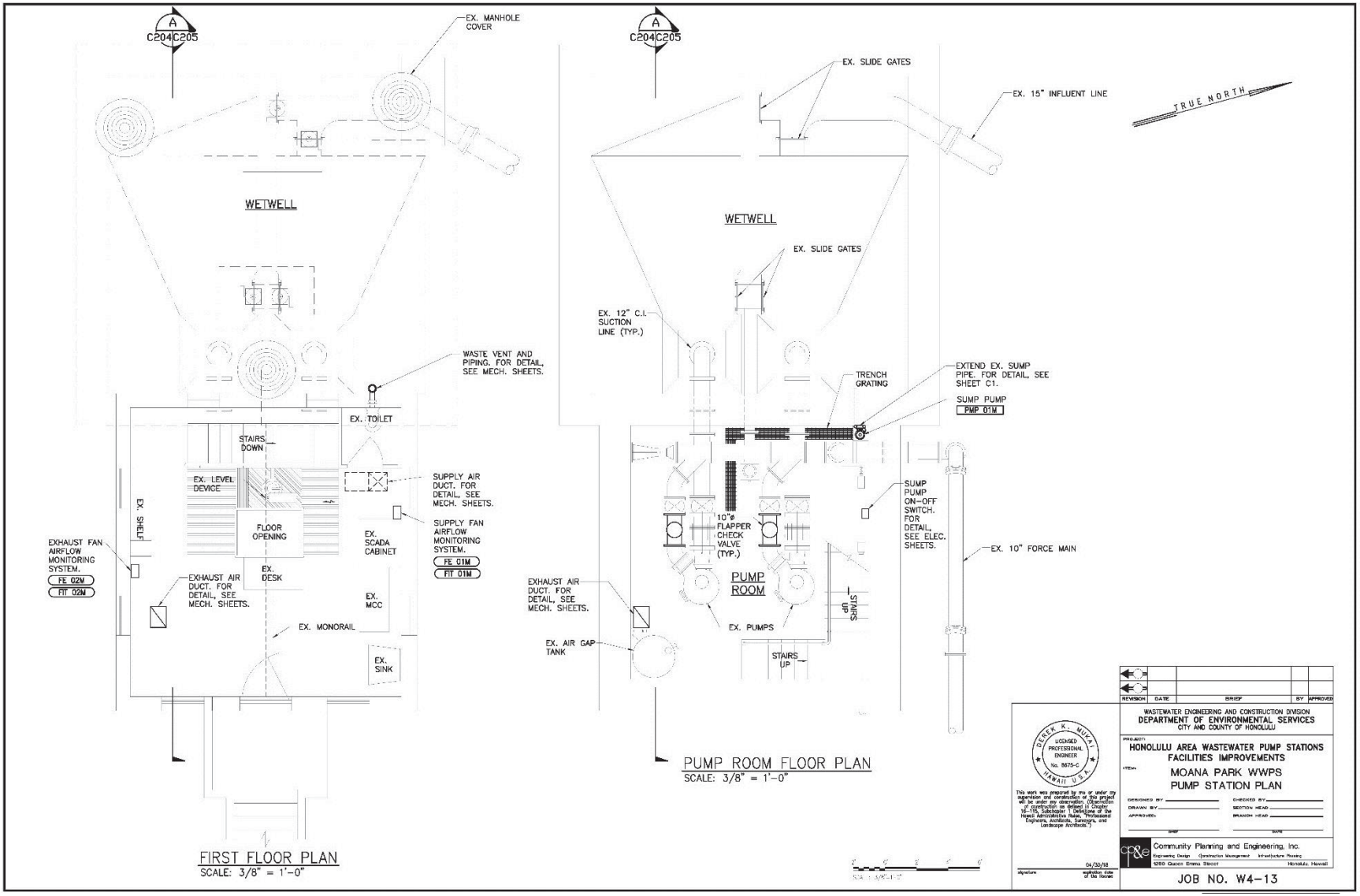

Figure 32. Construction Plan for the Moana Park Waste Water Pump Station.

TREATMENT OF NON-BURIAL HISTORICAL PROPERTIES

If any non-burial historic properties are encountered during monitoring, work will be stopped immediately in that area and the archaeological monitor will investigate the nature of the discovery. If an intact cultural layer, living surface, structural components (e.g., foundations), archaeological subsurface features (e.g., hearths, pits, postholes, etc.), artifacts, charcoal or midden deposits or trash pits are encountered, then the following actions will be taken:

- Selected, sorted charcoal samples will be collected for the possibility of radiocarbon analysis (particularly if the charcoal appears in a prehistoric context).
- Bulk samples of midden (faunal/floral material) if present will be collected.
- All prehistoric artifacts will be collected.
- All historic artifacts will be collected unless large trash or refuse pits are encountered, in which case a representative sample of diagnostic artifacts will be collected, such as bottle and ceramic bases containing maker's marks.
- Standard documentation will be carried out, including scale maps, profiles, photographs, detailed soil and provenience descriptions, and interpretation.
- Photographs of excavations will be included in the monitoring report even if no historically significant sites are documented during the monitoring fieldwork.

TREATMENT OF HISTORIC BURIALS

If human remains are identified, work will immediately stop in that project area, and the State Historic Preservation Division (SHPD) will be notified immediately of the find. No further work will take place in that project area—including screening of back dirt, cleaning and/or excavation of the burial area, or exploratory work of any kind—unless explicitly requested by the SHPD.

Any human skeletal remains identified during monitoring shall be treated as an inadvertent discovery and be dealt with in accordance with HAR § 13-300-40. SHPD, in consultation with the landowner and the O'ahu Island Burial Council (OIBIC), will determine whether to preserve in place or relocate. If SHPD makes a determination for removal of the human remains, the consulting archaeologist will remove and treat the human remains in accordance with HAR § 13-300-40.

HALTING OF EXCAVATION ACTIVITY

The monitoring archaeologist has the authority to halt construction in the vicinity of a potential/actual historic property (non-burial or burial) discovery, so that the provisions of this AMP can be carried out. The consulting archaeological firm will make it clear to the construction personnel that the monitoring archaeologist has the authority to halt work.

PRE-CONSTRUCTION CONFERENCE

Before works begins on the project, the on-site archaeologist will explain to the construction crew what materials may be encountered and the procedures to follow if archaeological materials are found, as well as the role of the archaeological monitor. At this time it will be made clear that the archaeologist has the authority to stop work *immediately*, if necessary.

Laboratory Work

Artifacts will be catalogued and analyzed, along with any samples of midden materials that have been collected. Charcoal and other datable materials will be submitted for dating analysis, provided samples were collected *in situ* from prehistoric contexts that show no signs of intermixing with historic materials; e.g., charcoal obtained from distinct fire features in solely pre-Contact deposits. Prior to submitting wood charcoal samples for radiocarbon dating, the samples will be submitted for wood taxa identification.

Report Preparation

The archaeological monitor will compile daily monitoring logs. These logs will minimally include a description of daily activities, sites or features recorded, personnel on-site, and problems encountered and corrective action taken. Monthly reports will be filed with the SHPD detailing any new sites or features identified, if necessary and appropriate.

Following completion of fieldwork, an end of field report and a draft archaeological monitoring report will be prepared and submitted to the SHPD for review. The consulting archaeological firm will submit a final archaeological monitoring report after receiving any comments on the draft report. Should burials and/or human remains be identified, other letters, memos, and/or reports may be requested by the SHPD, and will be provided in accordance with applicable statutes and regulations, and as contractual obligations permit.

Collections Archiving

Should the SHPD make the determination to relocate any burials and/or human remains, all human remains and associated materials will be stored temporarily at the consulting archaeologist's firm until re-interment plans are finalized. Non-burial materials will be stored temporarily at the consulting archaeologist's firm until an appropriate curation facility is selected in consultation with the landowner and the SHPD.

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APPENDIX A:

Minutes for December 07, 2017 Meeting at the State Historic Preservation Division, Kapolei, Regarding the Honolulu Area Waste Water Pump Station Facilities Improvements Project

Community Planning and Engineering, Inc.

Meeting Minutes

Date: December 07, 2017
Project: Honolulu Area WWPS Facilities Improvements
Meeting Date / Time: December 06, 2017 / 10:00 AM - 11:00 AM (HST)
Meeting Location: 5th Floor, Kakuhihewa Building, Room 555

Attendees:

Name	Company	Email Address	Phone
Kimi Matsushima	SHPD	Kimi.R.Matsushima@hawaii.gov	808-692-8027
Cindy Masuoka	DDC	cmasuoka@honolulu.gov	808-768-8761
Christine Imada	DDC	cimada@honolulu.gov	808-768-8762
Derek Mukai	CPE	dmukai@cpe-hawaii.com	808-531-4252
Hernan Co	CPE	hco@cpe-hawaii.com	808-531-4252
Laine Okimoto	CPE	lokimoto@cpe-hawaii.com	808-531-4252
Max Solmssen	Environet	msolmssen@environetinc.com	808-341-3546
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Discussions:

A meeting was held with the State Historic Preservation Division (SHPD) to discuss SHPD requirements and procedures that need to be completed for the Honolulu Area WWPS Facilities Improvements project. This meeting is a follow-up to the July 29, 2016 meeting and memo sent to SHPD on August 10, 2016.

Following is a recapitulation of the meeting:

- The previous meeting with SHPD was held during the preparation of the Design Alternatives Report. In that meeting, CPE was told to send SHPD additional information about the project. CPE prepared a memo explaining the work required at the four pump stations.
- Currently, the project is in the 60% design phase with a Draft Environmental Assessment (DEA) underway. A pre-consultation letter was sent to SHPD as part of the preparation of the DEA. No response from SHPD was received. CPE explained that they intend to submit the DEA for publication and wanted to reiterate the scope of work to SHPD to see if they had any concerns or requirements that could impact the project.
- CPE explained the scope of work for the four pump stations (Kuliouou WWPS, Moana Park WWPS, Niu Valley WWPS and Paiko Drive WWPS). The improvements for Kuliouou, Moana Park and Niu Valley will be mostly contained inside the pump station buildings with little to no ground disturbance. Paiko Drive will have ground disturbance beyond the existing pump station structures.

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- As explained in the previous meeting with SHPD, a new emergency diesel generator with new structure and a new above ground storage tank (AST) will be constructed. CPE explained that any ground disturbance will be limited to two feet below ground surface within an approximately 400 square foot area for the purposes of clearing and grubbing and removal of undesired soil.
- PCSI noted that the typical soil in the area is dune sand and may need special consideration when designing the footing of the structure.
- PCSI noted that in previous investigations, burials were found near Kalanianaole Highway, but no burials were found near the project site.
- Based on the information CPE provided, and the research completed to date by PCSI, SHPD does not anticipate a requirement of and Archaeological Inventory Survey (AIS). However, they will likely require Archaeological Monitoring during construction.
- CPE inquired about the preparation of the archaeological monitoring plan (AMP) after the contractor is selected. That way, the contractor is liable for their own plan. SHPD recommended that the AMP be prepared prior to the project going out to bid which would bind the contractor to implementing the measures included in the AMP.
- SHPD recommended including all four pump stations in the AMP. Although little to no ground disturbance is expected at the other three pump stations, they should be included as a contingency measure if ground disturbance may be required due to changes in design or site conditions.
- SHPD recommended the City prepare a letter requesting concurrence from SHPD for the implementation of archaeological monitoring during construction as the proper mitigation. SHPD suggested that any requests be placed on the City's letterhead and sent to SHPD as a formal submittal review. SHPD explained that direct agency to agency communication is preferred. SHPD suggested that the letter be addressed with attention to Susan Lebo and Kaiwi Yoon and should include a $25 review fee.
- SHPD requested that an electronic file be uploaded or emailed to them for all submittals.
- SHPD recommended attaching the concurrence letter to the construction drawings to make DPP aware that SHPD has reviewed the project.

The meeting was adjourned at approximately 1100 hours.

This Minutes of Meeting is CPE's understanding of the items discussed during the meeting for the above referenced project. It is requested that all who were in attendance to review this Minutes of Meeting for its content and accuracy. If there are no responses and/or comments to the Minutes of Meeting within ten (10) calendar days, CPE will assume that all information stated herein is correct and agreed upon by all who were in attendance. CPE will not be held responsible for any misinterpretation and/or misunderstanding of the above stated information thereafter.

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